13th Biennial Conference of the International Association for the Study of the Commons
10 - 14 January 2011, Hyderabad, INDIA

Sustaining Commons: Sustaining Our Future
SUSTAINING COMMONS: SUSTAINING OUR FUTURE

13TH BIENNIAL CONFERENCE OF THE INTERNATIONAL ASSOCIATION FOR THE STUDY OF THE COMMONS
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Welcome to the 13th Biennial Conference of the International Association for the Study of the Commons (IASC). We look forward to a lively and stimulating exchange of knowledge across disciplines, resources, and among scholars and practitioners that have become the hallmark of IASC conferences. We received a record number of abstract submissions for this Conference, reflecting the growing interest in the commons internationally. Fifty-four reviewers helped to screen abstracts. We hope you agree that this has yielded a very rich set of papers, posters, and films to be presented this week. If you find the choices overwhelming, or you can’t attend every presentation you are interested in, you can check out the papers on the conference data stick or the Digital Library of the Commons (http://dlc.dlib.indiana.edu/dlc/), and follow up discussions via the new communications platform for IASC members (www.iasc-commons.org).

I would like to thank the Government of India, the State Government of Andhra Pradesh, and the Dr. Marri Channa Reddy Human Resource Development Institute of the Government of Andhra Pradesh, in partnering with FES in organising the Conference.

This Conference would not have been possible without the outstanding work of our hosts, the Foundation for Ecological Security, and the team of Indian and international collaborators who have helped to guide the programme development. On behalf of the Executive Council and membership of the IASC, I wish to thank them for their work, and you for your participation to make this Conference a success.

Ruth Meinzen-Dick
President, International Association for the Study of the Commons
It gives me immense pleasure to welcome you all to the 13th Biennial Conference of the IASC in the heritage city of Hyderabad in southern India. The Government of Andhra Pradesh, in whose capital city we will deliberate the commons, is presently piloting a regional programme that will integrate the development and restoration of common lands in the implementation of the National Rural Employment Guarantee Act (NREGA), and the Community Forest Management arrangements in this part of the country are also well known for their scale, initiative and institutional design. At different scales, Hyderabad and India are of significance to this Conference, providing a fantastic opportunity to witness and amplify the debates on the future of common property resources and its relevance.

By hosting a Conference of this nature in India we hope to draw attention to the critical role that Commons such as forests, water bodies and grazing lands play in sustaining the rural economy. We have a wonderful opportunity to counter and dispel dominant myths and archaic ideas that treat common lands as ‘wastelands’. On the other hand, we are also witnessing some exciting moments in the governance of our natural resources. The Government of India recently constituted a committee to examine ‘State Agrarian Relations and Unfinished Tasks in Land Reforms’ with a sub-committee to look into ‘Access of Poor to Common Property and Forest Resources and Agriculture Land Use’. Amongst other suggestions, the committee has recommended the introduction of a land use policy and the reviving of land-use boards at the district level to ensure proper use of agrarian land and access of poor to CPR. Also, with the enactment of the Forest Rights Act, the discussion on legal recognition to community forests has gained momentum.

The Conference has come to South Asia for the first time and it is also the first instance where a practitioner organization (FES) will host the Conference. We attempt to enrich this Conference by bringing together practitioners, decision-makers and scholars to a common meeting place. We are joined by a number of non-government organizations, academic and research organizations, and community associations and networks in what is being termed the ‘Initiative on Commons’. These include a range of research projects, media fellowships, workshops, debates and publications aimed at practitioners, policy makers, researchers, the media and interested laypersons.

I wish to thank IASC for the trust placed and opportunity given to the Foundation for Ecological Security to host this Conference. We are grateful to Concern Worldwide, Omidyar Network, IDRC, Action Aid, Ford Foundation, CAPRI, NABARD, Sir Dorabji Tata Trust, ARGHYAM, UNDP-GEF-SGP and Tata Consultancy Services for extending their gracious support towards this event.
I take this opportunity to thank the Ministry of Environment and Forests, for their support. I also thank the Department of Land Resources, Government of India, the Department of Rural Development and Panchayati Raj and the Dr. Marri Channa Reddy Human Resource Development Institute of the Government of Andhra Pradesh, in partnering with FES in organising the Conference and providing us a perfect venue. I am also grateful to the Department of Tourism and Culture, Government of Andhra Pradesh, which has extended support in coordinating with the local departments and organising the Conference.

Special thanks go to all participants for coming to Hyderabad. Your presence is invaluable and makes this Conference worth its significance. Have a pleasant stay and make the most of this global confluence of the commons – I hope you remain in touch with FES beyond this Conference and join in chartering the future of our commons.

Jagdeesh Rao Puppala
Conference Co-Chair
ABOUT THE IASC

The International Association for the Study of the Commons began as the Common Property Network in 1984. The Common Property Network was formed to foster discussions on Common Property issues. In 1989, the IASC was founded as the International Association for the Study of Common Property (IASC), a non-profit Association devoted to understanding and improving institutions for the management of resources that are (or could be) held or used collectively by communities in developing or developed countries.

The Association is devoted to bringing together interdisciplinary researchers, practitioners, and policymakers for the purpose of fostering better understandings, improvements, and sustainable solutions for environmental, electronic, and any other type of shared resource that is a commons or a common-pool resource.

IASC’s broad goals are laid out as:
- encouraging exchange of knowledge among diverse disciplines, areas, and resource types
- fostering mutual exchange of scholarship and practical experience
- promoting appropriate institutional design

The Association encourages intellectual exchange on policy applications and commons issues through a number of activities, including:
- sponsoring annual or biennial conferences and co-sponsoring regional workshops and conferences;
- publishing The Commons Digest and the International Journal of the Commons;
- collecting basic information about networks of scholars, practitioners, organizations, and institutions concerned with the commons, in order to encourage linkages and compile directories for IASC members within and between different regions of the world;
- identifying guest editors to collect information from their regions to promote the publication of articles by authors outside of North America in the The Commons Digest;
- creating bibliographies of commons research and publications;
- fostering interdisciplinary discussions and the production of scholarly, applied, and policy-oriented publications.

The Association’s work on the functioning of natural resource commons has been instrumental in refuting the notion of an inevitable ‘tragedy of the commons; through careful analysis of the factors that influence the management of these resources. More recently, IASC has started to explore new areas of commons research such as knowledge, culture, health and global resources.

The collective expertise that the Association can mobilise, from over 90 countries, fuels policy debates of global significance. Whether the issue is intellectual property, network neutrality, global warming, land reform, legal empowerment of the poor, or reforming the international financial system, the Association strongly believes that research and lessons from working in and with commons regimes are important in shaping governance systems that will benefit as many people as possible, simultaneously preserving resources at hand for future generations.

For more on the IASC, visit www.iasc-commons.org
ABOUT FES

Registered under the Societies Registration Act XXI 1860, the Foundation for Ecological Security (FES) was set up in 2001 to reinforce the massive and critical task of ecological restoration in the country.

The crux of FES’ efforts lie in locating forests and other natural resources within the prevailing economic, social and ecological dynamics in rural landscapes and in intertwining principles of conservation and local self governance for the protection of the natural surroundings and improvement in the living conditions of the poor. By working on systemic issues that can bring about a multiplier change, FES strives for a future where the local communities determine and move towards desirable land-use that is based on principles of conservation and social justice.

FES works with 1,800 village institutions in 27 districts across six states, and assists the village communities in protecting 1,12,000 hectares of revenue wastelands, degraded forestlands and Panchayat grazing lands (Charagah lands). Outside the Government, FES is probably the only organization that works on Commons at this scale in India. FES has plans to extend the work to a further 50,000 hectares over the next five years. Graduating from a ‘Watershed Approach’ to a ‘Landscape Approach’ has further enabled the organization to effectively address and ensure the long-term durability of its efforts.

FES has rich experience in restoring degraded landscapes, locating common lands in the larger farming systems, building community institutions for natural resource management at habitation and inter habitation levels, promoting livelihood activities that lead to improved income levels. While each location may be guided by specific strategies, the broad organizational level strategic areas are:

- Establishing institutional design principles and mechanisms that provide space for the poor. Developing linkages between village level institutions and the umbrella institution of Panchayats, and integration of natural resource management plans by Panchayats.

- Improving rural livelihoods particularly of the poor and marginalised so as to meet the subsistence requirements and increase household incomes from agriculture, forests and other allied livelihoods.

- Reviving the criticality of forests and other common lands and locating inter-linkages with the associated production systems, thereby highlighting the value of forests and water for the sustenance of farming and safeguarding subsistence livelihoods.

- Strengthening platforms for discussion at a village and inter-village level by inviting government functionaries, academia and larger civil society to join on issues of poverty alleviation and conservation and use of natural surroundings.

For more on FES, visit www.fes.org.in
OVERVIEW OF THE CONFERENCE

As you are aware, the IASC Conferences, along with the other regional level meets that are organised from time to time, aim at bringing together minds working on the subject of common property resources and encouraging the exchange of knowledge among the diverse disciplines and institutions. The 13th Biennial Conference of the International Association for the Study of Commons (IASC) has attracted more than 500 papers to be presented during the course of the event. We had an overwhelming response to the ‘Call for Papers’ from about 70 countries, and over 1100 abstracts were submitted, representing a diversity of themes. In addition to academics and young scholars, the Conference has also attracted paper submissions from practitioners from India and other countries.


Often, commons face neglect or are unappreciated, for discussions around them fall between the cracks in our reductionist approach to understanding natural resources, while in reality, strikingly similar issues are faced by forests, water, pastures, and other commons regimes. To address a diversity of issues across resources and across disciplines, we designed eleven panel series around seven sub-themes.

- The Commons, Poverty and Social Exclusion;
- Governance of the Commons: Decentralisation, Property Rights, Legal Framework, Structure and Organization;
- The Commons: Theory, Analytics and Data;
- Globalisation, Commercialisation and the Commons;
- Managing the Global Commons: Climate Change and other Challenges;
Managing Complex Commons (Lagoons, Protected Areas, Wetlands, Mountain Areas, Rangelands, Coastal Commons);

New Commons (Digital Commons, Genetic Commons, Patents, Music, Literature, etc.)

Categorising them under the above themes also helped us in organising the day by day and session by session programme schedule which we hope you will find interesting. The Conference emphasises on the one hand, the traditional and direct livelihood significance that commons hold for dependent communities, while on the other hand it will see explorations on newer emerging global issues such as publishing, patenting, digital commons, knowledge commons and climate change. The Conference will not only examine the inter-linkages between poverty and commons, but shall also be a forum to understand, revise and synthesise analytical tools while appreciating methodological challenges. The impact of globalisation on the governance of commons is an important conference focus and affords us the chance to compare and examine legal frameworks from across the world. The lessons learned with the local commons could be studied to draw relevance for global concerns and transactions. Discussions across these themes will be a fascinating intellectual journey, navigating the analysis of institutional frameworks, the influence of markets on public policy, and the dynamics between these policies and institutions at local, regional, national and international scales against a backdrop of global transition.

Besides paper presentations, the Conference features two keynote speeches every day, four parallel policy fora, panel discussions, pre-conference workshops, practitioner exchange programs, field visits, poster and video sessions. There are 14 one-day and 2 multi-day field visits for you to choose from, for you to gather a glimpse of grassroots activity in environment and development in the region.

I take this opportunity to acknowledge the contribution of the various organisations in and around Hyderabad, for giving the Conference the practitioners’ flavour that makes it somewhat different from the academic conferences. A word of gratitude goes to the staff of Anthra, Deccan Development Society, Anantha Paryavarana Parirakshana Samiti (APPS), Akshara Network, University of Hyderabad, Watershed Support Services and Activities Network (WASSAN), Centre for People’s Forestry, Centre for Sustainable Agriculture, SOUL and Dhan Foundation for anchoring the different field visits, an integral element of the Conference.

I would like to thank the Programme and Academic Committee members - Ruth Meinzen-Dick, Leticia Merino, Doug Wilson, Nives Dolsak, Susan Buck, KV Raju, Anita Cheria, Edwin Daniel, NC Narayanan, Purnendu Kavoori, Chetan Agarwal, Shambhu Prasad, Kamal Kishore and MK Ramesh.

It is my pleasure to present to you the Programme of the 13th Biennial Conference, which marks a culmination of a long and enriching effort put in by several people within and outside FES.

Jagdeesh Rao
Conference Co-Chair
## CONFERENCE PROGRAMME AT A GLANCE

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<tr>
<td>7th January, 2011</td>
<td>9:00-18:00</td>
<td>International Forestry Resources and Institutions Research Initiatives Meeting</td>
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<td>to 9th January, 2011</td>
<td>9:30-18:30</td>
<td>South Asian Exchange Programme to commemorate 40th Anniversary of International Development Research Centre</td>
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<td>7th January, 2011</td>
<td>9:30-18:30</td>
<td>Practitioners’ Exchange Programme (supported by NABARD)</td>
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<td>to 9th January, 2011</td>
<td>9:00-17:00</td>
<td>IASC Executive Council Meeting</td>
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<td>9th January, 2011</td>
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<td>Pre Conference Workshops</td>
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<td>10th January, 2011</td>
<td>17:00-21:30</td>
<td>Opening Ceremony and Cultural Event at Sampradaya Vedika</td>
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1. People, institutions and forests: Moving toward a new governance research agenda
2. Changing perspectives within policy processes
3. Understanding Change: Introducing Community Driven System Dynamics for Modeling the Commons
4. Mapping On the Ground - First Step in Revitalising the Commons
5. Policy Discussion on Commons: lessons from recent policy experiences in the UK and Europe
6. Introduction to Commons in India
7. Analytical Frameworks as Learning Heuristics in Common Pool Resource Research
9. Naranpur Water Game
10. Introduction to Commons’ Theory; Indicators for Secure Access to CPRs; and Communities’ Based Rights over CPRs
# 11th January, 2011

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<td>Key Note Speeches</td>
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<td>PANEL SERIES 6</td>
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<td>Special Event: A Commons Story: In the Rain Shadow of Green Revolution</td>
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<td>Tungabhadra</td>
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<td>Policy shifts, Implications for Water Access and Latitude for Water</td>
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<td>Food Security, Commons and Entitlements Towards Strategic Solutions</td>
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<td>How much nature can we risk privatizing?: Potentials and dangers of valuing nature's services</td>
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<td>Room No. 3 A</td>
<td>Between the Sea and the Land: Complex Commons at the Interface of Marine-Terrestrial Systems</td>
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<tr>
<td>19:30-22:30 hrs</td>
<td>Conference Dinner at Chowmahalla Palace</td>
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<tr>
<td>13th January, 2011</td>
<td>Field Visits</td>
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<td></td>
<td>1. Pastoralists and Agro-Pastoralists of the Deccan Region-Re-imagining the Future of Commons</td>
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<td></td>
<td>2. Challenges and Threats to Common Lands in the Region</td>
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</table>
3. Building Institutions for Women’s Empowerment
4. Conflicts and Collaborations in Protection and Management of Commons
6. Balancing Conflicting Interests While Managing CPRs.
7. Traditional Art Forms in the Face of Changing Times: A Look at the Ikkat Weavers of Poachampally
8. Towards Achieving Sovereignty over Food, Seeds, Markets and Media
9. Community Management of Water Resources
10. Interface Between Science and Agriculture
11. Natural History of Hyderabad
12. Overview of the Cultural and Natural Landscapes of Hyderabad
13. Community-Managed Traditional Surface Irrigation Commons (Small Tanks) in the Telangana Region of Andhra Pradesh

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<tr>
<th>Time</th>
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<tr>
<td>10:00-14:00 hrs</td>
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### PANEL SERIES 7

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<thead>
<tr>
<th>Location</th>
<th>THEMATIC SESSIONS</th>
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<tbody>
<tr>
<td>Room No. 1 A</td>
<td>Poverty and Social Exclusion (Gender)</td>
</tr>
<tr>
<td>Room No. 1 B</td>
<td>Governance (Forests)</td>
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<tr>
<td>Room No. 1 C</td>
<td>Governance</td>
</tr>
<tr>
<td>Room No. 2 A</td>
<td>Governance</td>
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<tr>
<td>Room No. 2 B</td>
<td>Complex commons (Protected Areas)</td>
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<tr>
<td>Room No. 2 C</td>
<td>Complex commons</td>
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<tr>
<td>Room No. 2 D</td>
<td>Complex commons (Biodiversity)</td>
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<tr>
<td>Room No. 3 A</td>
<td>Complex commons (Air and Water)</td>
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<tr>
<td>Room No. 3 B</td>
<td>Governance (Forests)</td>
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<tr>
<td>Room No. 3 C</td>
<td>Governance (Decentralisation)</td>
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<tr>
<td>Room No. 3 D</td>
<td>Governance (Legal framework: Water)</td>
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### PANEL SERIES 8

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<tr>
<td>Room No. 1 A</td>
<td>Poverty and Social Exclusion</td>
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<td>Room No. 1 B</td>
<td>Complex Commons (Wetlands and Forests)</td>
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<td>Room No. 2 A</td>
<td>Governance (Institutions)</td>
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<td>Room No. 3 A</td>
<td>Global Commons (Managing Uncertainties)</td>
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<td>Room No. 3 B</td>
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<td>Governance (Decentralisation)</td>
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### Video Presentation Room
Video Presentations
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<tr>
<td>13:30-14:30 hrs</td>
<td>Lunch and Poster Presentation at Arjuna Arcade</td>
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<td><strong>PANEL SERIES 9</strong></td>
<td><strong>LOCATION</strong></td>
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<td><strong>16:00-16:30 hrs</strong></td>
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<td><strong>15th January, 2011 to 16th January, 2011</strong></td>
<td><strong>Multi-day Field Visits for Conference Delegates</strong> (Departure from Hyderabad on 14th evening and arrive back on 17th morning)</td>
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<td><strong>Field Trip 1:</strong></td>
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<td><strong>Field Trip 2:</strong></td>
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<tr>
<td><strong>15th January, 2011 to 17th January, 2011</strong></td>
<td><strong>Multi-day Field Visits for South Asia Exchange Programme Participants (IDRC supported) and Practitioners’ Exchange Programme (NABARD supported)</strong> (Departure from Hyderabad on 14th evening and arrive back on 18th morning)</td>
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detailed programme schedule
## MONDAY 10TH JANUARY 2011

### Pre-Conference Workshop Day

<table>
<thead>
<tr>
<th>Location</th>
<th>Time</th>
<th>Themes</th>
<th>Workshop Leader/s</th>
<th>Supporting Organization</th>
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<tbody>
<tr>
<td>PRE CONFERENCE WORKSHOP 1</td>
<td>Room No. 3 A</td>
<td>8:30 AM to 3:30 PM</td>
<td>People, institutions and forests: Moving toward a new governance research agenda</td>
<td>Andrew Wardell</td>
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<tr>
<td>PRE CONFERENCE WORKSHOP 2</td>
<td>Room No. 1 A</td>
<td>8:30 AM to 3:30 PM</td>
<td>Changing perspectives within policy processes</td>
<td>John Powell (CCRI, UK) &amp; Tasmin Rajotte (QIAP)</td>
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<tr>
<td>PRE CONFERENCE WORKSHOP 3</td>
<td>Room No.1 B</td>
<td>8:30 AM to 3:30 PM</td>
<td>Understanding Change: Introducing Community Driven System Dynamics for Modeling the Commons</td>
<td>Peter Hovmand and Gautam Yadama</td>
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<tr>
<td>PRE CONFERENCE WORKSHOP 4</td>
<td>Room No. 2 A</td>
<td>8:30 AM to 3:30 PM</td>
<td>Mapping On the Ground - First Step in Revitalising the Commons</td>
<td>Dr Radha Gopalan, Dr Sagari R Ramdas, Dr Nitya S Ghilige, Mr Sanyasi Rao, Ms Rajamma, Mr Apparao</td>
</tr>
<tr>
<td>PRE CONFERENCE WORKSHOP 5</td>
<td>Room No. 2 B</td>
<td>8:30 AM to 3:30 PM</td>
<td>Policy Discussion on Commons: lessons from recent policy experiences in the UK and Europe</td>
<td>Chris Short</td>
</tr>
<tr>
<td>PRE CONFERENCE WORKSHOP 6</td>
<td>Room No. 2 C</td>
<td>8:30 AM to 3:30 PM</td>
<td>Introduction to Commons in India</td>
<td>N. C. Narayanan, Purnendu Kavoori, Chetan Agarwal, V Vivekanandan</td>
</tr>
<tr>
<td>PRE CONFERENCE WORKSHOP 7</td>
<td>Room No. 2 E</td>
<td>8:30 AM to 3:30 PM</td>
<td>Analytical Frameworks as Learning Heuristics in Common Pool Resource Research</td>
<td>Andreas Thiel, Konrad Hagedorn, Jes Weigelt, Markus Hanisch</td>
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<tr>
<td>PRE CONFERENCE WORKSHOP 8</td>
<td>Conference Room 1 Vamshadhara</td>
<td>8:30 AM to 3:30 PM</td>
<td>Biocultural Community Protocols (BCPs): A Tool for Securing the Rights of Pastoralists and Livestock Keepers for In-situ Conservation and Access to Common Property Resources</td>
<td>Ilse Köhler-Rollefson and Kabir Bavikatte</td>
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<tr>
<td>PRE CONFERENCE WORKSHOP 9</td>
<td>Conference Room 2 Vamshadhara</td>
<td>8:30 AM to 3:30 PM</td>
<td>Naranpur Water Game</td>
<td>Sundarajan Krishnan, Shilip Verma</td>
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<td>PRE CONFERENCE WORKSHOP 10</td>
<td>Room No. 1 C</td>
<td>8:30 AM to 3:30 PM</td>
<td>Introduction to Commons’ Theory; Indicators for Secure Access to CPRs; and Communities’ Based Rights over CPRs</td>
<td>Ruth Meinzen-Dick &amp; Leticia Merino</td>
</tr>
<tr>
<td>PRE CONFERENCE WORKSHOP 11</td>
<td>Room No. 2 D</td>
<td>8:30 AM to 3:30 PM</td>
<td>Defining an applied research programme for the UNDP-GEF Small Grants Programme on community-based natural resource management, and the challenge of the commons.</td>
<td>Terence Hay and Eric Patrick</td>
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</table>
OPENING CEREMONY AND CULTURAL EVENING

Sampradaya Vedika
17:00-21:30

Opening Ceremony

Lighting the Lamp and Invocation
Welcome Address by Nitin Desai
Welcome Address by Ruth Meinzen-Dick, President, IASC
Address by the Guest of Honour Shri Jairam Ramesh, Minister of State (Independent Charge) for Environment and Forests, Government of India

Key Note Address by Dr. Elinor Ostrom, Nobel Laureate in Economic Sciences (2009) ‘Cooperating for the Common Good: Challenging Supposed Impossibilities and Panaceas’

Vote of Thanks

Cultural Evening

A blend of Classical and Folk Indian Music and Dance performances put together by Kalatheera Dance Academy, Bangalore.

Dinner at Mountain Heights
## TUESDAY 11TH JANUARY 2011

<table>
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<th>Time</th>
<th>Event</th>
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<tr>
<td>08:30-10:00 hrs</td>
<td>Key Note Speeches&lt;br&gt;<strong>Ruth Meinzen-Dick</strong>&lt;br&gt;<strong>Herman Rosa Chávez</strong></td>
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<td>10:00-10:15 hrs</td>
<td>Tea/ Coffee Break</td>
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| 10:15-11:45 hrs    | **PANEL SERIES 1**<br>**Poverty & Social Exclusion (Pastoralism)**<br><br>Room No 1 A<br>**Panel Title**<br>**Proposed by**<br>**Chair**<br>Criminal, Weed and Vermin<br>Nitya Ghotge, Purnendu Kavoori, Sagari Ramdas<br>Rita Brara<br>Nitya Ghotge, Kaustubh Pandharipande<br>Unequal Rights on Common Lands<br>Kunjamp Pandu Dora, N Madhoosudan, P Bhudevi, S Shambhu, P Tammiya<br>Correcting Historical Wrongs? Using the ‘Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights), Act, 2006. (FRA, 2006)’ - Experiences of Adivasi Communities in Andhra Pradesh<br><br>Sagari Ramdas, Rajamma S, Sanyasi Rao, Radha Gopalan, Adinarayana M<br>Working for a Common Good: The Shepherds and other livestock rearers of the Rishi Valley Special Development Area.<br><br>Purnendu Kavoori, Hitendra Chauhan<br>Securing Dalit Livelihoods through Common Property Resources: Collective Strategies for Adapting to Changing Institutional and Environmental Conditions in western Rajasthan<br><br>Kazuyuki Watanabe<br>From local commons to forest users’ group in access to pastures: from the perspective of mobile sheep herders in Nepal<br><br>Kazunobu Ikeya<br>The pig herder and common resources in Bangladesh<br><br>**Governance (Forest Rights)**<br>Room No. 1 B<br><br>**Panel Title**<br>**Proposed by**<br>**Chair/ Coordinator**<br>**Politics of Policy Making and Community Rights in the Commons**<br><br>Prakash Kashwan<br>Prakash Kashwan<br><br>Prakash Kashwan<br>The Collectives Conundrum: Explaining Communities’ Poor Enthusiasm for Collective Forest Rights<br><br>Anand Vaidya<br>The Origin of the Forest, Common Property, and the Law<br><br>* Sanjoy Patnaik<br>Commons and Individuals: Is the Forest Rights Act changing the debate on Forest Commons?<br><br>* Tushar Dash<br>Forest Rights Act: Changing the paradigm of conservation and natural resource governance<br><br>* Azra Musavi<br>Park-People Relationships and its Implications for Protected Area Management in Satpura Conservation Area, India
| Room No. 1 C | Panel Title | Proposed by Chair/Coordinator | Defining and Defending Community Rights: The Perpetual Making and Remaking of Forest Commons  
Anne Larson | Formalizing indigenous commons: the role of ‘authority’ in the formation of territories in Nicaragua, Bolivia and the Philippines  
Anne Larson, Peter Cronkleton |
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<td>Sushil Saigal</td>
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|  |  |  | Greening the ‘Wastelands’: evolving discourse on wastelands and its impact on community rights in India  
Naya Paudel, Kamal Bhandari, Shanta Ram Baral |
|  |  |  | From fuelwood production to carbon sink: Changing notions of commons in Nepal’s community forestry  
Emmanuel Marfo |
|  |  |  | Reconstructing the commons for equity and accountability in forest benefit sharing arrangements in Ghana: A time to reconcile law and custom |

| Room No. 2 A | Panel Title | Proposed by Chair | Globalisation (Diversion of CPRs)  
INSEE PANEL: Diversion of CPRs from Primary Uses: Exploring Policy Framework for Sustainability and Inclusion of Local Communities  
Amita Shah |
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|  |  |  | Converting Common Lands for Mining: Lessons from India  
Nirmal Sengupta |
|  |  |  | Diversion of Land for Mining Activities  
Sanjay Upadhyay |
|  |  |  | Towards a Right-based Approach or a New Legal Framework Required?  
Nandini Sundar |
|  |  |  | Tribals’ Struggles, Law and Self Governance: Insights from Jharkahnd  
Seema Purushothaman, Sharadchandra Lele |
|  |  |  | Implications of trends in Access, Benefits and Status of Common Lands in Karnataka |

| Room No. 2 B | Panel Title | Proposed by Chair/Coordinator | Complex Commons (Protected Areas)  
Managing complex commons: Integrating local populations in the management of Protected Areas  
Victoria Reyes-Garcia and Claude Garcia |
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<td>Claude Garcia, Laboure Ghazoul</td>
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|  |  |  | Conservation and Exclusion: Needs, Limits and Pitfalls  
Gary Martin, Terence Hay-Edie, Patricia Howard, Patrick Kupper |
|  |  |  | Conservation Designations and the Commons: An Evolving Relationship |
|  |  |  | Bottom-up biodiversity conservation: Indigenous and community management practices in Mexico  
Luciana Porter-Bolland, Isabel Ruiz-Mallen, Tamara Ortiz, C Camacho-Benavides, Antonio de la Pena, K Fernanez, M. E Mendez, E.M. Chable, A Medina, M.C. Sanchez-Gonzalez, Conservcom Team |
|  |  |  | Neema Pathak |
|  |  |  | Community based conservation of the commons in India  
Xu Jianchu |
|  |  |  | Towards community-driven conservation in southwest China |
### Governance (Water)

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<th>Panel Title</th>
<th>IWM Panel: Irrigation Governance: Lessons from Asia and Africa</th>
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<tr>
<td></td>
<td>Proposed by</td>
<td>Everisto Mapedza</td>
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<td>Ruth Meinzen-Dick</td>
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<td>Barbara Koppen,</td>
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<td>Everisto Mapedza, P. Van Der Zaa,</td>
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<td>E. Manzungu, B. Tapela</td>
<td>Roman water law in rural Africa: dispossession, discrimination and weakening state regulation?</td>
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| Panel Title                          | Kuppannan Palanisami,                  | Enhancing tank multiple uses for improved livelihood opportunities in rural India |
|                                      | Barbara Koppen, Mark Giordano          |                                                               |
|                                      |                                           |                                                               |
| Panel Title                          | Madar Samad, Kuppannan Palanisami,     | Fragmentation of Property Rights and Externalities: A comparative Study of Small Tank Systems of Sri Lanka and Tamilnadu, India |
|                                      | Kiribanda Jinapala                     |                                                               |

| Panel Title                          | Jean-Philippe Venot                    | What Commons? Rethinking Participation in the sub-Saharan African Water Sector |
|                                      |                                           |                                                               |

### Governance (Property Rights)

<table>
<thead>
<tr>
<th>Room No. 2 D</th>
<th>Panel Title</th>
<th>ILC Panel: Securing tenure in Common Pool Rangelands: Where to Next?</th>
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<tr>
<td></td>
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<td>Fiona Flinton</td>
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<td>Chair</td>
<td>Michael Taylor</td>
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<td>Mary Salome Mashingo</td>
<td>Village land Use Planning and Grazing land Availability for Sustainable Range Management in Tanzania</td>
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| Panel Title                          | Pablo Manzano, Roba GM,               | Involving local community in fully using their participatory potential: the case of Garba Tula in Northern Kenya |
|                                      | Jonathan Davies                       |                                                               |
|                                      | Fiona Flinton                         | Recognising and formalising customary land and resource tenure in the rangelands. Where to next? |

| Panel Title                          | Sanjay Joshi, Pratiti Priyadarshani,  | Analyzing policy environment for securing access and legal entitlements to Grazing lands - Rajasthan scenario |
|                                      | Devin Peipert, Jagdeesh Rao, Rahul Chaturvedi, Subrat Singh |                                                               |

| Panel Title                          | Roch Mongbo                           | Rural land regulation and precarious rangelands in West Africa: lessons from northern Benin |
|                                      |                                           |                                                               |

### Complex Commons

<table>
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<tr>
<th>Room No. 3 A</th>
<th>Panel Title</th>
<th>Adaptive Learning for Improved Management of Commons</th>
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<td>Paul Thompson</td>
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<td>Chair</td>
<td>Sara Ahmed</td>
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<tr>
<td></td>
<td>Paul Thompson</td>
<td>Sustainability of Community Based Organisations in Bangladesh</td>
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<td>Parvin Sultana, Paul Thompson</td>
<td>Implications of floodplain aquaculture enclosure</td>
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<td>Ashitava Halder, Anisul Islam</td>
<td>Co-management of wetlands and its contribution to the livelihoods of poor people</td>
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<td>Parvin Sultana</td>
<td>Adaptive learning networks for improved floodplain management</td>
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### CIFOR Panel: Adaptation to Climate Change, Natural Resources and Institutions

#### Room No. 3 B

<table>
<thead>
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<th>Panel Title</th>
<th>Proposed by Chair</th>
<th>Panel Chair</th>
<th>Chair</th>
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<tbody>
<tr>
<td>CIFOR Panel : Adaptation to Climate Change, Natural Resources and Institutions</td>
<td>Claudia Rodriguez</td>
<td>Esti Anantasari</td>
<td>Hestu Prahara, Esti Anantasari, Kristiyanto</td>
</tr>
<tr>
<td>Land Use Change and Adaptation to Climate Variability and Change</td>
<td>Yunita Triwardani Winarto,</td>
<td></td>
<td>Rio Aries, Lacka Musa, Kristiyanto</td>
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<tr>
<td>Rural Response to Climate Change: Lessons and Challenges from Indonesia</td>
<td>Jephine Ajwala,</td>
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<td>Emily Obonyo, Joseph Tanui, Delia Catacutan, Jeremias Mowo</td>
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<tr>
<td>Strengthening Local Institutions as Avenues for Climate Change Resilience</td>
<td>Eric Coleman</td>
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<tr>
<td>* What Good Is Protecting the World’s Climate System? Global Public Goods and International Public Policymaking</td>
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</tbody>
</table>

### New Commons (Knowledge)

#### Room No. 3 C

<table>
<thead>
<tr>
<th>Panel Title</th>
<th>Proposed by Chair</th>
<th>Chair</th>
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</thead>
<tbody>
<tr>
<td>Knowledge Swaraj and Knowledge Commons</td>
<td>C. Shambu Prasad</td>
<td>Shishir Jha</td>
</tr>
<tr>
<td>Agriculture and the New Commons: Insights from SRI in India</td>
<td>C. Shambu Prasad</td>
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<tr>
<td>The Gadfly as a Harbinger: Exploring Gandhi's Hind Swaraj and Oceanic Circles</td>
<td>M.V. Sastri</td>
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</tr>
<tr>
<td>Towards a Knowledge Commons by Recognizing the Plurality of Knowledge - Experiences with democratic governance of science and technology</td>
<td>Wiebe Bijker</td>
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</table>

### Theory, Analytics and Data

#### Room No. 3 D

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<thead>
<tr>
<th>Panel Title</th>
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<tbody>
<tr>
<td>IFRI PANEL: Lessons and Limitations of Comparative Research on Forests and Forest Commons</td>
<td>Harini Nagendra, Elinor Ostrom</td>
<td>Lauren Persha</td>
</tr>
<tr>
<td>Assessing forest change in human impacted forests</td>
<td>Lauren Persha, Arun Agarwal,</td>
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<tr>
<td>Vegetation diversity and forest-based livelihoods relationships in forest commons in East Africa and South East Asia</td>
<td>Ashwini Chhatre</td>
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<tr>
<td>Well-being or destitution of local forest commons? An inquiry into the sustainability of forest commons using multi-country data.</td>
<td>Pranab Mukhopadhyay, Ingela Ternstrom, Rucha Ghatre</td>
<td></td>
</tr>
<tr>
<td>* Property Rights, Transaction Costs and Contract Enforcement in the Commons: Evidence from Developing Countries</td>
<td>* Eduardo Araral</td>
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### VIDEO PRESENTATIONS

#### Room No. 12

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<thead>
<tr>
<th>Panel Title</th>
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<tbody>
<tr>
<td>Restoring Livelihoods: Backwater Fishing(11 min 43 sec)</td>
<td>Gurunathan Arumugam</td>
</tr>
<tr>
<td>Catalyzing collective action in Tonle Sap fisheries (Cambodia)(18 min)</td>
<td>Blake Ratner</td>
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#### 11:45-12:00 hrs

<table>
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<th>Panel Title</th>
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<tr>
<td>Tea/Coffee Break</td>
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<tr>
<td>Room No.</td>
<td>Panel Title</td>
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<tr>
<td>1 A</td>
<td>Poverty &amp; Social Exclusion (Pastoralism)</td>
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<td>Panel Title</td>
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<td>Undarga Sandagsuren</td>
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<td>Nurzhan Dzhumabaev</td>
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<td>Gubo Qi, Fengyang Li, Zhipu Long, Xiuli Xu, Tang Lixia</td>
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<td>Nabi kant Jha</td>
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<td>Changqing Yu</td>
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<td>Wenjun Li, Yanbo Li</td>
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<td>1 B</td>
<td>Governance (Forests)</td>
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<td>Panel Title</td>
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<td>Viren Lobo, Rajesh Ramakrishna</td>
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<td>Sirisha Naidu</td>
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<td>* Sweta Mishra</td>
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<td>* Jyothis Sathyapalan</td>
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<td>* Rahul Saxena</td>
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<td>Governance (Property Rights)</td>
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<td>Panel Title</td>
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<td>Johanna Clerc</td>
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<td>Moira Moeliono, Godwin Limberg</td>
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</table>
### Globalisation (Forests)

<table>
<thead>
<tr>
<th>Room No.</th>
<th>Panel Title</th>
<th>Proposed by Chair/ Coordinator</th>
<th>Large-Scale Investments in the Forest Frontier: Customary Rights and Societal Stakes</th>
<th>Laura German and Esther Mwangi</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 A</td>
<td></td>
<td>Laura German</td>
<td>A Framework for Evaluating the Impacts of Expanded Trade and Investment on Forests: Customary Rights and Societal Stakes</td>
<td>Laura German</td>
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<tr>
<td></td>
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<td>George Schoneveld</td>
<td>Customary Rights and Societal Stakes of Jatropha Expansion in Ghana</td>
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<td></td>
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<td>Alois Mandondo</td>
<td>Customary rights and societal stakes relating to the expansion of tobacco in the miombo woodlands with particular reference to Malawi</td>
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<td>Heru Komarudin, Krystof Obidzinski, Rubeta Andriani, Agus Andrianto</td>
<td>Environmental and Social Impacts from Palm based Biofuel Development in Indonesia</td>
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<td>Jacob Mwitwa, Fiona Paumgarten, Laura German</td>
<td>Evaluating the Impacts of Expanded Trade and Investment in Mining on Forests: Customary Rights and Societal Stakes in the Copper Belt of Zambia</td>
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### Complex Commons (Coastal)

<table>
<thead>
<tr>
<th>Room No.</th>
<th>Panel Title</th>
<th>Proposed by Chair/ Coordinator</th>
<th>EEPSEA-SANDEE Panel on Coastal Commons</th>
<th>Herminia Francisco</th>
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</thead>
<tbody>
<tr>
<td>2 B</td>
<td></td>
<td>Alice Ferrer</td>
<td>Evaluation of Fisheries Management Options for the Visayan Sea, Philippines: The Case Of Northern Iloilo</td>
<td>Herminia Francisco</td>
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<tr>
<td></td>
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<td>Prasenjit Sarkhel</td>
<td>Behind New Barrier Walls: Private Contribution for Embankment Conservation in Indian Sundarbans</td>
<td>Herminia Francisco</td>
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<td></td>
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<td>Orapan Nabangchang, Jin Jianjun, Truong Dang Thuy, Anabeth Indab, Dieldre Harder, Rodelio Subade.</td>
<td>Mobilizing Resources for Marine Turtle Conservation in Asia - A Cross-country Perspective</td>
<td>Herminia Francisco</td>
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<td></td>
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<td>* Gazi Md Islam, Kusairi Noh, Tai Yew</td>
<td>Assessing the Impact of Marine Protected Areas: A case study of the Redang Island Marine Park (Malaysia)</td>
<td>Herminia Francisco</td>
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<td>* Moenieba Isaacs</td>
<td>Formalising the informal fishers - Small-scale Fisheries Policy, Marine Protected Areas and its impacts on fisher livelihoods in South Africa, Case studies of Struisbaai and Arniston, South Africa.</td>
<td>Herminia Francisco</td>
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### Governance (Water)

<table>
<thead>
<tr>
<th>Room No.</th>
<th>Panel Title</th>
<th>Proposed by Chair</th>
<th>IWMI PANEL: Irrigation Governance: Lessons from Asia and Africa</th>
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<tr>
<td>2 C</td>
<td></td>
<td>Everisto Mapedza</td>
<td>Jesse Ribot</td>
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<td>Aditi Mukherjee</td>
<td>Irrigation reform in Asia: A review of 108 cases of irrigation management transfer</td>
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<td>Floriane Clement, Amare Haileslassie, Madar Samad, Saba Ishaq</td>
<td>Intersecting Water Productivity and Poverty: Lessons from Ganga Basin</td>
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<td>Everisto Mapedza, Fitsum Hagos, Tilaye Deneke, Seleshi Bekele, Aster Denekew, Barbara van Koppen</td>
<td>The Political Economy of Irrigation in the Amhara Region of Ethiopia</td>
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</tbody>
</table>

* Eduardo Araral

What is the effect of decentralization in a large scale common pool resource?

### Governance (Community Rights)

<table>
<thead>
<tr>
<th>Room No.</th>
<th>Panel Title</th>
<th>Proposed by Chair/Coordinator</th>
<th>Dimensions of Collective Rights over CPRs</th>
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<tbody>
<tr>
<td>2 D</td>
<td></td>
<td>Jose Lopes</td>
<td>Commonlands and Local Development in Northern Iberian Peninsula</td>
</tr>
<tr>
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<td>An Le Van, Chuong Huynh Van</td>
<td>Situation and Property Rights in Agricultural and unused Lands Upland Of Vietnam</td>
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<td></td>
<td></td>
<td>Lourdes Romero, Maria Rojas</td>
<td>The collective rights of land and water in Mexico, public policy and social resistance.</td>
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<td></td>
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<td>Suvarna Chandrappagari, Venkat Raj Djyda</td>
<td>Restoration of common lands for enhancing livelihoods of rural communities: a case study of GO-NGO collaboration in Andhra Pradesh</td>
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<tr>
<td></td>
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<td>Elmien du Plessis</td>
<td>African Customary Land Rights in a Private Ownership Paradigm: Can the Commons help secure tenure?</td>
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### Climate Change

<table>
<thead>
<tr>
<th>Room No.</th>
<th>Panel Title</th>
<th>Proposed by Chair/Coordinator</th>
<th>IFRI-CIFOR co-hosted panel: Forests, Climate Change Mitigation, and REDD: The Voice of Local People</th>
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</thead>
<tbody>
<tr>
<td>3 B</td>
<td></td>
<td>William Sunderlin</td>
<td>William Sunderlin</td>
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<td></td>
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<td>Amy Duchelle, Maria Fernanda Gebara, Raissa Guerra, Galia Selaya, Simone Bauch, Jan Bonner, Peter Cronkleton, Peter May, Tadeu Melo, Erin Sills, Sven Wunder</td>
<td>Learning from first generation REDD projects in Brazil and Bolivia</td>
</tr>
</tbody>
</table>

* Lynn Palmer, Margaret (Peggy) Smith, Chander Shahi

Towards new institutional arrangements for managing forest commons in northwestern Ontario
Prakash Kashwan, Rob Holahan
Missing the Woods for the Carbon? Scrutinizing Carbon Forestry Programs for Sustainable Development

Ida Aju Resosudarmo, Andini Desita, Stibniati Atmadja, William Sunderland, Thu Ba Huynh, Pangestuti Astri, Yayan Indriatmoko, Dian Y Intarini
Learning from REDD: field insights from Indonesia and Vietnam

Abdon Awono, Therese Dokken, William Sunderland
REDD+: A new support tool for improved conservation and livelihood in Africa

Elizabeth Shapiro
Is Decentralization Enough? Lessons from Mexico’s National Payments for Ecosystem Services Program for the Targeting of REDD+ Initiatives

Leticia Merino
Forest Communities and Forest Policies in Mexico and their Contribution to the Mitigation of the Globate Climate Change Process

**New Commons (Knowledge)**

<table>
<thead>
<tr>
<th>Room No. 3 C</th>
<th>Panel Title Proposed by Chair/ Coordinator</th>
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<tbody>
<tr>
<td></td>
<td>Gino Cocchiaro</td>
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<td>Gino Cocchiaro</td>
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Gino Cocchiaro, Kabir Bavikatte
Implementing A Traditional Knowledge Commons: A Community Approach to Ensuring the Local Integrity of Environmental Law and Policy

Krishna Ravi Srinivas
Traditional Knowledge As/And Commons: Where Do We (Want To) Go From Here

Kabir Bavikatte
Environmental Law as Political Ecology: The Roots of Biocultural Rights

* Margaret (Peggy) Smith
Applying Indigenous Traditional Knowledge in Forest Management in Canada: Moving Beyond Rhetoric

**Theory, Analytics and Data**

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<thead>
<tr>
<th>Room No. 3 D</th>
<th>Panel Title Chair</th>
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<tr>
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<td>K. V. Raju</td>
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L. I. Magole and L. Magole
From Community Based to Community Driven; The Evolution of the Commons Management in the Okavango Delta, Botswana

Sanjukta Das
Community Effort to Environment Protection and Poverty Reduction in a Backward Area in Orissa

Iwen Ismarson, Shigeaki Fujisaki
An Institutional Analysis of Deforestation: A Case Study on a Village Inside Bukit Barisan Selatan National Park, West Lampung Regency, Lampung Province, Indonesia

Manish Kumar, Poyyamoli Gopalsamy
Vegetation surveys and institutional analysis for understanding the selected Van-panchayats systems in the Kumaun Himalayas

Verina Inram
Governing Forest Commons in the Congo Basin: Non-Timber Forest Product Value Chains

Bhaskar Vira
Beyond Win Win: Interrogating the Evidence on Ecosystem Service Related Synergies and Tradeoffs
### VIDEO PRESENTATIONS

| HM Ravnborg | When New Water Users Emerge (10 min 29 sec) |
| Bitra Sada Siva | Lifelines for Livelihoods (19 min 39 sec) |

**13:30-14:30 hrs**

**Lunch and Poster Presentation at Arjuna Arcade**

### PANEL SERIES 3

**14:30-16:00 hrs**

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<th>Room No. 1 A</th>
<th>Panel Title</th>
<th>Role of Community in Forest Governance</th>
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<tbody>
<tr>
<td>Chair</td>
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<tr>
<td>Mara Goldman</td>
<td>Pastoralists Under Pressure: mobility and property management in Tanzanian and Kenyan Rangelands</td>
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<tr>
<td>Julie Snorek</td>
<td>Diverse views of the causes of environmental migration among pastoralists in Northern Niger</td>
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<tr>
<td>Carolyn Lesorogol</td>
<td>Grazing rights and practices in a privatized commons in Kenya</td>
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<tr>
<td>Salaton Tome, John Kioko</td>
<td>Envisioning communal use beyond communal ownership: The future of Kenya’s Maasailand after group ranch subdivision</td>
<td></td>
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<tr>
<td>Fiona Flinton, Adrian Cullis</td>
<td>Participatory rangeland management: a solution to problems in defining communal land tenure in pastoral areas?</td>
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<tr>
<td>Han Wei, Du Ling</td>
<td>Supporting collective action through Community Development Funds: An institutional innovation for herder poverty reduction in Sichuan, China</td>
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### Governance (Forests)

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<th>Room No. 1 B</th>
<th>Panel Title</th>
<th>Role of Community in Forest Governance</th>
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<td>Chair</td>
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<tr>
<td>Annamalai Venkatraman</td>
<td>Gaon Ganrajya (Village Republic) Movement in Rajasthan: Asserting Traditional Rights of Tribes over Community Resources through Legal Framework</td>
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<tr>
<td>Ayumi Sugimoto</td>
<td>Decentralization and Ignored Local Dynamics: a case study on CBFM in the Philippines</td>
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<tr>
<td>Abebe Beyene</td>
<td>Forest Dependency, property rights and local level institutions: Empirical evidence from Ethiopia</td>
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<tr>
<td>Mitul Baruah</td>
<td>NGOs and Institutional Sustainability in Joint Forest Management: Case Studies from Rajasthan</td>
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<tr>
<td>Banikanta Mishra, Birendra Nayak</td>
<td>Effect of Joint Forest Management Programme on Community Forest Management in Odisha</td>
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### Governance (Property Rights)

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<th>Room No. 1 C</th>
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<td>Chair</td>
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<tr>
<td>Esther Mwangi</td>
<td>IFRI-CIFOR co-hosted panel: Tenure Reform, Resource Access and Conflict Resolution in Forest Commons</td>
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<tr>
<td>Guillaume Lescuyer, Samuel Assenbe Mvondo, Julienne Nadège Essoungou, Vincent Toiso, Jean-François Trébuchon, Nicolas Fauvet</td>
<td>Logging Concessions and Domestic Forests in Cameroon: Incompatibility, Indifference or Transformability?</td>
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<tr>
<td>Peter Cronkleton</td>
<td>Commons Diversity in Bolivia’s Forest Tenure Reform: Lessons learned and continued challenges for forest dependent people</td>
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**XXVI | 13TH BIENNIAL CONFERENCE OF THE INTERNATIONAL ASSOCIATION FOR THE STUDY OF THE COMMONS**
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<th><strong>Globalisation (Migration)</strong> Room No. 2 A</th>
<th><strong>Panel Title</strong></th>
<th><strong>Rural out-migration and resource dependent communities in a globalized world</strong> Jim Robson and Prateep Nayak</th>
<th><strong>Jim Robson</strong></th>
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<tbody>
<tr>
<td></td>
<td>Ana Martinez</td>
<td>Demographic factors impacting commons management in Mexico</td>
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<td></td>
<td>Ayari Pasquier</td>
<td>Out-migration, local governance and collective action in Southern Mexico</td>
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<td></td>
<td>Silva Larson, Alex Smajgl</td>
<td>From globalisation to local migration: System study of the Greater Mekong Region</td>
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<td></td>
<td>Aurelie Delisle, Natalie Stoeckl, Helene Marsh</td>
<td>Maintenance of one’s culture and its consequences on the management of traditional sea resources</td>
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<tr>
<td></td>
<td>Jim Robson, Prateep Nayak</td>
<td>Transforming ways of life: How out-migration affects change in resource dependent societies</td>
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<tr>
<th><strong>Complex commons (Coastal)</strong> Room No. 2 B</th>
<th><strong>Panel Title</strong></th>
<th><strong>The Man and Sea Interface: Lessons in Coastal Governance</strong> Doug Wilson</th>
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<tbody>
<tr>
<td></td>
<td>Neha Vaddiparti, Sheela Prasad</td>
<td>Endangering the Commons- Special Economic Zones Act, 2005: A Case Study of the Coastal Belt of Andhra Pradesh, India</td>
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<tr>
<td></td>
<td>John Powell</td>
<td>Maximising policy opportunities to enhance community-based marine resource management.</td>
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<td></td>
<td>Ho Van Thu, Simon Woodley, Alison Cottrell</td>
<td>Barriers to effective multilevel governance process in Marine Protected Areas in Vietnam.</td>
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<td>Oscar Schmidt, Insa Theesfeld</td>
<td>Elite Capture in Local Fishery Management – Post-socialist Experiences from Albania</td>
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<td>Mafaniso Hara</td>
<td>Ecosystem Approach to Management in South African Small Pelagic Fisheries</td>
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<th><strong>Governance (Water)</strong> Room No. 2 C</th>
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<th><strong>Legal and Institutional Aspects of Water Governance</strong> Phillipe Cullet</th>
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<td></td>
<td>Annie MacKinnon</td>
<td>Making their own way: Recognizing the commons in water management, Wyoming 1900-1925</td>
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<td></td>
<td>Paula Novo, Alberto Garrido, Ruth. Meinzen-Dick</td>
<td>Challenges in getting off the ground the new Nicaraguan Water Law: from farmer groups to formalized irrigation districts?</td>
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<tr>
<td></td>
<td>Govinda Basnet</td>
<td>Delinking of water rights from landholding size in a farmer’s managed irrigation system: Question of efficiency and equity</td>
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<td></td>
<td>Sanjay Gupta, Satya Prakesh Tucker, Humera Anjum</td>
<td>The Public Trust Doctrine and Water as a Public</td>
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<tr>
<td>Room No. 2 D</td>
<td>Panel Title</td>
<td>Land tenure - Issues and Solutions</td>
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<tr>
<td>Panel Chair: Liz Alden Wily</td>
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<tr>
<td>Betsy McCann</td>
<td>Increasing Collaboration between Agricultural Development and Land Tenure Reform Initiatives to Promote Indigenous Public Participation</td>
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<tr>
<td>Nimisha Shukla, Sudarshan Iyengar, Navita Sharma</td>
<td>Governing of Commons: The Bhoodaan Way Patterns, Utilization and Management of Common Land: A Case Study of District Una, Himachal Pradesh, India</td>
<td></td>
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<tr>
<td>Manoj Potapohn, Mana Southichack</td>
<td>Socioeconomic consequences of large land concessions in Southern &amp; Northern villages of Lao PDR</td>
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<tr>
<td>Celia Futemma</td>
<td>Property Rights, Social Movements, and Access and Use of Natural Resources: The Afro-Brazilian Communities and the Landless Settlements, State of Sao Paulo, Brazil</td>
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**Special Event (Book Panel Proposal)**
Room No. 3 A

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<th>Panel Title</th>
<th>Long-term Performance of Innovative Development Interventions</th>
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<td>Panel Proposed by: Wai Fung Lam</td>
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<tr>
<td>Wai Fung Lam</td>
<td>Introduction and Background</td>
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<tr>
<td>Prachanda Pradhan</td>
<td>Historical Perspectives on Innovative Intervention</td>
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<tr>
<td>Elinor Ostrom</td>
<td>Institutional Opportunities and Constraints in the Performance of Farmer-Managed Irrigation Systems</td>
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<tr>
<td>Wai Fung Lam</td>
<td>Evaluating an Innovative Design for Irrigation Management</td>
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<tr>
<td>Ganesh Shivakoti</td>
<td>Post-Intervention Dynamics of Farmer-Managed Irrigation Systems</td>
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<tr>
<td>Elinor Ostrom, Wai Fung Lam, Prachanda Pradhan and Ganesh Shivakoti</td>
<td>Synthesis and Conclusion</td>
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**Climate Change**
Room No. 3 B

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<th>Panel Title</th>
<th>Carbon, Livelihoods and Governance in the Forest Commons</th>
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<td>Panel Proposed by: Sango Mahanty, Suich Helen and Luca Tacconi</td>
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<tr>
<td>Sango Mahanty</td>
<td>Access and Benefits in Payments for Environmental Services, Forest Conservation and Climate Change: Lessons from a Global Review</td>
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<tr>
<td>Kate Schreckenberg, Leo Peskett, Jessica Brown</td>
<td>Help or hindrance? Impacts of carbon funding on participation by the poor in forest development activities</td>
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<td>* Isilda Nhantumbo</td>
<td>Carbon credits: a renewed opportunity for securing resources rights in Africa</td>
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<td>* Craig Thorburn</td>
<td>The REDD Rush in Indonesia</td>
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<td>Theory, Analytics and Data</td>
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<thead>
<tr>
<th>Room No</th>
<th>Panel Title</th>
<th>Chair</th>
<th>Political Economy of the Commons</th>
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<tr>
<td>3 D</td>
<td>Theory, Analytics and Data</td>
<td>Chris Short</td>
<td>Yahua Wang Diagnose Complexity in Social-Ecological System Understanding Irrigation Institutional Changes in Imperial China</td>
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<td>Sony Pellissery, Benjamin Davy Social construction of commons How could mixed property relations become subject matter of social policy arenas</td>
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<td>Jordan Levine, Edward Slingerland Homo economicus or Homo analogicus Integrating Findings on Human Cognition into the Study of Social-Ecological Systems</td>
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<td>Eric Patrick, Terence Hay-Edie Resource rights, landscape designations and empowerment: transformations in the relationship between communities and conservation</td>
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<td>Theory, Analytics and Data</td>
<td>Chris Short</td>
<td>Abdullah Hossain, Mazlin Mokhtar, Mohd Ekhwan Toriman Social learning in facing challenges of sustainable development: a case of Langat River Basin, Malaysia</td>
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<td>Theory, Analytics and Data</td>
<td>Chris Short</td>
<td>Brij Mohan Singh Rathore Seeing beyond boundaries: Landscape approach to conservation and livelihood enhancement</td>
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**VIDEO PRESENTATIONS**

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<tr>
<th>Time</th>
<th>Policy Forum-1</th>
<th>Coordinated by Michael Taylor</th>
<th>Jesse Ribot</th>
<th>Double Bladed Axe(49 min 41 sec)</th>
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</thead>
<tbody>
<tr>
<td>16:00-16:30 hrs</td>
<td>Securing the Rights of Common Property Users - Experiences from Latin America, Africa and Asia</td>
<td>Ben Cousins, Fiona Flinton, Liz Wily, Michael Taylor, Neelima Khetan, Sudanthan Iyengar, Paul Mathieu</td>
<td>Jesse Ribot</td>
<td>Double Bladed Axe(49 min 41 sec)</td>
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<tr>
<td>16:30-18:00 hrs</td>
<td>Tea/ Coffee Break</td>
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<tr>
<td>Room No</td>
<td>Policy Forum-2</td>
<td>Coordinated by Purnendu Kavoori</td>
<td>Pastoralism and Commons - Beyond Sedentarisation and Sustainability</td>
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<td>1 C</td>
<td>Policy Forum-2</td>
<td>Purnendu Kavoori</td>
<td>Kabir Bavikatte, Kazunobu Ikeya, Nurzhank Dzhumabaev, Purnendu Kavoori, Sagar Ramdas, Saverio Kräti</td>
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<tr>
<td>Auditorium</td>
<td>Policy Forum-3</td>
<td>Placing (forest) Commons in a Landscape Perspective</td>
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<td></td>
<td>Coordinated by Mike Smith</td>
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<td>Andrew Wardell</td>
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<td>Herman Rosa Chávez</td>
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<td>Klaus Deininger (*TBC)</td>
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<td>Mike Smith</td>
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<td>Sharadchandra Lele</td>
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| Tungabhadra Conference Room | Policy Forum-4                  | Governing and Managing Common Property Resources in the Face of Climate Change |
|                            | Coordinated by Ashwini Chhatre  |                                                     |
|                            |                                 | A Damodaran                                         |
|                            |                                 | Ashwini Chhatre                                     |
|                            |                                 | Gopal Kadekodi                                      |
|                            |                                 | Jesse Ribot                                         |
|                            |                                 | William Sunderlin                                   |

| Room No. 3 A               | Special Event Book Release       | Disputing the Floodplains                           |
|                            |                                 | Edited by Tobias Haller                              |
|                            | 18:30-18:45 hrs                  | SAEP Award Ceremony                                 |
|                            | 18:45 -19:30 hrs                 | IASC Membership Meeting                             |
WEDNESDAY 12TH JANUARY 2011

08:30-10:00 hrs Key Note Speeches
David Bollier
Bina Agarwal

10:00-10:15 hrs Tea/ Coffee Break

10:15-11:45 hrs PANEL SERIES 4
Poverty and Social Exclusion (Gender)
Room No. 1 A Panel Title Commons from a Gender Perspective - an Essential Approach
Chair Amita Shah

10:15-11:45 hrs Room No. 1 B Panel Title IFRI PANEL: Understanding Commons Institutions and Interactions across Scales
Proposed By Chair/ Coordinator
Ashwini Chhatre Ashwini Chhatre

08:30-10:00 hrs Key Note Speeches
David Bollier
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10:15-11:45 hrs PANEL SERIES 4
Poverty and Social Exclusion (Gender)
Room No. 1 A Panel Title Commons from a Gender Perspective - an Essential Approach
Chair Amita Shah

Rachel DeMotts
Weaving and Leading: A Gendered View of Community-Based Conservation in Namibia

Archana Jetti
Microfinance, Gender and the Commons: Current Challenges and Future Possibilities.

Diaminatou Sanogo, Innocent Butare, Celestin Kabatou, Patrick Gomis
The challenge of ownership in the communal management of natural resources by the local political decision makers and that of taking gender into account: the case of protected areas in Senegal

Sita Zougouri
Common resource management, power dynamics among local actors: how women struggle for their access to wood market in Burkina Faso

Deepshikha Mehra
Lead role of women in local forest governance guarantee gender equity in costs and benefits from forests? A study of four case studies from Vidarbha Region in Maharashtra

Governance (Institutions)
Room No. 1 B Panel Title IFRI PANEL: Understanding Commons Institutions and Interactions across Scales
Proposed By Chair/ Coordinator
Ashwini Chhatre Ashwini Chhatre

Lekha Knuffman
Social Capital and Cooperation on the Commons - Groundwater Governance in Central and Western India

Dil Bahadur Khatri
Payments for Environmental Services in Kulekhani Watershed of Nepal: An institutional analysis of mechanisms for sharing hydroelectricity revenue

Hemant Ojha, Naya S Paudel
The Evolution of Institutions for Cross-scale Interactions in the Management of Commons: The Case of Community Forest User Groups Federation in Nepal

Krister Andersson, Jean Paul Benavides, Patricia Uberhuaga, Rosario Leon
Forest Decentralization and property rights: an analysis of community forestry in Bolivia
### Governance (Decentralization)

**Room No. 1 C**

**Panel Title**

IFRI PANEL: Dynamics of Natural Resource Policy Decentralization in Asia

**Proposed by**

Chair/ Coordinator

**Ganesh Shivakoti**

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<tr>
<th>Speaker(s)</th>
<th>Title</th>
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<tbody>
<tr>
<td>Mahdi Mahdi, Ganesh Shivakoti</td>
<td>Decentralization of Forest Management, Local Institutional Capacity and its Effect on Access of Local People to Forest Resources: the Case of West Sumatra, Indonesia</td>
</tr>
<tr>
<td>Om Katel, Dietrich Schmidt-vogt</td>
<td>Forest, People and Livelihoods: The need for participatory management in Jigme Singye Wangchuck National Park, Bhutan</td>
</tr>
<tr>
<td>Tran, Makoto Inoue</td>
<td>Changes in Property Rights, Forest Use and Forest Dependency of Katu Communities in Nam Dong District, Thua Thien Hue Province, Vietnam</td>
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<tr>
<td>Ganesh Shivakoti, Birendra K. Karna</td>
<td>Evaluating decentralized, semi-decentralized and centralized forest management regimes in Nepal</td>
</tr>
<tr>
<td>Zhu Ting, Chen Haiyun, Ganesh Shivakoti</td>
<td>Community-based Co-management Mechanism of Forest Resources: A Case Study of Baishuijiang National Natural Reserve, China</td>
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**Room No. 2 A**

**Panel Title**

Coastal Lagoons as Complex Human-Environment Systems: Implications for Sustainability

**Proposed by**

Chair/ Coordinator

**Prateep Nayak and Sarah Coulthard**

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<th>Speaker(s)</th>
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<tr>
<td>Prateep Nayak, Sarah Coulthard</td>
<td>Lagoon systems as platforms for sharing knowledge: Social-ecological responses to reduced access to commons, and dynamic environmental changes</td>
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<td>Erwin Rathnaweera, Jayantha Gunasekara</td>
<td>Loss of access rights leads to collapse of traditional fisheries governance and rise of conflicts: A case from Malala and Ebillakela lagoons in Sri Lanka</td>
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<td>Truong Tuyen</td>
<td>Property rights analysis and rights allocation for co-management in Tam Giang lagoon, Vietnam</td>
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<td>Hari Ragavan</td>
<td>Community-based Mangrove Ecosystem Regeneration: A case study in Malaysia</td>
</tr>
<tr>
<td>* Maria Zita Toribio, Marie Antonette Menez</td>
<td>Value of good governance in governing the Illana Bay coastal and marine commons: experiences and lessons learned from the Philippine Environmental Governance Project</td>
</tr>
<tr>
<td>* Fiona Nunan, Caroline Kirema-Mukasa</td>
<td>Property rights and regimes: implications of managing capacity through co-management on Lake Victoria, East Africa</td>
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**Room No. 2 B**

**Panel Title**

Challenges in Grazing Land Management

**Proposed by**

Chair

**Carolyn Lesorogol**

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<td>Adaptive management of common rangeland in Morocco: A case study</td>
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<td>Ayalew Cheru</td>
<td>Resource-Based Inter-Group Conflict, the Role of Pastoral Youths and Small Arms Proliferation in Nomadic Areas of Ethiopia: The Case of the</td>
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<td>Commons Research in Latin America</td>
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<td>* Concepcion Alvarez, Miguel Garcia, Hilda Hernandez, Sebastiao Kengen</td>
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<td>2 D</td>
<td>Land Grabbing and Pressures to Commercialize: Experiences and Responses</td>
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<td>Best practices to cope with climate change induced challenges in agricultural water agencies. The cases of California, Germany, and Spain</td>
<td>Insa Theesfeld, Oscar Schmidt</td>
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<td>The Role of Shared Mental Models for Adaptation Policies: The Results of Expert Interviews</td>
<td>Ilona Otto-Banaszak, Piotr Matczak, Justus Wesseler, Frank Wechsung</td>
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<tr>
<td>Active Adaptation to the Climate Change: Agency and Social Organization - A case study in dry land rural community in China</td>
<td>* Jiangyue Luo</td>
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<tr>
<td>Harnessing the Climate Commons: An agent-based modelling approach to reduce carbon emission from deforestation and degradation</td>
<td>* Desi Suyamto, Herry Purnomo, Ratna Akienawati, Lutfy Abdullah</td>
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<tr>
<td>Moving from Environmental Economics to Ecological Economics: what difference does it make for forest management under the carbon market framework?</td>
<td>* Lysete Sandra Hernandez-Gamez</td>
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<tr>
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<th>Theoretically Grounded and Grounded Theory</th>
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<tr>
<td>Prototype design guidelines for ‘collaborative governance’ of natural resource</td>
<td>Makoto Inoue</td>
<td>N.C. Narayanan</td>
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<tr>
<td>A theoretically grounded classification of European commons</td>
<td>Erling Berge, Margherita Pieraccini</td>
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<tr>
<td>From common pastures to global commons. An historical perspective on interdisciplinary approaches to commons</td>
<td>Tine de Moor</td>
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<td>An experimentally grounded model of common-pool resource management</td>
<td>Giangiacomo Bravo, Elena Vallino</td>
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<tr>
<td>Social Preferences in Conservation under external rewards and the role of group heterogenity and market orientation: Experimental evidence from the Andes</td>
<td>Ulf Narloch, Unai Pascual, Adam Drucker</td>
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<td>Anti-norm agreements - when to expect collusion?</td>
<td>Hannu Autto</td>
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<tr>
<th>Panel Title</th>
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<tbody>
<tr>
<td>Understanding global knowledge-dynamics: A case-study of NFSC’s project, Digital Community Archiving- does it ‘protect or plunder’ the indigenous knowledge of the Nari Kurava community?</td>
<td>Padini Nirmal</td>
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<td>Computer Mediated Communities: Stretching the boundaries</td>
<td>Vyakaranam Kameswari</td>
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<td>Digital Commons for Modeling Commons</td>
<td>Peter Hovmand, Gautam Yadama</td>
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<tr>
<td>Access to digital collections of public domain works: an analysis of libraries and museums contractual and technical restrictions to the commons</td>
<td>Melanie Dulong de Rosnay</td>
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<tr>
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<td>Panel Title</td>
<td>SANDEE Panel: Water Commons - Homogeneity, Dependence and Sustainability</td>
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<td>Room No. 3 D</td>
<td>Panel Title</td>
<td>Arabinda Mishra Articulating Water Commons - Homogeneity, Dependence and Sustainability</td>
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<td>Devarajulu Suresh Kumar Does Devolution lead to Sustainability? Evidence from Participatory Watershed Management in Southern India</td>
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<td>Ram Chandra Bhattarai Transaction Hardly Costs: Understanding Collective Action in Farmer - Managed Irrigation Systems in Nepal</td>
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<td>Arabinda Mishra, Pranab Mukhopadhyay Dependence and Sustainability in Common Groundwater Use in Maharashtra, India</td>
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<td>Andreas Thiel Conceptualizing Re-scaling of Water Governance in Portugal, Spain and Germany</td>
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<td>Sango Mahanty, Trung Dinh Dang Protecting the Water Commons in Vietnam’s Craft Villages</td>
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**VIDEO PRESENTATIONS**

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<th>ESTHER BLANCO</th>
<th>Experiments in the Colombian Fields (23 min 50 sec)</th>
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<tr>
<td>PURABI BOSE</td>
<td>Forest Rights: Jung Jungle aur Jungle ke Logon ka (12 min)</td>
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**11:45-12:00 hrs** Tea/ Coffee Break

**PANEL SERIES 5**

**Poverty and Social Exclusion**

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<td>Panel Title</td>
<td>Chair</td>
<td>Jos Mooij</td>
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<tr>
<td>DOLLY MENON</td>
<td>Klaus Seeland Poverty and Food Security in Indian Forests - how to tackle both with what the commons provide?</td>
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<tr>
<td>BHASKAR SINHA</td>
<td>Achieving Conservation and Livelihood: A Case Study from Orissa, India</td>
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<tr>
<td>HIMADRI SINHA</td>
<td>Halting The Forest Degradation: Search for Livelihood Based Forest Conservation in India</td>
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<tr>
<td>RAM PRakash, Khetra Mohapatra Contribution of Common Property Resources to Rural Sustainable Development: A Case Study of Uttar Pradesh</td>
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<tr>
<td>PRINCE ADJEI</td>
<td>Combating Poverty In Deprived Rural Communities Towards Achieving The Millennium Development Goals: The Impact And Challenges Of Local Government Structures of Ghana</td>
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<tr>
<td>SUSHANTA SARMA, ISHAN AGRAWAL Commons for Internally Displaced Persons (IDPs): Excluded from Policy</td>
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**Poverty and Social Exclusion (Forests)**

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<tr>
<td>KRISTER ANDERSSON</td>
<td>Elite Capture in Forest Commons: Testing Ideas about Mitigating Factors</td>
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<td>KRISTER ANDERSSON</td>
<td>Basundhara Bhattarai Rhetoric and Reality: Enacting gender-based inclusion in managing the Commons in Nepal</td>
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<tr>
<td>Room No. 1 C</td>
<td>Panel Title</td>
<td>IFRI Panel : Dynamics of Natural Resource Policy Decentralization</td>
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<td>Tadesse Gole, Getaneh Shoddo</td>
<td>Social discrimination and forest resources use: the case of Bonga forest in southwestern Ethiopia</td>
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<td>Bishnu Sharma</td>
<td>Contribution of Leasehold Forestry in Reducing Poverty among Participating Households in Nepal</td>
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<td>Bhim Adhikari</td>
<td>Social Inequality and Collective Efficacy in Community-Based Natural Resource Management</td>
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<th>Governance (Decentralisation)</th>
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<th>Complex Commons (Coastal)</th>
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<tr>
<th>Room No. 2 D</th>
<th>Panel Title Proposed by Chair/ Coordinator</th>
<th>The Fate of Commons under Global Commercial Pressures Proposed by Chair/ Coordinator</th>
<th>Globalisation (Land rights)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Dennis Fernandez Calvan</td>
<td>Highly extractive fishing activities and privatization of foreshore lands impacts on the everyday lives of municipia fisherfolks, Philippines</td>
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<td></td>
<td></td>
<td>Michael Odhiambo</td>
<td>The Commons under Global Commercial Pressures; Trends in Africa</td>
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<td></td>
<td></td>
<td>Liz Wiley</td>
<td>The Tragedy of Public Lands: The fate of the commons under Global Commercial Pressure</td>
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<td></td>
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<td>Michael Taylor</td>
<td>Responding to increased Commercial pressure on the commons</td>
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<td>Ward Anseeuw</td>
<td>Commercial pressures on land within their global context</td>
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<td>Gine Zwartz</td>
<td>Impact Analysis And Decision Making Process In Indigenous Park Management Under The Valdivian Ecoregion, Southern Chile</td>
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<tr>
<td>Room No. 3 A</td>
<td>Panel Title</td>
<td>Confronting the Threats and Challenges of Climate Change</td>
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<tr>
<td>Chair</td>
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<tr>
<td>Katar Singh</td>
<td>Tragedy of the Global Commons: Causes, Impacts and Mitigation</td>
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<tr>
<td>Dorothea Konstantinidis, Marco Gonzalez</td>
<td>Challenges in Confronting Climate Change: Rural communities, Commons, and Resilience</td>
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<tr>
<td>Aminur Rahman</td>
<td>Climate Change, Global Commons and Corruption in the context of Sundarban Mangrove Forest in Bangladesh</td>
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<tr>
<td>Rajeswar Jonnalagadda, VP Jauhari, Sanjay Gadhalay</td>
<td>The Changing Climate of Carbon Accounting at Commons</td>
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<tr>
<td>Richard Lloyd, Klaus Schmitt, Hiep Trinh</td>
<td>Effective management of complex coastal commons and increasing their resilience to climate change through co-management - A practical case study from the Mekong Delta region, Vietnam</td>
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<tr>
<td>Achim Schlueter, Roger Madrigal, Maria-Claudia Lopez</td>
<td>Climate change and adaptation of local institutions in coastal areas of Costa Rica</td>
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<thead>
<tr>
<th>Room No. 3 B</th>
<th>Panel Title</th>
<th>Customizing Commons: Methods for Diversifying Institutional Design</th>
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</thead>
<tbody>
<tr>
<td>Chair/ Coordinator</td>
<td>Bryan Bruns</td>
<td>Design Patterns for Customizing Irrigation Governance</td>
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<tr>
<td>Bryan Bruns</td>
<td>Community based Co-management of Pasture and Forest Resources in Mongolia</td>
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<tr>
<td>Hijaba Ykhanbai, Samdan Tserendash, Huyag-oshir Altansetseg</td>
<td>Evolution of Property Rights Regimes in the Groundwater Economy of India</td>
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<tr>
<td>Ananda Vadivelu</td>
<td>Regulation of Drinking Water Supply in Rural Areas in India - from ‘Provision’ of Water by the State to ‘Access’ through Decentralized Governance</td>
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<tr>
<td>* Banikanta Mishra, Sagarika Mishra</td>
<td>Participating is more important than winning. The Impact of Socio-Economic Change on Commoners’ Participation in 18th-19th-Century Flanderse</td>
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<td>* Tine De Moor</td>
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<tr>
<th>Room No. 3 C</th>
<th>Panel Title</th>
<th>Storehouses of genes - whose property?</th>
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<tbody>
<tr>
<td>Chair</td>
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<tr>
<td>Tom Dedeurwaerder</td>
<td>Designing global genetic resource commons in the digital age</td>
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<tr>
<td>Poonam Singh, Lalit Tyagi, Kuldeep Lal</td>
<td>Global Genetic Resource Commons: Conflicting regulatory framework in Intellectual Property Regime</td>
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</tbody>
</table>
### Governance (Groundwater)

<table>
<thead>
<tr>
<th>Room No. 3 D</th>
<th>Panel Title Chair</th>
<th>Challenges to Groundwater Governance Chair</th>
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<tbody>
<tr>
<td></td>
<td>Manjunatha Arahalli Venkataronappa</td>
<td>Can groundwater markets promote efficiency in agricultural production?</td>
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<td></td>
<td>Christian Kimmich</td>
<td>Challenged commons: electricity governance and provision for groundwater irrigation and the impact on common-pool tank irrigation in dryland agriculture in Andhra Pradesh, India</td>
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<td></td>
<td>Vikram Patil, Chandrakanth Mysore, Gangadharappa N</td>
<td>Decentralized Natural Resource Management: Equity Impacts On Groundwater Recharge Through JFPM in India</td>
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<td></td>
<td>Kaustubh Mahamuni, Devdutt Upasani</td>
<td>Springs: A Common Source of a Common Resource</td>
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</tbody>
</table>

### VIDEO PRESENTATIONS

<table>
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<tr>
<th>Room No. 13</th>
<th>Rika Harini</th>
<th>Kim Nong</th>
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<tbody>
<tr>
<td></td>
<td>Survival of Javanese Furniture (19 min 40 sec)</td>
<td>Clear as Mud (22 min)</td>
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</tbody>
</table>

### 13:30-14:30 hrs Lunch and Poster Presentation at Arjuna Arcade

### PANEL SERIES 6

#### Governance (Forests)

<table>
<thead>
<tr>
<th>Room No. 1 B</th>
<th>Panel Title</th>
<th>Proposed by Chair/ Coordinator</th>
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<tbody>
<tr>
<td></td>
<td>A Commons Story: In the Rain Shadow of Green Revolution</td>
<td>Forrest Fleischman Forrest Fleischman</td>
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</table>

#### Governance (Groundwater)

<table>
<thead>
<tr>
<th>Room No. 3 D</th>
<th>Panel Title Chair</th>
<th>Challenges to Groundwater Governance Chair</th>
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<tbody>
<tr>
<td></td>
<td>Pushpendra Rana</td>
<td>Changing mandates but fixed mindsets: Forest Bureaucracy in Western Himalayas</td>
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<tr>
<td></td>
<td>Gwen Arnold</td>
<td>Assessing Wetland Assessment: The Role of Bureaucratic Networks</td>
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<td></td>
<td>Forrest Fleischman</td>
<td>Understanding why Indian forest officials implement Joint Forest Management and the Forest Rights Act differently: Cases from Maharashtra &amp; Andhra Pradesh</td>
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<tr>
<td></td>
<td>* Rohini Chaturvedi</td>
<td>Greening’ Fiscal Federalism in India: Negotiating incentives for forest conservation</td>
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<td></td>
<td>* Kaipan Giri</td>
<td>Devolution, Bureaucracy and Economic Innovations in Community Forestry: Emboldened rights or infra-politics?</td>
</tr>
<tr>
<td></td>
<td>* Nethmini Perera, Athula Senaratne</td>
<td>Financing the Management of the Commons: A case of the forestry sector in Sri Lanka</td>
</tr>
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</table>
### Governance (Legal framework) - Room No. 1 C

<table>
<thead>
<tr>
<th>Panel Title</th>
<th>Proposed by Chair/ Coordinator</th>
<th>Boundaries of Authority, Identity and Space at the Interface between Formal State Law and Local 'Customary' Law in South Africa</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ben Cousins</td>
<td>The politics of scale: Nested land rights and flexible boundaries in Msinga District, South Africa</td>
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<td></td>
<td>Aninka Claassens</td>
<td>Contested power and apartheid tribal boundaries: Recent laws and struggles over land rights</td>
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<td></td>
<td>Sindiso Mnisi</td>
<td>Layers of Authority, Boundaries of Decision-Making: Controversies around the Traditional Courts Bill</td>
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<td></td>
<td>Mazibuko Jara</td>
<td>Contested boundaries: Contradictions of democratic change and reassertion of traditional power in a former apartheid homeland</td>
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<tr>
<td></td>
<td>* Munyaradzi Saruchera, Frank Matose</td>
<td>Land Rights, land reforms and community based Natural Resources Management: Insights from South Africa</td>
</tr>
</tbody>
</table>

### Complex Commons (Coastal) - Room No. 2 A

<table>
<thead>
<tr>
<th>Panel Title Chair</th>
<th>Governing Coastal Resources - All the Stakes V. Vivekanandan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Astrid Meilasari-Sugiana</td>
<td>Community Dynamics and Natural Resource Governance: Building Adaptive Management Capacity for Increased Social Capability</td>
</tr>
<tr>
<td>Shimpei Iwasaki</td>
<td>Cross-Scale Linkages for Environmental Conservation and Its Potential: A Focus of Natural Resource Management Network in Kuraburi Estuary, Thailand</td>
</tr>
<tr>
<td>Martin Robards, Randall Reeves</td>
<td>Governance of Marine Mammal Harvests for Human Consumption</td>
</tr>
<tr>
<td>Maria Espinosa</td>
<td>Involving stakeholder values and science for the marine resources management</td>
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<tr>
<td>DG Webster</td>
<td>International Fisheris: How do we get ther from here?</td>
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<tr>
<td>Audun Sandberg</td>
<td>Harnessing complexity - European approaches to governing coastal commons</td>
</tr>
</tbody>
</table>

### Complex Commons (Coastal) - Room No. 2 B

<table>
<thead>
<tr>
<th>Panel Title Chair</th>
<th>Commons-In the argument of managing and mismanaging Xavier Basurto</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salla Rantala, Heini Vihemaki</td>
<td>Human impacts of displacement from protected areas: lessons from the establishment of the Derema Corridor, north-eastern Tanzania</td>
</tr>
<tr>
<td>Lucy Rit, Charlie Shackleton, R Uma Shaanker</td>
<td>Dichotomies in Forest Management: the Contrasting Perspectives of Communities, Managers and Scientists</td>
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<tr>
<td>Zelealem Ashenafi</td>
<td>Shared Governance in Conservation of Biodiversity: Community Conserved Area Protecting the Endangered and Rare Biodiversity</td>
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<tr>
<td>Andrea Davis</td>
<td>Consequences of ‘Conservation’: A Critical Look at Namibian Communal Conservancies</td>
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<tr>
<td>Governance Room No. 2 C</td>
<td>Panel Title Proposed by Chair/ Coordinator</td>
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<td></td>
<td>Mohammad Khan</td>
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<td>Jorge Maldonado, Rocio Moreno-Sanchez</td>
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<td>Asuncion Asetre, Sonia Vargas</td>
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<tr>
<td>Globalisation Room No. 2 D</td>
<td>Panel Title Chair Commons under Threat Fiona Flinton</td>
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<tr>
<td></td>
<td>Sudhir Pattnaik, Banikanta Mishra, Devendra Sahoo</td>
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<td>Prajna Mishra, M Gopinath Reddy</td>
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<td></td>
<td>Himadri Sinha, Shailendra Mishra</td>
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<td>Jennifer Baka</td>
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<td>Torsten Krause</td>
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<td>Miles Kenney-Lazar</td>
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<tr>
<td>Climate Change Room No. 3 A</td>
<td>Panel Title Chair</td>
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<td></td>
<td>Maria Gebara</td>
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<td>Thi Hong Nhung Nghiem</td>
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<td>Gamma Galudra, Ujiwal Pradhan, Suyanto</td>
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<td>Purity Osumba, Roxventa Ongugo, Esther Njagi, Vienna Owich</td>
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<td>G. Chandrashekar Reddy</td>
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<td>Bhaskar Sinha, Anoma Basu, Anuj Katiyar</td>
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<tr>
<th>Theory, Analytics and Data Room No. 3 B</th>
<th>Panel Title Proposed by Chair/ Coordinator</th>
<th>What does it really take to do system dynamics with communities? Lessons from the field</th>
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<tbody>
<tr>
<td></td>
<td>Peter Homvad/ Gautam Yadama</td>
<td>System dynamics modeling in Rajasthan: NGO perspective</td>
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<td>Kumar Rupam, Yash Shethia, Venkat Raj</td>
<td>System dynamics modeling in Rajasthan: student perspective</td>
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<td></td>
<td>Dan Conner</td>
<td>System dynamics modeling in Rajasthan: student perspective</td>
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<td></td>
<td>Gautam Yadama, Peter Hovmand, Nishesh Chalise, Venkat Raj</td>
<td>System Dynamics Modeling of Livelihoods and Forest Commons in Dryland Communities of Andhra Pradesh, India</td>
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<td></td>
<td>Peter Hovmand</td>
<td>System dynamics modeling with communities: modeler perspective</td>
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<td></td>
<td>Gautam Yadama</td>
<td>System dynamics modeling at the Winter Institute: faculty perspective</td>
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<td></td>
<td>Gautam Yadama, John Peipert</td>
<td>Disentangling Drivers of Fuelwood Collection from Forest Commons: Improved Stove Programs versus Participatory Forest Management</td>
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<thead>
<tr>
<th>New Commons (Knowledge) Room No. 3 C</th>
<th>Panel Title Chair</th>
<th>Where Knowledge Knows No Barriers</th>
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<tbody>
<tr>
<td></td>
<td>Shishir Jha</td>
<td>Towards Examining A Spill Over Economy</td>
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<td>Vibodh Parthasarathi</td>
<td>Advocacy on Knowledge Commons: Framing Information, Institutions, Infrastructure</td>
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<td></td>
<td>Mai Phillips</td>
<td>Environmental and Sustainability Online Courses-A New Common</td>
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<td></td>
<td>Senthil Ganesh</td>
<td>Unraveling the Idea of ‘Commons’• in Employment Relations</td>
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</tbody>
</table>
Anita Cheria  Constructing mindscapes: Vocabulary of commons

George Por  Framework for augmenting the collective intelligence of the ecosystem of commons-based initiatives

<table>
<thead>
<tr>
<th>Governance (Groundwater)</th>
<th>Panel Title</th>
<th>Approaches to Participatory Groundwater Management</th>
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<tbody>
<tr>
<td>Room No. 3 D</td>
<td>Chair</td>
<td>Himanshu Kulkarni</td>
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<td>Himanshu Kulkarni, PS Vijay Shankar, Sunderrajan Krishnan</td>
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<td></td>
<td>Groundwater governance: backing CPR principles with a process-based approach</td>
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<td>Chandrakanth Mysore</td>
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<td></td>
<td>Groundwater conservation and management in India: Application of IoS and Wade frameworks</td>
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<td>Nagaraj Nareppa, Koichi Fujita</td>
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<td>Harshvardhan Dhawan, Himanshu Kulkarni, Devdutt Upasani, Amit Upamanyu</td>
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<td></td>
<td>Typological Approach for Groundwater Management: Protocols development and Implementation</td>
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<td>Neha Singh, N C Narayanan</td>
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<td></td>
<td>Efficacy of Ground Water as Commons’ An Enquiry into the Implementation of Groundwater (Control and Regulation)Bill of 1992 in selected States in India</td>
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<td>Daniel Matz, Stephen Moysey, Ravindranath Rangoori</td>
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<td>Investigation of the Impact of the Commonland Protection on Water Resources in Rural India using Geo-hydrological Methods’</td>
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<td>Himanshu Kulkarni</td>
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<td>Groundwater management through the ‘commons’ lens: recognizing complexity</td>
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VIDEO PRESENTATIONS

<table>
<thead>
<tr>
<th>VIDEO PRESENTATIONS</th>
<th>Panel Title</th>
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<tbody>
<tr>
<td></td>
<td>Kusum Athukorala, Ranjith Ratnayake</td>
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<td>Use of Visual media for protecting rivers endangered by illicit river sand mining in Sri Lanka</td>
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</table>

16:00- 16:30 hrs  Tea/ Coffee Break
16:30-18:00 hrs  Policy Forum-5  Policy Shifts, Implications for Water Access and Latitude for Water

**Coordinated by N.C. Narayanan**
Daniel Chavez  NC Narayanan  Ramaswamy Iyer  SP Tucker  Sunita Narain

Auditorium  Policy Forum-6  Food Security, Commons and Entitlements - Towards Strategic Solutions

**Coordinated by P. Soma Kishore**
Jos Mooij  Kavita Srivastava  Regina Bimer  Satheesh PV  Tasmin Rajotte  Tom Arnold
### Room No. 1 C
**Policy Forum-7**
**How Much Nature Can We Risk Privatizing?: Potentials and Dangers of Valuing Nature’s Services**

**Coordinated by**
- Haripriya Aban Marker Kabraji (*TBC)
- Haripriya Gundimeda
- Hem Pandey (*TBC)
- Pavan Sukhdev

### Room No. 3 A
**Special Event**
**Book Release**
**Commercial Pressures on Land : Global Research Series**
International Land Coalition (Michael Taylor)

**Organised by: Kalpavriksh**
**Chair: Ashish Kothari**

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<thead>
<tr>
<th>Room No. 2 E</th>
<th>Time</th>
<th>Presenter(s)</th>
<th>Topic</th>
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<tr>
<td></td>
<td>10.30 – 10.45 hrs</td>
<td>Milind Wani</td>
<td>Welcome and Introduction</td>
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<tr>
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<td>10.45 – 16.00 hrs</td>
<td>Neema Pathak</td>
<td>Introduction to ICCAs, and issues facing them in India and Globally</td>
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<td>Fred Nelson</td>
<td>ICCAs as politically contested commons, recent trends in South Africa</td>
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<td>Devaji Tofa/Mohan Hirabai Hiralal</td>
<td>Use of Forest Rights Act (FRA) for strengthening ICCAs</td>
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<td>Ingrid Hartmann</td>
<td>Somaliland - Between privates and common</td>
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<td>Claudia Isable</td>
<td>ICCAs – A Mexican Experience</td>
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<td>Aranyak</td>
<td>Kokaijana Forests in Assam</td>
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<td>Naya Paudal</td>
<td>ICCAs in Nepal, a process towards federation</td>
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<td>Tushar Dash</td>
<td>CCA Federations in Orissa</td>
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<td>Gary Martin</td>
<td>A rights based approach to manage complex commons – Malaysia</td>
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<td>Terence Nancy</td>
<td>Support to ICCAs experiences from the Small Grants Programme (SGP partner)</td>
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<td>Ashish Kothari</td>
<td>Open Discussion and Concluding Remarks</td>
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**19:30-22:30 hrs**
**Conference Dinner at Chowmahalla Palace**
<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Title of the Field Visit</th>
<th>Key Points to be Highlighted</th>
<th>Coordinated By</th>
<th>Location</th>
<th>Distance &amp; Time Estimated</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Pastoralists and Agro-Pastoralists of the Deccan Region—Re-imagining the Future of Commons</td>
<td>Sheep and Goat Reapers’ Associations; People’s rights over forest lands; Re-vegetation of customary common grazing spaces; IPR related issues (Knowledge Commons)</td>
<td>Anthra</td>
<td>Narsapur, Medak</td>
<td>70 kms, 1.5 hours</td>
</tr>
<tr>
<td>2</td>
<td>Challenges and Threats to Common Lands in the Deccan Region</td>
<td>Bio-fuels and GM Crops; food-fuel-energy linkages; Community mobilization against Genetically Modified (GM) Crops and Bio-fuel cultivation; Goat and Sheep Reapers’ Associations.</td>
<td>Anthra</td>
<td>Nalgonda and Warangal</td>
<td>110 kms, 2 hours</td>
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<tr>
<td>3</td>
<td>Building Institutions for Women’s Empowerment</td>
<td>Role of Self Help Groups (SHGs) and their federations in ensuring financial inclusion of women, especially those from backward classes; role of these institutions in strengthening livelihoods of women; quality assessment and quality enhancement-critical components of institution building; effective livestock management and eco-farming; Non-pesticide Management (NPM).</td>
<td>Andhra Pradesh Mahila Abhivrudhhi Society (APMAS)</td>
<td>Kamareddy, Nizamabad</td>
<td>180 kms, 3.5 hours</td>
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<td>4</td>
<td>Conflicts and Collaborations in Protection and Management of Commons</td>
<td>Joint Forest Management in Andhra Pradesh; Community institutions and their Federations engaged in governance of Forests; Harnessing traditional skills of the tribal communities to enhance their livelihoods.</td>
<td>Center for People’s Forestry</td>
<td>Narsapur, Medak</td>
<td>70 kms, 2 hours</td>
</tr>
<tr>
<td>5</td>
<td>Securing Future of Agriculture: Sustainable Agricultural Practices for a Better Tomorrow</td>
<td>Introduction of GM Cotton—a challenge to farmers; Agrarian crisis and the extreme distress faced by farmers; Community initiatives to promote sustainable agricultural practices like shunning pesticides, Refraining from GM crops, etc; Organic agriculture.</td>
<td>Center for Sustainable Agriculture</td>
<td>Enbavi, Warangal</td>
<td>100 kms, 2.5 hours</td>
</tr>
<tr>
<td>6</td>
<td>Balancing Conflicting Interests While Managing CPRs</td>
<td>Tank Management Practices; Conflicts between fishing communities and down-stream farming communities; Role played by different stakeholders—fishermen, farmers, political leaders—in governance of the tank; restoration of fish production and marketing to the local communities.</td>
<td>WASSAN</td>
<td>Kosgi, Mahabubnagar</td>
<td>120 kms, 2.5 hours</td>
</tr>
<tr>
<td>7</td>
<td>Traditional Art Forms in the Face of Changing Times: A Look at the Ikkat Weavers of Pochampally</td>
<td>‘Ikkat’ Weaving—traditional knowledge; weavers’ cooperatives, state of weavers—current challenges faced by them; Bhoodan Movement—land donation movement which started in Pochampally, understanding the genesis of the movement and its impact on the different farming communities; tank management—rules, regulations and norms in place, how they have evolved, challenges and threats.</td>
<td>Akshara</td>
<td>Pochampally, Nalgonda</td>
<td>45 kms, 1 hour</td>
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</tbody>
</table>
### Towards Achieving Sovereignty over Food, Seeds, Markets and Media

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Title of the Field Visit</th>
<th>Key Points to be Highlighted</th>
<th>Coordinated By</th>
<th>Location</th>
<th>Distance &amp; Time Estimated</th>
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<tbody>
<tr>
<td>8</td>
<td>Community Management of Water Resources</td>
<td>Institutions involved in the management of lift irrigation systems; Tank management by different user-groups viz. fishermen, farmers, etc; Status of groundwater and the mechanisms in place to manage the use of the same; Use of State schemes like Mahatma Gandhi National Rural Employment Guarantee Act to rehabilitate the tank.</td>
<td>IWMI</td>
<td>Ghanpur, Medak</td>
<td>70 kms, 1 hour</td>
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<tr>
<td>9</td>
<td>Interface Between Science and Agriculture</td>
<td>Integrated Watershed Management; efficient and sustainable use of natural resources like soil, rainwater and groundwater; technical inputs for effective management of the watershed; economic and social benefits that have resulted from the interventions.</td>
<td>ICRISAT</td>
<td>Kothipalle, Rangareddy</td>
<td>60 kms, 1 hour</td>
</tr>
<tr>
<td>10</td>
<td>Natural History of Hyderabad</td>
<td>The city of Hyderabad is known for its lakes and rock formations. A visit to some of the lakes to understand the impact of increasing encroachment and reclaiming for construction; Rock formations of Hyderabad—another notable feature of the city—to understand their ecological and cultural significance and the impact on them of development activities.</td>
<td>Save Our Urban Lakes</td>
<td>Hyderabad</td>
<td>Local</td>
</tr>
<tr>
<td>11</td>
<td>Overview of the Cultural and Natural Landscapes of Hyderabad</td>
<td>Heritage Walk from Charminar to Chowmahalla and a halt at Lal Bazaar—the market for lac bangles; a visit to Salarjung museum to understand the times of the Nizams; and a visit to Shilparamam. The aim of this field visit is to gain an appreciation of the rich culture and heritage of Hyderabad.</td>
<td>Center for Regional Studies, Hyderabad Central University</td>
<td>Hyderabad</td>
<td>Local</td>
</tr>
<tr>
<td>12</td>
<td>Community-Managed Traditional Surface Irrigation Commons (Small Tanks) in the Telangana Region of Andhra Pradesh</td>
<td>Small Tanks as CPRs, importance of small tanks, changing management practices with respect to small tanks, reviving and strengthening of community management of small tanks, criticality of small tanks towards strengthening local livelihoods.</td>
<td>Dhan Foundation</td>
<td>Narayanpur and Chaityal Mandals</td>
<td>75 kms, 1 hr</td>
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### FRIDAY 14TH JANUARY 2011

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>08:30-10:00 hrs</td>
<td>Key Note Speeches</td>
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<tr>
<td></td>
<td>Ram Dayal Munda</td>
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<tr>
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<td>Ashish Kothari</td>
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<tr>
<td>10:00-10:15 hrs</td>
<td>Tea/ Coffee Break</td>
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</table>

#### PANEL SERIES 7

10:15-11:45 hrs

### Poverty and Social Exclusion (Gender)

**Room No. 1 A**

Panel Title: CIFOR PANEL: Gender Dimensions in Forestry Research: Experiences and New Directions

- **Chair/ Coordinator:** Yen Mai

<table>
<thead>
<tr>
<th>Speaker</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>Yen Mai, Melinda Wan</td>
<td>Gender analysis in forestry research: Looking back and moving ahead in international research</td>
</tr>
<tr>
<td>Houria Djoudi, Maria Brockhaus</td>
<td>Is adaptation to climate change gender neutral? A case study from Northern Mali</td>
</tr>
<tr>
<td>Rika Irawati, Achmad Fauzan, Melati Melati, Henry Purnomo</td>
<td>Understanding Gender Role in Furniture Value Chain Governance</td>
</tr>
<tr>
<td>Susan Nansereko</td>
<td>Is Gender Relevant in Enhancing the Economic Competitiveness of Small-Scale Furniture Enterprises? Exploring the Central Javanese Small-Scale Furniture Value Networks in Indonesia.</td>
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</tbody>
</table>

#### Governance (Forests)

**Room No. 1 B**

Panel Title: Contested and Negotiated Domains

- **Chair:** Gary Martin

<table>
<thead>
<tr>
<th>Speaker</th>
<th>Title</th>
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<tbody>
<tr>
<td>Thomas Sikor, Son Hoang</td>
<td>Forest commons? Smallholder tree plantations in Vietnam</td>
</tr>
<tr>
<td>Alka Sabharwal</td>
<td>Contested High Himalayas: State Conservation, Tourism, Pastoralism and Borders</td>
</tr>
<tr>
<td>Rubina Nusrat</td>
<td>Adaptation and Coexistence of Van Gujjars in the Forests: A Success Story</td>
</tr>
<tr>
<td>Fiona Paumgarten</td>
<td>The role of NTFPs in coping with crop shortfalls and loss in two villages in South Africa</td>
</tr>
<tr>
<td>Brenda Parlee, Angela Angell</td>
<td>Deconstructing the ‘wicked nature’ of unmanaged recreational land use in a rapid resource development context: A case-study in northeastern, Alberta, Canada</td>
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<tr>
<td>Preeta Dhar, Shalini Iyengar</td>
<td>Treading an Uncommon Path</td>
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#### Governance (Forests)

**Room No. 1 C**

Panel Title: Evolution from Tradition to Contemporary Commons in Japan

- **Proposed by Chair:** Margaret McKeen

<table>
<thead>
<tr>
<th>Speaker</th>
<th>Title</th>
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<tbody>
<tr>
<td>Margaret McKeen, Gaku Mitsumata</td>
<td>Changing Scholarship on Changing Commons in Contemporary Japan</td>
</tr>
<tr>
<td>Haruo Saito</td>
<td>Administrative centralization threatens commons-owning municipal sub-units: Property Wards (zaisanku) in Toyota City, Japan</td>
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<td>Room No. 2 A</td>
<td>Panel Title</td>
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<thead>
<tr>
<th>Room No. 2 A</th>
<th>Panel Title</th>
<th>Chair</th>
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<tbody>
<tr>
<td>Governance</td>
<td></td>
<td>Susan Buck</td>
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</table>

<table>
<thead>
<tr>
<th>Room No. 2 B</th>
<th>Panel Title Proposed by Chair</th>
<th>Adaptive Management and Commons: Assessing the Linkages across Natural Resource Projects</th>
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<tbody>
<tr>
<td>A</td>
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<td>Chris Short</td>
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<td>Chris Short</td>
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<td></td>
<td>Esther Blanco, Javier Lozano</td>
<td>An evolutionary approach to wildlife damage of economic activity</td>
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<td></td>
<td>Doug Wilson</td>
<td>Implication of Management Structure for Forging a Common Knowledge Base</td>
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<td>Toshio Meguro</td>
<td>Management of wildlife as a fugitive natural resource: A case of wildlife conservation in a savanna ecosystem in Africa</td>
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<td>Chris Short</td>
<td>Drainage, biodiversity and a landscape-scale solution: reviewing a UK delivery model</td>
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<td>* Felipe Montoya-Greenheck</td>
<td>Marine Turtle Conservation and Community Wellbeing in a Globalized Coastal town of Costa Rica: Methodological Contributions</td>
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<td></td>
<td>* Sonia Merino</td>
<td>Community-Based Marine turtle's conservation, a complexity analysis</td>
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</table>

<table>
<thead>
<tr>
<th>Room No. 2 C</th>
<th>Panel Title Proposed by Chair/ Coordinator</th>
<th>Complex Commons, Land Tenure and Fisheries Reform Measures in South Africa and Elsewhere</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complex commons</td>
<td>Henk Smith</td>
<td>Henk Smith</td>
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<tr>
<td>A</td>
<td>Wilmien Wicomb</td>
<td>Law and complex systems: facilitating meaningful engagement between state law and living customary law</td>
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<td></td>
<td>Henk Smith</td>
<td>Complex commons under threat of mining and development: the process for and content of a community veto</td>
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<tr>
<td>Room No.</td>
<td>Panel Title</td>
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<tr>
<td>Room No. 2 D</td>
<td>Complex commons (Biodiversity)</td>
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<td>Room No. 3 A</td>
<td>Complex commons (Air and Water)</td>
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<td>Room No. 3 B</td>
<td>Governance (Forests)</td>
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### Governance (Decentralisation)

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<tr>
<th>Room No. 3 C</th>
<th>Panel Title</th>
<th>Proposed by/ Coordinated by</th>
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<tbody>
<tr>
<td></td>
<td>IFRI-IFLEA Co Hosted PANEL: Forest Policy Decentralization in East Africa: Institutional and Livelihoods Change in East African Forest Landscapes</td>
<td>Franz Gatzweiler</td>
</tr>
</tbody>
</table>

**Chair/ Coordinator:** Franz Gatzweiler  
**Participants:**  
Abwoli Banana, G. Kajembe, S. Tumwebaze, E. Luoga, M. M.  
Samuel Kimani, Paul O. Ongugo Ongugo, Emily Kamau  
George Okwaro, Paul Ongugo, Bernard Ngoda  
Roxventa Ongugo  
* Joseph Bahati  

**Abstracts:**  
Forest governance reforms in East Africa: A comparative analysis of institutional, livelihood and forest sustainability outcomes  
Conflicting Policies: Institutional Approaches Towards Decentralization and Governance of Common Pool Resources in Kenya  
The case of Ramogi and Mau forests in Kenya  
Tradition Forest Use and Institutional Change: Case Study of Loita Community Forest, Narok South District, Kenya  
Bridging the gap between Forestry and Agriculture: The Case for Mpigi District in Uganda

### Governance (Legal framework: Water)

<table>
<thead>
<tr>
<th>Room No. 3 D</th>
<th>Panel Title</th>
<th>Comprehending the complexities of Water Governance</th>
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<tbody>
<tr>
<td></td>
<td>Chair/ Coordinator</td>
<td>Everisto Mapedza</td>
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<tr>
<td></td>
<td>Paulino Novo, Alberto Garrido</td>
<td>The new Nicaraguan Water Law in context: Institutions and challenges for water management and governance</td>
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<tr>
<td></td>
<td>Nitin Bassi, Dinesh Kumar</td>
<td>Reforms for End-users based Irrigation Management: Insight from Central India</td>
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<td></td>
<td>Shilp Verma, Sunderrajan Krishnan</td>
<td>River basin management and decentralized water harvesting: The case of Meghal River basin, Gujarat</td>
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<td></td>
<td>Badra Kamaladasa</td>
<td>Protecting of Reservations in Irrigation Schemes: Legal, institutional and social issues</td>
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<td></td>
<td>Dinesh Kumar, Nitin Bassi, Harish Kumar</td>
<td>Institutional Change Needs for Sustainable Urban Water Management in India</td>
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<td></td>
<td>Anjal Prakash</td>
<td>Urbanization and the Rural Commons: peri-urban water resources under transition in South Asia</td>
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### Video Presentations

<table>
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<th>Room No. 12</th>
<th>Panel Title</th>
<th>Duration</th>
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<tr>
<td></td>
<td>Shri Prakash, Helle Munk Ravnborg</td>
<td>59 min 31 sec</td>
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<td></td>
<td>Delayed Justice</td>
<td>11 min 30 sec</td>
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| PANEL SERIES B | 11:45-12:00 hrs | Tea/Coffee Break |

### Poverty and Social Exclusion

<table>
<thead>
<tr>
<th>Room No. 1 A</th>
<th>Panel Title</th>
<th>Proposed by/ Coordinated by</th>
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<tbody>
<tr>
<td></td>
<td>Authority, Power and Social Exclusion: Conceptual &amp; Methodological Perspectives</td>
<td>Jes Weigelt and Prakash Kashwan</td>
</tr>
</tbody>
</table>

**Chair/ Coordinator:** Craig Johnson  
**Participants:**  
Jes Weigelt and Prakash Kashwan  
Craig Johnson  

**Abstracts:**  
Violence and the Commons: An Epistemology of Rights, Access and Exclusion
<table>
<thead>
<tr>
<th>Panel Title</th>
<th>Chair/Coordinator</th>
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</thead>
<tbody>
<tr>
<td>Sensing Subjectivities': Methods for a Thick Understanding of Complex Institutional Contexts</td>
<td>Prakash Kashwan, Achim Schluter</td>
</tr>
<tr>
<td>Violence and the Commons: Dynamics of Property and Authority</td>
<td>Thomas Sikor</td>
</tr>
<tr>
<td>Time Use and Labor Contributions: For a Different Understanding of Collective Management</td>
<td>Sirisha Naidu</td>
</tr>
<tr>
<td>Tacit Knowledge Matters for the Reproduction of Institutions (and Inequality): But How to Actually Get a Grip on it Empirically?</td>
<td>Jes Weigelt</td>
</tr>
</tbody>
</table>

Complex Commons (Wetlands and Forests)

<table>
<thead>
<tr>
<th>Room No. 1 B</th>
<th>Panel Title</th>
<th>Proposed by Chair/Coordinator</th>
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<tbody>
<tr>
<td>Rural Livelihoods and Protected Landscapes: Co-management in the Wetlands and Forests of Bangladesh</td>
<td>Masud Momi</td>
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<tr>
<td>Socio-economic benefits for resource user groups through the co-management in Alua Beel, Bangladesh</td>
<td>Proposed by Jefferson Fox and Md Golam Mustafa</td>
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<tr>
<td>Mahmudah Sultana</td>
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<td>Impacts of co-management activities on livelihoods in Satchari National Park</td>
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<td>Rokeya Begum</td>
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<td>People’s livelihoods and involvement in co-management of Madhupur National Park, Bangladesh</td>
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<td>Afrin Akter</td>
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<td>People’s perceptions of environmental pollution in Mokosh Beel, Bangladesh</td>
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Governance

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<tr>
<th>Room No. 1 C</th>
<th>Panel Title</th>
<th>Chair/Coordinator</th>
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<tbody>
<tr>
<td>Goals for the Commons in an Urbanized and Industrialized Contemporary Japan</td>
<td>Aiichiro Mogi</td>
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<tr>
<td>The evolution of reservoir irrigation systems as commons in the dry climate region of contemporary Japan</td>
<td>Proposed by Margaret McKean</td>
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<tr>
<td>Hiroe Ishihara</td>
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<tr>
<td>Why Does Under-use/Abandonment of CPRs Matter to the Local Community?: Case study of Tai district, Toyooka, Japan</td>
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<td>Takeshi Murota</td>
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<tr>
<td>Fishery Commons in Japan: Their Legal Framework and Recent Crises</td>
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<td>Norie Tamura</td>
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<td>Forests for the Fish: tree-planting by fishing cooperatives for community environmental goals</td>
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Governance (Institutions)

<table>
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<tr>
<th>Room No. 2 A</th>
<th>Panel Title</th>
<th>Chair/Coordinator</th>
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<tbody>
<tr>
<td>Collective Approaches to Sustaining Commons - The Inevitable Way Forward</td>
<td>Ramana DV</td>
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<tr>
<td>Addressing the Tragedy of Commons-through ‘social Capital’: Experiment and Experience from India</td>
<td>Proposed by Carmen Legorreta Daaz, ConradoMarquez-Rosano</td>
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<tr>
<td>The ‘trust factor’ in the management of forest resources in rural communities in central Mexico</td>
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<tr>
<td>Room No. 2 B</td>
<td>Panel Title</td>
<td>‘Valuing’ Ecosystem Services</td>
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<td></td>
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<td>Sylvain Pioch, Julien Hay</td>
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<td>Chetan Agarwal</td>
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<td>Victor Phillips</td>
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<td>Anita Paul, Kalyan Paul</td>
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<td>Sarah Klain</td>
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<td>Nuhu Sulemana</td>
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<td>Nicola Francesconi</td>
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<td>Dimitrios Zikos, Alevgul Sorman</td>
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<td>Vivek Vyas, Shailendra Tiwari</td>
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<td>Christine Werthmann, M Kirk</td>
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<thead>
<tr>
<th>Room No. 2 C</th>
<th>Panel Title</th>
<th>Analysing governance dilemmas in Megacity development—a case of Hyderabad</th>
<th>Proposed by Chair/ Coordinator</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Markus Hanisch, Konrad Hagedorn, Dimitrios Zikos and Christine Werthmann</td>
<td>Christine Werthmann</td>
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<td>Kai Rommel, Julian Sagebiel</td>
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<td>Rajeshwari Mallegowda, Zakir Hussain and Markus Hanisch</td>
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<td>Angela Jain, Hans Dienel</td>
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<td>Bhuwanachitra Chidambaran</td>
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<td>Ruhi Gandhi, Konrad Hagedorn</td>
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<thead>
<tr>
<th>Room No. 2 D</th>
<th>Panel Title</th>
<th>Going Beyond Polarised Discourse: Integrating Biodiversity and Livelihood Concerns in Riparian Ecosystems in Developing Countries</th>
<th>Proposed by Chair/ Coordinator</th>
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<tbody>
<tr>
<td></td>
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<td>Joy Kallarakal and Geoffrey Gooch</td>
<td>Joy Kallarakal and Geoffrey Gooch</td>
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<td>Karen Nortje, Marius Claassen, Nikki Funke, Maronel Steyn</td>
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</table>

Complex Commons (Urban) Room No. 2 C panel title: Analysing governance dilemmas in Megacity development—a case of Hyderabad. Proposed by Markus Hanisch, Konrad Hagedorn, Dimitrios Zikos and Christine Werthmann. Chair/Coordinator: Christine Werthmann.

Complex Commons (Biodiversity) Room No. 2 D panel title: Going Beyond Polarised Discourse: Integrating Biodiversity and Livelihood Concerns in Riparian Ecosystems in Developing Countries. Proposed by Joy Kallarakal and Geoffrey Gooch. Chair/Coordinator: Joy Kallarakal and Geoffrey Gooch.
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<tr>
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<th>SANDEE PANEL: Commons and Natural Disaster Management - Natural Barriers, Adaptive strategies, Insurance and Aid</th>
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<tr>
<td>Proposed by</td>
<td>Priya Shyamsundar</td>
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<th>Authors</th>
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<tbody>
<tr>
<td>Saudamini Das</td>
<td>Sustaining mangrove forests to reduce vulnerability from climate change</td>
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<td>Sakib Mahmud, Edward Barbier</td>
<td>Are Private Defensive Expenditures against Storm Damages Affected by Public Programs and Natural Barriers? Evidence from Bangladesh Coastal Areas</td>
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<tr>
<td>Santadas Ghosh</td>
<td>Mangroves, Creeks and Reserve Forest as Natural Insurance: Findings from the Indian Sundarban</td>
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<td>Asha Gunawardena</td>
<td>Natural Disasters Reconstruction Aid as Commons Management Issue: Implications for Equity</td>
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<th>Panel Title</th>
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<td>Chair/ Coordinator</td>
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<tbody>
<tr>
<td>Marcel Rutten</td>
<td>Selling Wealth to Buy Poverty: 20 years of titling experiences in semi-arid Kenya</td>
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<td>Owen Lynch</td>
<td>Mandating Recognition: International Law and Aboriginal/Native Title</td>
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<td>Shivani Chaudhry</td>
<td>Contesting Dimensions of ‘Legality’: Occupation of the Commons in India and Brazil</td>
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<tr>
<td>* Maurice Makoloo, Benson Ochieng</td>
<td>Rethinking Forest Governance in Kenya: Evaluating and Re-inventing Traditional Governance Systems</td>
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<td>* Bjorn Vollan, Michael Propper</td>
<td>Self-Governance Under Weak Rule of Law: An Experimental Study among Kavango Forest Users</td>
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<td>* Yance Arizona</td>
<td>In Search of Recognition in Constitutional Court: Community’s Rights on Natural Resources in Indonesia’s Constitutional Court Decisions</td>
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</tbody>
</table>
### Governance (Decentralisation)

**Room No. 3 C**  
**Panel Title**: IFRI-IFLEA Co Hosted PANEL : Forest Policy Decentralization in East Africa: Institutional and Livelihoods Change in East African Forest Landscapes  
**Proposed by Chair/ Coordinator**: Franz Gatzweiler  
- Jephine Ajwala, Emily Obonyo: The Role of Traditional Institutions in the Conservation of Kenyan Forests
- Tadesse Gole, Melaku Merga: Demographic and Socio-Economic Correlates of Participatory Forest Management and the Local People’s Perception: The Case of Chilimo Forest
- Paul Ongugo, George Okwaro, Samuel Kimani: Forests, Communities and Urban Markets: Can they Co-exist in a Devolved Structure?
- William Gombya-Ssembajjwe, Daniel Waiswa, Abwoli Banana: Local Communities - Participation in Forest Management and their Access to Forest Resources under Forest Decentralization in Uganda
- * Emmanuel Nzunda, Emmanuel Luoga, Tumaini Mahuve: Community-Based Forest Management in Tanzania: Strengths, Weaknesses, Opportunities and Threats

### Governance (Water)

**Room No. 3 D**  
**Panel Title**: Institutions for Water Governance  
**Chair**: Insa Theesfeld  
- Armelle Caron, Valerie Boisvert: Institutional Analysis of the Niger Basin Water Governance
- Sophie Allain: Negotiating Water as a Commons through Participatory Watershed Planning. Lessons from the French Water Management Plans
- Sunderrajan Krishnan, Rajnarayan Indu: Arriving at Principles for Effective Water Management by the Panchayats: Evidences from studies in ten states across India
- Beatrice Marelli: Linking Sustainability of Institutions and the Commons: the Process of Self-Governance for Water Management in Northern Italian Farming Communities
- Roger Madrigal, Francisco Alpizar, Achim Schluter: Institutional determinants of performance of community based drinking water organizations
- David Groenfeldt: Looking Beyond (and Below) Institutions: The Role of Cultural Values in Sustaining Water Resources

### Poverty and Social Exclusion (Equity and Access)

**Room No. 1 A**  
**Panel Title**: Debates and Struggles of Equity and Access  
**Chair**: Leticia Merino  
- Dixon Gevena, Josefina Dizon, Juan Pulhin, Rex Victor Cruz, Sang-Jun Im: Assessment of Equity in Two Community Based Forest Management Regimes in the Philippines

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13:30-14:30 hrs  
**Lunch and Poster Presentation at Arjuna Arcade**

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<td>Emdad Haque, Munjurul Khan</td>
<td>Mobilization of Stakeholders in Partnership Projects: Lessons Learned from Wetland Management and Knowledge Advancement Programs in Bangladesh</td>
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<td>Mizan Khan</td>
<td>Action Research in Academia: The Case of the Project ‘Building Environmental Governance Capacity in Bangladesh’ (BEGCB)</td>
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<td>SM Munjurul Khan, Emdad Haque</td>
<td>Participatory Wetland Resource Governance: Role of Local Resource Users in Cross-Scale Decision-Making Arrangement - A Case Study of Hakaluki haor in Bangladesh</td>
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<tr>
<td>Mokhelsur Rahman, Anisul Islam</td>
<td>Can greening the micro credit contribute to nature conservation and adaptation to climate change impacts? A case from Bangladesh</td>
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<th>Coastal and Inland Fisheries - Perspectives and Lessons</th>
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<td>Community Sustainability and Resource Rights in North Sea Fishing Communities</td>
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<tr>
<td>Manish Chandi, Mohan Arthur</td>
<td>Comparing the structure of common property resource systems based on social organization and resource availability in the Nicobar Islands</td>
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<tr>
<td>Boubacar Ba, Aaron Russel</td>
<td>Fisheries management at the Korientze Lake: Belly politics, corruption and local conflict: A case study in central Delta of Niger-Mali</td>
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<tr>
<td>Amalendu Jyotishi</td>
<td>Institutionalising common pool resources Insights from Tawa Fisheries Co-operative</td>
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<td>Jharna Pathak</td>
<td>Poverty Alleviation through Fisheries Management: An Analysis of Fishing Cooperative Practice in Gujarat and Madhya Pradesh</td>
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<td>Tiago Jacauna</td>
<td>The dilemmas of the system of common ownership of fishing lakes in Brazilian Amazon</td>
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<td>Room No. 2 A</td>
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<td>Governance (Institutions)</td>
<td>Frank Matose</td>
<td>Hayato Kobayashi</td>
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<td>Marco Antonio Gonzalez</td>
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<td>Blake Ratner, Ruth Meinzen-Dick, Eric Haglund</td>
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<td>Gimbage Mbeyale, George Kajembe, Tobia Haller</td>
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<td>Jennifer Meyer-Ueding, Jens Rommel, Markus Hanisch</td>
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<td>Emmanuel Luoga, Emmanuel Nzunda</td>
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<td>Sindhu Dhungana, Haripriya Rangan</td>
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<td>Governance</td>
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<td>Changing Pattern of Agricultural Productivity in Brahmaputra Valley, Assam, India</td>
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<td>Governance</td>
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<td>A community approach to innovative agriculture production and marketing among urban/perurban, small, and marginal farmers in growing cities: A case study from Magadi, Bangalore, India</td>
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<td>Governance</td>
<td>Chia-Nan Lin, Bor-Wen Tsai</td>
<td>Agrarian landuse change and constructions of the commons: A case of indigenous agricultural development in Taiwan’s mountain area</td>
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<td>Governance</td>
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<td>Definitions of homogenous groundnut production domains- a tool to assess transferability and spillover effects from ICRISAT groundnut technologies</td>
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### New Commons (Urban)

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<th>Commons of the Urbs</th>
<th>Commons of the Urbs</th>
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<tr>
<td>Bart Neuts</td>
<td>Determining the External Social Costs of Public Space Crowding: Life in a tourist Ghetto</td>
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<tr>
<td>Kate Herrod</td>
<td>Creating New Urban Commons, A Baltimore Case Study</td>
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<td>Vinay Sreenivasa</td>
<td>Streets as Urban Commons</td>
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<tr>
<td>Mansee Bal, Jacko van Ast, Jan Bouma</td>
<td>Sustainability of Urban Lake Systems in India: Role of Values and Governance</td>
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### Complex Commons (Wetlands)

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<th>Wetlands Caught in Conflict</th>
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<tbody>
<tr>
<td>Muhammad Huq</td>
<td>Muhammad Huq</td>
<td>The Role of Leadership and Management in the Governance of Freshwater Wetlands in Bangladesh: An Evaluation of Performance</td>
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<tr>
<td>Jeena Srinivasan</td>
<td>Jeena Srinivasan</td>
<td>Property Rights Issues in Seasonally Altering Multiple Use Wetlands: A Study of Kole Wetlands, India</td>
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### Global Commons (Managing Uncertainties)

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<tr>
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<th>Social Responses to Natural Calamities</th>
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<td>Arvind Susarla</td>
<td>Taking Account of Social Risk at Devastated Places: A case study of ‘recovery’ of commons in Kurnool, Andhra Pradesh, India</td>
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<tr>
<td>Andreas Neef, Iven Schad, Peter Elstner</td>
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<td>Anisha Modi</td>
<td>Drought Mitigation: Study of factors in adoption of community based conservation of commons</td>
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<td>Aline Kohli, Joachim Schmerbeck, Klaus Seeland</td>
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<td>Armi Susandi, Dwi Resti Pratiwi, Titania Suwanto</td>
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<tr>
<td>Governance (Legal framework)</td>
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<th>Chair/Coordinator Anjal Prakash</th>
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<td>Torsten Berg</td>
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<td>Muhammad Kamran, Ram Bastakoti</td>
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<td>Maryam Nastar, Mine Islar, Vasna Ramasar</td>
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<td>MVK Sivamohan, Dinesh Kumar</td>
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<th>16:00-16:30 hrs</th>
<th>Tea/ Coffee Break</th>
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<tr>
<th>Canopy</th>
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<th>Legal Recognition of Community-based Property Rights</th>
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<td>Usha Ramanathan</td>
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<td>Wiebe Bijker</td>
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*Owing to the withdrawals of a few papers from the original panel submission, the Programme Committee has accommodated these papers with relevant themes from the pool of abstracts submitted.*
abstracts
abstracts

Abdelali, Laamari
laamari@gmail.com

Adaptive Management of Common Rangeland in Morocco: A Case Study
Research on adaptive management of collective rangelands in Morocco (the case of Rhamna region) is a new opportunity to investigate the other dimension of common property management. The project aims to contribute to the promotion of new alternative technologies, policies and organizational measures to limit the degradation of rangelands and enhancing capacities of local communities in rangelands management. The research methodology is based on the participation of community members through an interactive process. Social learning, gender and other research issues were targeted in order to identify the form or forms of adaptive management to be adopted. Finally, the social diversity of rangeland users, conflicts and other socioeconomic factors have contributed to enrich research outputs. A social experiment was conducted to measure the government impact on common rangeland management in comparison to other alternatives (private or association).

Keywords: adaptive management, community, rangelands, social learning

Adhikari, Bhim
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Di Falco, Salvatore

Social Inequality and Collective Efficacy in Community-Based Natural Resource Management
While the role of social capital has been acknowledged for addressing a wide range of social problems and facilitating local level collective action, very few empirical studies examine whether the cultural inequalities within the community hinder or facilitate the emergence of social capital. Particularly, the mechanisms linking social capital to socially constructed inequalities such as caste and gender have not been fully elucidated. Further, empirical evidence that explores the relationship between social capital and resource extraction is rare. This paper investigates the impact of ethnic heterogeneity such as caste on social capital formation. We further complement the analysis by presenting an empirical assessment of the impact of social capital on resource extraction using household level data from Nepal. Admittedly, we narrow our focus on one specific dimension: bonding social capital. This relates to the connectedness of the household with the rest of the community. We found that the more bonding social capital is associated with lower levels of resource exploitation. Caste seems to play a very important role on social capital creation. For instance, upper caste and more educated households do participate more in social capital formation compared to their less privileged counterparts. Although caste inequality seems to be facilitating the collective action with higher contributions from the socio-economically privileged members, our results suggest that the presence of inequality in social structure can be detrimental for the sustainability of collective action in the long-run. We argue that these inequities have to be addressed for win-win options through institutional interventions in order to maintain equities across communities and ethnicities.

Keywords: social inequality, caste, community forestry, collective action, social capital, participation, resource extraction, Nepal
Adhikari, Jay Ram  

jradhikari@hotmail.com


This investigates the impact of the decade-long Maoist armed insurgency on three major aspects of community-based forest management (CBFM) in Nepal: governance, livelihoods, and environment sustainability. The paper compares these outcomes in two time frames i.e. during pre/early and late periods of armed insurgency. Three Community Forest User Groups (CFUGs) were selected for the case studies, with three different characteristics of conflicts during the insurgency: i) Community forest (CF) in an area dominated by security forces, ii) CF in an area dominated by Maoist insurgents and, iii) CF dominated by neither the Security forces nor the Maoists. Forty five households were selected from each CFUG, representing 15 households each from upper-income, middle-income and low-income groups respectively. The research combined documentary analysis and field research to collect primary data. Field studies combined qualitative (participant observation, focus group discussions and interviews) and quantitative methods, including the household survey, as well as analysis of CFUG records and data available from government and donor agency forestry project sources.

Although during the period of armed insurgency, there was destruction of forestry infrastructure and a crisis of governance affecting government agencies, this study found that that there was no marked impact on the local governance regime of CFUGs, nor on access to forest products. The central government was dysfunctional during much of the insurgency, but local forest management by CFUGs continued to operate effectively. Although the study reported a few incidents of cutting of community forests for security purposes, there was no marked decline during the period of political instability in terms of community forest based environmental services with respect to biodiversity conservation, watershed protection, erosion and landslide control or to household income. These results underscore the relative independence of these local governance mechanisms from formal government structures. It further indicates that the shift in forest management authority to community-based governance provided the local community with more bargaining power as well as resilient capacity to absorb shocks and cope with the adverse impacts of the conflict. The paper argues that the resilience of local forest management institutions was crucial in coping with the armed conflict during the period of Maoist conflict.

Adjei, Prince Osei-Wusu

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Combating Poverty in Deprived Rural Communities towards Achieving the Millennium Development Goals: The Impact and Challenges of Local Government Structures of Ghana

The world still stands challenged by the millions of people who die namelessly in rural communities because of poverty and its multiple faces on our environment, health and human capital development (Sachs, 2005; Maxwell, 2000). After a decade into the millennium declaration, several developing countries are still lagging behind in their efforts towards actualizing the millennium development goals (MDG’s). Since independence however, successive governments of Ghana have pursued diverse forms of decentralization policies and programs as key development strategy for enhanced local governance and community development. Indeed, the period after 1987 to date has witnessed significant improvement in the institutionalization and capacity building of local government structures (District Assemblies) of Ghana to be responsible for the overall development of local communities. However, much less effort has been made over the years to evaluate the impact of the District Assemblies on poverty reduction and community development. The paper has been developed from research projects in some selected districts of Ghana. It examines the role and impact of district assemblies in poverty reduction and community development. The paper further highlights key obstacles saddling the local government structures in their efforts towards ensuring sustainable development in Ghanaian communities

Keywords: poverty, governance, rural
Agarwal, Chetan
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Relooking Incentives for Environmental Services at Multiple Scales in India

Maintaining forest cover to sustain the flow of environmental services has been the primary focus of forest policy in India. India claims to have stabilized its forest cover over the last decade or so. A variety of instruments have been utilized have helped achieve this state – from promoting Joint Forest Management, to judicial activism, as well as increased private sector forestry and the freeing of wood imports. At the same time efforts have been made to provide incentives for environmental services – ranging from JFM on the one hand, to re-jigging the financial incentives in center-state financial transfers as well monetary disincentivisation of diversion of forest lands through charging a price for the loss of forest ecosystem function. This paper will examine three instruments – zoning, community management and tenure, and Payments for Environmental Services (PES) as there have been applied for securing the supply of environmental services at the local level. The primary focus will be on the approach of PES pilot projects focusing on hydrological services at inter-village scale in Kahan micro-catchment and across the urban-rural continuum for the town of Palampur will be analysed for their effectiveness. These will be situated in the larger context of incentivizing local communities for forest protection on the one hand as well and zoning for protecting forest environmental services on the other. Finally, the large scale financial incentives proposed or provided between states and centre – through linking the 12 and 13th financial commission transfers from centre to state to forest cover, and the payments for the loss of forest function due to diversion of forest lands, will be analysed to see how they can percolate to the ground to local institutions and how the principles of PES in general and REDD in particular might be adapted to enhance the equity and biophysical impacts of local and national financial flows.

Keywords: forests, PES

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Local Institutions in Natural Resource Management for Resilience against Climate Change Effects

In Africa, poverty and food insecurity is pervasive due to intertwined factors including, declining crop yields, land degradation, and inadequate policy and institutional support. With ever increasing populations, climate change effects will be intensified, and a major crisis is inevitable unless measures to sustain land resources are urgently taken. Weak grassroots institutions characterized by low capacity, failure to exploit collective capital and poor knowledge sharing and access to information, are common barriers to sustainable land management and improved food security. This paper argues that vibrant rural institutions are necessary to ensure food security and environmental protection, consequently contributing to climate change resilience. It demonstrates the role of institutions by evaluating two types of institutions and their impacts the ‘status quo’ and ‘hybrid’ institutions using case studies from the African Highlands Initiative in Uganda and IFRI in Kenya. It further discusses a model that highlights factors affecting smallholder investment in natural resources management and how these can be used to strengthen local institutions in building their resilience against climate change effects.

Keywords: climate change, local institutions, resilience
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People’s Perceptions of Environmental Pollution in Mokosh Beel, Bangladesh

This study examines people’s perceptions of environmental pollution in Mokosh Beel. Mokosh is a perennial beel in Gazipur District, located approximately fifty five kilometers north of Dhaka, Bangladesh. I conducted case studies in two villages to investigate the perceptions of residents concerning the impacts of environmental pollution on drinking water, agricultural lands, crop production, and human health. Local residents believe the cause of Mokesh Beel’s pollution is industrial in nature, rather than due to agricultural pesticides. Though happy with ongoing projects that have empowered women and helped communities, residents wish for additional interventions to address pollution. They question why the ‘polluters pay principle’ is not used and think local employment in industries should increase. They want to be involved in activities that protect them from environmental pollution. Although the mandate to control industrial pollution is with the Department of Environment (DoE), I argue that this department alone cannot solve the pollution problem. Rather, combating pollution requires community participation. In this paper I investigate environmental changes in Mokosh Beel and explore co-management as a viable option for sustainable management. I conclude with policy recommendations to improve Mokosh Beel’s environment and the livelihoods of its residents.

Keywords: Bangladesh, environmental changes, public policy, Mokosh beel

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Children in the Slums of Dhaka-Diarrhoea Prevalence and Its Implications

Diarrhoea is common water borne disease among slum children in Bangladesh. This study seeks to identify the engineering, behavioral and socio-economic determinants of childhood diarrhoea and its duration, and to compute the resulting costs borne by slum dwellers. The study is based on a survey of 480 households in 32 slums in Dhaka. Nearly 50 percent of slum households reported diarrhoea episodes during the recall period of 15 days, with an average duration of 3.76 days of diarrhoea. The cost of child diarrhoea per episode ranges from BDT 124 (USD 1.81) to BDT 276 (USD 4) and the annual cost from BDT 296 (USD 4.29) to BDT 656 (USD 9.51) based on assumptions about the value of leisure time lost by care givers. The yearly cost to a representative household from child diarrhoea ranges from BDT 378 (USD 5.49) to BDT 837 (USD12.15) or 0.6 percent to 1.3 percent of annual household income. Participation in NGO hygiene activities, owning a radio and television and mother’s education and hand washing reduces the probability of childhood diarrhoea. Participation in NGO hygiene awareness activities, hand washing and semi pucca house structure reduces the duration of childhood diarrhoea. The study suggests that NGO and media campaigns should focus on water storage and hand washing issues and the government should try to provide 24 hour access to clean water to control childhood diarrhoea.

Keywords: engineering, behavioral, socio-economic determinants, childhood diarrhoea

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Negotiating Water as a Commons through Participatory Watershed Planning. Lessons from the French Water Management Plans

While traditional self-governing institutions have been able to manage water resources for many years, they are generally concerned with a single use or activity, such as irrigation or flood protection. Therefore, they cannot
manage the variety of modern uses and tackle the complex problems, which affect the water resources today. However, the intricacies of water management do require collective action to define new rules. We hold that participatory watershed planning represents a means to organize collective action and come to agreements likely to manage water as a commons, and will therefore rely on the analysis of the French experience of participatory watershed planning. Created by the 1992 Water Law, the Water Management Plan procedure aims to define management rules at the level of watersheds and institutes a specific multipartite body, the Local Water Commission, in charge of the definition and implementation of the plan. We will present lessons from an empirical study of 10 cases of Local Water Management plans conducted for the French Ministry of the Environment and the Water Agencies and on consulting experiences concerning other plans. We will especially show that participatory planning gives the possibility to break statu quo and to negotiate new rules of management through defining clearly boundaries, developing a shared perception of interdependence around the problems, building cooperative scenarios of the future and establishing a governance system

Keywords: participatory planning, water, watershed, France, negotiation

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Sustainable Forestry Development Based On Community Forestry: Trends and Efforts of Change Supported By the Forest Policy in Mexico

Based on the global context, Mexico forest policy considers forests and water as a national priority according to the Law of Sustainable Forestry Development and the 2025 Mexico Forest Strategic Program. Traditionally, forest management has focused on wood production, and the biodiversity has been affected in its components. In México, about 80% of forests lies within ejidos (common property land). Even though ejidos are the owner lands, they have not obtained benefits based on sustainability criteria. Ejidos have harvested the forests for subsistence and they have limited capitalization. This is a reason why ejidatarios have not considered the environmental values and others services as a priority for their development. If ejidos are who live with the consequences of actions carried out in their communities, they must be involved in the decision making process based in the participatory democracy. In summary, Mexico has started a structural process to address efforts toward a new paradigm based on the sustainable community forestry for achieving sustainable forestry development with vision-action in long term and competitiveness. The current forest policy applies strategies such as community forestry development, environmental services, competitiveness and ecotourism, among others. Therefore, sustainable community forestry is an effort with vision-action toward a sustainable forestry development in the global context.

Keywords: sustainable forestry development, multidimensional strategy, common forest resources, forest policy Mexico, forest ejidos
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**A Community Approach to Innovative Agriculture Production and Marketing among Urban/Periurban, Small, and Marginal Farmers in Growing Cities: A Case Study from Magadi, Bangalore, India.**

Magadi is a rapidly developing town in South India, with a current population of 25,000. 45% of the township area is agricultural land, and most are cultivated by marginal farmers, with land holdings less than 1 ha. Recent plans for township development (2025) have threatened the livelihoods, with high prices being offered for land towards township development. The community has practised a leasing system for generations which will soon die out, unless innovations with high returns are established. This study describes how the town municipal council, local partners and the community have attempted to combine city’s “Ecocity concept” to innovate agricultural production and marketing strategies to safeguard livelihoods, while greening and feeding the city in a rapid development setting.

Ninety four farmers formed neighbourhood groups to innovate their production and marketing systems. Of these, 87 seven (92%) were small and marginal farmers (range: 0.025 to 0.96 ha; average 0.31 ha) with an average income per annum of INR 49,870.45. Community action and support of the municipality and departments of agriculture and horticulture, served to strengthen their capacities, build group saving schemes, innovate production systems and marketing strategies, recycle natural resources (organic waste), and secure government grants which were not accessible to them before. Organizational strengthening and technical innovations increased the profit margin of a unit of crop.

This study describes a novel approach to enhance opportunities for agriculture production and marketing amidst town planning (eco-zoning), where a good mix of development, livelihood activities, and food security can be maintained in building resilient cities. It is envisaged that the city authorities will utilise uncultivable land, for development allowing innovative farmers to benefit from urbanization to realise new markets and opportunities. It is seen as a win-win situation to safeguard common interests and property, at the same time build healthy and resilient cities.

*Keywords: agriculture, innovation, marginal farmers, ecocity, common property*

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**Elite Capture in Forest Commons: Testing Ideas about Mitigating Factors**

The sustainability of local efforts to govern forest commons is threatened when local elites capture an inequitable proportion of the benefits that flow from management activities. This paper analyzes the institutional arrangements that may reduce the risk for elite capture in forest commons. We begin the paper by presenting two in-depth case studies from India and Bolivia. From this qualitative comparison, we develop an empirically-grounded argument about the institutional arrangements that may influence the degree of equity in community decision outcomes. We proceed to test these hypotheses using data from the IFRI database for all the research sites in the world that have been visited at least twice by the IFRI program. In these empirical tests, we pay particular attention to the effects of changes in the community decision making processes on the distributions of benefits from forest use. We are especially interested in the effects of administrative transparency, popular participation in provision and production decisions, third party involvement in resource governance, and the internal divisions of power.

*Keywords: forest commons, local governance, institutions, equity, heterogeneity, sustainability*
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Policy Making and the Demand From Below: Positions and Participation towards the Development of the Communal Land Rights Act in South Africa

The Government of South Africa voted the Communal Land Rights Act (CLaRA), whose purpose was to “give secure land tenure rights to communities and persons who occupy land that the apartheid government had reserved for occupation by African people known as the communal areas” (Department of Land Affairs, 2004). Although this tenure reform was hailed as highly participative in its elaboration process, no consultation was found to take place at the local level with the main stakeholders, including the community members themselves. There is very little information regarding the “demand from below” with regards to communal land tenure and communal governance reform.

Based on comprehensive qualitative interviews with 100 community members in two communities in South Africa and key interviews with main actors engaged in CLaRA’s development process, the purpose of this paper is threefold: (1) to characterize the perceptions of community members with respect to their bundles of rights under the communal land tenure system (with an aim to provide insights into the extent of de facto individualization and commoditization of communal land), and the perceptions of security that are attached to it; (2) to identify their positions towards the two features of the CLaRA that have been identified as salient and controverted, namely the issuance of an individual land title by the State, and the role of the chief and tribal authorities in land matters; (3) to analyze CLaRA’s development process in order to better understand how these perceptions and positions have been taken into consideration for the definition of the content of the Act. The objectives imply understanding the local context, the stakes and conflicts around land and power, the way local people perceive and formulate those stakes and how they are integrated in the policy development process in order to develop more sustainable and equitable land policies.

Keywords: South Africa, CLaRA Act, policy processes, inclusiveness, communal land reform, perceptions

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Can Groundwater Markets Promote Efficiency in Agricultural Production

In the hard rock areas of India overdraft of groundwater is resulting in negative externalities such as cumulative well interference. This increases the costs of groundwater irrigation and results in inefficiency and welfare losses.

In the area informal groundwater markets are slowly emerging with the potential of improving water distribution and mitigating scarcity. This study aims to demonstrate how groundwater markets can improve efficiency in agricultural production. The technique applied to quantify input use efficiency or, more specifically, surplus inputs applied, is Data Envelopment Analysis (DEA). The efficiency was estimated for three groups of famers: (i) Control group: farmers not selling or buying groundwater, (ii) Water sellers: farmers selling groundwater and (iii) Water buyers: farmers buying groundwater. The results indicate that, water buyers are more efficient followed by sellers and the control group in using inputs in general and water in particular. Hence, groundwater markets promote efficiency among those participating in water markets. Differences in efficiencies between the groups are shown to be significant using a Kruskal-Wallis test. The information provided by this study can be used by policy makers to determine their attitude towards the emerging groundwater markets.

Keywords: data envelopment analysis, groundwater markets, efficiency, externalities, India
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What Is the Effect of Decentralization in A Large Scale Common Pool Resource?

Decentralization has often been prescribed as the institutional panacea to a wide range of problems facing developing countries. Does decentralization actually matter to collective action in a large scale common pool resource? This question is important because most studies on the commons are limited to small scale resources. Using econometric analyses on a data set of 362 irrigation associations from the Philippines and employing institutional analyses, the study finds that decentralization in a large scale (75,000 ha) common pool resource can indeed facilitate collective action. Specifically, compared with centralized large scale irrigation systems, decentralized systems are more likely to 1) have greater farmer participation in group work; 2) solve conflicts among themselves without resorting to external assistance; 3) implement operation and maintenance plans and 4) enforce rules. These findings in general are consistent with the empirical literature but the study illustrates the application of institutional analysis to highlight the role of credible enforcement as central to solving collective action problems in a decentralized context.

Keywords: institutions, governance, irrigation

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Property Rights, Transaction Costs and Contract Enforcement in the Commons: Evidence from Developing Countries

The conventional literature on property rights tend to classify those rights broadly in terms of ownership such as state, private, common and open access property. This approach, while useful for some purposes, is overly simplistic. I employ instead a more nuanced analysis – using Weimer and Vining’s framework – to isolate those features of property rights most relevant for understanding incentives and behavior of agents. These features focus on the completeness of allocation, cost of alienation, security from trespass, credibility of persistence, and the degree of autonomy enjoyed by owners of those rights. I test this framework with a meta-analysis of 26 case studies of a common pool resource from 18 countries. I find the framework useful for categorizing the different types of decentralization of property rights in natural resource management but with caveats in the use of data from meta-analysis.

Keywords: property rights, irrigation

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In search of Recognition in Constitutional Court: Community’s Rights on Natural Resources in Indonesia’s Constitutional Court Decisions

This paper aims to describe how and why the Constitutional Court of the Republic of Indonesia has recognized or undermined the legal rights of communities over natural resources; then, it analyses the role of this Constitutional Court to Indonesia’s legal reform through its authority of legal review, in this case are Laws concerning natural resources. Due to the enhanced role of Constitutional Court in legal reform of developing countries, it is central to examine the extent to which Indonesia’s Constitutional Court would have a positive role in natural resources legal reform. This paper consists of four sections. Firstly, an introductory section that describes Indonesian
political transition and its impact on the legal framework on natural resource; Secondly, a legal analysis on natural resources laws and their stipulations on communities; property rights; the extent to which the agenda of neo-liberalism has infiltrated into these laws. Thirdly, an analysis of the decisions of the Constitutional Court and their contributions to strengthen communities’ rights over natural resources. The last part concludes trends and factors determining Indonesia’s Constitutional Court to recognize or undermine communities’ rights on natural resources.

Keywords: Indonesia, constitutional court, legal framework, community rights to natural resources

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Assessing Wetland Assessment: The Role of Bureaucratic Networks

State-level environmental bureaucrats charged with wetland regulation in the United States struggle to find and use sound tools for evaluating wetland functions and services. Wetlands provide complex, fundamentally non-excludable benefit streams, offering myriad amenities at different geographic and temporal scales. This complexity often frustrate bureaucrats’ attempts to employ tools meant to quantify wetland benefits in a manner that usefully informs regulatory decision-making. Although more than 100 such wetland assessment methodologies exist in the United States, research suggests that state bureaucrats apply these tools to regulatory decisions with marked infrequency. This paper explores the conditions under which sustained, successful implementation of wetland assessment tools by state environmental bureaucracies is more or less likely. Specifically, it examines the influence on sustained, successful implementation exerted by the characteristics of a state bureaucrat’s professional networks and the bureaucrat’s relationships with those networks. Focusing on state wetland regulators in the United States’s Mid-Atlantic region, the paper employs interviews, case studies, and social network analysis to reveal how the strength and number of a state bureaucrat’s ties with wetland bureaucrats in other states, developers of assessment tools, and national wetland policy experts affect the course of assessment tool implementation. The paper highlights how the networks in which bureaucrats are embedded can facilitate or inhibit the adaptative management arguably necessary to achieve sustained, successful implementation of wetland assessment tools.

Keywords: multi-method research, United States, wetlands, bureaucratic behavior, adaptive management

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Shared Governance in Conservation of Biodiversity: Community Conserved Area Protecting the Rare and Endangered Biodiversity

Community conserved areas are a sophisticated form of governance for protected areas. The Guassa area of Menz (central highlands of Ethiopia) has always been a valuable natural resource for the local communities, which depend on it primarily for thatching grass, firewood and grazing. The indigenous governance system used to coincide with an institution known as Qero,, based on descent groups from founding fathers who agreed dividing the land in 17th century. The Qero system, supported by the authority of the church, ensured the equitable distribution of natural resources among the members of the user communities by enacting and enforcing various bye-laws. The Qero system was declared illegal in 1975, following the 1974 revolution, but was picked up by the communities under changed name and circumstances. This indigenous governance system was not
designed to conserve wildlife, but it certainly achieved this goal. Its highly regulated use of natural resources promoted the survival of the rodents that constitute the main pray of the critically endangered Ethiopian wolf (Canis simensis) and the rare and globally threatened Gelada baboon (Theropithecus gelada). The Guassa Community Conserved Area represents a model of community led natural resource management system that supported rare and endangered biodiversity and in improved the livelihood of rural community in fighting poverty and food insecurity.

Keywords: governance, community-based conservation, Ethiopian wolf

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Anti-norm Agreements - Collusion Against the Sanctioning Mechanism

Despite the rather grim traditional predictions of rational choice theory, empirical studies have repeatedly shown that common-pool resource users can themselves enforce norms and rules, thus preventing the resource overuse. However, free-riding behavior is also regularly observed. This working paper aims to provide tools to understand a specific form of free-riding, that is, free-riding that stems from collusion. For this end, we define anti-norm agreements. Anti-norm agreements are agreements of mutual no-sanctioning between some actors of a norm community. These agreements make it possible for all agreement parties to deviate from the norm. Using Coleman’s system of linear action we show that anti-norm agreements are never efficient against the norm under perfect social system. However, when the assumption of perfect social system is dropped anti-norms can be efficient against the norm. We then give simulation results on how vulnerable some simple sanctioning mechanisms enforcing a norm are against these agreements, and when we should expect to observe collusion. We conclude with empirical discussion.

Keywords: norms, enforcement, collusion

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REDD+: A New Support Tool for Improved Conservation and Livelihood in Africa

Reducing emissions from deforestation and forest degradation, and enhancing forest carbon stocks in developing countries (REDD+) has been given increasing international attention. REDD+ is based on the idea that funds are provided to developing countries to reduce carbon emissions, compensating the gap created by heavy polluters, through the implementation of various types of policies. We have selected 4 REDD+ projects in Africa (2 in Cameroon and 2 in Tanzania) under CIFOR’s GCS-REDD, to assess their implementation through interviews with project proponents and implementers, along with village and household-level surveys from March through July 2010. The lessons and recommendations from this work will be useful for informing the development of second generation REDD+ projects. At this early stage, this paper will look into the participation of local populations in the design and implementation of REDD+ projects, the perception of actors on the impact of REDD+ funds on conservation of target forests and livelihoods of rural dwellers, and the distribution plan for benefits among different stakeholders.

Keywords: institutions, governance, forests
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**Fisheries Management at the Korientze Lake: Belly Politics, Corruption and Local Conflict: A Case Study In Central Delta of Niger- Mali**

The lake Korientze localized in the Korombana commune (circle of Mopti, Mali, with a population of 20,000 inhabitants and 32 villages) is located at a hundred of kilometers downstream and in the North of the city of Mopti. The lake is fed by a short channel of the right bank of the river Niger. For several years a conflict has supplied the management of fishing resources of this lake with corruption, political manipulations and the stacking of often unsuitable and ineffective multiple legal texts and institutions, as consequence. This conflict asks the question of mechanisms of shared governance and of intermediation around the idea of the right of exclusive use or of the users’ delegated mastery. Various explanations have been given to clear up the conflict origins. We can notice among others the successive droughts, the weakness of the river risings, and the damage of environment. With the involvement of new social actors (elects, civil society technical services and chiefs of village), a forum on consultation for the re-reading of local convention of fishing in commune has been organized with the adoption of a commission of supervision. We noticed, bit by bit, an increase of antagonism among natives/strangers with non democratic choices. The process of fishing supervision has been contested with corruption at the level of law. In the absence of adapted ways of resort open to respond to the users’ expectations of the fishing resource ; opportunism, and even populism and corruption that have become daily aspects. With the evolution of the process of conflict management, we noticed an institutional and legal pluralism. Thus, the dynamics of fishery management in the Korientze lake in the Niger Central Delta despite well-known contradictions caused by corruption and belly politics and the impact of climatic risks is moving towards an awareness about the idea of “commons” with the beginning of a local governance approach.

*Keywords: commons, conflict, corruption and fisheries, decentralization, institutional pluralism in Mali*

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**Bridging the Gap between Forestry and Agriculture: The Case for Mpigi District in Uganda**

The Republic of Uganda in Eastern Africa is 236,040 sq km with different land tenure regimes and has a history of competitive land use, particularly between agriculture and forestry. The research “Bridging the gap between forestry and agriculture” drew on the lessons learned and experience gained from the International Forestry Resources and Institutions (IFRI) /Sustainable Agriculture and Natural Resources Management (SANREM) case studies conducted in the Uganda during the last two decades. Biophysical data, GIS technologies and both Participatory Action Research (PAR), and Community Risk Assessments (CRA) were carried out at community and household levels. Stakeholder workshops were conducted. Driven by different motivations, a range of
actors, stakeholders, individuals, households, communities and civil society organizations engaged in diverse efforts and invested in tree growing, crop and/or animal husbandry for their livelihood. Currently, efforts are being made to protect, restore, afforest or rehabilitate degraded forests and to encourage tree growing on private land, but degradation persists in favour of agriculture. Therefore, operating alone or in partnership with others, these actors and stakeholders have undertaken forest management on privatively owned, communally owned and government-owned land. On private and communally owned land a proportion of the land is allocated to agriculture, some leveling of disparities in capabilities, information, and influence among partners and stakeholder groups exist. The scale and degree of organization, the types of knowledge brought to bear, and the manner by which these are mobilized to pursue common interests are a central concern. How to best create an environment of trust that will mitigate the internal conflicts of the diverse range of decisions in land use between forestry and agriculture are discussed. Policies that do not take into account the common interests of individuals, households and collectives if not clearly discuss are doomed to failure. However, in Mpigi District efforts are being made to bridge the gap. It is very possible to create sustainable forest policies through the collaboration of all parties involved and plan for the long-term. How responsible institutions are held accountable, share power, provide a competitive playing ground for all stakeholders and ensures the equitable distribution of beneficial results is essential to the success of sustainable development.

Keywords: bridging, gap, forestry, agriculture

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Is There Such A Thing as Wasteland? Biofuels and Wasteland Development in Tamil Nadu, India

India’s recently enacted biodiesel law promotes the use of non-edible oilseeds grown on wastelands. By restricting biofuel production to degraded landscapes, India asserts its policy avoids the food versus fuel dilemma and can empower rural communities. However, the ability of wastelands to support commercial biofuel production and improve rural welfare has been under explored. First, wastelands in India are often common property lands and there is limited data on how biofuel production might compete with the rural livelihood activities the wasteland commons support. Second, as feedstock yields on arable lands are likely to exceed those of wastelands, it is unclear whether India’s biofuel industry will in fact be established in degraded environments.

This paper will critically examine these two issues using data from Jatropha curcas biodiesel production in Tamil Nadu, India. Jatropha is perhaps the most prominent non-edible oilseed being grown for biodiesel production and Tamil Nadu is one of the world’s leading cultivation areas. Although fieldwork is still in progress, preliminary farmer surveys and key stakeholder interviews indicate that despite government assistance targeted at wasteland production, Jatropha cultivation is primarily occurring on arable lands. Additional fieldwork throughout 2010 will more critically examine why the Jatropha industry appears to be bypassing the wasteland commons, how producers may be benefiting from this occurrence and what implications this has for the rural poor.

Keywords: biofuels, wastelands, Jatropha, India, climate change
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**Sustainability of Water Resource Systems in India: Role of Value in Urban Lake Governance in Ahmedabad**

One of the ongoing discussions on water governance in urban India is the revival of the old river systems and lake systems as an important component of the current physical and social infrastructure. These water systems are acting as the connectors of the urban development today as they did in the times of old and traditional water management practices. Rivers and lakes have different socio-cultural, ecological, economical, and political values at different periods of societal developments. One of the core challenges documented in the governance of rivers and lakes in India is addressing the rapid changes in these value systems. The PhD research on ‘Sustainability of Urban lake systems in India’ is an attempt to look at the governance pattern, particularly the interactions and outcomes of the spatial and temporal dynamics of urban systems and the lake systems especially those that sustain the institutional and ecological memory. The paper looks at the relation and the role of value systems between the institutional arrangements (social systems) and the urban lakes systems (ecological systems) and highlights how sustainability of both the systems is at the core of diverse sectors and scales of governance. The multitier framework for analyzing social-ecological systems (SESs) that is developed by Elinor Ostrom is used as foundation to elaborate upon how urban lake systems and the institutional arrangements are linked to the values systems.

*Keywords: sustainability, urban lake systems, India, values, governance*

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**Forest Governance Reforms in East Africa: A Comparative Analysis of Institutional, Livelihood and Forest Sustainability Outcomes**

There is an increasing recognition of community participation in the management of forests and woodlands in the eastern African region. Unlike Tanzania, decentralization reforms in Ethiopia, Kenya and Uganda are still in their infancy. The three countries are still searching for appropriate institutional arrangements and structures to deliver benefits to local communities while at the same time assuring forest sustainability. Currently, there is limited empirical data on the outcome of forest sector reform on rural livelihoods and forest sustainability in the region and yet the primary objectives of governance reforms are improvements in rural livelihood and forest health. This paper assesses whether positive outcomes in rural livelihoods and forest sustainability have been achieved as a result of the recent forest sector reforms. It is based on the IFRI study on “Decentralization Reforms and Property Rights: Potentials and Puzzles for Forest Sustainability and Livelihoods in E. Africa”

*Keywords: forest institutional reforms, livelihoods, forest health, East Africa*
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Forest resources have always been used by people who are staying near to it, mostly tribals for their livelihood. It is also closely associated with their cultural and social identity. The new forest bill passed by the government of India gives more rights to the scheduled tribes and other traditional forest-dwelling communities over land that they have occupied for cultivation or residence, and also over forest produce and traditional knowledge. It gives legal empowerment to communities to manage and protect forests that they have traditionally managed in a de facto manner. There are not only tribals who are using forest, but groups like scheduled caste and higher caste, who stay near the forested area and use forest products. In this background this paper reflects on the exclusion processes which happen in the society where the poor and marginalized communities are excluded from taking part in decision making in the local village forest committees which are formed to manage forest protection. From the case studies of Orissa, this paper looks into the issue of power relations, dominance and exclusion in the everyday practices of forest management. It argues that despite the dependence of all groups in the forest for livelihood and resources, the caste, religion and gender factor plays a major role in the actual allocation and distribution of resources and henceforth it further pushes them to destitution.

Keywords: forest, tribals, exclusion, power, Orissa

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NGOs and Institutional Sustainability in Joint Forest Management: Case Studies from Rajasthan

Despite various legal and operational constraints, Joint Forest Management (JFM) has spread across much of India, making considerable contributions towards restoring degraded forestlands through collective action. Although a sizeable literature on JFM exists, little attention has been paid to the critical role of nongovernmental organizations (NGOs) in strengthening the practice of joint forest management. This paper explores how NGOs facilitate the institutional sustainability of JFM, and how the influence of the JFM institutions expands into issues other than forests in local governance. Working inductively, I present a comparative analysis of four JFM institutions located in Udaipur, Rajasthan. While all four share similar geographical and socio-economic conditions, their institutional form varies: two of them are directly supported by the government agency, the Forest Department, and two others facilitated by an NGO. My participant-observer experience over several years as a staff member of the NGO enriches my research on these JFM institutions. I argue that JFM institutions with active NGO presence perform much better than those without any NGO presence, especially concerning: breadth of participation, decision-making processes, management systems, conflict resolutions, and larger role of the institution in local governance. The paper concludes that the Forest Department should recognize this critical role played by NGOs in strengthening JFM, and there should be effective integration of NGO participation in JFM in order to build a resilient and sustainable local institution. The paper also provides recommendations for NGOs so that they continue to be self-reflective and innovative, and make JFM a sustainable initiative.

Keywords: Joint Forest Management, institution, sustainability, NGO; Rajasthan
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**Delinking of Water Rights from Landholding Size in a Farmers’ Managed Irrigation System: Question of Efficiency and Equity**  

Water rights in terms of allocation in most of the farmers managed irrigation system are closely related and proportional to the landholding size of farmers. Unlike such common cases, water allocation in Chherlung irrigation system in Palpa district in mid hill of Nepal is based on the marketable water share which is proportional to the contribution made during the construction of the canal. This ethnographic research, combining historical and comparative approaches with spatial methods, investigated the efficiency of irrigation system when water rights are delinked from the landholding size. The study investigated how property rights system has evolved over the years in relation to social changes taking place in the village. It was found that prior rights holders, in such property right systems, have incentives to use water more efficiently and trade the surplus water share, thus increasing the command area of the irrigation system. This case study shows that this structure of water rights not only increases the efficiency of the system but also enhances the equity among the farmers.  

*Keywords: water rights, efficiency and equity, irrigation, land, institutions*

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**Reforms for End-Users Based Irrigation Management: Insight from Central India**  

The irrigation sector plays a vital role in food production and rural economy. Realizing this, reforms are undertaken world over to modernize irrigation systems. One of the approaches followed in modernization is decentralization of irrigation management functions. This paper discusses the implementation of Irrigation Management Act in Central India where the responsibility of irrigation management was partially transferred to the end users through formation of farmers’ organizations. Emphasis is given to the administrative, governance, institutional and financial reforms carried out as per the act, and the impact these reforms had on irrigation management. The paper shows that the success of such reforms is highly dependent on the effectiveness of program execution and the financial resources available with the government. Such programs will reap intended benefits, if the end users for managing irrigation functions are involved in more effective manner with greater autonomy and delegation of powers. Also in lieu of paucity of government funds to carry out such programs on large-scale, alternative institutional models can be considered to further improve the overall efficiency and management of the irrigation systems.  

*Keywords: Central India, reforms, decentralization, irrigation management transfer, end users*

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**Can Local Autonomy Contribute To Increase Protected Areas’ Potential for Biodiversity Conservation**  

In the last few years natural resources managers and conservation advocates’ interest in integrating local communities in the management of protected areas has dramatically increased with the purpose of making local inhabitants the main recipients of the benefits and costs created by the presence of protected areas. Often the case is made of the need of giving local stakeholders significant levels of control over protected areas’ management.
However there is little empirical evidence of how common-pool resources fare once local institutions have autonomy to conduct their own decision-making processes. To gain a better understanding of the relationship between greater levels of local autonomy from the central government and the performance of locally based institutions for biodiversity conservation, this paper tests the proposition that the “more autonomy local institutions have to govern their biodiversity conservation efforts, the more they will increase the biodiversity conservation potential of their protected areas.” I test this proposition in the context of the Costa Rican reforms to decentralize their national protected area system into eleven regionally-based conservation areas. Using the conservation area as the unit of analysis, I conducted a two-way comparison of conservation areas’ autonomy levels and developed an index measuring net gain of conservation areas’ potential for biodiversity conservation after decentralization. Findings are mixed. Some conservation areas increased while others decreased their potential for biodiversity conservation after decentralization. Discussion will be focused on explaining such variance.

Keywords: governance, Protected Areas, biodiversity conservation, local institutions

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Environmental Law as Political Ecology: The Roots of Biocultural Rights

This paper examines the phenomenon of ‘biocultural rights’ that have arisen through multilateral environmental agreements since the coming into force of the Convention on Biological Diversity in 1993. The paper identifies biocultural rights as emerging from the confluence of three of the most significant social movements of the last two decades i.e. the political ecology, the commons and the indigenous peoples movements. The paper concludes with a short history of biocultural rights and its future trajectory.

Keywords: biocultural rights, indigenous peoples, political ecology, post-development, commons

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People’s Livelihoods and Involvement in Co-Management of Madhupur National Park, Bangladesh

Natural forests in Bangladesh have been severely degraded due to over exploitation, encroachment, fire, uncontrolled and wasteful commercial logging, illegal felling, overgrazing, and the collection of fuelwood to support the energy needs of a large population. In 2003 the Forest Department with assistance of USAID launched the Nishorgo Support Project (NSP) to test a participatory co-management approach to protected area management. The project lasted until 2007 and was followed in 2008 by the Integrated Protected Area Co-management (IPAC) project with the aim of improving local people’s livelihoods through greater access to and control over local forest resources. This study sought to understand the livelihoods of local people and their involvement in management of Madhupur National Park. I collected primary data between September and December 2009 from two villages, the IPAC site office, forestry officials at the Madhupur National Park beat office, and key informants through personal interviews using a semi-structured questionnaire. My findings showed that farmers in both villages are heavily depending on forestry-related activities (55% and 72%) to support their livelihoods. All households from both villages collect their fuelwood from the national park and some collect fuelwood to sell. The study concluded that potential exists for various alternative income generating activities such as bamboo and cane cultivation, handicrafts, medicinal plant nurseries, poultry, bee cultures, and cattle fattening. Introducing these activities could help improve the livelihoods of the local people and the management of Madhupur National Park.

Keywords: forests
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Forestry Decentralization: Control of Illegal Activities and Poverty in Municipal Management of Bolivia

At 15 years of decentralized forestry regime in Bolivia are pessimistic assessments. The pendulum of decentralization seems to go against the process. One of the major shortcomings noted by many is the lack of control activities by the central level and municipal level. These general findings are confirmed in the forestry sector. Based on data from a unique representative sample of municipalities we have tested the main factors commonly associated with lack of control over illegal activities in the forestry sector at the municipal level. The lack of control is usually associated with lack of economic, financial, technical capacity and political will. We use three measures of rules implementation in the forestry sector: we find that poverty, more precisely the dependence on forests, and the political affiliation of the municipal authorities are related to the level of control. The authorities placed in a pro-poor line, politically speaking, have a different pattern from those of other parties. The former tend to apply the rules less strictly than the other depending on the poverty level and the presence of other social groups in the municipality. Thus the control problem of illegal activities can not be taken as a criminal problem and it brings serious challenges to the decentralized strategies of governance.

Keywords: institutions, governance, forest, illegal logging

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Swords of Damocles and Idealized Worlds: How Relevant are the Myths of Tragedy and Threats in Commons Scholarship?

Notions of ‘tragedy’ and ‘threats’ are pervasive themes in research on resources that are governed as common property regimes. In this paper I explore the underlying assumptions, as well the origins and manifestations of these themes. I argue that the appeal of these notions, across a range of academic disciplines contributes to explaining the continuing popularity of cooperative arrangements in community-based natural resource management, among researchers and policy makers.

I use the case of irrigation in the hills of Nepal, to suggest that while common property regimes as tenure arrangements are eroding indeed, as a result of livelihood and crop diversification, cooperative arrangements are actually on the increase. These arrangements include women’s vegetable marketing cooperatives, farmer’s groups and informal networks that navigate in the wider institutional landscape.

Given this situation why would changes from one tenure arrangement to another constitute ‘tragedy’? What is it that is actually under ‘threat’ and from what? The paper concludes that the use of the rather fuzzy notions of ‘tragedy’ and ‘threats’ need rethinking. Not least because they connote implicit assumptions about the workings, the dynamics and the direction of cooperative governance and tenure arrangements that are problematic, given a rapidly changing rural reality.

Keywords: tragedy, threats, irrigation, crop diversification
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Community-Based Conservation and Livelihoods: What Motivates Communities?

There are many debates around the joint goals of alleviating rural poverty and ensuring environmental sustainability. One important debate is about the nature of community objectives and benefits regarding environmental sustainability. What are the objectives or benefits that the communities themselves consider important? What makes the local people want to manage/conserve resources? The paper is based on our experience with ten cases from the UNDP Equator Initiative that holds biennial searches to find and reward entrepreneurship cases that seek to reduce poverty and conserve biodiversity at the same time. Our findings indicate that community objectives that create incentives for conservation are complex. They can be sorted (for our purposes) as economic, environmental, political, social and cultural objectives, but these categories are interrelated. In each case, there is a mix of objectives, and the actual mix is case-specific. Economic objectives are in the forefront in most cases; they include both monetary and non-monetary objectives. In many cases, environmental (such as reversing resource declines; protection of species and ecosystems important for livelihoods) and political (participation in decision-making; empowerment in general) objectives are in the forefront. In particular, with indigenous groups, the political objective of control of traditional territories and resources are of prime importance because such control is seen as the first step to cultural survival and to social and economic development. Thus, conservation benefits and incentives seem to have been much too narrowly conceived in conservation and development literatures. Characterizing the benefits as merely “poverty reduction” or “poverty alleviation” is too simplistic; “livelihood” or “well-being” capture the complexity of community objectives more fully.

Keywords: community-based conservation, sustainability, poverty, livelihoods, well-being

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Forest Dependency, Property Rights and Local Level Institutions: Empirical Evidence from Ethiopia

Empirical evidences from developing countries indicated that forest products play an important role as a source of income for rural households, particularly for the rural poor. This study aims at analyzing the role of property rights regimes and local level institutions on forest resource use in the south Western part of Ethiopia in Gimbo Woreda. We used a household survey conducted in the region to examine the link between forest and poverty under different property right regimes. A sample selection model is employed to account for both participation and extent of forest resource use. We estimated the labour allocation of households for different types of property right regimes. The various socioeconomic factors that affect forest resource use in a community forest were also examined empirically. The findings of our study show that community forest enhances forest access and use by the poor and reduce dependency of the relatively rich households. It is also found that local level institutions do not have any significant impact on level of forest dependency. Natural asset-based poverty alleviation policies will have to include measures that expand its current management practices to other open access forest areas so that the poor will have equal opportunity to benefit from the resource.

Keywords: property rights, forest dependency, labor allocation, heckman, Ethiopia.
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**Extent of CPRs in the North East**

The Common Property Resources (CPRs) are important sources of livelihood to rural households in general and to the rural poor in particular. They are the livelihood both tangible and intangible of thousands of people. Far from being an exception to this, since most North Eastern States are on a hilly terrain inhabited by tribals, the CPRs play a more important role in people’s livelihood in this region than in the rest of India.

That is the background of the present paper whose main objective is to explore the status of the CPRs in the seven states of Northeast India. An effort will be made in it to define the CPRs in the context of the region, study their legal status and legal changes over the years. The paper will then describe how the communities of the region are using the CPRs. It will then analyse the threats to the CPRs and the social implications of their loss. It will end with some suggestions for the protection and proper management of the CPRs.

*Keywords: North East India, CPRs, livelihoods*

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**Rhetoric and Reality: Enacting Gender-Based Inclusion in Managing the Commons in Nepal**

Despite the rapid expansion of community-based forest governance in the recent years, there are limited cases where women’s meaningful participation has been realized. In Nepal, participation of women in community-based forestry is limited to increasing the numerical presence of women in its user groups and federations. A recent policy amendment has even required 50 percent women participation in its decision making bodies. Forestry being one of the primary livelihood strategies of village women, meaningful participation of women in their respective governance systems is indispensable. In this context, it is crucial to understand how effectively reservation policies have been able to enhance women’s participation in actual sense.

Analyzing the cases of two participatory forestry programmes - community forestry and leasehold forestry, this paper explores whether, how and to what extent reservation policies have worked to augment women’s meaningful participation. It will also identify factors and conditions that contributed to or constrained meaningful participation of women. The paper argues that i) reservation policy has been able to bring some women in the policy making forums but it does not necessarily mean that women are empowered and that they have been able to influence the decisions; ii) prevalent social norms and unequal power relations that hinder women to be recognized socially as a individual agency need to be taken into account while dealing with women’s empowerment; iii) the level of freedom that women enjoy at household level is crucial determinant of their participation at community level governance; and iv) promoting women’s network and helping to establish the linkages with other women’s institutions can help women to gain collective strength to influence formulating gender sensitive policies and practices.

*Keywords: commons, gender, community based forest governance, meaningful participation, Nepal*
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Transaction Hardly Costs: Understanding Collective Action in Farmer-Managed Irrigation Systems in Nepal

The major determinants of the transaction cost in FMIS in Nepal are farm location, area under cultivation, external support and infrastructure quality. Transaction cost increases with the increase in the size of cultivated area and with the increase in chances of cultivating the land at downstream of the canal. Similarly, transaction cost decreases with the improvement of the quality of canal infrastructure and increases with the chances of getting external support. It also shows that there is a possibility of improvement in maintenance and water allocation of the canal if farmers are able to bear more transaction cost for the payment to water guard, for the meetings and communication and by which the watching waiting and negotiating cost may decrease. Since the transaction cost is very low it is not the reason for the non-performance of the institutions.

Keywords: transaction cost, institutions, FMIS, Nepal

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Towards A Knowledge Commons by Recognizing the Plurality of Knowledge—Experiences With Democratic Governance of Science and Technology

What could “knowledge commons” mean? One interpretation would be: The best knowledge made commonly available to all. In this interpretation, it is implicitly assumed that there is one best type of knowledge, and typically this one best type is then taken to be modern scientific knowledge. Bijker will argue for a second interpretation: “knowledge commons” is the common sharing of a variety of knowledge. This interpretation builds on the recognition that a plurality of knowledge systems exists; and one of these systems is scientific knowledge; and that a variety of ‘common’ people also have valuable forms of knowledge and expertise.

An international project with participants from India, Africa and Europe is proposing to give more recognition to the plurality of knowledge. This paper traces some of the roots for such a proposal in current practices of democratic governance of science and technology in Europe. The role of different forms of expertise in technology assessment and in the governance of nanotechnologies will be elaborated as examples.

Keywords: knowledge commons

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Towards Better Global Governance for Food and Agriculture - How to Solve the Collective Action Problem

Following the food price crisis of 2008, agriculture is back on the international development agenda. There is also a renewed recognition that agricultural development requires the effective provision of the global public goods on which world agriculture depends, such as ensuring global food security; conserving agro-biodiversity; facilitating welfare-enhancing agricultural trade; mitigating the impact of climate change on agriculture; preventing the cross-border spread of crop and livestock diseases; making agriculture environmentally sustainable and managing the potential competition between bio-energy and food production.

Providing these global public goods requires international collective action, which involves the typical free-rider
problem. The experience of two world wars in the first half of the twentieth century generated incentives to overcome this problem and create some of the major global institutions that dominate global agricultural governance until today, in particular the Food and Agricultural Organization (FAO) of the United Nations, and the World Bank. Some other international organizations were created later on in response to food crises, such as the World Food Program. Towards the end of the 20th century, new players emerged in the international agricultural arena, such as global non-governmental organizations, multi-national enterprises, and new types of global charities that fund agriculture. There is an increasing recognition that in spite of all their achievements, the existing global institutions are not effective enough to provide the global public goods that agriculture needs in the 21st century. This is both due to the internal problems of global organizations, such as democratic deficits and over-bureaucratization, and to coordination failures among them. Applying collective action theory and New Institutional Economics, this paper analyzes the political economy problems that are in the way of reforming the global institutions in charge of agriculture and discusses the strategies that the international community can use to overcome these problems.

Keywords: international institutions, governance, agriculture

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Impact Analysis and Decision Making Process in Indigenous Park Management under the Valdivian Ecoregion, Southern Chile

This study is a contribution towards analyzing innovative strategies of ecoregion based conservation. The globally important temperate rain forests existing in the fragmented patches of southern Chile are under threat of human pressure. Bringing together such conservation and livelihood issues and bridging them has become a great challenge of present day. This study analyses the impacts of a community endeavor—“Pichi Mallay Indigenous Park” from various social and economic dimensions and local decision making and explores existing bottlenecks as well as problems that will ultimately affect the attainment of long-term conservation and social goals. For this, the research result has utilized questionnaire survey, key informants interview, direct observation and secondary data review as the principal methods of data collection. Data obtained from both the primary and secondary sources are analyzed through discourse analysis technique and the use of graphs, figures and tables.

The study suggests that the park has improved the social status of indigenous people living in Maicolpue Rio Sur with regard to social prestige, social infrastructures, access to information, exposure and communication. However, it realizes the economic impact on the park beneficiaries to be very low, although the overall economic return to other people living in Maicolpue Rio Sur is significant. The study identifies major reasons behind this to be the poor investment by indigenous people upon the potential income generating activities and limited participation at decision making related to the park management. A management committee with clear responsibilities is lacking, president of the community is passive and a poor communication between the park beneficiaries and the park administration exists, that has several negative forward and backward linkages. With this realization, the study finally recommends a community level park management model, basic things to be addressed at local level and further studies in order to bridge the information gaps.

Keywords: social and economic impacts, community-based, decision making, participation, Valdivian Ecoregion, Pichi Mallay Indigenous Park, Maicolpue Rio Sur, Mapuche-Huilliche, Chile
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Multi Functions of People Institutions and Their Sustainability: Role of Tank Associations and Their Nested Institutions for the Sustainability of Tanks

Irrigation tanks (Traditional water harvesting structures) are our heritage handed over to us by our ancestors and are the lifelines of villages. Tanks are small irrigation structures predominantly serve small and marginal farming communities to sustain the agriculture production by supplementing the monsoon rains. There will be festivities in the villages if its irrigation tanks get filled. The tanks, which had conferred benefits to humanity for over centuries since the beginning of history, are now in a bad shape. A proper maintenance of the tanks will prevent famine, starvation and unemployment and bring in prosperity. During the British rule, the tank as a common property has become the ‘state’ property. The tanks belong to the ‘state’ and they are ‘vested’ with government departments for their maintenance and management. In most of the Southern states in India, the major threats to tanks are mainly from the encroachers, inefficiency in the functioning of tank system and improper use by the government itself. The main reason attributed to this situation is the ‘Institutional constraint’. If the tanks are surviving and still performing, it is by and large due to the local organizations and farmer’s initiatives which are mostly informal.

We consider that ‘institutional constraints and alternatives’ should be a prime question to be addressed as that of rehabilitation itself. Some of the tanks have been restored and are maintained with the awareness created by DHAN Foundation, a Non-Governmental Development Organization by promoting Tank Associations (Water Users Associations) with an identity name “Vayalagam” in South India are in good condition. This has been made possible due to the awareness created among the people especially underprivileged farming community, by ensuring their participation and contribution during the selection and execution of works implementation time, promotion of nested institutions among the beneficiaries and making aware them regarding the future maintenance of the tanks. Our experience of working has been through farmer’s organizations formed at the habitation, cascade (chain of tanks) and district levels for conserving the tank systems are mostly in drought prone areas. Each tier of these farmers associations will have distinct identifiable roles, responsibilities and resources. DHAN Foundation’s approach mainly relies upon the regeneration of Farmer’s Management by establishing their organizations and involving them in rehabilitating works.

Keywords: irrigation tanks, small farming community, community participation, farmers associations, nested institutions

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An Evolutionary Approach to Wildlife Damage of Economic Activity

This paper models the effects of wildlife conservation on a community of farmers where not only traditional farming activities take place, but also some farmers complement their earnings with eco-tourism activities. The model has a special focus on the re-colonization of carnivores in Scandinavia during the last two decades, and the resulting social dilemmas for their management. Traditional conflict on carnivores’ predation on livestock is still present, but modified in those cases where farmers extract additional rents from tourism activities. Both economic activities have negative effects on wildlife conservation. Traditional farmers hunt carnivores to reduce their loss of livestock whilst eco-tourism activities reduce habitat quality to sustain wildlife. Using and evolutionary
economics approach, we explore existence and stability conditions of equilibria in the system, showing that new stable equilibria where wildlife is more highly valued emerge when eco-tourism activities take place. However, the effect on the level of wildlife conservation is ambiguous and depends on the relative impact of hunting and habitat destruction.

Keywords: wildlife, bioeconomic modeling, predation, hunting, tourism, Europe

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Identity-Based Exclusion: Tribal Women’s Forest Tenure in Rajasthan

New wave of political decentralization and statutory forest tenure rights aim to empower poor and vulnerable groups, including indigenous people and women. This research article reinforces forest tenure transition is crucial for tribal women’s access, use and control rights. Both qualitative and quantitative method is used for in-depth interviews with 54 households from two tribal dominated villages of semi-arid tribal district of Rajasthan in western India. I make an attempt to find out how and why tribal women continue to be excluded in implementation of decentralized forest tenure transition. Access rights as a theoretical framework, this article shows that the actual control of forest tenure and discretionary decision making authority at decentralized village forest institution excludes women. The study highlights that forest tenure transition policy is a mere tokenism and fails to promote tribal women’s access to forest resources for livelihood, empowerment and gender equity. Based on finding, I discuss the role of inclusion technique implemented through tribal/forest policies such as ‘quota for women’ at local management level has become an instrument for identity-based exclusion for women’s forest access rights.

Keywords: Tribal women, forest tenure reform, rights, decentralization, exclusion

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Poverty, Livelihoods and the Conservation of Nature in Biodiversity Hotspots around the World

Given the high incidence of poverty in biodiversity hotspots around the world, protecting biodiversity requires attention for socio-economic vulnerability and for the linkages between local livelihoods and nature. Earlier, these linkages were not considered, and biodiversity protection often resulted in the displacement of local communities for protected area establishment, further increasing their socio-economic vulnerability. Currently, communities are no longer simply displaced, but it is unclear how biodiversity can be protected while reducing socio-economic vulnerability at the same time. This paper presents a unique dataset regarding socio-economic vulnerability and livelihood-nature linkages in biodiversity hotspots around the globe (Costa Rica, India, Vietnam and South Africa). Using qualitative and quantitative methods, the analysis will focus on the strength of the livelihood-nature linkages and the local capacity to adapt to external changes and influence decision-making at multiple scales. In addition, specific attention will be paid to the potential of payment and other incentive mechanisms to improve local livelihoods and nature conservation at the same time.

Keywords: adaptive capacity, livelihood-nature linkages, Protected Area management, multi-level governance, poverty
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An Experimentally Grounded Model of Common-Pool Resource Management

The exploitation of open-access natural resources is often modeled as a social dilemma with no escape for rational actors. Nevertheless, real individuals are not helplessly trapped in the dilemma and can achieve sustainability on their commons by building management institutions (e.g. Berkes et al. 2003; Ostrom 1990). Recent theoretical work has shown that actor’s beliefs regarding the state and the dynamics of the resource represent a key factor in understanding the emergence of institutions for commons management. More specifically, Bravo (2010) presented a simple analytical model, along with a more complex agent-based one, designed to study common-pool resource management problems, with a specific focus on the relation between agents’ beliefs and institutions. Both model highlighted the relation between the dynamics of agents’ beliefs and the institutional building process.

Bravo’s model focused on the relation between micro-level beliefs held by agents and macro-level institutional changes. More specifically, each agent, besides having access to public information regarding the current state of the resource, held private beliefs about how this state should be and about the best actions to reach it. Agent’s beliefs subsequently aggregated into institutional rules through a voting process. While in absence of institutions the competition among agents led to the exclusion from the game of “conservationist” beliefs and to the depletion of the common resource, the introduction of the possibility of building institutions significantly improved resource use, both economically and ecologically: a conclusion in line with the findings of CPR literature based on field research (e.g. Marshall 2005; Ostrom 1990, 2005; Ostrom et al. 2002).

One of the main findings of Bravo’s study was that the introduction of a management institution changed the agents’ belief dynamics. More specifically, the institution succeeded in reducing the erosion of “conservationist” beliefs due to competition among agents. While this clearly resulted in more sustainable management practices, the relation between beliefs and institutions was actually a two-way one. The initial distribution of beliefs represented an important factor in influencing institutional evolution and, hence, management outcomes. Below a certain threshold of the initial belief distribution no institution was indeed implemented and agents were unable to escape from the tragedy of the commons.

Although empirically plausible, all the arguments presented above are the outcome of theoretical work. The goal of the current research is hence both to test the model and to evaluate empirically some of its parameters. Starting from Bravo’s model, we developed an experimental platform where real individuals control virtual agents in a forestry scenario. The platform is designed such that the analysis of participants’ behavior in the virtual environment allows to make inferences on their beliefs. We are currently performing pilot tests to fix the details of the experimental design, before proceeding with the proper experiment which is scheduled for the late summer or early autumn. Our goal is both to validate the model and to provide evidence linking the emergence of CPR management institutions with the evolution of participant’s beliefs. The experimental results will be subsequent used to calibrate the model parameters. This will give greater empirical plausibility to the model and will represent a starting point for the inclusion in the model of further details regarding both the agent’s cognitive processes and the functioning of the commons management institution.

Keywords: institutions, beliefs, experiment
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The Enchantment of Community: The Commons and Forest Enterprises in Mexico

Community management of natural resources was deconstructed into interaction between internal and external institutions by Agrawal and Gibson (1999), suggesting a “disenchantment” with the concept of community. As well, the study of organizations has been significantly displaced by the study of institutions as sets of rules. But local communities engaging in commercial timber production from common property forests, the Mexican case, requires a reconsideration of both. The forest commons in Mexico is both informed by indigenous cultural roots in many cases and is also a massive, state-directed and regulated governance template that has evolved for almost a century. The significant degree of trust and social capital, resulting in collective action, required to establish a community forest enterprise (CFE) builds upon and creates a strong sense of community in the traditional sense. The process also requires innovations in how organizations of actors create new institutions through self-imposed rules. As the most valuable forest product, timber production requires institutional, organizational, and cultural innovations that many other lesser-value forest products do not. The paper evaluates the factors that have led to the establishment of thousands of CFEs at varying levels of vertical integration and effective forest management in Mexico. When forest resources are large, these factors led to sophisticated vertically integrated CFEs that are competitive in the international forest products market and have led to significant gains in poverty alleviation, economic equity and biodiversity conservation. Smaller forests may display lower levels of collective action. The Mexican case, and other emerging cases elsewhere in Latin America, force a positive reevaluation of the potential of the forest commons for timber production as a vehicle for rural economic development. (Panel ID 248, Commons Research in Latin America, organizers: Lichtenstein and Robson)

Keywords: forest commons, community forest enterprises, collective action, economic development

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Design Patterns for Customizing Irrigation Governance

How can experience with good solutions for institutional design be shared in ways that help customize solutions for diverse situations? In their pattern language for architecture and regional planning, Christopher Alexander and colleagues (1977) identified key elements of successful vernacular architectures, which could then be selectively combined and customized to fit particular situations. Similarly, institutional design patterns could be helpful in developing and adapting governance for commons. A semantic mediawiki offers a useful platform for sharing design patterns, and collaborating to identify and develop design patterns, as part of the semantic web (Berners-Lee 2001). Elinor Ostrom’s (1990, 1992) design principles for commons, and more specific principles for irrigation governance identified by Trawick (2001, 2003) and Merrey (1996) illustrate design patterns useful for customizing irrigation governance.

Keywords: commons, governance, institutional design, irrigation, water
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Commercialization of Coastal Areas in CALABARZON Area, Philippines

The authors see the CALABARZON (Cavite, Laguna, Batangas, Rizal and Quezon Provinces) Region in the Philippines as a microcosm of a national social condition, wherein government policies and priorities that encourage highly extractive fishing industries and commercialization of coastal zones impact the everyday lives of municipal fisherfolks. The CALABARZON Region, being near to the country’s capital, has become highly vulnerable to exploitation since the region has been widely developed and has received its fair share of public and private investments from both local and foreign investors. This leads to the conversion of mangroves to fishponds and virtual privatization of foreshore to make way for beach resorts and private recreational areas. Eventually, this resulted in the displacement of municipal fisherfolks from their communal areas for drying fish and seaweeds and from their traditional fishing grounds. The paper documents the experiences of fishing communities in the Municipality of Calatagan in Batangas, the Municipality of Tanay in Rizal and the Municipality of Real in Quezon as they struggled to get their fair share of the fishery resource. The paper analyzes how current policy regimes and history of overexploitation of natural resources created social conditions of reduced fish catch and reduced income from fishing. It concludes that virtual privatization and commercialization of coastal areas posed serious threats to ‘community property rights’ as gains from decade-long implementation of Community-Based Coastal Resources Management. The paper suggests for a shift in policy framework towards the sustainable management of common pool resources as the focus of government’s development plans.

Keywords: governance

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Institutional Analysis of the Niger Basin Water Governance

The objective of our communication is to present results from the Work Package 4 (Institutional Analysis) of the Basin Focal Project (BFP) Niger - one of ten projects commissioned by the CGIAR Challenge Program Water and Food to study the links between water, food and poverty at the basin scale. Our main objective was to analyse how the present complex institutional framework responds to sustainable (or integrated) water resource management challenges in the Niger Basin. Among these critical issues is increasing competition over water resources (as a result of climatic and anthropogenic changes) and greater water conflict risks.

The Niger Basin complex institutional framework combines three different levels (local, national and regional – Niger Basin Authority). The multi-scale interactions and its dynamics were analysed regarding water availability and water agricultural productivity, poverty alleviation and gender issues. Three main tasks have been carried
out: (1) Identification and study of the three different scales of Niger Basin institutional and legal framework, (2) analysis of the key role playing by local institutional framework level (according to the fact that customary laws remain dominant in all the Niger Basin countries -partly as a result of decentralisation reforms and modern water and land tenure laws not being implemented) (3) gathering of pertinent institutional data from existing databases and statistical analysis in order to systematise and complete -in a comparative perspective- the previous analysis.

*Keywords: water, institutions, trans boundary, legal pluralism*

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**Comparing the Structure of Common Property Resource Systems Based on Social Organization and Resource Availability in the Nicobar Islands**

There is growing global concern to influence, encourage and assist societies to conserve the integrity of natural ecosystems, and to ensure that their use is equitable and ecologically sustainable. This concern has stemmed from the realisation of increasing scarcity of natural resources as well as our propensity to maximize short-term individual gain over long-term benefit to society at large. Over the past few decades sociological and conservation research has probed resource utilisation methods and contexts to understand our propensity to consume. The interdisciplinary nature of such research has provided greater understanding on evolutionary facets of human cooperation and conflict, the success and failures of different conservation strategies as well as the dynamics of common property systems.

In this paper I approach common property natural resource systems that are subject to social, economic and ecological change to understand how management strategies are affected. I also explore facets of resilience that a society may use to tide over such change. Natural as well as technological hazards pock mark the planet’s surface increasingly, impacting the natural world as well as handicapping societies dependent on them. I attempt to elucidate a mechanism of understanding socio-ecological change that such perturbations bring about on the human-ecosystem relationships.

The Nicobar Islands form the focus of my study where I compare the structure of common property resource systems based on social organization and resource availability. Being one of the most severely affected regions by the tsunami of 2004, there have been dramatic shifts in natural resource availability; rehabilitation measures and attitudinal shifts have also contributed to changes in subjective values attributed to resources that contribute to the local economy and ethnic identity. I use the changes in resource availability, and a gamut of values attributed to resources to understand adaptations within common property resource management systems.

*Keywords: socio-ecological change, traditional resource management systems, Nicobar Islands, tsunami, resilience.*
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Restoration of Common Lands for Enhancing Livelihoods of Rural Communities: A Case Study of GO-NGO Collaboration in Andhra Pradesh

Common lands in rural areas are considered to be important life support systems for the rural economy affecting agriculture, livestock and various other livelihoods of communities. Grazing on the commons is crucial to the viability of most of the small and marginal holders, particularly in upland areas like Rayalaseema and in other rain-fed farming systems across Andhra Pradesh. Half the agrarian livelihoods are directly and indirectly linked to animal husbandry and, therefore, commons play an important role in sustaining the livelihoods of those rearing small and large ruminants. However, productivity of these common lands is declining in the state due to excessive exploitation of natural resources and poor management practices. Moreover, the very existence of common lands is under threat due to encroachments by vested interests and lack of comprehensive policy on the management of commons by the communities. There are no specific rights and responsibilities assigned to the communities either in the form of tenure or ownership over the commons. In the above context, a collaborative arrangement between the Rural Development Department of Government of Andhra Pradesh and NGO networks was established for strengthening the efforts to conserve, develop and protect common lands through community involvement in two districts; Anantapur and Chittoor under the National Rural Employment Guarantee Scheme (NREGS). This paper discusses about the processes involved in the collaboration, organizing the community/strengthening the Community Based Organizations (CBOs), development of natural resources and livelihoods enhancement of dependent families in terms of enhanced incomes, livestock and ecological improvements. This paper also brings out the impact assessment of the programme at qualitative as well as quantitative levels on natural resource management and livelihoods of the dependent communities in the project area.

Keywords: common lands, natural resources, livelihoods, collaboration, government & NGO networks

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In community forestry development process, diverse actors with different interests are involved. Some may have a long history of relationships, positive or negative. There are methods for research on the role and status of the stakeholders involved in the development process at local level. However, there are few tools to assess the power, interests and legitimacy of actors from the point of view of the stakeholders themselves. The Social Analysis CLIP method of the Social Analysis System (SAS2) was developed for this purpose. This paper shows the results of using this method with stakeholders. The purpose was to visualise the stakeholder structure in terms of power, interests and legitimacy in relation to a specific situation or course of action in 6 CFUGs of eastern areas. It also examined the history of relationships among the stakeholders in these areas and classified the various Self Heal Groups, Government Agencies and NGOs (including Govt/NGO) in terms of the extent to which they are dominant, forceful, influential, dormant, respected, vulnerable or marginalised actors in the specific situation. By visualising the stakeholder structure, the process facilitated an actor-based analysis relevant to policy level and other development facilitators. It suggests the tool can help enhance extra synergy and analytical thinking through collaborative inquiry involving stakeholders.

Keywords: community forestry, stakeholders, power/legitimacy & interest, synergy for collaboration, social analysis system
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‘Greening’ Fiscal Federalism in India: Negotiating Incentives for Forest Conservation

Direct payments for conservation of commons have gained currency in recent years. In India, a somewhat similar payment has been institutionalized in the practice of fiscal federalism through the Finance Commissions. The Constitution of India requires the setting up of a Finance Commission every five years for determining state governments’ share in central taxes as well as the distribution of this share among the twenty eight states. The Report of the Twelfth Finance Commission (2004) for the first time, recommended a grant-in-aid from the Government of India to the state governments for the conservation of states’ forest resources. This forest grant was considerably enhanced by the Thirteenth Finance Commission (2009).

These forest grants are in addition to the regular forestry allocation to the states, and are designed as incentives to states for maintaining and enhancing forest areas. They reflect recognition that while benefits from forest conservation are enjoyed by the nation as a whole, conservation imposes costs on states that maintain land under forest. Further, these costs are differentially distributed amongst the states, depending on the extent of their forest area and cover. Consequently incentives are needed to encourage states to continue maintaining land under forests, in the national interest.

The forest grants represent a negotiated settlement between the Government of India and the state governments, reached through processes of the Finance Commission. This paper opens with a discussion on the emergence of a ‘green’ agenda in the fiscal federal system in India. It identifies the factors both within and external to the Finance Commission that facilitated the emergence of the forest grant. The paper goes on to detail the nature of the settlement in both Finance Commissions. Finally, on the basis of documentary evidence and interviews, the paper explores the politics underlying the reaching of the settlement.

Keywords: policy, Finance Commission, fiscal federalism, India

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Contesting Dimensions of “Legality”: Occupation of the Commons in India and Brazil

The right to land, though not legally recognized as a human right in international law while increasingly gaining legal acceptance, has also been recognized as a corollary to the human rights to food, adequate housing, work and health. For natural resource dependent populations across the world, especially those who depend on land for their lives and livelihoods, land is not just a productive resource but the basis for their existence and is crucial to fulfilling the human right to an adequate standard of living and to a life with dignity. Land ownership is also directly correlated to poverty alleviation. The growing trends of land-grabbing, land alienation, inequality in land ownership and deprivation and denial of the right to land across the world are not just pushing thousands further into poverty but also fueling conflict. Without land people lose not just their livelihoods but their culture, lifestyle, identity, source of food, housing and access to natural resources essential for their survival. Despite the dismal global trends, there are pockets of hope and people are organizing and developing alternatives and strategies to retain their land. This paper aims to look at two social movements in India and Brazil that have used collective action to reclaim land that is not meeting its “social function”. Aimed at dismantling inequality, these movements use non-violent strategies to bring unused land under the ambit of ownership rights for the landless. While the models range from arrangements of collective to individual rights, the legality of such struggles is often
questioned and met with resistance from the state. The paper will analyse existing laws in both countries to assess the legality of such struggles, while also exploring legal plurality and questioning the limitations of certain established laws.

*Keywords: land ownership, social movements*

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**Towards a Vocabulary of Commons**

The normative base of the ‘language commons’ is language. Language not only expresses what we think, but also how we can think. The reduction of concepts into law, means that linguistic deficiencies restrict even action—a serious lacunae indeed, which impedes progress on protection, use and benefits of the physical commons. ‘Commons’ becomes ‘public property’ and then ‘government property’ giving rise to the concept of ‘terra nullius’—disposable to the favourites by the government in power.

This paper will explore the intimate linkage between language and the commons—how ‘the commons’ have been translated from practice to restrictive usage and how language can be used as a liberative tool in claiming the commons.

The term ‘commons’ seem to imply that all have unrestricted access at all times, the reality is that the ‘commons’ were—and are—rigorously defined in access, benefits and control. Significant sections of society are kept out on the basis of caste, gender or age. Increasingly ‘commons’ are used by the dominant to claim the right to what are essentially the ‘commons of the poor’ for resource extraction and waste disposal.

The rich and the powerful have always had their ‘private’ resource base. It is only the poor that had to have their spaces ‘in common’ to ensure the minimum physical space, just enough for survival.

The idea that ‘commons need commons’ needs to be extended to cover not only the ‘new commons’ but also the old—legal, intellectual, cultural, social and religious. The land commons needs the air and water commons to survive. Just as the physical commons need the supportive knowledge commons to survive, the knowledge commons—needs other types of commons to support it, from culture (religion, tradition) and law (intellectual property rights, IPR).

*Keywords: linguistics, law, information, culture*

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**Resource-Based Inter-Group Conflict, the Role of Pastoral Youths and Small Arms Proliferation in Nomadic Areas of Ethiopia: The Case of the Karrayu and Their Neighbors in the Upper Awash Valley Region**

Due to intensifying competition over dwindling life-sustaining environmental resources, various nomadic pastoral groups inhabiting the Awash flood plain frequently clash with one another, as they seek out the best grazing lands and water points. The need to have unhindered access to the commons for their livestock leads them to fierce competitions and territorial encroachments. Often, such incidents trigger off outright clashes among the groups involved.
Of course, conflicts of the stated nature and types are not recent developments in the history of the pastoral and agro-pastoral groups in the area under consideration. However, they have taken on various facets and dimensions over the years, which aspects of the conflict this study is intended to investigate. Furthermore, the recurrence and intensification of the diverse forms of conflict have given rise to the proliferation of illicit small arms in the area, a development which has in turn exacerbated the inter-group violence and hostilities. The amount of information available on the role of pastoral youths as prime actors in the conflict drama is found to be generally inadequate. Due to the absence of any relevant studies, one cannot therefore say much with any degree of certainty in reference to these issues. Hence, this research aims to make some contribution by way of filling up the existing information gap on the subject of the interface between the resource-based inter-group conflicts, the role of pastoral youths and small arms proliferation in the Upper Awash Valley region.

With a view to situating the research problem in a pastoral context where all major dimensions of the issue are evident, the study has focused on the Karrayu, a major nomadic group in the region. The selection of this nomadic group is pertinent in the light of the subject of investigation and the group’s interaction with its immediate neighbors.

Keywords: pastoral commons, land alienation, inter-group conflict

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An Alternative Model for Governance of Gairan (Grazing Land) in Maharashtra: A Case Study

An attempt is made, in this paper to highlight the lack of legal attention in addressing governance of Commons in India. Management of gairan (=grazing land), in Pune District, is identified for case study, to amplify the point. The study is a combination of empirical and doctrinal research. Comparison with the experiences in different legal systems and evolution of international legal norms on the theme are attempted to draw lessons from and to make a case for reforms in the Law in India. Co-management is the proposed model for governance of grazing lands and a draft legislative bill is attempted as a culmination and logical conclusion of the study.

The paper has a logical feel and flow. It is compact and quite a focused study. A welcome research effort that has produced a draft legislation as well-truly a blue print for legislative drafter. Presents an excellent micro-management model for a comprehensive legal design for commons, on a wider canvas.

Keywords: grazing lands, governance, co-management, Maharashtra

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Inequality and Forest Dependence on Community Forest Resources in Kaski, Nepal

This paper examines the importance of community forest income, how such income affects the overall income distribution, and how the amounts of community forest income varies based upon the characteristics of the user households. Analyses are based on a household survey of 176 respondents in five selected forest user groups in Kaski District, Nepal. Overall, community forest income contributed an average of 7.4% of the total household income, which covers 56% of the total forest income of the user households. The main sources of community forest income were fuelwood, fodder, ground grass and leaf litter. The poor households derived as much as
13.6% of their total household income from community forests, compared to only 2.1% for the rich households. The community forest income had a strong equalizing effect on local income distribution, as shown by a Gini-coefficient at 0.38 for total income, against 0.53 when community forest income was excluded. The study documents the high importance of community forests for poor and underprivileged households, which underscores the importance of securing access to community forests for these households.

*Keywords: community forests, dependence, household, income inequality, Nepal*

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**Vehicle Emission Simulation Model for a Sustainable ‘Greener’ Transport System**

This paper attempts to report the preliminary concepts and findings from the initial phase of the research project ‘Sustainable Traffic Solutions on the basis of Vehicle Emission Simulation Models for Hyderabad’. The objective of this research project is to create a Vehicle emission simulation model for assessment of the pollutant quantities for pollution related issues such as air quality, health, global warming and to evaluate it with different strategies (e.g. efficient signal coordination at the traffic signal of the intersections, effective land use and traffic planning regulations, that improve the air quality in urban areas) for a sustainable transport system. Though the technical approaches and strategies are necessary for the Hyderabad Traffic Problem, they are not sufficient as a stand-alone solution. Hence, these approaches and strategies have to be supplemented by an Institutional Analysis through Institutions of Sustainability (IOS) framework (Gatzweiler, F.; Hagedorn, K. (2002)). This framework starts with the identification of the properties of existing transactions of vehicle emission in the area of pollution at regional (Hyderabad) level by defining and identifying the concerned actors that influence the vehicle emission based upon vehicles technology and its operational variables like average speed and driving modes, fuel type, engine type, engine capacity, vehicle age, vehicle mix and socio-economic factors like population, income employment, car-ownership. The data from these actors would then be used for creation of a Transport simulation model. This simulation model along with its emission attributes would further act as an input to the development and implementation of Vehicle emission model. This created model then helps to understand, assess and analyze the emission rates from various actors to determine their pollution contributions, together with the existing Institution, their policies and governance. This analysis would be useful in contributing to the formulation or modification of the existing institutional, their rules and policies for implementing emission reduction strategies. The basic importance of analyzing and developing this model based on the IOS framework is to make it dynamic to the changes and hence to provide a truly sustainable ‘Greener’ transport solution.

*Keywords: institutions, governance*

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**Contested Power and Apartheid Tribal Boundaries: Recent Laws and Struggles Over Land Rights**

The paper examines conflicting interpretations of the content of land rights and the scope of chiefly power over land in affidavits by rural litigants and traditional leaders in a court challenge to the constitutionality of the 2003 Communal Land Rights Act in South Africa. Statements by traditional leaders (who support the new laws) and rural applicants (who oppose them) are described in the context of the contestations over authority that gave rise to the legal case. Disputes over control of land are central to these contestations. The applicants argue that the new laws will tilt the balance of power in rural areas in favour of apartheid-created traditional leaders and...
jeopardise recent hard-fought victories by poor people in obtaining land rights and challenging autocratic power.

The paper argues that chiefs lobbied for the new laws precisely because ongoing contestation in rural areas illustrates the precariousness of their authority. The new laws are similar to their colonial and apartheid predecessors in setting apart protected realms of sovereign authority for traditional councils within ethnically delineated tribal boundaries. Contestation over these boundaries, of both identity and space, is central to the litigation described. Also contested is the centralization of land administration powers to the apex of imposed “tribes”. The applicants argue that layered decision-making forums are an intrinsic feature of existing land rights and that most land administration decisions are, in practice, taken at “lower”, more consultative, levels.

Similar issues arose during apartheid and colonialism. In focusing on the impact of fixed boundaries on layered systems of authority and indigenous accountability mechanisms, the paper will review historical literature about the impact of European concepts of territorial sovereignty during colonialism. It will also discuss the impact of the requirement that both the identity of the owner and the boundaries of land be delineated when registering ownership under South African law.

**Keywords:** land, power, institutions, law

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**Intersecting Productivity and Poverty: Lessons from the Ganga Basin**

In the Ganga basin in North India, water shortages are a common issue faced by farmers, even in irrigated areas. Most households in the region rely on farming systems combining crop cultivation and livestock activities. Access to and control over water supply is thus critical not only for agricultural productivity and food security but also for the production of sufficient and high quality feed for animals. Because the water requirements of animals have often been neglected or largely underestimated, scientists have recently explored the scope for increasing the water use efficiency of livestock through improved feed, animal and water management. However, there has been little research on the institutional framework required for these interventions to result not only in enhanced productivity but also in poverty alleviation and reduced inequalities. This paper addresses this gap by investigating the multi-scale and multi-sectoral institutional challenges linked with livestock water productivity interventions in North India. Three major issues are discussed: equitable access and control over water, democratic decentralisation for locally-grounded interventions, and a coordinated and integrated frame for government action. Based on observations and findings from nine case study villages across three districts of the Ganga Basin, a series of recommendations are proposed for policy-makers at district and national level.

**Keywords:** livestock water productivity; access, decentralization, cross-sectoral, Ganga Basin

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**Tenure Security and Oil Palm expansion on Customary Lands in Indonesia, Case Study in West Kalimantan**

This paper presents the results of a masters thesis in Kapuas Hulu district, West Kalimantan, Indonesia. While forests here are legally owned by the central state, their operational management is vested in different state actors, including the forest department, the department of conservation and the department of agriculture. Forest
resource access and management is also subject to the customary rules and norms of Dayak and Malay ethnic
groups. Using Schlager and Ostrom (1992) bundle of rights approach, the study explores the range of rights to
forest resources held by local resource users, the evolution of these rights and the authority systems underpinning
them. It pays particular attention to factors influencing rule enforcement, compliance and overall tenure security
in a setting characterized by multiple and overlapping authorizing agents. Possible mechanisms for coordination
and conflict resolution are proposed. The study contributes to a better understanding of the factors affecting
property rights of forest-dwelling and forest adjacent communities against a backdrop of rapid transformation
related to migration, deforestation, biofuels expansion and other related pressures.

Keywords: Natural Resource Management, right security, land tenure, forest, West Kalimantan

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Implementing a Traditional Knowledge Commons: A Community Approach to Ensuring the Local
Integrity of Environmental Law and Policy

Under the Convention on Biological Diversity, international negotiators are currently developing an International
Regime on Access and Benefit Sharing (IRABS). While this inchoate international legal framework primarily
addresses commercial research on traditional knowledge, many questions remain about how this framework will
affect non-commercial research agreements. This paper therefore presents a possible model for a Traditional
Knowledge Commons designed to address some of these questions, such as how one differentiates non-commercial
from commercial use of TK and how one defines benefits. The proposed model is formulated to provide a middle
ground where traditional knowledge can be promoted and circulated without having to place it either into the
public domain or deny access to it entirely. This Traditional Knowledge Commons would provide a platform for
knowledge-sharing under conditions created by indigenous communities themselves and protected by a set of
online user licenses requiring compliance with customary laws that govern the use of traditional knowledge. In
addition to outlining how the model would be structured and how its online licensing system would function,
this paper will examine the potential benefits of the model functioning as a system through which innovations
developed through the use of traditional knowledge could be returned to the Traditional Knowledge Commons,
进一步 expanding this collective pool of knowledge and increasing the potential benefits that may be derived
from it. Although the model would ultimately need to rely on the compliance mechanisms provided by the
finalized IRABS, this paper also assesses the potential enforcement problems with which the Traditional Knowledge
Commons may have to contend. Finally, it concludes with an analysis of the model’s potential for strengthening
the self-determination of indigenous communities as well as the protection of biological diversity to which their
traditional knowledge is inextricably linked.

Keywords: traditional knowledge, access and benefit sharing, convention on biological diversity, open source,
protected commons
Mitigating the Tragedy of the Anti-Commons: Institutions and Resource Access after Rangeland Privatization in Kenya’s Maasailand

Property arrangements in the Maasai rangelands of Kenya have over the past four decades undergone a major transformation from collective group ranches to individual holdings. More recently, new pasture access and management arrangements involving the reunification of individually-owned parcels is emerging, despite theoretical predictions that high (and monotonically increasing) transactions and strategic costs of coordinating fragmented resource users can impede such cooperation. This paper establishes why Maasai herders seek to reconsolidate their individually held and titled land parcels; the institutional content of these emerging arrangements; and their impacts on local livelihoods and ecologies. Focus groups and household surveys across 8 group ranches subdivided in the early 80s and early 90s provide data that suggest that parcel reconsolidation is mostly a collective response to environmental risk, and that newly-crafted rules and pre-existing norms coordinate joint use and management of individual land. Seasonal migration under conditions of severe drought is a widespread strategy for coping with risk. Shared pastures are perceived to be in better ecological condition (i.e. with higher cover of desired, perennial grass species) than those restricted to individual use, which have a higher cover of less-favored, annual grass species. Incomes are however higher among herders who pursue mixed strategies i.e. reconsolidate pastures but also who lease-in pastures in an emerging marketization process. The Livestock Department and other external agencies are well-positioned to provide information, resources and overall support to strengthen these adaptive responses.

Keywords: property rights, privatization, institutions, rangelands, Maasai, Kenya, group ranches

Property Rights, Adaptive Capacity, and Adaptation Strategies in Response to Forest Disturbance: Household Evidence from Bolivia, Kenya, Mexico, and Uganda

I analyze property rights of forest users and assess how such rights interact with adaptive capacity to constrain or enhance the propensity of users to engage in specific adaptation strategies in response to disturbance. Property rights are assessed in terms of rights of access, withdrawal, management, exclusion, and alienation. Capacity is measured in terms of household asset holdings, networks of cooperation, the presences of rival user groups, and access to information. The theoretical position is that those with different types of property rights are likely to harvest less from the forest only when specific types of adaptive capacity favor such a response. For example, forest users who have management rights and are isolated from rival groups are likely to harvest less after a disturbance, but users with management rights, and no exclusion rights, are not likely to do so. Rights of alienation, often seen as the ‘emph{sin qua non} of property rights, are expected to have negative effects on environmentally sustainable adaptation strategies. The theory is then tested using household survey data which was collected as part of a joint research effort between the International Forestry Resources and Institutions Program (IFRI) and the Sustainable Agriculture and Natural Resource Management Collaborative Research Support Program (SANREM). The surveys were administered to households in research sites located in Bolivia, Kenya, Mexico, and Uganda. I find empirical support for many, although, not all of the propositions about the interactions between property rights and adaptive capacity.

Keywords: property rights, adaptation, forestry, Bolivia, Kenya, Mexico, Uganda
Governance of the Cultural Commons: The Case of Traditional Craftsmanship in France

This research focuses on traditional craftsmanship, Cultural Commons recognised by the UNESCO Convention of 2003 as being part of Intangible Cultural Heritage. The paper will develop three main questions. Firstly, how can traditional craftsmanship be defined? Secondly, what are the main forms of protection and governance of traditional craftsmanship in the framework of French cultural policy? Finally, what new kind of institutional and administrative innovations can be considered to manage traditional craftsmanship?

The methodology adopted is based both on literature survey and field work. About 40 interviews to artisans and 20 interviews to policy makers and organizations have been realized in the past two years.

The definition of traditional craftsmanship will take into account the following elements:
- the tangible and intangible components: the territory and its specific features, natural and material resources, tools and machines as well as the intangible factors rooted in the territory, like the community social and cultural capital, historic events and traditions;
- the Commons and private dimension: it considers how common resources collectively owned, like community social and cultural capital, knowledge and natural resources, interact with the private property of the craftsman.

Those elements are all fundamental to investigate the relations among craftsmen, community, and territory.

Given the definition of traditional craftsmanship, the second step will be to describe the existing French cultural policy and its strengths and weaknesses.

Finally, considering the main changes of today’s global economy, and the new issues of the UNESCO Convention of 2003, we wonder how a cultural policy based on a Commons approach could be defined. Presenting some specific cases of study like the Aubusson tapestry and the Nancy glassmaking, we will discuss what kind of policy intervention based on community participation could facilitate the evolution and the safeguard of craftsmanship, as Cultural Common.

Keywords: craftsmanship, intangible cultural heritage, UNESCO Convention, cultural policy, cultural commons

System dynamics modeling in Rajasthan: Student Perspective

In December 2009, an international group of social scientists, forest ecology experts, energy engineers, and system dynamics modelers gathered on the outskirts of the Kumbhalgarh Wildlife Sanctuary to scrutinize localized, progressive deforestation and the linkages to livelihoods of populations that depend on forest products extracted from within the federal delineations. This study, conducted for the purpose of designing sustainable conservation policy, utilized participatory rural appraisal methods and expert testament to tap into local knowledge and account for discrete behavioral aspects. A heavy reliance on community participation as well as group model building afforded the construction of a system dynamics model that helps to quantify and map the economic decisions of village households located within and around the sanctuary and the resulting ecological impacts on the sanctuary. The resulting research model can be utilized to further study the depletion of this natural resource due to human activity, and after subsequent model analysis and field testing, to suggest potential strategic points of intervention and conservation policy. This paper identifies what worked, what didn’t, and how to improve future efforts from the student perspective.

Keywords: system dynamics, livelihoods
The ‘Trust Factor’ in the Management of Forest Resources in Rural Communities in Central Mexico.

In this paper, we reflect upon trust as a key factor in the interaction between various actors involved in the management of forest resources in two rural communities (ejidos) situated on the edge of the Iztaccíhuatl – Popocatépetl national park in mountainous the central region of Mexico. In so doing, we highlight the importance of social capital in the management of common property resources.

From studies and work experience carrying out a land-use planning exercise in two rural forest communities, we discuss the importance of the trust factor in the relationship between the actors involved in decision-making over the management of natural resources from a long-term perspective. The degree of trust between the forest engineer (the assigned forestry expert, responsible for the community forest management plan, derived from national forestry laws), the technical-academic team of the Universidad Autónoma Chapingo (conducted studies for territorial planning) and community foresters conditioned stakeholder decision-making. This must be understood in the context of a regional process of land-use planning, carried out by the national environmental authorities. We also observed that the level of trust between the community members and forest owners themselves enables or limits the development of more complex forest management techniques and their transformation into forest products.

From the analysis of these processes this paper explores the importance of trust factor as well as the conditions that might permit the creation of a community land-use plan to agree, in order to preserve the forest as a commons that benefits all.

Keywords: land-use planning, ejido, social capital, territorial appropriation, Puebla (Mexico)

The Politics of Scale: Nested Land Rights and Flexible Boundaries in Msinga District, South Africa

This paper describes land tenure in the Msinga district of KwaZulu-Natal, South Africa and explores issues of scale, boundaries and nestedness in ‘communal tenure’ regimes. Key features of the tenure regime include flexible (internal and external) boundaries between user groups, and multiple and nested layers of social identity, land rights and land administration. The district has a history of violent conflict over tribal territory and land resources, and recent national policies and legislation aimed at transferring private title to these ‘communities’ has the potential to spark yet more conflict. The transfer of title approach embodied in the Communal Land Rights Act of 2004 would involve the imposition of fixed rather than flexible boundaries between resource user groups, centralize land administration in traditional councils at the expense of local land users, and undermine mechanisms for the downward accountability of institutions to rights holders. Additional complexities arise as a result of land reform in the district, which has seen the transfer of ownership of farms to groups of former labour tenants. These groups retained their ‘tribal’ affiliations over decades of labour tenancy, but are anxious that they should not lose effective control of resources on the transferred farms through the centralization of land administration. The paper argues that cross-scale relationships in land tenure and resource use are inherently political, and that accountability of institutions to rights holders is a key issue for law and policy.

Keywords: institutions, governance, community, customary law
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Violence and the Commons: An Epistemology of Rights, Access and Exclusion

Access to the commons is often contested on the basis of formal rules, informal norms, and violence. However, violence occupies an ambiguous place in the literature on common property, collective action and the commons. Although struggles over access and entitlement certainly feature strongly, the normative-theoretical terms on which threats and acts of violence may be used to define and defend the commons are often undertheorized, and unclear. Under what conditions, for instance, does the defence of common property justify the use of violence and intimidation? Are there particular circumstances or particular types of commons that legitimate violent action? This paper explores these questions by outlining a framework for understanding the normative-theoretical relationship between violence and the commons. It does so by theorizing the ethical and political terms on which violence may be used to legitimate rights of access and exclusion in a variety of common property regimes.

Keywords: institutions, governance, conflict, property rights

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Implementing Institutional Innovations for Decentralized Pasture Governance in Kyrgyzstan

The paper explores the introduction of institutional innovations for decentralized pasture governance in post-socialist Central Asia. The study case is the implementation of a new pasture law in Kyrgyzstan which shifts management authority for all 9.2 million hectares of pastures to community based Pasture User Committees. The paper studies how the reform legislation is translated into collective choice working rules that are being used for creating these community-based groups.

The case study consists of a legal analysis and empirical material which was collected in autumn 2009 in three municipalities in northern Kyrgyzstan. The analysis showed that two overlapping processes of Pasture User Committee establishment occurred during 2009. First, local level administrators had crafted rules based on their interpretation of the new pasture law, and second, rules were being established by a government-mandated implementing agency. The emerging working rules are only partly impacted by hierarchically organized nested decision making arenas. Instead, decision making arenas seem loosely linked and sometimes fully in parallel. Further, it occurred that field staff of the implementing agency had employed their own heuristics by setting the rules which appear most applicable. The paper therefore suggests a modified framework for studying the translation of formal into effective working rules. It uses Kiser and Ostroms’ linking levels of analysis framework by extending it with assumptions from implementation research.

Keywords: pasture, self-governance, Kyrgyzstan, case study

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Commons Diversity in Bolivia’s Forest Tenure Reform: Lessons Learned and Continued Challenges for Forest Dependent People

Forest commons appear in different forms and under diverse institutional arrangements in Bolivia’s eastern lowlands. Such commons have a long history in the customary systems of indigenous people, peasants and traditionally forest dependent rural populations. Attempts to formalize such property rights over recent decades
have responded to claims based on ethnicity, livelihoods systems as well as bureaucratic expediency. The resulting property models have include indigenous territories known as TCOs, communal lands for agro-extractive communities, communal areas within colonist settlements, and collective concessions for local logging associations. The reform processes have produced a diverse mix of property characteristics, heterogeneous collections of rights holders and a geographical spread across various forest types in the lowlands that provide an ideal opportunity to examine how property rights formalization can affect forest commons and the people that use them. The factors that influence the viability of the properties created by these reforms include how closely the new rights reflect existing livelihood systems, whether the scale and form of properties can be managed by existing institutional arrangements and whether state agencies effectively defend the legitimacy of newly defined property rights. By examining these experiences, the paper identifies lessons learned that could be useful for supporting the well being of forest dependent people.

Keywords: Bolivia, forest management, tenure reform, indigenous people

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Regulation of Drinking Water Supply in Rural Areas in India - From ‘Provision’ of Water by the State to ‘Access’ through Decentralised Governance

Drinking water supply in rural areas in India has gone through a series of policy reforms over the past fifteen years, starting with the World Bank Swajal project, followed by the adoption of the Swajaldhara Guidelines, 2002 based on the latter project and a 2009 reform, the National Rural Drinking Water Programme.

The reforms introduced have comprehensively redefined the policy framework for drinking water supply in rural areas by moving away from supply-led to demand-led management, by changing the basic understanding of water from a social right to an economic good and by seeking to ensure the disengagement of the government in favour of local communities.

Ongoing reforms have a number of major implications. This includes, for instance, their impact on the realisation of the human right to water. In principle, the human right is not challenged. Yet, recent decisions to move away from a per capita understanding of its fulfilment in favour of the household-based notion of drinking water security has the potential to dilute the content of the right.

This paper examines ongoing policy reforms of drinking water supply in rural areas in the context of the broader water law reforms that have been implemented in various Indian states over the past decade. The legal framework governing drinking water is paramount importance because it conditions the realisation of the human right to water firmly established in the Supreme Court’s case law. The absence of a framework drinking water legislation is all the more surprising in the context of the informal, and progressively formal, avenues towards water privatisation.

Keywords: drinking water, water law, India, water sector reforms, decentralization
Addressing the “Tragedy of Commons” through “Social Capital”: Experiment and Experience from India

In this paper we intend to share our experiments and experiences of addressing the tragedy of commons (Hardin 1968) through creation of social capital. We examine whether the presence of social capital helps in improving the productivity of a group of micro and mini enterprises. The empirical observations have enabled us to demonstrate that trust, reciprocity, networks, and civic engagements which are different facets of social capital (Elinor 2007) can help in improving the performance of the individual members of the street vending community and in the process avoid the tragedy of commons.

The experiment is located in the State Capital of Orissa, one of the economically backward states of India. The focus of our experiment is on three important parties: the vendors, the municipal corporation, and the state government. These vendors own un-organized mini enterprises and come from economically weaker sections of the society. Most of these vendors are also the first or second generation migrants to the urban areas of the state. Most of them stay in one of the largest slums of the state capital. We have used the action research methodology to undertake the experiment. Interactions on day-to-day basis, and participation in the regular meetings of the vendors are the important tools for the researcher.

Keywords: social capital, governance

Community Effort to Environment Protection and Poverty Reduction in a Backward Area in Orissa

Long before the Government’s realization of the people’s positive role in the local natural resource management (and the declaration of National Forest Policy, 1988), people in Nabra village (in the Kaptipada Subdivision of Mayurbhanj District of Orissa) under the effective leadership of Mr. Narottam Das, a local school teacher have started protecting a part (104 hectare of forest land) of the denuded local sal forest (Nabra Reserve Forest). Forming a local voluntary organization, Banasathy in 1985, it mobilized the people for plantation and protection of the trees. After enactment of Orissa JFM Act, this community protection group was converted into a VSS and is performing its role with the support of the Forest Department.

Situated in the foothill of Simlipal National Park, with a high percentage of ST and SC population, characterized by low educational and economic status, this area provides a unique example of conservation and management of natural resources. Conservation work provides employment opportunities. It also improves the forest quality and provides sustainable livelihood opportunities from the collection, processing and marketing of important non-timber forest products like sal seeds and sal leaves. A family engaged in the sal leaves collection gets on average Rs 1000 per month. From that point of view its role in poverty reduction must be recognized. The
villagers guard the forest on rotation and take different steps to prevent tree felling and forest encroachment.

This paper studies the process of organization of the group, supple and demand management of forest products by the people, using the new institutional economics framework. It also explains how it has devised new institutions to handle the new problems.

*Keywords: community forest management, empirical work, new-institutional economics, Nabra Reserve Forest, Mayurbhanj, Orissa*

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**Sustaining Mangrove Forests to Reduce Vulnerability from Climate Change**

Mangrove forests provide a range of welfare enhancing services to humans, but they also provide life support during calamities like tropical storms by reducing the probability of death. The coastal regions of India face a maximum threat from tropical cyclones due to climate change as these areas are situated at the coast of one of the core areas of cyclogenesis, namely, the Bay of Bengal. Studies on vulnerability indexing of these areas to cyclone and storm surge risks have identified Kendrapada district of East Coast of India to be either the most or the second most vulnerable district of the country. We study the 262 villages lying within a 10 km distance from the coast of the Kendrapada district and compare the relative vulnerability of these villages by estimating the village wise probability of facing human fatality due to severe storms. We calculate such probability from a cyclone impact (human deaths) function where a wide range of factors including natural ecosystems like presence of mangrove forest are used to control for the exposure and adaptive capacity of the villages. Presence or absence of mangroves comes out as an important factor impacting vulnerability. Villages established after clearing the forest in mangrove habitat areas and those with more marginal workers are found to face a very high death risk and villages situated in the leeward side of existing mangrove forest are seen to be facing a much lower risk of deaths. The results have important implications for conservation of mangrove forests in cyclone prone areas and also in the design of development policies for villages established in the mangrove habitat.

*Keywords: coastal vulnerability, human mortality, mangrove forests, mangrove habitat, Orissa*

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**Power, Institutions and Social Exclusion- Case Study of Nabarangpur, Orissa**

The literature on commons is replete with theories and instances of collective action and decentralized management of resources with an outcome that is environmentally, economically and socially geared towards common good. However, collective good is not always a desired outcome in managing common resources. The collective conundrum has another face as well where outcomes are mediated by individual and institutional preferences. This interplay between individual and collective interests/preferences and institutional mediation is contingent on various socio-economic and political factors, resource status and its historic use pattern.

This paper will capture various nuances of such interplay within a resource boundary and examine the collective good hypothesis. The context of the study is unique in terms of locating state-induced development impetus that triggered influx of migrant groups/communities within the resource boundary. The opening of the social matrix to these occasional interferences multiplied the power alignments resulting in manifest scarcity of resource. This scarcity and power interplay resulted in disenfranchising some groups/communities while many others prospered. Subsequently, policy processes further concentrated power in the hands of few.
Based in Nabarangpur district of Orissa, this paper will highlight the socio-political processes that resulted in disenfranchisement of the forest dwelling communities. The analysis will bring in a comparative assessment of the status of various groups/communities and explain how inequitable outcomes were mediated by institutional factors. In the concluding section, the paper will synthesize these debates in the larger context of collective management of commons to highlight situations where collective action and common good may not be an ideal outcome. The paper draws largely from the study on politics of policy making in the context of forestland encroachment that was undertaken as doctoral work by the author.

Keywords: social exclusion, power interplay, institutions, forest dwelling communities, Orissa

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Forest Rights Act; Changing the Paradigm of Conservation and Natural Resource Governance

The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act 2006, implemented by the Government of India since January 2008, has offered to resolve long pending issues of reform in the forest tenure and governance system to ensure livelihood security of forest communities and conservation of forest and biodiversity.

Early trends in implementation at the field level indicate that the law has made significant gains in terms of -
- Recognizing rights which cover the diversity of resource based livelihoods, community conservation initiatives, practices and indigenous traditional knowledge and culture.
- Establishing institutions of governance at the grassroots which are pro-poor and which provide opportunity to redefine conservation governance.
- Restoring community ownership over forest and wildlife.
- Empowering communities to deal with pressure and threats on the common property resources from resource extractive development in form of mining and industry, commercial plantation, biofuel, etc.
- Opening new avenues for natural resource development by creating opportunity of convergence with other laws and government programs like NREGA, watershed development.

Being a new law gaps are observed in the process of implementation particularly with regard to determination, verification and recognition of forest rights. The law also faces challenges from other laws and policies relating to forest and wildlife such as Wildlife Protection Act, Joint Forest Management (JFM) policy etc.

The paper draws from field research and case studies on the process of implementation of the Act in the state of Orissa particularly focusing on community conservation groups who have used the law to strengthen protection and management of forest and protected areas. While discussing the early gains brought in by the law in the field of common property resource management it also reflects on issues and gaps in implementation offering suggestions to bridge implementation gaps.

Keywords: forest, rights, livelihood, conservation, Orissa
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Looking Beyond (and Below) Institutions: The Role of Cultural Values in Sustaining Water Resources

While the economic and institutional dimensions of common property management are well recognized, comparatively little attention has been addressed to the underlying cultural values that influence (and in my view, determine) the rules and behaviors by which natural resources are managed. Using the example of the Santa Fe River in New Mexico, USA, the past 25 years of river governance experience are analyzed for clues about how management choices were made. Evidence is taken from historical documents and from the author's four years of direct involvement with a local NGO dedicated to river restoration. While economic considerations have been central features of river management decisions, the operative framework has been “folk economics” intricately intertwined with cultural values and ethics about the rightful use of the river, derived from 19th Century water laws, which in turn reflect the dominant cultural values of that era. Similarly, the institutional context of river management is predicated on the same legal/cultural framework. The practical outcome is an ecologically dead river, whose entire surface flow is impounded by for municipal water supply, earning it the designation as “America's Most Endangered River” in 2007. The Santa Fe River represents a much larger dilemma facing water management in the Western United States: the institutional framework promotes water extraction with effectively no protection for river ecosystems. Reforming governance to include more diverse stakeholders can help but will not solve the problem of resource depletion unless those stakeholders have both the power (governance) and the will (values) to protect the river. Sustainable water resources depend upon a recognition of the role that values are already playing in management decisions in order to target reforms not only on the institutions, but on the underlying values as well.

Keywords: culture, ethics, water, environment, values

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Consequences of ‘Conservation’: A Critical Look at Namibian Communal Conservancies

Each individual, organization and nation has a different idea of ‘conservation’. The concept is so intangible, despite its status as a moral ‘good’ and possibly even a perceived moral duty, now that climate change has become a household phrase. The intangibility of ‘conservation’ leaves much leeway through which the unequalizing vehicle of capitalism can maneuver. This paper will address relationships between the political, economic and social factors in the changes at play in the Kuene region of Northwestern Namibia, home to the indigenous Himba pastoral people and birthplace of the community conservation model. This post-structural political ecology approach in ‘new ecological thinking’ will focus on how the institutional nexus of power, wielded through wildlife conservation, restricts continuation of alternative livelihoods. Conservation, seen as inherently ‘good’ in the discourse of Development, holds disadvantageous consequences for traditional livelihoods, as is seen upon investigation of community-based conservancies in Namibia and their effect on the Himba people. This claim will be investigated through the case of the United States Agency for Development’s (USAID) award-winning Living in a Finite Environment (LIFE) community-based natural resource management (CBNRM) program in Northwestern Namibia. I will investigate the theory that nature reserves at large tend to be the ‘beginning of the end’ for pastoralist livelihoods, as applied to the Himba.

Keywords: Namibia, conservation, pastoralism
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The Challenge of Formalizing Informal Rules in the Amazonian Floodplain: Linking Local, Regional and National Politics

The call for co-management systems including state and non-state actors has been recently taken by many governments in developing countries. The recent literature analyzing those initiatives usually focuses on one of the three layers of politics. First, the everyday politics focuses on the informal social interactions among individuals and stakeholders shaping up the managed system. Second, the social movement politics focuses on collective actions among direct users and among stakeholders in participation in the decisions regarding the management system. Third, the formal politics including the legal framework under which the management system is built up. The integration of the three layers of politics is fundamental to understand how their interplay influences the design, implementation, and monitoring of co-management systems and how participation in decisions is negotiated and defined. In this paper I analyze the process of implementation of the floodplain co-management in the Lower Amazon through the creation of an agro-extractive reserve in the region. I aim to show how the integration of the three layers of politics helps to shed some lights on the tension between cooperation and conflict in the formalization of local management. Furthermore, the analysis will show how cooperation among local users, which is usually assumed by policy makers, can be constrained by internal conflicts as much as the disputes among different stakeholders can be minimized by common interests across heterogeneous actors. A discussion on opportunities and limitations in the formalization of informal rules will be presented, with focus on organizational capacity by local and national actors, and on how conflicting goals of social justice, conservation and economic development may influence the implementation and performance of those initiatives.

Keywords: co-management, governance, Amazon, fisheries, floodplain

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From common pastures to global commons. An historical perspective on interdisciplinary approaches to commons

Commons-research has over the past decennia gained considerable maturity, and the various disciplines that work on the subject have moved closer to each other. There is however still one essential and quite fundamental point of disagreement—although this is hardly ever made explicit—and that is about the use of the term “commons”—which is a term that has been used for literally centuries—for large-scale open access resources such as oceans, the air we are breathing etc., also referred to as “global commons”. Although it cannot be denied that the air, the seas etc. are in principle collective property to all creatures living on earth, these resources miss two characteristics that are typical for the historical commons, from which the initial use stems: institutionalisation and self-governance. In this article I try to explain the difference between historical commons and global commons and, in the second part, suggestions to overcome this problem and the methodological differences that still exist are suggested. This is done by redesigning the classic economics framework of subdividing goods according to their substractability and excludability. Overcoming these problems would improve the integration of the long-term historical approach into the analysis of present-day cases.

Keywords: history, institutions, long-term development
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**Participating is More Important than Winning. The Impact of Socio-Economic Change on Commoners’ Participation in 18th-19th-Century Flanders**

In literature on the use of common land, commoners are usually considered as a group. In this article the participation profile of commoners of a Flemish case-study is reconstructed in order to identify their individual motivation for using the common, in some cases becoming a manager of that common, and in some cases do no more than simply claim membership. Nominative linkage between the membership lists, book keeping and regulatory documents of the common on the one hand, and censuses and marriage acts on the other allow us to link the behaviour of the commoners to their the social-economic background. It becomes clear why some decision have been taken –e.g. to dissolve a nevertheless well-functioning cattle registration system – and how these affected the common the resource use of the common during the 18th and early 19th century. It explains how internal shifts in power balances amongst groups of active users and those who do not have the means or willingness to participate can jeopardize the internal cohesion of the commoners as a group.

*Keywords: institutions, grazing lands, long-term development of institutions*

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**Beyond Patents: Collective Intellectual Property Strategies for the Conservation and Sustainable use of communities’ livestock, crop and microbial/genetic common heritage.**

Globally distributed pools of genetic resources emerged as responses to collective action problems raised in the context of the challenge of global food security, global health issues and the biodiversity crisis more generally. Networking of local resources became feasible in a cost effective manner through several scientific and technological developments, among which the introduction of techniques for the handling and long term maintenance of genetic resources had a major impact. This paper addresses the role, the structure and the dynamics of the expanding universe of the global genetic resource commons in plant, animal and microbial genetic resources. Networking the existing local pools in global virtual networks raises a set of new collective action problems, in particular because of the open nature of the networks (instead of a fixed set of community members) and the possibility to contribute new entities to the global pool (instead of only withdrawing amongst existing renewable natural resource entities). The key interest here is on the way that new hybrid approaches to governance of the commons combine features from traditional natural resource commons and digital information commons and thereby allow a dramatic increase in the possibilities for pooling resources on the global level. The analysis is based on a set of in depth case studies conducted in 2009 and 2010 of major international collections of genetic resources in the plant, animal and microbial genetic resources respectively.

*Keywords: genetic resources, global governance, institutional analysis, knowledge commons, open source*

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**Community Sustainability and Resource Rights in North Sea Fishing Communities**

EU coastal communities have witnessed dramatic changes in the last several decades: the restructuring of European commercial fishing has expanded to the point that many small communities and ports are no long viable. These
are due in part through declining stocks, the implementation of stock recovery plans and expanded restructuring plans. Such management plans have been made in an attempt to improve the sustainability of commercial fishery stocks. In Europe, decision-making of fisheries resources are taken through the directive of Common Fisheries Policy (CFP). This policy does call for the sustainable exploitation of stocks. Yet, the CFP mandates not only an obligation to ensure the exploitation of living aquatic resources that provides sustainable environmental conditions, but also sustainable economic and social conditions, as well.

This paper present information on how individuals and communities around the North Sea have been affected by the limitations imposed by stock recovery plans and their subsequent difficulty of planning in an uncertain environment. This includes focusing on the social connectedness of individuals in fishing communities and a community-oriented perspective on resource rights and governance of fisheries in the North Sea. The resource rights system is closely tied to that of community sustainability and social equity. Consequently, key to discussion of social impacts includes investigating governance systems and rights to fisheries resources.

Keywords: fisheries, governance, communities

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Maintenance of One’s Culture and Its Consequences on the Management of Traditional Sea Resources

Torres Strait Islanders, one of two Indigenous groups in Australia, are well-known for their seafaring ability as well as their fishing and hunting skills. Today, more than three-quarter of Torres Strait Islanders are now living on the mainland of Australia away from Torres Strait. Although removed from their traditional lands, they have remained closely affiliated with their culture and kin relations in the Torres Strait while adjusting to a changing identity brought by the many influences of migration and a new way of life. A significant component of cultural ties is related to patterns of food consumption and taste. The Islanders believe traditional foods (including fish, dugong, and turtle) are necessary for their independence, ceremonies and celebrations wherever they are living. In a society striving to keep its culture strong and where family links and duties are paramount, how does one adequately fulfills family responsibilities and respect the desires of out-migrants to maintain cultural practices while keeping within the limits of the management boundaries defined by the inhabitants of their home community? This presentation will outline how the management of sea resources at the “local” level needs to account for the demand and desires of outside migrants or risk implementing incorrect management targets and tools.

Keywords: migration, culture, fisheries management, Torres Strait

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Weaving and Leading: A Gendered View of Community-Based Conservation in Namibia

The incentivized logic of community-based conservation focuses on reorienting local behavior away from hunting and towards the conservation of wildlife for tourists. Community-based conservation, however, is subject to growing criticisms that express concern that it is at best ineffective at bringing income to the local level, as far more people must live with wildlife than benefit from it. Focusing exclusively on wildlife tourism, however, is a gendered endeavour that limits understanding of the ways in which women participate in and relate to community-
based conservation. It also ignores the use of other resources such as non-timber forest products for crafts and medicinal purposes. This paper examines the role of women in community-based conservation and seeks to disaggregate the notion of benefits to demonstrate more fully the impacts of conservancies in Namibia. To this point, benefits are seen exclusively as the financial returns to the conservancy itself. The paper will dissect this notion, including these returns but also examining individual experiences with the conservancy, how women relate to its power structures, and additional opportunities that are created by the presence of the conservancy.

Interviews with approximately 100 women show that they have benefitted from the strategic use of even small amounts of income, but have also developed expertise in managing the craft markets, leadership and public speaking skills, as well as created crucial networking space through conservancy projects. Consequently, the paper develops a more inclusive, gendered notion of the social and political benefits of conservancies in addition to those that are economic.

**Keywords:** gender, community-based conservation, Namibia, tourism, governance

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**An Evaluation of Timber Plantation Development Targets and Implementation in Indonesia**

The paper aims to review the timber plantation development programs in Indonesia. Launched since mid 1980s, timber plantations in Indonesia have enjoyed the support of government policies and subsidized funding. The paper juxtaposes the targets set by the Ministry of Forestry and actual achievements in terms of timber plantations establishment and harvest, as well as social and environmental problems associated with timber plantation development. The paper based this analysis on the review of timber plantation policy documents, sectoral data, Supreme audit agency reports, and literature review on social and environmental impacts of timber plantation development in Indonesia. The paper shows that the Ministry is setting overly ambitious targets. In addition, limited coordination among government agencies and moral hazard problems by corporate actors also add to the failures of the plantation programs in Indonesia. The paper concludes with a set of policy options to improve these programs.

**Keywords:** timber plantations, forestry, smallholders, decentralization, degraded land, Indonesia

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**Does Devolution Lead to Sustainability? Evidence from Participatory Watershed Management In Southern India**

Policies of devolution have been widely adopted in both the developing and developed countries. These policies aim at creating sustainable livelihood opportunities for its members by better managing the resource and ensure sustainable collective action. Devolutionary process has taken place in watershed management in India. This paper aimed to address how the devolutionary policies ensure collective action in watershed management. The present paper studies 12 micro-watersheds in South India to understand how villagers cooperate to manage watershed related tasks. The paper examines the factors that affect collective participation in watershed management and how cooperation changes once the State withdraws and hands control over management to panchayat raj institutions and other groups. The study finds mixed evidence of collective efforts to manage watersheds. There is certainly cooperation among watershed beneficiaries during project implementation. The study finds that watershed institutions in most cases become inactive once the project period is over. An analysis of factors that
influence collective action indicates that cooperation emerges in areas where there is greater resource dependence and where there are homogeneous social groups involved. There is also a role for better information dissemination during the implementation phase. Many stakeholders were unaware of how their responsibilities change in the post-project period. Increasing awareness and providing clear information about rights and responsibilities will likely make for more empowered and involved stakeholders.

*Keywords: Watershed Management, collective action, user groups, transaction costs*

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**Treading an Uncommon Path**

The paper, at the outset seeks to explore the philosophical and jurisprudential bases for Commons by undertaking a study of the Forest Commons in India, through the prism of Constitutional and legislations, policies, judicial opinions and administrative practices. The study focusses on 3 Indian state and attempts to flesh out the adequacy or otherwise of the legal order in securing the forest commons. This is followed by an analysis of current law-making exercises (-like the TK Protection Bill) and proposed courses of action to mitigate climate change (-REDD) and their implications and impacts on the Forest Commons. The study rounds off with a few suggestions for structural and substantive legal reforms to strengthen the Forest Commons.

This is a well written and informative write up. However, the suggestions and conclusions suffer from weak logic. The ideas expressed as to REDD, in particular, require greater depth of research and reflection. This can be a good starting point and resource base for further research and debate on the subject.

*Keywords: forest commons, India, public policy*

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**Typological Approach for Groundwater Management: Protocols Development and Implementation.**

This paper reviews the development of groundwater management protocols in dryland region of Bagli Tehsil, Madhya Pradesh. Understanding and management of natural resources, especially groundwater, whether at a global, regional, or local scale, is clearly a complex issue and represents one of the most challenging environmental problems. The dominant patterns of production and consumption are causing environmental devastation with significant impact on depletion of resources. In the backward areas of India, such as in the tribal drylands of central India, a direction for groundwater management becomes imperative, with hard-lessons learnt from other natural resources like forests. It becomes necessary to distinguish between conservation, recharge, development and management of groundwater through a detailed study based on geohydrology. The need to link protection of natural vegetation, sustainable agriculture and secure livelihoods would require improved understanding of the water resources framework especially groundwater. The protocols highlight the importance of Geohydrological science in Watershed Programme, Recharge area protection (Forest cover & community lands), efficient regulation of groundwater abstraction for various uses, and Groundwater sharing through community participation. It aims to establish a practical framework for groundwater resources management, based as much on the understanding of geohydrological systems as on participatory processes and interactions with the community. The research
study is based on primary data generated through continuous monitoring of water levels, verified field level data of actual agricultural cropped lands, pump tests conducted for developing certain protocols and community mobilization for groundwater management. This strategic development of protocols is for protection and better management of groundwater resources, vegetation, agricultural systems and maintaining the ecological balance in rural settings.

Keywords: geohydrology, Groundwater Management, groundwater sharing, community participation, Recharge Area Protection

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Agro-Forestry Versus Barren Public Lands: Emerging New Commons on Open Access in Nepal’s Downsouth

The political ecology of Nepal’s Terai is characterized by natural lush forests in the north on and around Siwalik hills contrasting with the downsouth, where almost no public or common forests exist but dense human population. Since community forestry’s intervention, most of the state-owned forests in the hills including those on and around Siwaliks have been handed over to the groups of local people, mostly hill-migrants by policy default. Despite a number of successes, some of the unintended outcomes of community forests, particularly in the Terai include the reduced access of downsouth people to state forest resources and alienation of hill-migrants and earlier settlers over the use of direct forest benefits barring ecosystem services. As a result, the poorer sections of the community in the south face severe difficulty in meeting their livelihoods in absence of building material and household use energy. In response, the poor and socially excluded in the downsouth have developed strategy to create agro-forestry commons in the barren public lands, which were virtually open access and underutilized. The new intervention has several outcomes. Taking three Terai districts for the samples, these outcomes include increased natural and financial assets, emerging diversified agroforestry commons and increased environmental services. These new commons face a number of first and second generation issues as well. The first generation issues include the scale of the commons, conflict with the local elites, legitimization, choice of management models and equitable benefit sharing. Tenure security, positive environmental externalities and forest regeneration versus livelihoods of the poor are some prominent second generation issues. The paper concludes that policy formulation for the agroforestry commons, conversion of public land commons to community forests until their explicit policy, expansion to larger scale and recognition of environmental services are some points to be considered to address the issues.

Keywords: Nepal, Terai, community forestry, agro-forestry commons, social exclusion

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The Congregational Commons

Most studies of the commons have focused on economic rationality as the motivation for contributions. Yet religious organizations (churches, synagogues, temples) are also shared resources that have many of the same characteristics and challenges as other commons. But unlike other commons, they explicitly appeal to non-
economic motivations to mobilize resources, and do not follow many of the design principles for long enduring common property institutions. This paper develops an approach for investigating the religious commons, testing the applicability of the Institutional Analysis and Development (IAD) framework, and identifying other factors that influence contributions to the creation and maintenance of the religious commons. This approach is tested in a study of churches and synagogues in the Saint Louis area, based on key informant interviews and surveys with clergy and congregation members, using analysis of structures, rules and discourse. Findings from this study can broaden our understanding of the motivations for individuals to contribute to other forms of commons as well.

Keywords: churches, United States, motivations, contributions, stewardship

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Is Adaptation to Climate Change Gender Neutral? A Case Study from Northern Mali

The growing risk of vulnerability under climate change will first and foremost affect the poor, particularly women, as it tends to widen existing inequalities.

In the Lake Faguibine area in Northern Mali the social, political and ecological conditions have drastically changed in the past decades. In two communities we conducted six participatory workshops (PRA) single-gender to assess vulnerability and adaptive strategies for livestock and forest-based livelihoods to climate variability and change.

Our results show divergences in the adaptive strategies of men and women. Migration represented one of the most important strategies for men. Women perceived this strategy more as a cause of vulnerability than an adaptive strategy, as traditionally male activities have been added to the workload of women (e.g. small ruminant herding). The historical axes show that development projects targeting women have not integrated climate change and variability. Most activities were built around small-scale agriculture. With the drying up of Lake Faguibine, those water-dependent activities are no longer relevant. Women have developed their own adaptive strategies based on newly emerged forest resources in the former lake area (e.g. charcoal production). However, loss of manpower in the household, unclear access to natural resources, lack of knowledge, financial resources, and power as well as limited market opportunities for women hinder them from realizing the potential of these new activities.

Even though women’s vulnerability is increasing in the short term, over the long term the emerging changes in women’s roles could lead to positive impacts, both societal (division of labor and power, new social spaces), and economic (market access, livestock wealth).

Locally specific gender-sensitive analysis of vulnerability is needed to understand dynamics and interaction of divergent adaptive strategies. Societal and political change at broader scales and beyond rhetoric’s is needed to realize potential benefits for women in the long term.

Keywords: Mali, gender, vulnerability, climate change adaptation, forests
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Correcting Historical Wrongs? Using the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights), Act, 2006. (FRA, 2006) - Experiences of Adivasi Communities in Andhra Pradesh

The Adivasi movements across India, have been struggling for decades for recognition and confirmation of their historical rights in forests. The Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 (FRA, 2006) was eagerly welcomed as a victory and a significant step forward in the larger struggle of Adivasi communities, seeking command and control over resources. It was viewed as a space for correction of historical wrongs, a confirmation of the right to a way of life and livelihood, acknowledgement of peoples knowledge and capacities to nurture the forest and ecosystem, and a reaffirmation that it is the seamlessness of both individual and community rights that forms the basis of the diverse ways in which forest communities, through decentralised governance, weave their livelihoods and lives. However the experience of actually utilizing the Act to confirm individual and community rights, has been an uphill task, and a struggle every step of the way. In this panel, the Adivasi Aikya Vedika and Yakshi, will present their experiences of using the Act to confirm the rights of Adivasis across AP.

Keywords: Adivasis, Forest Right Act, community rights, decentralized governance

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African Customary Land Rights in a Private Ownership Paradigm: Can the Commons Help Secure Tenure

It is often fallaciously believed that indigenous law confers no property in land. Okoth-Ogenda reconceptualised indigenous land rights by debunking the myth that indigenous land rights systems are necessarily "communal" in nature, that "ownership" is collective and that the community as an entity makes collective decisions about the access and land.1 He offers a different understanding of indigenous land right systems by looking at the social order of communities that creates "reciprocal rights and obligations that this binds together, and vests power in the community members over land".

To determine who will be granted access to, or exercise control over, land and the resources, one needs to look at these rights and obligations and the performances that arise from them. This will leave only two distinct questions: who may have access to the land (and what type of access) and who may control and manage the land resources, on behalf of those who have access to it? There is a link with this reconceptualisation and the discourse of the commons.

Ostrom’s classification goods leads to a definition of the commons (or common pool resources), as “a class of resources for which exclusion is difficult and joint use involves subtractability”.4 The question this paper wish to answer is: would it be 1) possible to classify the indigenous land rights system as a commons and 2) would it provide a useful analytical framework in which to solve the problem of securing land tenure in South Africa?

The preliminary answer is that it can be argued that African indigenous land right systems are a type of common pool resource (or commons), in that 1) it is difficult to devise rules to exclude, especially when you operate in an “ownership paradigm” and 2) that the use of the land by one person does subtract from the land.
1 Okoth-Ogendo “The nature of land rights” in Land, Power & Custom 100.


Keywords: land rights, African indigenous law, South Africa

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Learning from First Generation REDD Projects in Brazil and Bolivia

Reduced carbon emissions through avoided deforestation and forest degradation (REDD) has been proposed as a highly cost-effective way to mitigate climate change in developing countries. REDD is also seen as a way to bolster livelihoods of local communities and promote social and environmental co-benefits. As has sometimes happened in the past with community conservation initiatives, however, project proponents may neglect social concerns in the interest of technical goals. At the same time, many REDD initiatives are being implemented in communal forest properties where territorial governance institutions are nascent and weak, and in certain cases overly hierarchical and bureaucratic, which complicates engagement with local land managers. We studied six REDD projects in Brazil and Bolivia in their initial project preparation stages, through interviews with project proponents and implementers and through village and household-level surveys from March to July 2010. In this paper, we focus on two questions. First, how do these projects address land and carbon tenure issues, resource conflicts, and collective rights in their aim to achieve forest conservation? And second, to what extent do these efforts and other aspects of project design take into account concerns regarding participation and equity? That is, we examine whether local people give permission for REDD (e.g. Free Prior Informed Consent), how they participate in design and implementation, and if they are satisfied with the way the project has been initiated. Greater understanding of different implementation contexts and intervention approaches permits the analysis of potential outcomes for forest conservation and for community welfare at the local REDD scale.

Keywords: climate change, deforestation, forest degradation, livelihoods, equity

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Access to Digital Collections of Public Domain Works: An Analysis of Libraries and Museums

Contractual and Technical Restrictions to the Commons

Digital copies of physical books and art objects curated by libraries and museums are being made available to the public online. Their access and reuse conditions are submitted to terms of use and policies defined by the institutions financing the development of databases and the digitization of works, of which many are in the public domain. As no copyright applies to these works, their digital instantiation should in principle be freely accessible and reusable. However, in practice, some memory institutions databases technical environments and
Contractual terms of use impose restrictions (for instance, reserving the commercial use of the version they
digitalized or reserving the right to reuse photographs they funded), thus re-introducing physical barriers for
resources which are supposed to be in the commons.

The article analyzes a sample of online databases policies of libraries and museums public domain collections in
various countries, and evaluates how they differ or comply from full open access conditions. Then, best and
worst practices are provided for institutions wishing to avoid adding unnecessary restrictions to public domain
works and promote a good governance of the digital commons.

This article builds upon the author’s previous work on terms of use of life science databases and is based on the

Keywords: governance, libraries and museums, public domain works, terms of use, databases

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Multi-scale Governance and Indigenous/Community Conserved Areas in Mexico

Multi-scale governance has been proposed as key to achieving success in community-based conservation. However,
multi-scale governance is frequently a turbulent process, a reality that has been little documented. Mexico is well
known for its achievements in community forest management for timber production, but now community
conservation is emerging as a defined land use option. Mexico is a megabiodiversity country and a large part of
its diversity is harbored in common property forests where the owners are indigenous or other rural inhabitants.
In Mexico collective action around community forestry and conservation has enabled local people to influence
governance at other scales. Mexico adopted new legislation for recognizing what the IUCN calls indigenous/
community conserved areas (ICCA) in 2008. This allowed statistics on ICCAs to be included in percentages of
national territory that are protected. We present a case study of six communities in the Sierra Norte of the
southern state of Oaxaca who voluntarily declared nearly 80% of their territories as conserved areas certified by
the federal government. This process has emerged in a context of multiple governmental, non-governmental,
and international stakeholders. The recognition from the government also has brought new pressures for attempt
to expand the protection category as a biosphere reserve. Communities jealously guard their autonomy on their
territories, thus, the proposal from the government has created contestation over the control of the meaning and
the reality of protection at the community level. These struggles are now being played inside and outside of
communities, in the process of establishing the regulations for the official Mexican ICCAs. We analyze the
tensions and contradictions that move processes of multi-scale governance forward, and how community
governance of conservation interacts with national and regional government agencies and NGOs. It is argued
that the Mexico case holds important lessons for ICCAs in other world regions.

Keywords: common property, stakeholders in community conserved areas, indigenous communities, Oaxaca,
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Towards the Multi-Scale Governance of the ‘Commons’: A Case from the Kyrgyz Republic

The Kyrgyz Republic is a small mountainous country with a population over 6 mln. The majority of the rural population derives their livelihoods from pastoral economy not least because of favorable natural conditions for livestock herding in the country (86 % of all agricultural lands are used as mountainous pastures). With the passage of new Pasture Law (January 2009), the individualized rangeland use was abandoned and instead community-based rangeland management was introduced. The new law specifically devolved management functions over vast rangelands to local self-governments and communities that formed Pasture User Unions (PUU), provided for bulk of revenues from the pasture use to be collected locally and then re-invested into rangeland improvement, promote or revive traditional transhumance system and advance integrated pasture ecosystem management. The latter, however, presents challenge as in many PUU-managed rangeland ecosystems the lands on higher altitudes are managed under distinct use regime (lease-based) by the state forestry enterprises (leskhoz) and governed by separate legislation. These lands (state forestry lands) up to 26 % made up of forests, 34 % - pastures and 40 % - lands reserved for re-forestation. Given that local communities and PUUs now exert significant power over rangelands, they began assertively demanding forest lands not covered in forests for PUU’s to be able to manage pastures as an integrated ecosystem. The latter fuels multiple conflicts between leskhoz and PUU/communities. The paper explores the conditions and key principles under which rangelands of PUU and leskhoz can be managed under integrated rangeland use regime. The paper is based on the results of 2 years research in Ak-Say and Ak-Tatyr ayil okmotu, the Kyrgyz Republic.

Keywords: rangeland reforms, multi-scale governance regime, rangelands, forests, community-based rangeland management, land category
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A Theoretically Grounded Classification of European Commons

Case studies of commons and their sustainability abound. Although of crucial significance, empirical work on single cases offers only a partial examination of the complex terrain of common pool resources (CPRs). The full potential of case studies’ analyses can be achieved only if they are embedded in a comparative theoretical framework. Therefore, a system of classification designed to outline the diversity of what usually is lumped together as commons must be developed. In a theoretically grounded classification cases can be compared in informative ways. Theories of what difference does a difference make, may be tested, and lessons may be learned to institute or improve the sustainability of a particular type of commons.

The present paper will propose a classification scheme to make cases comparable along certain key dimensions. Candidates for key dimensions will be:

- The various relationships between formal laws, including environmental law, and customary and soft laws and their role in defining commons.
- The property law of commons (registration of land and property rights, including an analysis of landownership and third parties rights), the “legal standing”, as it were, of commons in a state’s administrative system.
- The institutional arrangements for commons governance: allocations of powers and duties to operational, collective choice and constitutional choice levels.
- The type of resource(s) held in common.
- The membership and exclusion criteria to the group of commoners, including transfer of membership’s rights over generations.

The classification will be tested using cases from Norway, England, Italy, and Spain.

Keywords: classification of commons, comparing case studies, Europe

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Involving Stakeholder Values and Science for the Marine Resources Management

Ecosystem-based management (EBM) has been widely recognized as the new paradigm for marine resource management. This approach considers all the elements of the ecosystem including humans. Even though, EBM has been well defined in theory, its implementation has been challenging worldwide. The few successful initiatives at implementing EBM have suggested that stakeholder involvement is a key element.
For marine management, as for other common resources, discussion on management alternatives often depend on technical and complex concepts from diverse fields. Without the discussions of stakeholder values, many people and their values are often excluded from or play a minor participation in the decision making process. In addition, stakeholders might not trust the process and reject the implementation of a decision/management alternative.

To implement EBM, managers require a decision-making framework in which the values of the constituents are identified since the beginning of the process, and objectives and performance measures for EBM are consistent with these values. Structured decision-making (SDM) is a systematic approach that can bring together stakeholders, scientists and managers to build a framework for EBM that reflects what matters to people and the scientific aspects of the ecosystem and EBM.

I present as a case study, the use of SDM for the on-going EBM process on the west coast of Vancouver Island (WCVI), British Columbia, Canada. This case provides insights into how SDM can be implemented with the EBM context, as well as some challenges and opportunities during the process. With this work I demonstrate that the involvement of stakeholders can help shape a collective vision and objectives for managing common resources; and that a systematic process can help to integrate values, fundamental objectives and indicators for the evaluation of management alternatives. This approach can help to make the decision-making process for EBM more participatory, consistent and transparent. Stakeholders are likely to feel more engaged with the implementation of EBM if they are involved and see their values reflected since the beginning of the process.

I am also applying this method in Southern Mexico to explore relationships and differences with respect to what matters to people in the EBM context and to which extent SDM and EBM can be applied to marine management in developed and developing countries.

Keywords: Ecosystem-based management (EBM)
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**Common Property Rights and Collective Mobilization in the Somone Commune Natural Reserve Management.**

In Senegal, 8% of the territory is currently composed of protected areas. In the past, the management of these areas belonged, exclusively to the National Parks Office. Recently, two communal interest natural reserves had been created and the one of Somone represented the experimental case in 1999. Thus, the local government and villagers get the competence of defining the rules of access and exploitation in collaboration with the National Parks Office agents. Ten years after, this paper aims to assess the impacts of the property rights changing on the collective mobilization of the local communities and the communal representatives. It is based on an ongoing ethnographic survey started since October 2009.

*Keywords: Natural Reserve, Common Property Rights, commune, collective mobilization, Senegal*

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**National Parks in Norway as Socio-Ecological System: Wildlife, Conflict in Use, and Participatory Planning**

This paper analyzes National Parks in Norway as socio-ecological systems, focusing on conflicts resulting from wildlife conservation. Traditional users of National Parks like fishers, hunters and herders have different interests in wildlife. Herders’ main economic activity is negatively affected by carnivores and competing herbivores to livestock. At the same time, some forms of nature conservation are compelling to them; securing the pasture for herbivores (which are prey for wild carnivores), restrictions on technical interventions in the area, and restrictions in non-herders’ use of motorized transportation. Herders might therefore support area conservation, but might at the same time lobby against wildlife conservation.

Fishers and hunters are more supportive of conservation of wildlife, as are other non-consumptive users such as tourists. The former group supports wildlife conservation as long as they still can subtract some species. The latter group supports wildlife conservation for contemplative experiences when visiting protected areas.

Increase of tourists and their related expenditure in Norway is creating a debate on the role of human activity on the ecological systems of National Parks. This comes at a time where the governance structure is shifting from a top-down approach to other more participatory mechanisms that to a greater extent involve landowners and local herders, fishers and hunters.

Data has been collected in various protected areas (national parks and landscape protection areas) in Northern Norway during the last 5 years. Findings show that there is not a clear connection between the degree of public...
participation and policy formation. This indicates that measures to favor participation do not necessarily lead to greater acceptance of policy measures when it comes to balancing various interests in wildlife conservation.

Keywords: socio-ecological systems, conservation, wildlife, Norway, conflict

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Benefits Sharing Mechanisms for REDD+ : How to equitably share benefits among forest managers?

Reducing Emissions from Deforestation and Degradation (REDD+) in tropical countries is now a critical piece of any international agreement that aims to reduce greenhouse gas (GHG) emissions. After the United Nations Framework Convention on Climate Change (UNFCCC) included the provision of a REDD+ mechanism for the post-Kyoto period, delegates and the broader international community turned the topic in one of prime importance on the agenda of the Climate Change (CC) regime and are now strongly encouraging the demonstration of REDD+ pilot projects. An important issue refers to the equitable distribution of benefits or, in other words, equitable benefit sharing mechanisms (BSM). This paper investigates how BSM can be designed and implemented in order to be equitable while also helping in reducing emissions. The main hypothesis is that variations in how local participation (LP) is considered while developing BSM for REDD+ will offer fundamentally different outcomes, and as a result will have a meaningful effect on the equitable distribution of benefits. Based on concepts of equity and LP and through the lenses of the Juma Sustainable Development Reserve, in Brazil, this paper argues that equitable BSM will depend upon democratic and interactive LP, what will provide more flexibility in the definition of benefits and in the creation of distributional mechanisms, generating better outcomes. Going one step further, it also argues that LP will interfere on the efficiency and effectiveness of BSM, being a crucial variable for positive results of a REDD+ scheme.

Keywords: REDD+, benefit-sharing, equity

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Common Resources, Community Management and Tribal Administration in Northeast India

One can identify three main community resources in the Northeast. The relationship with these resources have implications for the tribal identity in the region. The first of them is the material resource of land and forests. Linked to them is the community-based customary law. The third is the identity that these together provide to the community.

The paper will begin with a comparison between the CPRs in Middle India and the Northeast. In Middle India the sacred groves get priority. The myths of origin are linked to the material resources and the customary law is meant to protect them. In the Northeast on the contrary, because the nomadic tribes had formed their identity already before entering this region, the customary law becomes the centre of their identity. It protects the material resources of land and forests but identity is linked more to the customary law.

With this background, modernization and the response of the customary law will be studied in the region. An effort will be made to look at the traditions of a few tribes as representative of the region and to look at their response to modern changes. Most struggles in the region are for land and sustenance but their external expression takes the form of protection of identity. The struggles are legitimised more in the name of history and the indigenous status tradition. These aspects will be analysed by looking at a few tribes of the region.

Keywords: community resources, customary laws, tribals, forests
Tribal Commons and Conflicts in Manipur and Tripura in Northeast India

For the fifth time in 15 years NH 39 was blockaded by the Naga student groups in order to press their demand for control over their land and for other purposes. The demand is put in different ways. On the Naga side, it is presented as the demand for the Sixth Schedule or Naga integration. On the Meitei side it is presented as the territorial integrity of Manipur. But the central issue is the common property resources that are the livelihood of the Naga communities. The 3 million people of Manipur are divided into three main ethnic groups, the Meitei and related communities who are around 60 percent of the population, the Naga and the Kuki-Mizo-Chin tribes who together form around 34 percent of the population. The rest are 6 to 7 percent. The Hill areas where the tribes live account for 90 percent of the landmass of the state. It means that 60 percent of the population lives on 10 percent of the land and they would like to have more of it. Manipur has 9 districts. The Meitei dominate two of them, the Naga in three, the Kuki in two and four others are mixed. The latest conflict began in April 2010. Its immediate cause is the ongoing controversy around the elections to the Autonomous District Council. The Nagas have been demanding the Sixth Schedule since the early 1980s. The Government of Manipur has accepted this demand “with local adjustments” but it has not specified its meaning despite repeated letters from the Centre since 1991. The basic issue around the demand is land in the hill areas which the Manipur Government would like to throw open for people from the plains and the Nagas want to protect it. But it is never stated in public.

The Sixth Schedule will protect their land as a community resource since its third paragraph recognizes common property. That is central to tribal identity. However, there is a split between the Naga and the Kuki-Mizo-Chin on the Sixth Schedule of the Constitution. It has a district autonomous council with high autonomy. At present the tribal areas come under the Hill Areas Act 1971 which the Manipur Government has amended thrice since it came into force. The state government suggested district autonomous councils under this act but the Nagas feel the both the law and the autonomy of the council has been diluted under this Act. These Councils do not give the tribes much power over their land. Instead the Meitei dominated government has been trying to extend the Manipur Land Reforms and Land Revenu Act 1960 to the tribal areas. It recognises only individual ownership. The Nagas feel that it denies their communities right over their commons and facilitates land transfer to the Meitei. So they coined the slogan “no Sixth Schedule no elections”. But the state went ahead with the elections under this Act.

Another reason why the Manipur Government opposes the Sixth Schedule also because of the demand for “Naga Integration.” Naga is a generic name for around 26 tribes, about half of them living in Nagaland, a few others in Manipur including the Tangkhul, the biggest Naga tribe to which the Naga militant leader Mr Muivah belongs, and others in Arunachal Pradesh and Assam. The Meitei fear that the Sixth Schedule is a cover for Naga integration which, they feel, includes also territorial integration. If that happens the state will lose most of its land to Nagalim i.e. Greater Nagaland. The Chin-Kuki are ambiguous on this issue. That is the background of the controversy. When the Manipur Government decided to go ahead with the elections for the diluted council, the Nagas and a section of the Kuki-Chin-Mizo opposed them. The CM promised them negotiations on the Sixth Schedule issue after the elections but the Naga students did not take him seriously and imposed a blockade on Highway 39 that is the lifeline of Manipur. The confusion was compounded by the decision of Mr Muivah to visit his native village and the Manipur government refused to permit his entry. He tried to enter Manipur by road at the border i.e. Mao Gate. He was stopped there and two students died in the melee that followed. A new dimension was added to the controversy when the Naga Student Federation (NSF) from Kohima the capital of Nagaland went to Manipur to organise the golden jubilee celebrations of NSF. The Manipur government feared more trouble and threatened to arrest them if they did not leave. The state also issued an arrest warrant against the leaders of the All Naga Student Association of Manipur (ANSAM). So Nagaland got involved in the blockade and
attention was diverted from the main issue of the elections and the Sixth Schedule with which the blockade began. But that remains the central issue so to find a solution one has also to deal with the ethnic problem and the land issue in Manipur. One has to find an interpretation of the Sixth Schedule that does not include Naga integration in the manner that the Manipur government fears it. The Sixth Schedule has to protect tribal land without going against the remaining communities. That poses a problem between community ownership and individual pattas.

Keywords: tribals, land reforms, northeast India

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Evaluation of Fisheries Management Options for the Visayan Sea, Philippines: The Case of Northern Iloilo

The paper examines the sustainability of fisheries and fishers’ incomes in the Visayan Sea and identifies potentially viable options that could help achieve the dual goals of protecting the fish and helping fishers earn a living. The focus is northern Iloilo fisheries, which cover almost half of the Visayan Sea. Ten management options identified from various sources were presented to the different stakeholders: fishers, fishery scientists, and fishery managers. These consist of status quo, input controls (ban of commercial fishing, ban of commercial fishing with safety nets, marine protected area, closed season, reduction in the number of commercial and municipal fishers, localization, and rotational fishing regime), output control (quota), and the creation of a special management unit. These management options were evaluated at two stages where Stage 1 ruled out options with no or low impact on increasing fish stocks. Options that passed Stage 1 advanced to Stage 2 where each was evaluated using a set of criteria (impact on fishers, impact on resources, feasibility, cost to the government, and impact to the community). Feedback from the stakeholders was obtained through focus group discussions and in-depth personal interviews. The potentially viable options (fishing bans with and without safety nets, marine protected area, reduction in the number of municipal and commercial fishers, localization, and creation of a special management unit) were discussed. The use of a combination of options, rather than a single one, and the creation of a single management body, to be pilot tested in northern Iloilo, to implement any program of management in all portions of the Visayan Sea fishing ground and for all its fishers are recommended.

Keywords: evaluation of Fisheries Management Options, Fisheries Management Options, Visayan Sea, Northern Iloilo, sustainable fisheries

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Understanding Why Indian Forest Officials Implement Joint Forest Management and the Forest Rights Act Differently: Cases from Maharashtra and Andhra Pradesh

This paper examines the heterogeneity in bureaucratic implementation of Indian forest decentralization reforms over the last twenty years using a comparative case study approach, with cases drawn from Andhra Pradesh & Maharashtra. The Forest Department in India is frequently faulted for its hierarchical mode of operation, and it shares key features with forest agencies described by Kaufman (1960) as a model of successful hierarchical control of policy implementation. However decentralization reforms, including Joint Forest Management, initiated in 1990, and the Forest Rights Act, initiated in 2005, are being implemented by officials in ways that vary greatly both within and between states. I use organization theory to develop hypotheses which seek to explain variation in bureaucratic behavior in terms of the institutional environment of the Forest Department, inter-organizational
interactions, and characteristics of individual bureaucrats. I test these theories using evidence drawn from indepth ethnographic case studies of Divisional Forest Officers & their work environment, comparing between states, within states, and between the two main decentralization policies.

*Keywords: decentralization, Joint Forest Management (India), Forest Rights Act (India), policy implementation, Organization Theory*

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**Participatory Rangeland Management: A Solution to Problems in Defining Communal Land Tenure in Pastoral Areas**

Changes in land tenure arrangements in the rangelands of Ethiopia are imminent. The Afar regional government has already produced a policy and proclamation to this effect, and other regions are following. These developments are occurring with little if not no engagement with pastoral communities who are increasingly finding their land taken for large-scale farming or their access to vital rangeland resources blocked by such as private enclosures, or the spread of invasive species. Federal and regional governments suggest that pastoral views and priorities will be taken into account in new tenure arrangements, however how this will be achieved is not clear. Save the Children/US with assistance from a country-wide NRM Technical Working Group have developed a process of ‘participatory rangeland management’ that could aid governments and pastoral communities in both achieving their different needs, positions and interests. This process, guidelines for which were launched by the Minister of State for Agriculture and Rural Development in April 2010, are based on the successes of ‘participatory forest management.’ It offers a practical solution to safeguarding rangeland resources for rangeland users, improving their management, and ensuring a more sustainable and productive development of pastoral areas for local and national gain.

*Keywords: rangelands, pastoralism, Common Property*

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**Recognising and Formalising Customary Land and Resource Tenure in the Rangelands. Where To Next?**

Significant progress has been made over the last decade or so in the development of policy and legislation that supports the recognition and formalisation of customary rights to land and resources. Despite this many commons such as rangelands remain highly vulnerable, and rangeland users continue to see access and control over their land and resource curtailed if not, removed. This paper will review and analyse why this is the case. It will focus on rangelands in Africa where despite the recent design of innovative land use planning processes and attempts to secure tenure for customary users, such vulnerability is on the increase. The reasons for this will be discussed and potential solutions will be explored. A framework for more appropriate policy, legislation, implementation and management for the rangelands will be suggested, based on good and bad practice. This framework will form the basis of a year-long ‘learning route’ for members of the International Land Coalition, as part of a programme to move forward discussions and actions targeted at recognising and formalising customary land and resource tenure in the rangelands.

*Keywords: appropriate policy, legislation, implementation and management for the rangelands*
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An Empirical Diagnostic of Collective Action in Rural Ghana

Many African countries are nowadays witnessing a return to collective action as a way to promote governance decentralization and business development in depressed and degraded rural areas. Despite the growing interest shown by both governments and donors in farmer-based organizations (FBOs), the knowledge available today on collective action in rural Africa appears still constrained by the paradigmatic boundaries of development studies. In particular, the current understanding is either based on broad (global/regional) reviews and naive macro-statistics, or on micro-evidence generated through case studies and impact analyses, which typically fails to capture heterogeneity among organizational forms. As a result, the patterns and determinants of collective behavior remain largely unknown, making of Africa’s FBOs a bunch of black boxes awaiting investigation. To fill this knowledge gap, in late February 2010 we launched an innovative survey aiming to capture heterogeneity in the structure, conduct and performance of Ghana’s FBOs. The sample includes approximately 500 FBOs from all over the country. For each FBO we are carrying out a 2 days in depth interview involving 3 leaders and 3 ordinary members. Each interview is based on three data collection techniques: 1) a qualitative approach aiming to re-construct the story of the organization and record mile-stones and characteristics of cyclical collective actions eventually witnessed by the group; 2) a digital questionnaire programmed to minimize interview-time (and thus interviewer/respondent fatigue), entry errors and inconsistencies in the collection of measurable/quantifiable information about the initial and current state of the organization, as well as to the environment in which it operates; and a 3) simulation/game played with real money to better capture (unobservable) collective preferences with regard to risk-taking and risk-sharing behaviors. The survey will be completed by the end of April 2010 and then the data obtained will be analyzed in such a way to produce a comprehensive diagnostic of collective action in rural Ghana and provide implications for rural leadership, governance and research.

Keywords: collective-action, rural leadership, kinship, econometrics, Property and Decision Rights, equity and efficiency, Ghana

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Struggles over Access and Authority in the Governance of New Water Resources: Evidence from Mali and Zambia

Research on water scarcity in the South has often focused on the impacts of limited or dwindling water resources for the rural poor, prompted most recently by the climate change debate. Rather less attention has been given to the social and institutional dynamics surrounding the emergence of new water resources in the rural South, and how this affects access rights, authority and social exclusion in local water governance.

The paper seeks to address this issue through a study of local competition over access to new common-pool water resources in isolated rural areas of Zambia and Mali. In both areas, the development of boreholes and other new water infrastructure has provided access to water resources that were not previously available to local communities. In Mali, climate change has furthermore led to the sporadic emergence of new natural wetland areas in some locations.

Applying a process perspective, the paper explores the ways in which local actors and organizations have sought to assert control over and rights of access to these new water resources. It shows how this has led to both conflict...
and cooperation between the involved actors, and how new rules of access and institutional domains have developed. In particular, the paper discusses how these struggles over rights and authority have tended to marginalize the poorest and other user groups from access to the new water resources, either through direct efforts to monopolize access, or through more subtle and unintended mechanisms of exclusion.

The paper concludes by discussing the implications for water policy and research in terms of the way we understand the development of new water resources and associated rights in the current context of inequality, water scarcity and climate change.

Keywords: water, institutions, governance, access, marginalization

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Property Rights, Social Movements, and Access and Use of Natural Resources: The Afro-Brazilian Communities and the Landless Settlements, State of São Paulo, Brazil.

Ten years have passed by since we entered into the New Millenia. During the 1990s, analysis on common-pool resources gained considerable space into the academia and into the public agenda. Much progress took place towards recognizing and strengthening local social organization and local institutions to both guarantee local people’s well-being and conserve nature around the globe. However, gaps are still to be fulfilled. One of the gaps is to find appropriate local institutions that conciliate conservation with farming production system. In Brazil, the history of success of some excluded social groups to gain access to land (territory) are unquestionable during the 1980s and 1990s, such as the case of several Afro-Brazilian and Landless groups. The former gained rights to access to a collective territory called locally “Quilombola” and the latter gained rights to access to individual (family) lot as a part of the national agrarian reform. Families from both groups are now consolidated into specific territories, present some form of local organization regarding production system and commercialization. They want to keep crop cultivation and livestock for subsistence needs and as a source of income, but they face restrictions of the national environmental laws. They face prohibition of using fire for clearing land for cultivation and they must preserve at minimum of 30 meters of gallery forest along riverside. The question is whether stand forest should be considered as a collective goods (common-pool resource) for conservation purposes even in the case of private lot for land use because the course of water usually crosses several individual lots. In general, small farmers struggle to keep a minimum of a forest area in their individual lots and there is no full substitute for fire thus far. Due to some social-environmental conflicts, the Forest Code in Brazil has been questioned in the last years.

Keywords: Private and Collective Property Rights, Environmental National Laws, Afro-Brazilian communities, landless settlements, Brazilian Atlantic Forest
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Hot Spot Emission and Confusion: Property Rights Insecurity, Contested Policies and Competing Claims in the Central Kalimantan Ex-Mega Rice Project Area

In Central Kalimantan Ex-Mega Rice Area, ‘discourse’ is increasingly a new means of exercising power, influencing policy and the ways in which natural resources are managed. Discourses are assuming a dominant role in defining governance regimes: the sense what is correct and what is not. This article examines the discursive strategies in the struggle over property rights in ex-Mega Rice Area and traces changes in justification for this influence in the face of REDD implementation. The expectation of financial incentives for emission reduction has lead to the concept of ‘carbon rights’, as new arena for contest and potential inducement to cooperation. Key issues in the REDD debate on carbon rights are: (1) who has, or can claim, the right to sell carbon or ask for co-investment in emission reduction efforts; and (2) who has, or can claim, the right to receive payments for avoided damage. The concept of ‘carbon rights’, however, is not easily understood in its interactions with existing or emerging rights, authorities and power over land use decisions. Every actor in the dispute makes his own choice of argument, and creates his own interpretation of facts, rules and norms. Not only do legal arguments play a role, but political, cultural and historical arguments are used. Shifting policies affect the distribution of power to practice and use forest peatland.

Keywords: discourse, decentralization, REDD, Indonesia, social change

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Climate Change Impacts on the Food Chain in Case of Emerging Megacities

Hyderabad, one of the growing megacities in India represents another case of rapid but unprecedented growth and pose challenges to city dwellers and decision makers because of high population growth and rapid economic development. This economic growth is reflected in the new socio-economic trends related to the changing food consumption practices. Adding to these socio-economic changes are the concerns about impact of changing climate on the food systems. Hyderabad being a semi-arid region with low agricultural productivity will face the challenge of feeding the growing population with the changing climate. The lack of the food security and nutrition indicators in the city development plan reveals that these are still not considered as a social concern. Thus, the present study will explore the direct and indirect impact of changing climatic conditions on food production, availability, access and utilization. Additionally, this exploratory study will advance the understanding on how changing climatic conditions affect the socio-economic matrix that influences food practices, management and governance. Using the institutional approach, the study will highlight on what needs to be done at the governmental and institutional levels to effectively improve the food and nutrition security situation of Hyderabad.

Keywords: food chain, climate change, megacity, socio-economic conditions
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**Unraveling the Idea of “Commons” in Employment Relations**

The idea of “Commons” in employment relations emerges as a criticism of organizational and institutional practices rendering people as employees, their intellectual labour, and even the customers as the eternal or near-permanent property of such organizations. Organizations ensure that the creation of intellectual property by the knowledge workers is captured through the “Work for Hire” clauses in the employment contract which require them to assign the ownership rights to their organizations for achieving competitive advantage. However, organizations try to achieve sustainability of such competitive advantage through various restrictive covenants such as non-disclosure, non-compete, and non-solicitation agreements signed by the employees. While some organizations provide employees with some incentives for signing such restrictive covenants, the approach towards enforcement of such restrictive covenants varies across the globe depending upon the local, regional and national regulations and legislations.

While there is no dearth of literature depicting the manifestation of ownership interests of organizations, democratization of corporate ownership or community ownership is also advocated by another set of literature. However, the existing literature and institutional practices tend to recognize the interest of one or more stakeholders such as employees, organizations, customers, and society at the expense of the legitimate interests of others resulting in perceived inequitable and unsustainable outcomes. This research paper attempts to highlight such perceived inequitable and unsustainable outcomes based on different disputed legal cases in a developing country like India in the post liberalization and globalization era across different industries like Airlines, Banking and Financial Services, Bio-medical Services etc., with the objective of providing a unified conceptual framework for institutional reforms such as governance mechanisms in organizations and local, regional, and national regulations and legislations.

*Keywords: Intellectual Property Rights, trade secrets, non-disclosure, non-compete and Non-Solicitation Agreements*

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**Conservation and Exclusion: Needs, Limits and Pitfalls**

Protected areas are the foundations of conservation strategies of government and international institutions world over. Over the last 50 years, we have modified our environment at an unprecedented scale to provide for our needs. The demand for food, firewood, freshwater, timber and other natural products is putting stress on the ecosystems, undermining their capacity to deliver other services we depend upon. Cultivated systems now represent one quarter of the world’s surface. And this in turn has led to widespread simplification of the ecosystems converted and a loss of ecological processes, species and genes. Protected areas today act as refuges for species and ecosystems that would otherwise disappear. They are a benchmark for us to assess the impacts of our activities. By maintaining genetic diversity and ecological processes, they contribute to the adaptive capacities of the communities and ecosystems we depend upon, in a time of global change. However, this comes at a cost. Many of these protected areas have been imposed over pre-existing rights held by indigenous or rural communities. The cost has been overwhelmingly borne by these communities, often poor and marginalized. Protected areas have generated lots of conflicts between communities, the governments setting up the areas and the institutions entrusted with their management. The World Parks Congress in Durban, 2003 acknowledged this, and proposed...
a new paradigm of protected areas according to which indigenous peoples and local communities’ rights are recognized, respected and upheld in the planning, establishment and management of protected areas. After reviewing the ecological basis for the design of protected areas, we will take stock of the current status of participation of local communities in protected areas design and management and its impact on biodiversity. Through selected examples across the world, we will critically analyze the limits, pitfalls and opportunities of participation.

*Keywords: Protected Area, participation, Community Based Management, biodiversity*

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**A Framework for Evaluating the Impacts of Expanded Trade and Investment on Forests: Customary Rights and Societal Stakes**

The forest sector is more embedded in the global economy than ever. With globally significant supplies of land and raw materials and favorable terms for foreign investors, developing countries – particularly in Africa – have become increasingly attractive trade partners and destinations for investors. Economic growth is anticipated to increase demand for energy, water, food and forest products (Toyne et al, 2002; White et al, 2007), trends which are already evident in the recent food and fuel crises. Increasing competition over land is placing new pressures over vast tracts of forest and woodland, areas often considered “under-utilized” by national governments despite their critical role in supporting local livelihoods. While increased demand for forest products and agricultural commodities in the context of forest tenure reforms and decentralized decision-making (Sunderlin et al, 2008; White and Martin, 2002) could create unprecedented economic opportunities for forest-dependent communities, increased “stakes” over forest resources and land will heighten governance challenges. This paper provides a conceptual framework for analyzing shifting patterns of tenure and rights in the forestry sector for a host of sectoral and extra-sectoral commodities shaping forests. It aims to provide a framing for case studies to be presented at a panel entitled, “Large-Scale Investments in the Forest Frontier: Customary Rights and Societal Stakes” (Panel ID No. 461). By presenting case studies from diverse contexts (Africa, Asia, Latin America) and sectors (agriculture, energy, forestry, mining), the utility of the framework will be explored while distilling key commonalities and differences in shifting patterns of customary rights and societal stakes associated with large-scale land and resource acquisitions in the global South.

*Keywords: foreign investment, land tenure, rights, large-scale land acquisition, governance*

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**Assessment of Equity in Two Community Based Forest Management Regimes in the Philippines**

The study employed an intra-community analysis of equity based on the people’s perception of equity, relationships between the participants’ characteristics (gender, educational attainment, economic status and type of membership), and their perceptions of goals (improved living condition and forest condition) under the two tenure regimes namely: CBFMA Project in Banila and Co-management Project in Barobbob, Nueva Vizcaya. Results revealed that equity in terms of gender, educational attainment, economic status and type of membership in the People’s Organization (PO) generally exists in areas of access to leadership roles, livelihood opportunities, PO services,
access to forest-based resources, sharing of cost and responsibilities in community forestry activities, and implementation of policies. Moreover, the living condition of the community and forest condition were noted to have improved along with the perceived existence of equity. Test of correlation revealed few significant relationships on the participants’ characteristics, perception of equity and CBFM goals. Moreover, results of the test of difference between the participants’ perceptions of equity and goals highlighted the strong and weak areas the two tenure regimes where policy improvements should be done.

*Keywords: equity, access, forest resources, tenure regime*

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**Conservative Attitude of Forest Dwelling Communities: Hope for JFM to Succeed- Evidence from Repeated Field Experiments in Central India**

Decentralization in natural resource management is becoming a norm in majority of developing countries for ensuring economic efficiency, sustainability of the resource, and socio-economic equity. In the Indian forestry sector, decentralization got ushered in through programs like JFM, and successive legislations since the Forest Policy, 1988. Although several studies have documented suitability of the participatory approach, often questions are raised whether the relationship between forest and forest dwelling communities continues to be symbiotic, or it has changed under the influence of globalization and commercialization. Based on four repeated field experiments in a community located in central India, this paper indicates that in case of indigenous communities, their relationship with forest continues to be non-exploitative and non-commercial. By increasing complexity in subsequent games, an attempt has been made to create real-life like situation in the context of forest use - open access and with JFM, where individuals in a community harvest forest products – timber, fodder, fuel wood, either independently or after consulting the community. The findings of the paper support participatory management strategy that provides opportunities for communities to make collective decisions through enhanced communication. The paper conforms the argument that decentralization would not only encourage sustainable resource use due to increased sense of ownership, but could potentially lay foundation for equitable distribution too.

*Keywords: decentralization, communication, attitude of communities, repeated field experiments, India*

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**Mangroves, Creeks and Reserve Forest as Natural Insurance: Findings from the Indian Sundarban**

In May 2009, cyclone Aila resulted in an unprecedented disaster on the 54 inhabited islands holding more than 3 million people in Indian Sundarban. The event was not a huge disaster in terms of human death. Its gravity is to be understood in terms of livelihood loss of a large agricultural population for more than a year. The submersion of all the low lying islands by sea water for days and months had left salt deposits enough to render most of the population without their all important monsoon paddy for a year. With few other livelihood options, the ensuing economic tragedy continues to be grave and gradually unfolding. The adjacent mangrove forest is a Tiger Reserve (World Heritage Site) and is conserved with an exclusionist policy. This leaves the local poor with little option to fall back on the mangrove forest as a natural insurance. The other common resource to the islanders is the
surrounding salt water rivers and creeks which produce fish and crab. In the aftermath of Aila, it had perceiveably played a role in helping a section of the affected people to cope with their immediate livelihood loss. But it is perhaps insufficient and limited by its carrying capacity to provide alternative livelihood to a huge population affected by that disastrous event.

Keywords: Sundarban, reserve forest, natural insurance, extreme event

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Unequal Rights on Common Lands

For several centuries now, nomadic communities in India, pastoral and non-pastoral have depended on the commons for a livelihood and for survival. Under British rule, many of these groups were designated criminal because of their inability to pay revenue to the crown and their ‘commons’ were designated as waste lands as they yielded no taxes. The modern nation state despite proclaiming to be a democracy fails to include the needs and concerns of these communities when planning for the use of the commons and has often reinforced the notion of nomadic communities being habitual legal offenders by the rules and legislations it prescribes. For communities like the Pardhis and Phase Pardhis for whom hunting was the primary occupation the Wildlife Protection Act of 1972 meant the loss of an entire livelihood system. For nomadic herders, Protected Areas and Sanctuaries denied access to grazing lands which sustained their animals. Since then the State has tried to be more inclusive but mere legal prescriptions and ensuring the claim to traditional usufruct rights are not sufficient for ensuring democratic and equal rights to the use of the commons. Even the Panchayati Raj system can exclude as the commons that nomadic groups depend are away from their home villages. Commons are also diverted to other uses; SEZ’s, industries, bio fuel plantations, within which these communities have no space. For ecological sustainability of these lands and the future of communities who depend on them a more inclusive approach wherein the communities themselves are involved in the design and the future use of the commons both spatially and temporally is urgently needed. This paper looks at how nomadic communities of South Central India traditionally view and use the commons as well as their plans for their future.

Keywords: nomadic communities, livelihoods, pastoralism, Panchayati Raj, forest and grazing rights

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Participation and Economic Innovations: Technocracy Dilemmas in Community Forest Management

Despite communities’ institutional recognition and improvement in forest condition, livelihood benefits to local communities, especially the poor and disadvantaged groups, remain limited. Drawing upon the experience of a participatory action research project, that aims to understand processes through which economic innovations can address livelihood challenges in Nepal, we contend the need for problematizing the participatory approach itself to unravel the complex pathways of – and constraints to – livelihoods innovations in Community Forestry. We argue that technocracy limits space for economic innovations in community forests through regulatory practices and bureaucratic behaviour. Despite legal autonomy, local communities face significant hurdles and impediments as they plan to undertake innovative actions in forest management, use, marketing, and benefit
sharing. A key conclusion is that livelihood innovations in Community Forestry may be more related to the relationship with bureaucratic and regulatory structures rather than the commonly assumed internal processes and capacities of the local communities. Thus, technocracy is impeding economic innovations despite the significant participatory gains in community forestry.

Keywords: bureaucracy, devolution, economic innovation, Nepal, infra-sphere

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Sustainability and Legitimacy in Governance of Agricultural Biotechnology

Agricultural biotechnology (agbiotech) promises to overcome global problems of food security, but critics maintain that the genetic modification of crops entails a range of unpredictable risks to environment and health. Next to the difficult assessment of risks, the governance of agbiotech is a highly contested area due to actor constellations, distribution of intellectual property rights (IPRs) and differing interests. Considering agbiotech not only as a technology, but as a system of representations incorporating ideas, images and beliefs of the appropriate handling of and behavior to this particular technology, this ideational dimension has important implications for its governance. Accordingly, governance and collective action for a sustainability transition rest on consent and legitimacy among social actors, and the ability to universalize particular interests. Following a power theoretical explanation, this paper argues that collective action for sustainable governance of the commons rests on the interplay of material forces such as economic and technological resources as well as ideational forces such as legitimacy and discursive power. These theoretical assumptions will be empirically scrutinized with first results from fieldwork on the governance of agricultural biotechnology in China methodological employing a process tracing approach.

Keywords: governance, agricultural biotechnology, China, power, process tracing

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Pastoralists under Pressure: Mobility and Property Management in Tanzanian and Kenyan Rangelands

For pastoralists in the rangelands of Tanzania and Kenya in East Africa, mobility (of livestock and sometimes people) has always been an essential technique to survive and thrive in the arid and semi-arid environments, where rainfall is variable, and drought common. Customary institutional mechanisms facilitate mobility across space and between different social and ecological units, where land was historically held in ‘common’. Today common rangelands have been partitioned into villages, conservation areas, and private parcels, making mobility particularly challenging. As mobility becomes more important in the face of growing climatic variation, it is becoming more of a challenge—socially, physically, and legally. This paper looks at the interface of customary institutions with new forms of land use, classifications, and legal structures, struggling with how to maintain and manage mobility in Tanzanian rangelands.

Keywords: institutions, grazing lands, pastoralism, property
**Social Discrimination and Forest Resources Use: The Case of Bonga Forest in Southwestern Ethiopia**

There are three major occupational castes among the Kafa people of southwestern Ethiopia: (1) the Kafecho—primarily farmers and who constitute the higher class, (2) the artisans (black smiths, potters and tanners) and (3) the Manja—primarily hunter-gatherers. The Manjas constitute the lowest class in the social strata of the Kafa people. Traditionally, the Manjas were not allowed to own land or any resource and could not practice agriculture. Hence, they depended on the forest as hunters and gatherers. In spite of equality promote by the government, such discrimination among the Kafa people still persists. In this study, we investigated the patterns of forest use by the Manjas and Kafechos of the Kafa people. The study revealed that the Manjas are stills predominantly dependent on forest products. Now a days, they have access to land. However, nobody shall buy agricultural product from Manjas due to social discrimination. The major sources of livelihood for Manjas are fuel wood collection, charcoal production and wood work. The Manjas also do not receive fair price for their forest products due to their social status and lack of confidence with their ‘superiors’. Game from hunting is the major source of protein for the Manjas. The impacts of such discrimination on the livelihood of the Manjas and forest conditions are discussed in this paper.

*Keywords: forest governance, inequality, Ethiopia*

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**Demographic and Socio-economic Correlates of Participatory Forest Management and the Local People’s Perception: The Case of Chilimo Forest**

The study examines the socio-economic and demographic correlates of participatory forest management and the attitude that the local communities have towards the approach. The basic data used in this study come from household survey. Correlates of participatory forest management were analyzed by descriptive, bivariate and logistic regression models. The analyses demonstrated the differences in the participation level and the demographic and socio-economic characteristics of the farm households. Except the household size, all variables entered into the model appear to be acceptable at five percent significance. The logistic regression indicates the participation of local communities as forest user group is positively and significantly correlated with literacy status, income and current land size owned. Perception toward the PFM approach was also analyzed by descriptive and multinomial logistic regression. In this analysis, the probability of model chi-square 57.700 was 0.000 less than or equal to the level of significance of 0.05 proves the existence of a relationship between the independent variables and the dependent variable. Accordingly, participation and literacy status were correlated positively with perception while household size correlated negatively. Descriptive part of the analyses also indicated nearly half (49%) of the respondents were among high perception category towards the PFM approach. About 97 percent of the total respondents reported the decrease in rate of deforestation and an increase total forest cover since the introduction of PFM approach into the Chilimo forest. To develop the PFM approach as strategy and policy nations wide, creating off-farm employment opportunities, alternative income sources as well as incorporating family planning activities are recommended.

*Keywords: participatory forest management, local institutions, Africa*
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Local Certification of Community Production as a Way to Rebuilt Local Commons and Communities Ties

During the last four decades the intense globalization of Mexican economy has lead to the impoverishment of the majority of rural communities particularly in the Southern Mexico with an important indigenous population. Community livelihoods increasingly rely on remittances and subsidies. Local agriculture has lost viability, communities’ territories and natural resources have lost value for community members. Community governance is also affected: local authorities have weakened and communities’ assemblies lose participation and capacity to rule natural commons.

Since the mid nineties twelve communities in the Sierra Sur in Oaxca, Mexico engaged in biodiversity protection and sustainable use, integrating a regional association: the Sistema Comunitario para la Biodiversidad (SICOBI). Through the years they have carried on sustainable land use planning, developed bodies of rules for natural commons management and use, and have defined conservation areas within their territories. It is to be said that the SICOBI is located in a region defined as biodiversity hot-spot by the National Commission for Biodiversity of Mexico.

Within SICOBI’s strategy local conservation efforts are based on the revitalization of local economies through sustainable agriculture, use of natural resources and the development of market tools that enable the SICOBI to value its products in alternative markets. In 2004 the SICOBI created the brand “Pueblos y Selvas” (People and Forests). Producers under “Pueblos y Selvas” follow a similar scheme to that of the European “denomination of origin” defining rules that aim to promote sustainable and fair productive systems. The rules are developed with the advice of specialists and are discussed and accepted by communities’ assemblies.

“Pueblos y Selvas” has helped communities to re-value natural commons through the creation of a new common, the branch itself, that allows a compensation for the contributions to sustainability and local development that local producers are doing. Communities of SICOBI produce and sell organic, corn, coffee, beans, honey, medicinal herbs, ornamental plants, but also environmental and touristic services. The SICOBI management scheme represents a viable option for biodiversity conservation in regions of high biodiversity value inhabited by poor people, as it promotes local development and governance.

Keywords: impoverished rural communities, increasing reliance on remittances and subsidies, weakening of the collective spaces of decision-making, common-pool resources management, protection of biodiversity, regional organization, market tools

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LiveDiverse- Helping to Overcome Combined Biophysical, Socio-Economic and Cultural-Spiritual Vulnerability through Participatory Scenarios

Ecosystems are a form of commons vital to human well-being, both through the intrinsic values that they represent and through the ecosystems services that they can provide. The LiveDiverse project examines the interactions between ecosystems and human livelihoods in four parts of the world, India, Costa Rica, South Africa and Vietnam. The case areas, which are focused in and around water and protected areas, represent a variety of cultural contexts, political systems and climates. The protect uses an approach based on the combination of biophysical, socio-economic and cultural-spiritual vulnerability. The results so far show that the calculation of biophysical vulnerability for the case areas is problematic, as existing methods such as the Environmental Vulnerability Index (EVI) are based on country scale, and not on smaller geographical regions. The results of the
work on socio-economic vulnerability demonstrate that in this case vulnerability is a combination of lack of resources, and of strategies to influence households and communities interaction with their environs. Cultural and spiritual vulnerability appear to be dependent on the interaction of the ‘old’ and the ‘new’, the preferences of younger generations, and the level of dependency on traditional methods of production. Through a combination of participatory studies of biophysical, socio-economic and cultural-spiritual vulnerability, the project provides scenarios of alternative future policy options for sustainable development. These include ways of improving rural populations’ livelihoods through better management of the protected areas and the development of systems through which local people receive a larger share of the benefits in return for their active engagement in protection activities.

Keywords: Protected Areas, water, vulnerability, governance, Vietnam, Costa Rica, India, South Africa

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Institutions, Value Based Strategies and Policy Instruments for Integrating Biodiversity and Livelihood Concerns in the Context of Developing Countries

The move to sustainable ecosystem governance also necessitates a greater understanding of the processes of institutions in governance, and involves analyses of the institutions (formal and informal) within which governance can be developed. These may be formal institutions that are created to embody and protect the values of societies, or informal institutions such as liberty, democracy, rights, citizenship, welfare, community and the rule of law. We also need to bear in mind the differences between institutional forms, between formal and informal institutions, and between institutional structures. Young claims that a ‘prevalent distinction of institutions is between rules of the game, or settled practices, and the formal organizations who are the players and who have formal hierarchies of decision-making (Young 1999) and the interaction of these will be looked at in detail in LiveDiverse. Institutions, in the form of organisational structures or norms and values, are important for sustainable ecosystem governance as we will attempt to demonstrate. We will also examine how information is treated in different ways in different institutional contexts. The role of institutions in ecosystem governance is not unproblematic, however, as there is no common understanding of what they are in different parts of the world. The reason for this is perhaps because there is here, as in many areas of policy analysis, a lack of comparative studies (Scott 1995). By including case areas from four continents LiveDiverse will help to produce new knowledge in this field. North claims that institutions create society’s structural incitement, and that economic achievements are built to a large extent on economic and political institutions (North 1998). He also states that individual’s and group’s beliefs, which determine their choices, are a result of learning over time, from generation to generation. Members of an institution are also considered to hold common values (Peters 1999), which can be ‘webs of interrelated rules and norms’ (Nee 1998), p.8). Peters and Pierre (Peters and Pierre 1998) also stress the way that informal institutions (norms, values, rules and practices) shape political behaviour, as do many others (Krasner 1983; Krasner 1993). Rowlinson (Rowlinson 1997) claims that organisations (formal institutions) are enclosed by (informal) institutions and social structures, such as laws and state legal systems, and formal institutions (or organisations) can be said to be associated with change and action, while informal institutions with stability and durability. However, this does not imply that actors within organisations cannot change routines and rules. In some cases they can, and will (Rowlinson 1997, p.89).

In this paper the results of the legal and institutional analyses in the four case basins will be presented. This analysis includes the mapping of the main actors and institutions, as well as the legal and policy frameworks within which these actors and institutions work.

Keywords: law, policy, institutions, actors, governance
In this study, we examine two types of aid transfers - boats and houses - that were made to reconstruct and rehabilitate tsunami-affected coastal fishery communities in Sri Lanka. We investigate the distributional impacts of these aid transfers and the effectiveness of targeting of such aid transfers. The study also attempts to quantify the factors underlying the allocation of these transfers. Data for this study comes from the Census of Tsunami, conducted by the Department of Census and Statistics in 2005, and a follow-up survey undertaken by us in 2008 for a sub-sample of fishery households. Our findings suggest that there was better targeting of households with regard to the allocation of houses than boats. The findings also show that housing transfers resulted in improved asset equality among fishery households compared to what existed in the pre-Tsunami period. The boat transfers on the other hand were not only poorly targeted but also increased asset inequality among the studied fishery communities. The findings of the study also reveal that households who had access to social networks were more likely to receive aid transfers. Apart from household characteristics, regional disparities also played a role in the allocation of aid due to differences in access to infrastructure facilities, political preferences or the presence and absence of political turmoil. The findings of the study highlight the importance of making a
special effort to identify certain sub-sets of people such as the very poor and marginalized groups, as well as households who lost human capital, when it comes to targeting aid in disaster situations.

Keywords: aid targeting and distribution, coastal commons, social transfers, post-disaster development, reconstruction and rehabilitation, Sri Lanka

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The Public Trust Doctrine and Water as a Public Good

The National Water Policy, 2002 of the Government of India, declaring water as a prime natural resource, a basic human need and a precious national asset, asserts that ‘adequate safe drinking water facilities should be provided to the entire population both in urban and in rural areas, drinking water needs of human beings and animals should be the first charge on any available water, and in view of the vital importance of water for human and animal life, for maintaining ecological balance and for economic and developmental activities of all kinds, and considering its increasing scarcity, the planning and management of this resource and its optimal, economical and equitable use has become a matter of the utmost urgency’. This policy statement by the Government of India signifies an avowal of the water as a community resource held by the State in ‘public trust’ in recognition of its duty to respect the principle of inter-generational equity. The Supreme Court in a number of cases has also interpreted the role of the State vis-à-vis national natural resources in terms of Public Trust Doctrine. Further, explicitly defining its role vis-à-vis national natural resources under the section ‘Principles’ of the National Environmental Policy 2006 Government of India says that ‘The State is not an absolute owner, but a trustee of all natural resources, which are by nature meant for public use and enjoyment, subject to reasonable conditions, necessary to protect the legitimate interest of a large number of people, or for matters of strategic national interest’.

Government of Andhra Pradesh through its recent legislations, administrative actions and irrigation management programmes including Participatory Irrigation Management and water use efficiency is operationalizing the concept of Water of a Public Good and Citizen Right in the state.

Keywords: water, governance, policy, Participatory Irrigation Management

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Estimation of Welfare Losses from Urban Air Pollution Using Panel Data from Household Health Diaries

This chapter estimates the welfare losses due to increased air pollution in the urban industrial city of Kanpur in India. These losses are measured in terms of morbidity costs that people incur due to exposure to high levels of air pollution. The estimated morbidity costs cover loss in work days, reduction in efficiency in performing routine jobs and mitigating activities. The distinguishing features of this study are that it uses seasonal health diary data collected through a household survey and incorporates both working and nonworking people in the valuation of urban air pollution. The total annual welfare losses from air pollution to the population of Kanpur are estimated to be INR 310 million.

Keywords: urban air pollution, household health data, Kanpur
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Co-management of Wetlands and its Contribution to the Livelihoods of Poor People  
The sustainability of open water fisheries in Bangladesh and elsewhere is threatened by increasing fishing pressure, fishing practices, and loss of wetlands. The traditional fisheries management system in Bangladesh is for the government to lease out fishing rights, often to influential persons, this has not limited exploitation to sustainable levels or achieved an equitable distribution of returns. Several projects have tried to establish co-management systems through forming Community Based Organisations (CBOs) and linking these with the concerned government departments.  
A comparative analysis is made of two water bodies - Jethua Beel in Hail Haor supported by MACH project and Goniar Beel in Halir Haor supported by CBFM 2 project. To explore the present water body management systems, various participatory methods were followed and fish catch and household consumption data were analysed. This found that sustainability of co-management and performance of the CBOs are constrained by a lack of clearly defined benefit utilization, a mismatch between resource scale and management initiatives, and a lack of government commitment. The main project-based differences are that fishers of Jethua Beel have access to a revolving fund to invest in diversifying their livelihoods, and the Jethua CBO sits in a higher co-management committee with other CBOs and government.  
Keywords: fisheries, wetlands, co-management

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The Many Faces of the Investor Rush in Southern Africa: Towards a Typology of Commercial Land Deals and Implications for the Commons  
The popular term ‘land grabbing’, while effective as activist terminology, obscures vast differences in the legality, structure and outcomes of commercial land deals and deflects attention from the roles of domestic elites and governments as partners, intermediaries and beneficiaries. As multilateral institutions debate regulatory frameworks – FAO voluntary guidelines, World Bank’s “principles”, G8 “non-binding principles”, AU’s land policy guidelines – competition grows over defining the terms of the debate. Borras and Franco (forthcoming) usefully distinguish two paradigms: ‘securing land rights’ through ‘good governance’, with an emphasis on procedural guarantees and efficient administration; and a ‘food sovereignty’ and ‘land sovereignty’ approach, which questions not only processes through which land uses and rights are transformed, but also the direction of change. Attention must therefore be given both to processes and outcomes, and to alternative forms of investment.  
This paper reviews experiences of recent land deals which have curtailed rural communities’ access to land and water in Southern Africa. Drawing on a regional review conducted during 2010 of the rise of commercial land
deals, it summarises initial evidence of the characteristics of this new wave of deals on communal land, and maps the distribution of these investments across the region. The paper proposes a schematic analytical framework for distinguishing between different types of land deals in the region. It is argued that this is important for considering how investments might be better structured to benefit, rather than bypass, local communities. It addresses questions of scale and duration; initiation and process; production sectors; employment; natural resource use; determination, payment and distribution of compensation; investment partnerships and repatriation of profits; and end users. These dimensions are among the determinants of the degree to which rural communities are excluded from new processes of accumulation, are incorporated on adverse terms, or benefit from new pathways of development.

Keywords: land rights, land governance, land grabbing, land deals, agro investment, biofuels, mining

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Red Wells, Green Wells and the Costs of Arsenic Contamination in Bangladesh

Arsenic poisoning is a major public health concern in Bangladesh that affects between 27 to 60 percent of the population. This study uses primary data to examine health impacts and costs associated with arsenic contamination of groundwater. The study estimates that some 7 to 12 million work-days per year are lost as a result of arsenic exposure. In addition, individuals who are sick spend between BDT 207 (USD 3.5) million to 369 (USD 6.25) million per year on medical costs. Individually, each sick person bears a minimum cost of BDT 1057 (USD 18) or 0.6 percent of annual income as a result of not being able to collect drinking water from ‘safe’ sources. The total cost of illness to households as a result of exposure to arsenic contaminated water is between BDT 557 (USD 9) and BDT 994 (USD 17) million per year for Bangladesh Schooling years are found to have a strong impact in terms of reducing the probability of sickness at the individual level. This shows the impact of education on safe health.

Keywords: arsenic poisoning, Bangladesh

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Mobilization of Stakeholders in Partnership Projects: Lessons Learned from Wetland Management and Knowledge Advancement Programs in Bangladesh

Effective participation of stakeholders in the decision-making and implementation process results in providing ownership or a sense of belongings to both common property management issues as well as in community development projects. In this paper, we have examined the role of selected institutions and their partnerships, which are vital to manage natural resources sustainably, in determining their performance. The first set of development and wetland resource management projects that we have investigated has revealed that the top-down, command and control, expert-oriented natural resource management system in Bangladesh created conditions that facilitated gains of wealth and power by vested groups, accelerated marginalization, exploitation and deprivation of the local resource users and conflicts in resource management. Such management system not only excluded local resource users from their access to and control over resources, but also created opportunities
for degradation of natural resources and thus, undermined their sustainability. These issues and problems in turn generated a demand for cross-scale institutional partnership among government organization (GO), non-governmental organization (NGO) and community based organization (CBO) in resources management to facilitate effective and efficient management of natural resources. The second case has assessed the mobilization process of a collaborative initiative regarding knowledge and practice in natural resource management in Bangladesh. It has been found that establishing a system of participatory governance, including transparency and accountability, from the commencement of the projects of programs are crucial in sustaining the mobilization of stakeholders. A multi-faceted field investigation method has been followed in the study. These included key informant interviews, focus group discussions, participation observation and triangulation. By examining development initiatives in wetland resource management and advancing knowledge of participatory natural resource management in Bangladesh, this paper analyses structures, processes and outcome of partnerships among GO, NGO and CBO to assess its effectiveness in NRM as well as among the universities (as knowledge stakeholders), NGOs, and community-based local organizations. Based on the best practices and lessons learned from the study, sharing of power through appropriate institutional mechanisms, mobilization of diverse stakeholders as well as local resource users in cross-scale institutional linkages and their participation in decision-making processes have been found to be critical for devising effective multi-level institutional partnerships.

Keywords: partnerships, government organization (GO), non-governmental organization (NGO) and community-based organization (CBO), Bangladesh

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Ecosystem Approach to management in South African Small Pelagic Fisheries

South Africa is striving to implement an Ecosystem Approach to Fisheries. Multi-disciplinary Research partnership has been recognized as very important in the development of an EAF. Decision support tools are helpful in synthesizing information from various sources and also serve as tools facilitating communication. For the SA pelagic fisheries, such tools have been under development at the Marine Research (MA-RE) Institute of the University of Cape Town and PLAAS in collaboration with a diverse group of other stakeholders from natural sciences, social sciences, resource management, industry and NGOs since 2006. The multi-disciplinary group that has been collaborating on the initiative has provided good experience in terms of the difference in conceptual approaches, methodological and analytical approaches and how these can accommodate each other. In the short term, the recent geographic shift raises a number of pertinent issues: Is this due to climate change, is it due to fishing pressure? What are the impacts of such ecosystem changes on both natural and social systems? As an example, it has been hypothesized that a change in small species dominance (sardine vs. anchovy) in the natural system that might be reflected in the composition of the catch in the pelagic fishery could influence the genetic diversity of small pelagics, and manifest itself in the social system in terms of the number of jobs in canning vs. reduction. The development of an EAF is thus regarded as extremely important for the natural resource and the social systems that depend on the resource.

Keywords: South Africa, ecosystem approach, fisheries, multi-disciplinarity, natural system, socio-economic system
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Managing Expectations: Reflections on Participatory Modelling for Social Learning in Multi-Stakeholder Projects - The Case of Invest in Fish South West

Marine fisheries is contested terrain. Invest in Fish South West was a four-year project in England’s south west which used bio-economic modelling, alongside deliberation and other participatory tools, to support stakeholders to explore consensus-based recommendations for European marine fisheries. The multi-stakeholder partnership (MSP) aimed to create a united voice to European and domestic policy makers, supported through participatory modelling. The participatory modelling had two explicit aims: to support the deliberative and consensus building process; and to legitimise decisions to policy makers and other stakeholders. This paper explores the experience of modelling as an aid to stakeholder participation and to social learning. In situating the model in the context of the broad analytic-deliberative process, we contend that the model contributed marginally to both stakeholder participation and to social learning. This experience highlights the significance of a networked approach to planning and assessing for social learning and the importance of managing expectations for integrating technical science-based tools into multi-stakeholder platforms. These lessons are vital in an era of post-normal science where multiple knowledge claims are increasingly be made, and tools needed, to support management of marine resources.

Keywords: participatory modelling, multi-stakeholder platforms, marine fisheries, social learning, deliberative processes

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Moving from Environmental Economics to Ecological Economics: What Difference Does it Make for Forest Management under the Carbon Market Framework?

The conceptualisation of nature in environmental economics disregards the most important principle in the relationship between the economic system and its natural environment. A comparative analysis show that the approach from environmental economics orients natural resources management to a merely strategic rationale where the dynamics, changes and responses of ecosystems are ignored in both theory and practice. In contrast, ecological economics gives a leap forward into a shift in the opposite way by providing an energetic flow approach for understanding the impacts of the economic-nature interaction. However, even ecological economics broadens the comprehension on the subject there is still a disconnection between the new knowledge and the policy making process. The successful transfer would have enormous differences in forest management, shifting from the current perspective of them as carbon credits producers for offsetting to a reconstructed framework of local, less intensive and sustainable management.

Keywords: environmental economics, ecological economics, forest management, carbon market

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Creating New Urban Commons, A Baltimore Case Study

In 2003, Baltimore was a city in distress, with over 14,000 vacant houses and a population that had dropped by more than one-third since 1950. Tired of alleyway crime, residents decided to gate and beautify their alleys, creating common spaces outside their backdoors.
Residents faced significant legal and political challenges before, in April 2007, a landmark ordinance passed allowing for alley gating and greening. This historic legislation culminated from the efforts of government, residents, private sector and nonprofit partners, including Ashoka’s Community Greens.

This new ordinance protected the city from frivolous lawsuits and provided residents with a transparent, reasonable, and replicable process. Dozens of blocks in Baltimore are now taking advantage of this ordinance. Because of the social, environmental, and fiscal benefits it provides, other cities are beginning alley greening programs, customized to their unique needs. None, however, appear as community-driven as Baltimore.

Baltimore’s program rests at a unique intersection of grass-roots responsibility (residents must undertake the process primarily on their own including gaining their neighbors’ consents and raising funds for improvements) and top-down, municipal authority (a city wide ordinance and application process that must function in order for the program to spread city-wide).

This paper will explore the context for and the challenges of creating Baltimore’s alley gating and greening initiative. It will also cover the process residents underwent, the legislation that was ultimately passed and the impact alley gating and greening has had to date. In addition, it will address how other cities’ green alley programs are evolving and key elements for replication.

*Keywords: alley, gating, greening, urban redevelopment, commons*

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**Why Does Under-Use/ Abandonment of CPRs Matter to the Local Community? Case Study of Tai District, Toyooka, Japan**

This paper will focus on the issue of under-use and abandonment of CPRs which has been overlooked in its literature. CPR literature has intensively focused on CPRs with incentive to over-use the natural resources which leads to environmental degradation. Due to this slant in the literature or its scarcity, the issue of under-use/abandonment has rarely been discussed, although it is causing serious losses of ecosystem services and repercussions to the local community. The aim of this paper is two-folds:

1. Through literature review, the paper will clarify the interlinked relationship CPRs and local community when livelihood of community members is heavily dependent on the natural resource extracted from CPRs. This will enable us to identify the premises that the current CPRs literature holds and expand its scope to discuss the issue of under-use/abandonment.

2. By using the case-study in Tai-district, Toyooka, Japan, the paper will look into the historical change of livelihood which has lead to under-use/abandonment of CPRs and its repercussion to the local community. This process will be termed as “dis-embedding” process following Polanyi’s argument on the “embeddedness” since community members gradually decreased their dependence on CPRs.

Lastly the paper will investigates into some of the measures that are taken to revive the CPRs using symbolic value of flagship species, Oriental White Storks, which are feeding on the abandoned CPRs.

*Keywords: under-use, abandonment, “dis-embedding”, social structure, wetland management*
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Social Learning in Facing Challenges of Sustainable Development: A Case of Langat River Basin, Malaysia

This paper explains the findings of the research on implementation of integrated river basin management (IRBM) in Langat River Basin, Malaysia. This study utilized institutional analysis and development framework to identify institutional challenges associated with IRBM implementation in the study area. Three categories of action arena were defined and scope for stakeholder participation in decision making was identified. This analysis revealed that polycentric institutional arrangements under Federal administration are capable to coordinate and integrate river basin management by extending the scope for iterative learning processes that could address institutional challenges for adaptive and ecosystem based management approaches. Using stakeholder interview data, binary logit regression model and ordinal regression model analyses were carried out to find out present effect of influencing factors of IRBM implementation and outcome of present learning environment in study area. R2 value for these model analyses were 0.41 and 0.27 respectively at 1% significance level. It was found that social learning could significantly influence IRBM implementation in the study area (Odd ratio for social learning was 17.11). It has opened up scope for future research in the study area. Finding of this study is envisaged to be useful to those who are concerned to strategize IRBM and sustainable development and further research on LRB and elsewhere.

Keywords: Integrated River Basin Management (IRBM) in Langat River Basin, Malaysia

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Digital Commons for Modeling Commons

Computer modeling and simulation are playing an increasing role in understanding, designing, and managing natural resource commons. In particular, computer modeling and simulation make it possible to consider many more complex sets of interactions over time and different actors than would be possible using more conventional research methods. However, these efforts have historically been left in the hands of expert modelers and frequently relied on proprietary and expensive modeling software and computers. This limits the possibilities for reviewing and replicating the results by scientists and public. It also contributes to a situation where already marginalized communities are excluded from the process used to design the policies that will determine the fate of the commons on which they depend. Most importantly, modeling and simulation to understand and influence policy and program design for the benefit of the very poor must also pay attention to ensure that such knowledge is not only developed in a participatory way, but made available to widest possible constituencies. This has motivated efforts to involve more stakeholders in the modeling process using participatory techniques and share the tools, models, and methods for analyzing commons. This paper takes up a set of technical and institutional issues related to creating digital commons for computer modeling of natural resource commons. Only through such a digital commons are we likely to affect change that is beneficial for the most vulnerable and poor.

Keywords: System Dynamics, agent based modeling, computer simulation, participatory methods
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System Dynamics Modeling with Communities: Modeler Perspective

This paper reflects on the application of system dynamics modeling of commons with communities in Andhra Pradesh and Rajasthan in collaboration with FES. This paper focuses specifically on the effectiveness of combining participatory rural appraisal (PRA) methods with system dynamics, the capacity building approach taken in the project, and implications for future work from a modeler’s perspective. The paper highlights some of the ways that this work is being seen internationally in other communities and topical in areas such as health, childhood obesity, community development, and structural racism. The paper also summarizes some of the limitations and challenges that will need to be considered in work to increase participation by historically marginalized communities, and proposes an agenda for future research, capacity building, and action.

Keywords: System Dynamics, Participatory Rural Appraisal, marginalized

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The Role of Leadership and Management in the Governance of Freshwater Wetlands in Bangladesh: An Evaluation of Performance

Bangladesh has enormous wetlands and indeed during the rainy season, about half of the country could be classified as wetland. Generally haors, baors, beels and jheels are commonly identified as fresh water wetlands in Bangladesh. These freshwater wetlands are very important for most fertile and productive ecosystems and breeding ground for fisheries and reservoir for irrigation. But since independence of Bangladesh, large-scale transformations including changes in the landuse pattern, increased human activities, direct extraction and habitat loss have seriously threatened the wetland’s ecosystem. Therefore, it is deemed essential to evaluate the role of leadership and management for sustainable utilization of wetlands in Bangladesh. This study will use institutional analysis, stakeholder analysis as well as SWOT analysis for institutions, wetland rules and regulations in order to get an in-depth understanding of loopholes of leadership and management of wetlands in Bangladesh. Hence this research will contribute to knowledge for new policies that will promote sustainable and an effective wetland management system, which will not only ensures the conservation of wetlands in a sustainable manner but also create a lot of new opportunities for future generation.

Keywords: wetland, Bangladesh, land use, leadership, governance
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Prototype Design Guidelines for ‘Collaborative Governance’ of Natural Resource

Current forest management in Japan and tropical and sub-tropical Asian counties requires collaboration between the local people and outsiders affected by globalisation. When designing the governance of local commons under such circumstances, there are three possible strategies by which local people may respond to external influences. The first is ‘resistance strategy,’ in which people do not adapt to globalisation and mostly refuse involvement by outsiders in order to preserve their autonomy. The second is ‘adjustment strategy’ meant to assimilate the benefits of globalisation. The third is ‘eclectic strategy,’ which is a compromise that incorporates a partial resistance strategy and limited adjustment strategy. This third strategy presents an advantage in reconciling contradictory concepts such as ‘closure/openness’ and ‘inherent values/universal values’. Under this strategy, ‘collaborative governance’ (kyouchi in Japanese) of natural resources could be achieved. This type of governance is organised through collaboration among various stakeholders who have a range of interests in local resource use and management. In the field, however, the opinions of people residing in forest regions, usually minorities with less political power, might not be ultimately reflected in governance, even though equal participation by all stakeholders is formally ensured. In order to overcome such issues, this study offers prototype design guidelines for collaborative governance. These guidelines are derived from and evolved out of the design principles for CPRs, and enable conditions for sustainability of the commons, where researchers have pointed out the importance of linkage with outside organisations and nested enterprises. In particular, this paper proposes three vital guidelines to bring about collaborative governance of the forests: ‘graduated membership’ and ‘commitment principle’, which are underpinned by ‘trust building’.

Keywords: collaborative governance, design guidelines, graduated membership, commitment principle, CPR

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Governing Forest Commons in the Congo Basin: Non-Timber Forest Product Value Chains

Probably eaten by dinosaurs 130 million years ago, today eru (Gnetum africanum and bucholzianum leaves are harvested from the humid forests of Central Africa: the basis of a lucrative US$14 million dollar regional trade and marketed to the African diaspora in Europe. An important source of nutrition in popular dishes and used in traditional medicine, it is remarkable that Gnetum has survived; let alone being the focus of a significant trade. But for how long? Increasing demand and unsustainable harvests have resulted in decreasing availability if this forest vine. These leaves are one example of non-timber forest product (NTFP) chains originating from the Congo basin. Based on value chain analysis, this paper illustrates the variety of arrangements, values, actors and processes involved in getting nine NTFPs including bee products (honey, wax, propolis), bush mango, pygeum, raffia, gum arabic, cola nuts, raffia, bamboo and wild plums from forests to consumers. The study shows that how the forests and the NTFP trade are governed is critical for the continued survival of species and the livelihoods of those...
dependent upon them. These value chains operate in extremes of regulation as well as, paradoxically, voids. Public actors perform market functions and private actors undertake regulatory responsibilities, both in the absence of effective or efficient formal institutions and with multiple, overlapping customary and formal centralised and devolved or decentralised institutions, rights and responsibilities governing forest access, exploitation and trade. The mechanisms used to fill these gaps and create more favourable chains, the values of these products and impacts on livelihoods and forests are described, analysed and discussed.

Keywords: forest, governance, non timber forest products, trade, regulation

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Value Chain Governance and Gender in the Furniture Industry

Value chain analysis has emerged as a novel approach for understanding how power, benefits and costs are embodied and distributed to various actors, men and women. The Indonesian furniture industry demonstrates a long chain of production to consumption, from tree growers, semi-finished producers, finished product producers, and retailers to exporters. Each value chain actor is connected by intermediaries. Indonesian furniture contributed 2% of the global wood furniture trade (valued US$ 85 billion in 2007). This paper describes the role of gender along furniture value chains in Jepara District, the center of Indonesian furniture with annual exports of US$ 150 million to Europe, USA, Australia and Japan.

Studies combining gender with furniture value chain analysis have rarely been undertaken. The study describes women’s roles in every type of value-chain governance namely: market based, balanced network, directed network and hierarchy. Each value-chain governance type generates different kinds of involvement for women in the furniture industry. Market based value-chains provide a case with the lowest level of gender segregation in its production process, but women’s involvement is heavily undervalued. Balanced network chain tends to go toward a clearer gender segregated production for efficiency reason. Directed network value chain type give a stronger inclination for gender segregated processes, and the hierarchical chain gives the strongest one due to the mechanization of its production systems. The study also identifies the major constraints hindering women from competing favorably in furniture production labor markets in Jepara. Although this study is carried out at the local level its lessons learned can be used in other parts of the world. At the global level, we will compare this study with lesson learned from the Chinese bamboo and Zambian honey bee value chain.

Keywords: Jepara, furniture, gender, value chain analysis, governance

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Formalising the Informal Fishers - Small-Scale Fisheries Policy, Marine Protected Areas and its Impacts on Fisher Livelihoods in South Africa, Case Studies of Struisbaai and Arniston, South Africa

With the new democracy, the reallocation of fishing rights favoured an established fishing industry and previously disadvantaged individuals and groups (elite capturing) in fishing communities - thereby excluding the bona fide fishers from the formal allocation process. These bona fide (informal fishers) were categorised as subsistence, artisanal and interim rights holders. The informal fishers were discontented with the rights allocation system and
decided to challenge the allocation system legally. In November 2007, Department of Environmental Affairs and Tourism (DEAT) through settlement agreement with the informal fishers, committed to formalise access rights to the excluded fishers through developing a small-scale fisheries policy. A task team of representatives along the coast together with department officials from Marine and Coastal Management (MCM) are in the process of drafting this policy.

The main argument of this paper centers on whether formalising the informal poor and marginalized fishers through the governance processes involved in drafting a small-scale fisheries policy will decrease their vulnerability and improve their livelihoods. Findings suggest with no one organization representing fishers in the communities of Struisbaai and Arniston (Kassiesbaai) in the southern coast of South Africa the space is wide open for the elite (rights holders) to capture the benefits. Moreover, DEAT’s failure to address access rights equitable and access to Marine Protected Areas have resulted in many fishers entering MPAs, fish undersize species, and harvest lucrative abalone species.

The conceptual framework draws on the concepts institutional dimension of fisheries governance and the formal and informal nature of action space in context of developing a new small-scale fisheries policy for South Africa, and the vulnerability of fishers with weak agency. Data were collected mainly through fieldwork using qualitative methods of key informants, focus group interviews, household interviews, and participatory observations in communities of Amiston and Struisbaai.

Keywords: governance, institutions, fisheries, small-scale, Marine Protected Areas, poaching

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Assessing the Impact of Marine Protected Areas: A Case Study of the Redang Island Marine Park (Malaysia)

Malaysia is rich in coral reef ecosystem. The country has 9,323 km of coastline and 3,600 km² of coral reef area. The coral reefs in the marine waters are the important habitats for fish species and destinations of tourists. The sector contributes benefits to the economy and livelihoods of many resource dependent households. The government has established Marine Parks to protect these coral reefs with a goal to conserve the habitats and to protect marine environment and valuable resources. However, fishing is not allowed in the marine protected areas (MPA) confined within two nautical miles from the shore at low tide. The marine habitats have been declined considerably over the years due to the use of destructive fishing gears, tourist activities and infrastructural development. The management of marine parks is less effective because of inadequate manpower, logistics and financial resources. This paper presents the impact of MPAs on the livelihoods of fishers and other households in the east coast of peninsular Malaysia. The results of this study are derived from a random sample of 300 households who were interviewed with a semi-structured questionnaire and through informal discussions with various groups. The study will highlight the livelihood impact of fishers and other tourism workers in the MPA sites. This study will review the existing management performance in marine parks that affects the coral reefs ecosystems and livelihood options of the resource users. The paper presents some useful information for the policy makers in formulating policies that can promote sustainable use of coral reefs ecosystem.

Keywords: Marine Protected Areas, coral reefs, livelihoods, fisheries
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An Institutional Analysis of Deforestation: A Case Study on a Village Inside Bukit Barisan Selatan National Park, West Lampung Regency, Lampung Province, Indonesia

Indonesian forest areas - established and controlled by the government - cover 120,350,000 hectares or 65.89% of the country’s total land area. They play a vital role in the lives of the poor, in the provision of ecosystem services and in sustaining biodiversity. However, deforestation is currently continuing and damaging 42% of the country’s forest area. The continuation of deforestation, especially in Conservation Forest, the last fortress of the country’s forest areas, strongly indicates an institutional problem of the failure of government to enforce formal laws on forest conservation. This study aims to identify the sources and impacts of this government failure in enforcing forest conservation laws. In order to achieve the research purposes and benefits, I employed a single-case study methodology to an extreme case of the establishment of a village by a local government. Since the village is located inside a National Park, a kind of Conservation Forest controlled and managed by the central government, the establishment of the village triggered conflict between central and local government. For data collection, I conducted field work and used multiple sources of evidence, namely, documentations, archival records, direct and participant observation, and open-ended interviews with relevant respondents from central and local government and non-governmental organizations. This study focuses on institutions and institutional changes which are reflected in the history of the forest area and people at the case study site, the conflict process in regard to the establishment of the village inside the park, and the perception of the parties involved in the conflict. The results show that the government failure in enforcing forest conservation laws, as currently reflected in park deforestation and the establishment of the village inside the park, derived from two institutional problems in the past, namely, (1) government negligence on eight desiderata or requirements of law, that law should (a) be of general application, (b) be publicized or at least made available to affected parties beforehand, (c) be coherent, (d) be prospective in application, (e) be consistent, (f) be clear and intelligible, (g) not require conduct beyond the powers of the affected party, and (h) reflect congruence between rules as announced and their actual administration; and (2) the weaknesses of the law enforcement apparatus. These underlying institutional factors resulted in deforestation caused proximately by agricultural expansion, and the insecurity of the local people, which contributed to further deforestation. To resolve the problems, I offer a policy of forest area rationalization and a change in function of forest area at the case study site from Conservation Forest to Protection Forest, in order to grant local people rights for the utilization of the forest area, to maintain government control, and to reduce the tensions between central and local government. Further, in order to save the remaining forest inside the park, I recommend strong law enforcement, which also must be supported by control of spontaneous migration to the case study site and prudent policy on the establishment of a new autonomous administrative area.

Keywords: institutions, deforestation, forest conservation, National Park

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Challenges to and Potentials of Cross-Scale Linkages for Environmental Conservation: A Focus of Natural Resource Management Network in Kuraburi Estuary

Estuary and lagoon ecosystems pose a special challenge to commons theory and common property resource management by making the exclusion problem and the subtractability problem more difficult to deal with.
Together with climate variability, these areas are physically subject to various influences from not only the coastal and brackish environment but also the adjacent marine and terrestrial areas including watershed. The regional resources in the ecotone spaces pose cross-boundary issues so that elaborations are required to move beyond a community-based resource management situation within a limited area. Under the circumstance, cross-scale institutions that are in tune with the scales where ecosystems function shall be taken into account. Given multiple and heterogeneous resource users are involved in the ecological-social-economic system, building natural resource management (NRM) network consisting of various resource user groups is of importance to deal with the exclusion problem and the subtractability problem.

Based on the recognition, this paper aims to seek for effectiveness and challenges of NRM network building in a case study of Kuraburi Estuary, Thailand where two NRM networks have been already formulated by the initiatives of local peoples and NGOs. This study places emphasis on assessing actual and potential effects of NRM network building while understanding each network activity. It highlighted the significance of NRM network building to mobilize collaborative relationship among the stakeholders while identified several challenges in developing partnership linkages at the vertical level among villagers and NGOs and governments in order to ensure the legitimacy of collaborative works for wise use of natural resource. Based on these analyses, this paper draws some implications about the role of linkages across institutions, and identifications of pressing constraints and positive strengths toward integrated natural resource management in the wider ecotone spaces.

Keywords: cross-scale linkage, network, common arena, heterogeneity, Kuraburi Estuary
The Dilemmas of the System of Common Ownership of Fishing Lakes in Brazilian Amazon

This paper examines the local fishing resources management initiatives, known as “fishing deals”, and the obstacles faced by fishermen belonging to rural communities in Brazilian Amazon. The research was developed among communities from the municipality of Manacapuru, in the state of Amazonas. The field research has produced evidence of the organizational potential, the communicative skill, the social capital and the political culture of fishermen groups that, when threatened by the decrease of some of the fish stock, got organized to control the use and the appropriators of fishing resources in aquatic environments close to their area of residence. Nonetheless, the maintenance of such mechanism is threatened by other groups, interested in the commercial exploitation of the communal territories, since they still lack the State endorsement. According to Brazilian law, the fishing resources are state property and the State alone can legislate on their protection. However, the recent scenery displays the inefficiency of governmental organs in the surveillance and containment of the over exploitation of fishing resources. This has led the people inhabiting the rural areas of the Amazon, such as the groups of fishermen covered by the present study, to develop autonomous forms of management to avoid the scarcity of fish. As a result, a process of decentralization of fishing resources has been in course in Brazil since 2002. By means of complementary directives to the current fishing legislation, the State has created criteria to guide the discussion of the “fishing deals”, enabling their legalization. Nevertheless, the deals established by the subjects covered by this study remain yet to be legalized, leading to the obstruction and impairment of local management systems and giving rise to several social conflicts - since the other appropriators don’t abide to the local rules for the appropriation of fishing resources.

Keywords: fishing, common property, social conflicts

Road space in Hyderabad as an Urban Common: Otto von Gierke’s Cooperative Law Applied to the Discussion on the Use of Road Space in Hyderabad

We propose to present a paper which applies the theory of commons of the German law historian Otto von Gierke (1841-1921) to the actual discussion on the use of road space in Indian megacities, with special emphasis given to road space in Hyderabad.

In the late 19th and early 20th Century, Gierke developed the idea of a common and cooperative “German Law”, which he contrasted against an individualistic “Roman Law” in his book “Das Deutsche Genossenschaftsrecht” (German Cooperative Law). This cooperative law emerged during the middle ages in...
rural communities, brotherhoods and guilds. Groups with collective consciousness developed a legal understanding of common ownership, which defined joint use of commons. This tradition, which he believed to be particular strong in German culture, was a backbone for the success of modern cooperatives and the idea of commons since the 19th Century.

In emerging Megacities like Hyderabad, urban space and especially road space is a hard-fought Urban Common. As the need for mobility is growing, an increasing part of the population is demanding more space of the road. On average, every Indian citizen travelled 285 km a year during the 1950’s. In a span of five decades, the annual travel distance jumped to 3470 km (Singh 2006, 398). As in most developing countries, walking and cycling count for a high percentage of travel in the modal split of Indian cities (Pucher et al. 2005, 190). But, decentralization has affected non-motorized and therefore sustainable transport modes: Trips-lengths have increased for most urban residents, leading to more overall travel demand and thus more traffic on the roadways and public transport systems.

The paper will present the discussion on the use of road space for street vendors, pedestrians, cyclists, cars, buses, two- and three wheelers during the last years, using the analytical framework of Gierke’s cooperative law.

Both authors are members of a long-term applied research project Sustainable Hyderabad*, funded by the German Federal Ministry of Education and Research. Their sub-project Low Emission Lifestyles – Communication and Participation Strategies develops and tests new institutional arrangements to integrate citizens’ views and participation into spatial planning processes.

The planning approach of sustainable transport management schemes has shown so far, that road-space is mainly taken by motorized vehicles and pedestrians are marginalized. This has been verified and documented in the course of a Citizens’ Exhibition (“Ready to Move?!”), in accompanying online-discussions, as well as in a conference (“Citizens Charter on Urban Transport”). All three action research-oriented activities pointed out the lack of safety for pedestrians, caused by missing or obstructed footpaths, leading to a high number of traffic accidents.

These results are taken up in the successive research process. Governance as well as practical solutions for an equitable partake in Urban Commons, like public space and roads, will be discussed in the presentation.

* The full title of the project is: Climate and Energy in a Complex Transition Process towards Sustainable Hyderabad – Mitigation and Adaptation Strategies by Changing Institutions, Governance Structures, Lifestyles and Consumption Patterns. Coordinated by: Humboldt-University of Berlin.

Keywords: megacities, India, cooperative law, road space

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Promoting Sustainable Collective Action: Lessons from Behavioural Sciences

Several tools and techniques are used by psychologists and the counsellors for behaviour shaping. Some of the techniques such as contingency management of reinforcement, modelling procedures and rational emotive approaches have considerable relevance for community groups. In community development activities, rights and incentives provided for motivating community members act as reinforcement for collective management of resources. If the benefit flow from collectively managed resources increases, it further acts as reinforcer. The extension activities such as exposure visits to some exemplary cases or success stories provide as models for communities. The participatory exercises, community meetings and other sensitization activities act like rational emotive approaches of behaviour shaping. This study has been carried out in south Rajasthan where Joint Forest
Management approach has been implemented for nearly two decades. The delivery and process of community development activities in selected villages were analyzed in each community to understand how they compared with the community behaviour shaping approaches. This was then related to the effectiveness of community institutions. The results indicated decline in effectiveness of institutions in many cases which was primarily associated with absence of proper scheduling of reinforcement while delivering development activities. While in some cases sustained collective action was observed where a combination of factors motivated community members. In overall, it was evident that collective action remained sustained when the combination of rights, incentives, benefits and sensitization processes was delivered in a manner that they acted as reinforcers of the desired behaviour. Based on these observations, a strategy of delivering a combination of development interventions is discussed to promote sustainable community institutions.

Keywords: behaviour shaping, participatory forest management, contingency management, collective action, reinforcement

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Providing Incentives for Sustainability: Rationality Beyond Economic Considerations

For achieving sustainability through collective management of forest and other natural resources, the incentives should be attractive enough that communities feel motivated to regulate the use of resources. When people have rights over the resources, they can derive benefits from products flowing from the resources. If benefits are not significant, additional incentives can be provided to communities through development investments. With this consideration, many government and non-government agencies, implementing the participatory resource management programmes, emphasize on providing additional incentives in various forms to local communities. This paper examines the effectiveness of such provision of incentives in motivating local communities for sustainable management of resources. The analysis is based on some case studies from Rajasthan and review of information from other parts of India, where different forms of additional incentives have been provided by implementing agencies, in addition to the benefits flowing from the resources managed. This revealed that it is not merely the economic incentives, which always motivate communities. Rather it is the emotional attachment of people and feeling of belongingness to resources, which drive people’s action. The rights, benefits, additional incentives in terms of development investments and emotional attachment make a combination which needs to be considered in totality. However, generally this understanding is hardly applied in the programmes being implemented, and as a result sustainable collective action is often not achieved despite several efforts and considerable investments. Based on this analysis, this paper outlines key considerations of a strategy for achieving sustainable collective action.

Keywords: sustainability, incentives, collective action, emotional attachment
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Changing landscapes of democracy, rural governance, traditional power and degraded commons in a former apartheid homeland

This paper will review the role of the South African Traditional Leadership and Governance Framework Act (TLGFA) of 2002 in resuscitating defunct tribal boundaries and authorities in four villages (Ndlambe, Ngqumeya, Prudhoe and Rabula) in a former apartheid homeland (Bantustan), the Ciskei. Apartheid-era legislation imposed tribal boundaries and authorities without consultation and consideration of actual practices and realities on the ground. In certain parts of the former Ciskei this imposition led to dissent and resistance that over time led to the eventual collapse of the tribal boundaries and authorities. By the time of the transition from apartheid to a democratic political dispensation these were replaced by diverse, community-based systems, rules, structures and mechanisms of local governance, justice, management of common property and customary law. These regimes were also shaped by post-1994 legislation on rural local government and traditional leaders. Legislation on rural local government made it possible for former homeland rural areas to be incorporated into democratically-elected municipal systems and structures. On the other hand, the TLGFA together with the Communal Land Rights Act of 2004 have re-enacted apartheid-era tribal boundaries and authorities.

Based on continuing research in the mentioned four villages, the paper will trace the impact of the TLGFA in resuscitating tribal boundaries and authorities, and on local experiments with community-based systems, rules, structures and mechanisms. The traditional councils seem to be an emerging terrain of struggle. Key questions addressed in the paper are: what is the relevance and implications of contestations over rural governance in the former Ciskei to meanings and debates on boundaries of authority, identity, common property and space? What are the implications of changing landscapes of rural governance, tribal boundaries and traditional authorities in the former Ciskei for the management of common property resources?

Keywords: customary law, common property, traditional leadership, boundaries, land, rural governance, democracy

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Microfinance, Gender and the Commons: Current Challenges and Future Possibilities

Microfinance encompasses a broad range of financial services provided to people or groups of people otherwise unable to access mainstream financial services. Microfinance has gained importance since the 1980s within the international development field as an effective tool to alleviate poverty, and in many contexts, it is also understood as an effective tool for addressing gender inequality (Armendariz and Morduch 2010; Hulme and Arun 2009). The Microfinance institutions (MFIs) work on the premise that poor people are unable to engage in income generating activities due to inadequate access to saving, credit, insurance and other such financial facilities. Therefore, MFIs around the world concentrate their activities on providing these services through innovative means to suit each country’s unique needs. It has become a vast global industry involving a continuum of interest groups, ranging from non-for-profit organizations to corporate banks. This paper argues that the predominant microfinance model of lending to the poor, especially women, through group collateral has significant association with the utilisation of commons. A majority of the loan recipient of microfinance loans in the developing world make at least a part of their living by utilising common pool resources (CPR) such as forests, fisheries, agricultural lands, mineral resources, waterways and the like. Since the loan size offered through microfinance initiatives is small, it is tempting to ignore the environmental impacts of income generating activities (microenterprise) that
are undertaken by recipients of microfinance. But the volume of microfinance loans recipients around the world, 106,584,679 million as of 2007 (Daley-Harris 2009), is large enough to warrant further research on the association between microfinance, gender and the commons. This paper seeks to draw the connection between microfinance, gender and the commons. In doing so, the paper proposes a broader theoretical framework, the Capability Approach, to evaluate microfinance initiatives which can accommodate gendered as well as environmental concerns.

*Keywords: gender, microfinance, commons, Capability Approach, poverty, development*

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**The Future of Pastoralism in Central Himalaya under Changing Scenarios of Nature ‘Conservation’**

Pastoralism in the high altitude Himalayan and trans-Himalayan region is an important source of sustainable livelihood where due to extreme climate conditions and rugged topography intensive agriculture is not possible. The developments in last decades have tracked the remote mountain populations from the mainstream economic growth to the peripheral existence. The situation of mountain pastoralists and forest dwellers has deteriorated substantially due to negligence and political unwillingness. The Van Gujjars, a forest dwelling semi-nomadic buffalo herder community of Indian Central Himalaya, is facing the uncertain future due to changing rules of power of states and pressure from ‘conservation’ lobbies. They are crucially dependent on their surrounding forests and alpine pastures for fodder, fuel, food and building materials. But now they are losing their common grazing resources and prohibited to enter into traditional alpine and tree line grazing meadows (which are now under Govind National Park, Uttarkashi) with their buffaloes in 2009. Overgrazing is a major threat to vegetation and biodiversity, but it is well researched that moderate grazing is essential for maintaining species richness of forests and alpine. Sudden complete removal of grazing livestock from the forests and alpines traditionally maintained by grazing without any scientific study, may cause reverse results (loss of species richness due to over dominance of some species) as happened in Valley of Flower National Park. The Bhotiya tribe of northern districts of Uttarakhand transformed their livelihood as well as lifestyle from livestock (goat and sheep) herding to jobs in towns and cities with a huge government plannings and support. There were no question marks before them when they left the life of pastoralists as it is in case of Van Gujjars. This ethnic forest dwelling community is forced to leave their grazing lands to provide space for ‘nature conservation’ without any reasonable solution for their future. The traditional sustainable relation between the ethnic society and nature is on threshold.

*Keywords: Indian Central Himalaya, pastoralism, Van Gujjars*

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**Towards Examining A Spill Over Economy**

At the heart of capitalist enterprise is a sacred view of property. This idea of property informs our understandings of physical and knowledge commons. Property is by its very nature, located in an exclusivist relation to a resource or a commodity. It is “exclusively” owned and by its very nature prevents others from accessing it, unless granted permission to do so. It is in the Locke an sense, the fruit of someone’s labor. This Locke an view, the transformation of nature into property through the exertion of one’s labor power, is at the heart of all dominant
political economic understandings of property: whether tangible or intangible. Ideas of productivity and capitalist efficiency have been further built on the economic and political freedoms that such property allows its owner. Much of the legislative energy in modern capitalist systems is therefore devoted towards a free and untrammelled exercise of such rights and towards preventing others from trespassing such property rights. Such logic has worked impeccably for the capitalist enterprise. However doubts appear to be surfacing regarding whether such exclusivity in the use and exercise of property is necessarily productive. In other words can an enterprise become more robust if instead of preventing others from accessing the fruits of its labour it actually encourages a “spill” over so that others take advantage of such spills and build better [more inclusive] systems? The idea behind a spill over with respect to knowledge in particular is that by actually encouraging others to use “your” [so called propertyed] knowledge or by relinquishing control over knowledge there emerges an even greater likelihood that such knowledge is more effectively used. These are referred to as the anti-rivalries characteristic of a good by Stephen Weber, such as Open Source Software [i.e., goods with spill over characteristics].

Are such “spill over” characteristics the building block of a new form of knowledge commons? Does it militate against the dominant ideas of property as held by classical political economists of nineteenth and earlier centuries, and which largely forms the normative basis of our current understanding of property relations? What are the implications for an economy that encourages “spillovers” as opposed to an economy that is deeply anxious of such spillovers? These are some issues that need further examining and investigation.

Keywords: knowledge commons

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The Changing Climate of Carbon Accounting at Commons

The fast degrading environment after the Industrial Revolution has been a classic case of the “Tragedy of Commons” wherein International Community has an “open access” to environment as an externality, largely without any effective regulations in place. Both the extreme forms of monopoly – whether absolute Statism or the Invisible Hand of Free market – have been proven not only ineffective, but even counterproductive in the management of environment as a common pool resource (CPR). The peripheral stakeholders of the Commons who have no control in decision-making, but heavily dependent on CPRS may turn hostile if they see no stakes for themselves in preserving the Commons. The role of planned agricultural projects and tribal communities and other forest dwellers in reducing the greenhouse gas emissions through deforestation (REDD Plus) on one hand, and the contribution of small and marginal farmers in the mitigation of climate change through sustainable agriculture on the other hand, have been blatantly ignored for their potential of carbon sequestration. These two groups have been treated more as a part of the problem, rather than solution. However, the recent policy shift at UNFCCC, at least in principle, and FAO’S new guidelines for the mitigation of climate change through agriculture (MICCA) have brought community involvement and participatory management of commons in agriculture, forestry and other land use (AFOLU) to the Center stage of climate change framework. It is in this background that the opportunity in Commons has been rediscovered in inculcating active participation of local communities at regional level and in generating consensus among the quarrelling nations.
at global level on climate change, in treating environment as a Global Common, rather than a commodity. Of late, there has been a realization that traditional community management institutions go beyond and far above the logic of game theory in meeting the goals of sustainable development. The proposed paper depicts Environment as a global common and explores the potential of economic, technological and institutional instruments in agriculture and forestry in metamorphosing the ‘tragedy of commons’ into an ‘opportunity in commons’. With the natural advantage of countries like India and others who have a larger portion of the GDP contributed through forestry and agriculture which needs planned efforts for management its being proposed through the paper and presentation leading to a peer group review that interests of the countries like India who have lot more at stake due to a naturally larger period of the year available for agriculture and employment of people who depend on the same should also be eligible for special CERS under the CDM program of UNFCC, enabled through a National Carbon database project which goes into the economic planning database. Efforts are underway to institute a detailed project with GOI and MOEF in this space, subsequent to a Peer group review and academic discussion across experts and institutions with an interest in guiding policy and international opinion in this space as the UNFCC evolves and accepts the REDD recommendations gradually.

Keywords: climate change, environment, global common, cars

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Analyzing Policy Environment for Securing Access and Legal Entitlements to Grazing lands - Rajasthan Scenario

Rajasthan is the largest state in India with nearly two third of its area in the arid or semi-arid zone. In large parts of the state mixed farming is predominant with animal husbandry and agriculture forming the primary sources of livelihood. Over the past 22 years (1984-2007), significant quantities of common lands, most of which being grazing lands have been diverted for other land uses. Further, grazing lands have degraded due to the lack of tenurial rights to communities and effective governance mechanisms. Poor livestock keepers in the absence of water and fodder need to migrate with their livestock to new frontiers increasing their vulnerability.

The Rajasthan Panchayati Raj Act provisions to facilitate the Panchayats to mainstream natural resource management, regenerating village commons and more importantly work towards management and appropriation of the resource thereby facilitating the sustainability of the works undertaken under different programmes. The paper attempts to analyze the present Acts and Policies and make propositions for securing tenure in favor of the communities and thereby improving the governance of the common lands.

Keywords: public policy, Rajasthan, grazing lands

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Institutionalizing Common Pool Resources Insights from Tawas Fisheries Co-operative

With growing concerns over tribal rights and amidst continual raw between the government and peoples co-operative for the livelihood of tribal population, there are many supporters of a decentralised people’s co-
operative management for natural resources. Based on this premises however, this paper looks into micro realities to unearth the foundation of co-operative management to explore what induces co-operation or conflict. How the decisions at the constitution of the co-operative affect daily operations? What needs to be done to ensure the relevance of the institution with changing circumstances? With the case study of Tawas Matsya Sangh, we explore the internal and external dynamics of the co-operative and their effects on the livelihood of the people. This paper concludes that the co-operative system works very well when equity among the members is ensured, even when the composition of the group is heterogeneous. Further it concludes that all the potential members who can benefit from the resource system must be included in the co-operative. It reiterates the age-old conflict between equality and efficiency and suggests that pursuing one on the expense of other is not a wise decision.

Keywords: privatization, participatory socialism, social movements, communal councils, new state forms
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Democracy and Environmental Governance in Africa

Democratic decision-making in environmental governance has been forwarded as a means of securing environmental sustainability. In practice, however, it should be expected that public support for the environment can be withheld, or at worst it could assume the dimension of blocking the environmental conservation project. This paper inquires into how democratic participation in environmental governance may interact with the institutional settings to undermine environmental sustainability. Because of the dominance of positing a positive relationship between democracy and environmental sustainability in the literature, we investigate in this case the possibility of alternative scenarios, namely democratically generated unsustainable environmental outcomes. Cases from Kenya are used to examine this possibility. The conclusion suggests that a positive relationship can be anticipated with certainty only if specified at the level of voters who are defined as green.

Keywords: democracy, environmental governance, Kenya, qualitative research, sustainability

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Dealing with Extraction of Mineral and Oils Underground

It is a well known ecological fact that the best known forests, river basins and fertile landscapes are also rich below ground with natural resources such as fossil oils and minerals (United Nations, 1970; World Bank, 1977). Added to this is the fact that the history of the world has seen a continual modification of the landscape of the earth both above and underground for anthropocentric purposes. Thirdly, it is also well known to all scientists that most of such land conversions are irreversible. How to reconcile these three, as the coming ‘spaceship Earth’, a word borrowed from Kenneth Boulding is sinking?

Referring to Indian sub-continent, Indian sub-soils are rich in onshore and off shore crude oils and gas, coal, iron ore, copper, bauxite and many such minerals, all of which fall under the category of exhaustible resources. They are locked under a total forest area of about 3.29 million sq kms of land, about 8.4 million ha of rivers and streams, and another 2.1 million ha of water bodies, 55.5 million ha of sandy areas and so on. It is also the land of quite high population density (324/sq km) dependent on agricultural lands (of about 200 million ha). Of all variety of land use categories, the common lands dominate with an area of about 83 million ha. This includes the forestlands; pasture lands, and current fallow and Cultural wastelands. As has been the practice through the development process, these lands have been the first targets for land conversions for extracting minerals and oils.

As argued by Dasgupta and Heal (1979), Pindyck (1978) for this sub-continent, we need to give a very special attention to conversion of such common property resources.

Though it is a value judgment over intergeneration, precautionary principles and search for alternative resources for exhaustible and even replaceable resources prompt some legal binding, politically and socially adherable rules of governance.

Keywords: fossil oils, land conversion, common resources, governance
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Definitions of Homogenous Groundnut Production Domains- A Tool to Assess Transferability and Spillover Effects From ICRISAT Groundnut Technologies  

Sustained, well-targeted, and effectively used investments in R&D have improved agricultural productivity worldwide and thereby contributed to food security. In this context, research spillover effects refer to a situation in which a technology that is generated for a specific target region or product is also applicable to other locations or products that are not targeted during the research process. The focus here will be the across-location spillovers, which occur when a technology designed for a specific target location is also applied in other locations (Deb/Bantilan 2001). Efforts to quantify these effects have shown that their contribution to the overall impact can be substantial at times (see e.g. Davis et al. 1987, Brennan et al 1997). The thorough understanding and quantification of the spillover effects that emerged from past research is one important tool in the priority setting process of international research institutions like the CGIAR centers in order to maximize their impact.  

Based on the methodology developed by Davis et al 1987 and others, this paper will enhance the measurement of potential agro climatic homogenous spillover domains using example of the International Crops Research for the Semi-Arid Tropics (ICRISAT) groundnut research and variety release. Due to the regionalized structure of ICRISAT and other CGIAR centers, a special focus is set on the interlinkages among the African and Asian locations. Results show that the spillover potential is rather high based on agro climatic similarities across the locations. Nevertheless, the actual spillover realization is by far lower due to differences in market structure, governance factors and other socioeconomic factors. To overcome these bottlenecks through new innovations along the research continuum as well as along the commodity value chain is crucial in order to achieve higher impact from the funds invested and therefore increase the poverty reduction impact from ICRISAT research.  

Keywords: spillover effects, Africa and Asia, agricultural research, priority setting, budget allocation  

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State Policies Transnational Adaptations and Development Futures of Coastal Commons in India  

The common property nature of coastal commons continues to challenge the governance process in India. The spatial restructuring envisaged in the Indian Marine Fisheries Regulation Act 1980 which partitioned the Indian exclusive economic zone between coastal states and the central government did not succeed enough to resolve complexity of management and needs of various coastal communities. Commons ruined further, economic disparities widened and social conflicts escalated many fold. Nation State blamed its federal counterparts for the degradation of coastal commons and decided to strengthen centralized management authorities further. Policy makers on the other hand strongly believed that more centralized powers and controls are essential to manage the problems and proposed a number of legislations to strengthen Central government’s control over marine commons and to protect the customary rights of traditional fishermen. This paper critically explores the implications of the newly proposed legislations and policies to accommodate and promote transnational interests in coastal commons in India. The paper analyses the salient features of the proposed bills with special reference to the roles envisaged to fisher communities, industrial fishing enterprises and non-governmental organizations in the management of coastal commons. It summarizes the probable risks and opportunities of the shift in policy  

Keywords: coastal commons, trans nationalism, policy making, governance, nationalization
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Exploring Interconnections between Biodiversity and Cultural-spiritual Diversity and Development of Driver-specific Cultural-spiritual Vulnerability Indices in Riparian Systems in Some Developing Countries

Cultural and spiritual diversity and natural biodiversity are deeply linked, mainly because biodiversity hot spots are also locations occupied by diverse indigenous peoples who have had a living interaction with the biodiversity of their surroundings as part of their living and for whom local biodiversity is an important livelihood resource. However, cultural and spiritual diversity is also a value in itself because cultural practices and preferences a) represent and are an expression of diversity that parallels natural biodiversity in the natural (biophysical) world and b) have historically evolved in interaction with the natural biodiversity in an area and so have an important role in preserving/reducing biodiversity. Spiritual diversity is often linked to spiritual values and ritual dos and don’ts that preserve biodiversity through reference to there spiritual rather than simply cultural aspect. An important example is that of ‘sacred groves’ in India.

Seen in the context of biodiversity, cultural and spiritual biodiversity may be seen as well adapted context specific coping/resilience mechanisms with important learning’s and insights for biodiversity preservation. Modern processes, ranging from global to local, tend to disrupt the relationship between biodiversity and cultural and spiritual biodiversity and create cultural and spiritual vulnerability. Coping with them and minimizing these vulnerabilities is now coming to be recognized as being as important as coping with socio-economic and biophysical vulnerabilities.

The paper explores the interconnections between natural biodiversity, livelihoods and cultural and spiritual diversity among the major communities in the four riparian case study area in the Terraba River Basin in Costa Rica, Ba Be and Na Hang protected areas in Vietnam, the area surrounding the Kruger National Park in South Africa and the Warna River basin in India. It also suggests the development of driver-specific vulnerability indices as a methodology to help develop developmental strategies that can minimize cultural and spiritual vulnerabilities and attempts to apply them in the case study areas.

Keywords: biodiversity, indigenous, cultural and spiritual diversity, vulnerability indices, coping/resilience

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Protecting of Reservations in Irrigation schemes- Legal, Institutional and Social Issues

Reservation in an Irrigation scheme which is a very important common that is needed for the sustainability of the whole system, can be broadly classified in to two types, one on the catchment and the other associated with the headwork’s and down stream system. Reservation on the catchment is usually set apart to ensure quality and quantity of inflow to the reservoir. Due to limited land resources in a country like Sri Lanka, it is difficult to enforce strict regulations on catchments. Most of the time it is considered as a buffer zone where certain human activities are allowed as long as these do not conflict with the prime objective of the catchment reservations. But the reservations set apart adjoining the irrigation headwork’s and downstream system are to be protected strictly as areas thus reserved are essential for safety of the structures, use as access by the operation and maintenance personnel or may need for future developments of the project.
In the recent past it was observed that incident of encroaching irrigation reservation had been increased. It was further observed that authority over the reservations is vested with many government organizations, which are individually responsible for land, or environment matters in the scheme or operation & management of the scheme. Overlapping these functions had prevented timely action on unauthorized activities in the reservations. In this paper shortcomings in the current legal and institutional framework will be discussed with the suggestions for improving the system. The social background that led the individuals to encroach the reservations also will be highlighted to suggest what intervention the government can make to control this situation.

Keywords: reservations, encroachments, conservation

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Computer Mediated Communities: Stretching the Boundaries?

Literature on Common Property Resources (CPR) mentions the role of communication process in evolving consensus use arrangements and commitments. It refers to the significance of communication in the context of arriving at joint use strategies and availability of information (regarding the resource) as a precondition to pose and solve allocation problems (Ostrom et al, 1992). In these works, information is rarely seen as a stand-alone resource.

History of communication technologies reveals distinct phases and the age of interactive communication began in 1946 with the invention of mainframe computer (Rogers, 1986). This has led to the capacity to communicate across barriers of space and time in an interactive manner-giving rise to what is commonly referred to as information society.

Information society is characterized by exponential growth in the production, flow and access to information through spread and use of digital communication technologies. These newly created Computer Mediated Communities (CMCs) share many features like interaction, common purpose, a sense of identity and belonging, shared norms and unwritten rules with possibilities of exclusion or rejection in case of misuse, with real communities (MC Quail, 2008). If information is viewed as a resource, can the principles surrounding the governance of Common Property Resources (CPRS) be applied to its usage in the era of digital communication technologies?

This paper examines the idea of information as a resource and its conception as a CPR in the present scenario. Further, it compares the characteristics of virtual communities’ vis-à-vis real communities that use and share conventional CPRS. It is proposed that information is a resource and technology has led to its increasing use as a common property. However, some features of Computer Mediated Communities pose a challenge to its access and use age.

Keywords: communication, digital technologies, information society, computer mediated communities

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External Disturbances and Institutional Responses in Management of Small-scale Irrigation Systems in Pakistan and Nepal

Irrigation systems operate under the environment of pressure from several external and contextual factors. The small-scale community irrigation systems are exposed to the risks from fluctuating natural events such as increasing
floods unpredictability due to irregular rainfall patterns; droughts and degradation of riverbeds and soil erosion. In such context, this paper looks on the institutional change and resulting water rights and operational rules-in-use in the small-scale community-managed irrigation systems in Pakistan and Nepal. The findings show that farmer-managed irrigation systems (FMIS) have been better able to cope with such external disturbances by following the local irrigation customs and collective action. In contrary, the agency-managed irrigation systems (AMIS) working under strong bureaucratic control and fixed rules are facing serious threats. The study draws conclusion on how the two different management regimes governing irrigation systems leads to different operational rules-in-use and management outcomes; and their ability to cope with the external disturbances.

Keywords: external disturbances, institutional change, water rights, Nepal, Pakistan

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The Collectives’ Conundrum: Explaining Communities’ Poor Enthusiasm for Collective Forest Rights

‘The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006’ has been heralded as a remarkable departure in India’s forest governance. With a stated objective of correcting “historical injustices”, the act devolves statutory power to village assemblies to deliberate around questions of individual and collective forest rights. While many commons initiatives are marred by insufficient rights devolved to local communities, the FRA apparently addresses this issue. However, for the two years that the act has been in implementation, number of collective claims filed under FRA has been abysmally low. This paper attempts to explain this puzzling phenomenon by investigating the gamut of institutions that impinge on the community’s decision and actions toward staking claims for collective forest rights provided for in the act. Based on yearlong fieldwork, the paper considers political economy consequences of institutions and arrangements related to forest conservation and electoral politics at micro-, and meso-levels. A careful inquiry into the subjectivities of actors involved reveals why actions may not align with incentives visible to the analyst.

Keywords: institutional analysis, political economy, right-based approaches, multi-method research, South Asia

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Missing the Woods for the Carbon? Scrutinizing Carbon Forestry Programs for Sustainable Development

Amid the heated debates around REDD financing, little attention is being paid to the effectiveness of REDD at promoting local sustainable development, despite this being a stated goal of its CDM predecessor. A great deal of empirical and theoretical literature now argues the importance of linking global projects with local incentives to ensure long run program viability. We add to the debate over REDD through a theoretical and empirical analysis of the institutional architecture that REDD is likely to inherit from CDM forestry projects. We begin by first analyzing the circumstances under which the idea of market-based carbon trading came to be institutionalized under Clean Development Mechanism (CDM). This piece of history characterized by bargaining among major geo-politic players, led to the institutional arrangements that were put in place, which in turn continues to define
the contours of debate around carbon forestry. Second, we offer a theoretical analysis of the proposed REDD institutions by employing a lens of New Institutional Economics – by focusing on transaction costs, incentives structures, and property rights of local forest users to better understand implementation on the ground. Given the contested nature of forest tenures around the world, particular attention is paid to discussing property rights in carbon credits to be traded under REDD. Implications of the incentives structures and property rights are drawn for proper monitoring and enforcements. Finally, insights gleaned from theoretical analysis are buttressed by an empirical analysis of reported results of the carbon forestry projects implemented in Africa, Asia, and Latin America under the Clean Development Mechanism (CDM), and voluntary carbon markets. At the end of this analysis we pose important questions for sustainability of REDD interventions and implications thereof for climate change mitigation and adaptation

Keywords: institutions, governance, forests

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“Sensing Subjectivities”: Methods for a Thick Understanding of Complex Institutional Contexts

Institutions are recognized to be vital to all human endeavors. Important work has been done by common property scholars in analyzing institutions and how they affect governance of common pool resources. Perhaps more could be done in reflecting upon, and making explicit the research strategies that help scholars grapple with institutional diversity and complexity. This is particularly relevant to traditional societies characterized by hierarchical social relations, cultural institutions, and in many cases, a deeply feudal and colonial past. How exactly do scholars account for the overcrowded space of ‘institutional context’? The present paper is an attempt at contributing to the goal of reflecting on and scrutinizing methods for institutional analysis in such contexts. The point of departure for this paper is the proposition that in effect, institutions are ‘rules of the game, as understood by the subjects in question’. Such understanding is shaped by the processes ‘beyond the everyday’ that make the ‘everyday’ happen, as scholars of institutional ethnography have argued. However, subjectivities owe a great deal to the historical accumulation of institutional memories passed down through lived experiences of the subjects. This paper thus expands the institutional ethnography approaches and applies it to a study of the institutions of property rights operating in the ambiguous zone between legality and illegality. Such ambiguous spaces are often inhabited by a variety of institutions in social, cultural, and political milieus that must be accounted for by institutional ethnographers. In doing this, we also enlighten the concept of ‘institutional interlocking’ in novel ways.

Keywords: power, authority, social exclusion

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Forest, People and Livelihoods: The Need for Participatory Management in Jig Me Singye Wang Chuck National Park, Bhutan

Forest conservation in Bhutan is dubbed a success because of the ratification of several international conventions at the international level and enactment of several acts at the national level. The success of forest conservation in Bhutan is further supported by the fact that the 72.5% of the country’s total land area under forest cover and
declaration of more than half of the total land area under protected area systems. However it has been observed that residents in protected areas are dependent on the forest resources such as fuel wood, timber and NTFPS for their livelihoods and suffer from restrictions caused by PA management and loss of financial support from donor agencies for conservation. The research presented here is carried out in Jig me Singye Wang chuck National Park (JSWNP) in Bhutan, which is gazetted in 1995. It examines the experiences of forest resources use by the local communities in JSWNP in Bhutan in the last fifteen years and assesses knowledge perception and attitudes of the people to Park Forest management and to show the constraints and challenges of the forest management and conservation in Bhutan. This paper also recommends for the suitable institutional arrangements including decentralization for ensuring livelihood options for rural people and augmentation of forest resources, as both are crucial for the nation’s development.

Keywords: forest conservation, Bhutan, livelihoods, local community, decentralization

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Criminal, Weed and Vermin: The Ecology and ideology of ‘Wastelands’- Towards a Historical and Pastoral Perspective

As in many other aspects of contemporary concern the basic foundation of policy that shapes our approach to grassland resources was formed during the years of colonial rule. As against primitive forms of accumulation based on force, colonial systems of extraction were primarily economic. The Criminalization of groups formed a part of this process. It was not only human beings however that Colonialism marginalized, the logic of exclusion extended to other species as well. In much the same way that colonialism created the criminal tribe, that it created the Vermin, we believe it had a role to play in the construction of the administrative category that we call wastelands. Like Vermin, weeds were not born they were made. In the years following independence the discourses on criminality eventually gave way to an altogether different framework; whereas the colonial state had sought legitimacy in the language of ‘Law and Order’, the post-colonial state evolved the language of ‘Development’. The manner in which mainstream development impacted on the grassland habitat was largely shaped by a focus on productivity and marketability. In practical terms this meant an emphasis on agricultural expansion and intensification. So also in the larger thrust of development priorities within the area of primary production, grasslands had not only a very small and insignificant place, what perspective did exist was largely based on reasoning which in the long term actually ran contrary to their sustainable and ecologically sound utilization. Last but not least development intervention directly and indirectly undermined the institutions that supported grasslands. In recent times this process has become more systematic as the state has sought to appropriate large tracts of grassland in the interests of private industry. It does appear tragically that history repeats itself and India since independence had much the same vision of grasslands, as did the colonial rulers.

Keywords: development, pastor lists, grasslands, ideology

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“Moderate Industrialization” and Commons: Alternative Development Strategy to Oil Palm Plantation in East Kalimantan, Indonesia

In this study I would like to propose the “Moderate Industrialization” strategy as partial adaptation of industrialization by simultaneously maintaining local commons in order to realize sustainable community development. Dayaks, an indigenous people in Kalimantan, have been living self-sufficiently with slash-and-
burn agriculture, hunting, fishing and gathering NTFPS. They managed large customary land sustain ably as commons until 1960’s with plenty of natural resources and low population density. During 1970’s, however, large-scale commercial logging forged. Since then, local people have been incorporated in mainstream economy by working in logging company and joining the illegal logging activities. Local commons were disturbed and couldn’t function anymore. Deforestation proceeded dramatically. In 2000’s, logging company activities decreased because of resource shortage. The current central administration enforced restriction of illegal logging. Due to this local people fell into economic difficulty. In such situation large oil palm program by PIR (Perusahaan Inti Rakyat) scheme is expanding rapidly in East Kalimantan. Now local people are required to adopt it. Although oil palm could alleviate poverty and increase local economy, it is well known that it leads to negative environmental and social effects such as large-scale irreversible deforestation, biodiversity loss and wide range of land dispute.

In this study I introduce a concept of the “Moderate Industrialization” as an alternative strategy to oil palm, which is environmentally, and socially sound strategy. It would be realized by establishing small, dispersed but modern high-yielding rubber blocks though UPP (Unit Pelaksana Proyek) scheme. “Moderate Industrialization” thus could play an important role to reconstruct local commons through satisfying household economy needs and relieving utilization pressure for natural resources and might be able to facilitate local people to contribute positively on the issues related to global commons in the stand point of natural resources and biodiversity conservation.

Keywords: oil palm, rubber, PIR, UPP, moderate industrialization

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The Pig Herder and Common Resources in Bangladesh

It is unknown that native pigs are living in Bangladesh and were of an old genetic type found on the Eurasia continent. I have done my fieldwork to investigate the actual conditions of this type of the nomadic pig husbandry since 2007. I followed the herds and observed the feeding and routes of movement. Pig groups were moved in each season, and the depended on the availability of feeding resources. During the dry season, pigs are kept in cultivated fields after harvesting. In the rainy season, pigs can live near flooded rivers. Pigs are also kept in rubbish disposal areas. In my report I discuss the changing relationship between the pig herder and farmer or urban-dweller over common resources.

Keywords: territoriality, conflict, nomadism, land use, commons, pig

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Threats to Common Forest Resources and Resource Regimes: Plantation Development in Laos

Out of the seven million inhabitants of the Lao People’s Democratic Republic (PDR), 80% live in rural areas and engage in subsistence agriculture. Such farmers use most of their land and labor to produce rice, which they often does not have enough of throughout the year. In order to supplement the rest of their diet, farming households depend upon the collection of common forest resources. Forest products also meet other livelihood needs such as house construction, cooking fuel, and income generation. Unfortunately, though, the forests of Laos are quickly disappearing, mainly due to large-scale development projects by foreign investors in mining, hydropower, and plantation sectors. Limited private land tenure reform has occurred in the countryside for agricultural land, but there has been little implementation of communal tenure over common resource land, such as the forest. While informal, communal tenure regimes exist within villages for forest resources, they go unrecognized when such land is granted to foreign investors for private development. As a case study, this research examines a 10,000-hectare rubber plantation conceded to and developed by a Vietnamese company in Attapeu Province,
southern Lao PDR. The study found that most of the granted area was forest land that was both used by farming households and that fell within the borders of their villages. At the time of research, villages had lost large percentages of forestland, thus leading to the degradation of forest-dependent village livelihoods. The ease with which such land has changed hands illustrates the vulnerability of informal resource regimes and the lack of institutionalized communal land tenure in Laos. In order to protect future losses of common resource land, ways must be found to strengthen and enforce communal tenure throughout the country.

Keywords: foreign investment, plantations, forest products, land tenure, Laos

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Action Research in Academia: The Case of the Project “Building Environmental Governance Capacity in Bangladesh” (BEGCB)

The efficacy of action research is contested. The debate is a reflection of the discourse between the ‘positivist’ and ‘constructivist’ approaches to knowledge generation. But if one delves into the basic questions of what is knowledge, who generates it or what purpose it is meant to serve, the differences are narrowed down. There seems to be a consensus that action research has some inherent strength, such as it’s grounding to real-life contexts and problems. Apart from its esoteric purpose of knowledge generation, academic or so-called scientific research also has a heuristic purpose of solving development problems that societies face. Here at its best, action research provides mutual benefit both for the practitioners and academics. The paper builds on this frame and argues that environmental science and management in general, but climate change in particular, warrants building a strong bridge between action research and academia, for carrying out by the latter the dual function of teaching and research in an era of ‘post-normal science.’ The BEGCB project is firmly grounded to this rationale.

Keywords: environmental science and management, climate change, action research and academia

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Chevron’s Seismic Survey, USAID’S Nishorgo Project, the Lawachara National Park of Bangladesh: A Critical Review

The paper mainly reviews the USAID-funded Nishorgo project which is an environmental project undertaken for the conservation of the officially declared protected areas of Bangladesh. This project is based on a co-management approach having the major features of Public-Private Partnership arrangements. Both state and non-state actors including the local communities are the participants in the project. However, the operation of this project coincides with the business interests of the US-based multinational company- Chevron in the project sites. In fact, it conducted a seismic survey in the Lawachara forest areas of northeastern Bangladesh. But the survey raised a public controversy as it violated the municipal laws of the country on wildlife conservation. This paper takes a Gramscian perspective to review the two different but related MNC and donor projects. In this regard, the first project of seismic survey provides a case study for the analysis of Chevron’s operation in Bangladesh, while the second project reviews USAID sponsored Nishorgo. Based on field works, interviews, and content analysis of local newspapers, this paper finds that both projects appear to have some other purposes, which are largely related to the economic interests of the USA. In both cases, members of the local public and private agencies appear to partner with their international cohorts, and neglect the genuine responsibility of conserving the forests, thus further complicating the principles of public-private partnership empirically.

Keywords: public-private partnership, co-management approach, Nishorgo project, Chevron, USAID, forestry project, conservation, co-option, historic bloc
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Participatory Wetland Resource Governance: Role of Local Resource Users in Cross-Scale Decision-Making Arrangement - A Case Study of Hakaluki Haor in Bangladesh

Governance in wetland resources management in most regions of the world is a critical issue that affects millions of people’s livelihood as they depend heavily on these resources. The significance of governance in wetland resource management is not only limited to its primary stakeholders (i.e. fishermen, farmers, local poor and women as their livelihoods are dependent on the resources), but also other stakeholders, such as, policy makers, government agencies, development agencies, researchers, planners, NGOs, local elites, local government representatives, and political agents. This is because of the involvement of the latter groups in the policy formulation, administration, and decision-making process in resource management across the scales. Stakeholders influence and shape the outcomes of governance to sustain collective action in natural resource management. In that respect, considering the multi-stakeholder participatory approach in governance structures and processes of wetland resource management, it is necessary to produce results and attain goals through collective actions. This multi-stakeholder participatory governance approach embraces attributes of good governance, i.e. accountability, responsibility, transparency, fairness and equity, across the scales. Hakaluki haor has been selected for this study, as this wetland provides immense support to livelihoods, to investigate role of local users in decision-making process to take account of their interests in the existing top-down, command and control management system. During our field investigation local resource users were involved in participatory rural appraisal methods. This paper, by evaluating the relative presence or absence, strength or weakness of these attributes of governance, highlighted the form and nature of governance that exists in NRM institutions. Our study finds that effective participation of community-based organization is crucial, especially for the disadvantaged groups, to take a proactive role in decision-making process to ensure their interests in the management approach that promotes the decentralization of power and decision-making. However, strong participation of resource users is also needed to meet organizational demands, i.e. capacity building, empowerment and social conditions. Also, cross-scale institutional linkages, both horizontal and vertical, can create opportunities for multi-level environmental governance in NRM with equitable decision-making processes.

Keywords: Bangladesh, participatory governance, resource users, natural resource, institutional linkages, Hakaluki Haor

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Payments for Environmental Services in Kulekhani Watershed of Nepal: An Institutional Analysis of Mechanisms for Sharing Hydroelectricity Revenue

Valuable services provided by natural ecosystems have been dwindling in recent decades, posing a threat to human well being. Different environmental policy instruments have been devised to tackle this issue. PES is one such approach, which aims to provide economic incentives to resource managers to change their behaviour towards conservation. In recent years, this approach has been promoted by development organizations not only for enhancing ecosystem conservation but also for supporting rural development. In the same lime, many scholars and development professionals have envisioned the PES an option for providing sustainable financing for the community based forest management (Mata and Kerr 2006 and Pokharel et al. 2009) In this context, this paper
examines how scheme of Payments for Environmental Services (PES) has been implemented in collaboration with existing local resource management institutions, particularly community forestry, to try to achieve both environmental and developmental goals. The paper will present the result of a study conducted in Kulekhani Watershed of Nepal which will analyze the institutional dynamics of hydroelectricity revenue sharing mechanisms in Kulekhani watershed of Nepal conducted study on the institutional dimensions of PES in Kulekhani, Nepal. In doing so, it will use the institutional analyze framework developed by Corbera et al. (2009) and Corbera and Brown (2008) borrowing basic conceptual elements from different institutional scholars. The framework consists of the concept of institutional design drawn from the Institutional Analysis and Development Framework of Ostrom (2005); the concept of institutional interplay of Young (2002); and the concept of institutional performance of Mitchell (2008). Based on the analysis the paper will draw conceptual and policy implications.

Keywords: community forestry, PES, institutional analysis, Nepal

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Conflicting Policies: Institutional Approaches Towards Decentralization And Governance Of Common Pool Resources In Kenya

Decentralization refers to ‘any act by which a central government cedes rights of decision making over resources to actors and institutions at lower levels in a politico-administrative and territorial hierarchy’ (Blazer et al, 2005; Meinzen-Dick and Knox, 2001). Kenya’s history of a highly centralized forest governance regime has recently seen a shift in policy and legislation authorizing decentralization in the sector (Forests Act 2005).

But what is it that gets decentralized in the forestry and natural resources sectors? And is decentralization effective in meeting the goals of equity, sustainability and poverty reduction in an environment characterized by conflicting policies? This paper attempts to answer these questions. Agarwal and Ostrom (2001) suggest that to better understand the resource management outcomes of decentralized programs; it is worthwhile to examine the rights and capacities that are transferred to actors at lower levels. Using both primary and secondary data from two Kenyan forest resources, an analysis was done to find out key roles played by relevant institutions in understanding what is expected to be decentralized what policy environments are required to ensure the effectiveness of a decentralized forest resource management system.

Results indicate that despite the similarities in ecology, in the prominence of both forests in local and national economies, including conservation of biological diversity, there are some sharp differences in the institutional regimes for their management.

The study concludes that heterogeneity of community stakeholders which includes: Government institutions (Ministries), Parastatals (KWS & KFS), International organizations and NGO’s should contribute towards reducing their overlapping mandates and policies in common pool resource management. This will not only provide clear jurisdiction of governance but also enhance transparency in decision-making and equitable benefits distribution, which has for long been wanting.

Keywords: decentralization, governance, policies
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**Challenged Commons: Electricity Governance and Provision for Groundwater Irrigation and the Impact on Common-Pool Tank Irrigation in Dry-Land Agriculture in Andhra Pradesh, India**

Subsidized electricity for irrigation in India has led to inefficient energy and groundwater allocation and to the deterioration of tank irrigation commons in dry-land agriculture. The States as ‘natural monopolies’ still predominantly provide electricity infrastructure. Governed in close relation to the polity, electricity supply became an extension of economic policy through subsidization. Andhra Pradesh was at the forefront of restructuring its electricity utilities. An independent regulator and unbundled units of electricity distribution were set up. While accountability of the utilities increased, subsidization has not ceased till today. Which factors enforce this trend? How can a more sustainable development path evolve?

This paper draws from an institutional analysis framework that handles properties of transactions and characteristics of actors and respective situations of interaction. The framework builds upon theories of transaction, infrastructure governance and deploys a model derived from game theory. Economic viability of the involved production systems is calculated. The micro-level analysis is embedded within an institutional choice context of the state with regards to the respective policies.

Preliminary findings suggest that the political economy of subsidized groundwater irrigation is strongly interlinked with tank and canal irrigation systems. Tank irrigation became increasingly neglected as bore well irrigation spread. Although subsidized, groundwater irrigation requires costly and high-risk private investments into bore-wells and pump-sets. In contrast, canal irrigation is largely provided by the state at low cost to the farmers. While regional disparities exist, these irrigation systems have to compete in a common national market and increasingly also internationally. If the state aims at polycentric irrigation and electricity infrastructure governance, a concerted development in tank, canal and groundwater irrigation policies is crucial. This requires knowledge in managing infrastructure as commons. The paper concludes with providing insights into the approaches that are currently under way.

**Keywords:** electricity-irrigation nexus, infrastructure, governance, Andhra Pradesh, institutions

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**Spatial Stakeholder Engagement Method Related To Marine Ecosystem Services**

From oil spills to dead zones to over-fishing, marine ecosystems are showing alarming signs of distress around the world. Marine Spatial Planning, which involves allocating human activities over space and time, promises to improve ocean management and contribute toward restoring, degraded marine ecosystems. My research links Marine Spatial Planning to ecosystem services. Many natural resource decision-makers have begun to account for ecosystem services, the benefits that people get from nature. This ecosystem service accounting has focused on the economic value of nature. Although cultural ecosystem services are frequently mentioned in ecosystem service research, these intangible values have yet to be systematically identified, characterized and adequately represented in Marine Spatial Planning processes. In my case study in northern Vancouver Island, I interviewed a wide array of people whose livelihoods depend on the ocean. Interviewees identified intangible values associated with the ocean and activities on the ocean, some of which was mapped. With the aim of contributing towards Marine Spatial Planning, I developed methods to map the monetary and non-monetary values and threats that ocean-users associate with the sea and identify the limitations of mapping. These methods can inform a wide
array of Marine Spatial Planning efforts in different contexts. My results provide information directly relevant to my research partners, the Regional District Government of Mount Waddington and the non-governmental organization Living Oceans Society.

Keywords: Marine Spatial Mapping

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Social Capital and Cooperation on the Commons - Groundwater Governance in Central and Western India

Policy makers, social scientists, governments and international funding agencies are greatly committed to decentralized natural resources governance as a means of livelihood generation in the developing world. The success of decentralization programs hinge on collective action primarily by the people these programs aim to serve. The impetus for decentralization is a result of the decades of development and testing of the theory of common pool resources (CPRs) including water, forests and fisheries among others. Impressive achievements of CPR theory notwithstanding, it continues to lack an empirically robust and theoretically tractable explanation for the initial emergence of collective action. My research seeks to enhance the theory of collective action for groundwater governance and thus influence decentralization policies. Groundwater governance is a largely overlooked component of watershed management (a key livelihood generation undertaking) in many developing nations even though irrigation is increasingly dependent on this resource. This study hypothesizes that decisions about the extraction of critical natural resources for livelihoods (groundwater) depend on the social capital of individuals and their ability, as opposed to their willingness, for collective action. Social capital refers to social (mostly informal) interrelationships that allow people to coordinate action to achieve desired goals. Specifically, the research aims to investigate the relationship, if any, between the civic connectedness of a group members and the level of cooperation exhibited in groundwater extraction. The methodology designed to address this question consists of field experiments of the CPR game with three distinct groups: students in Michigan, students in India and farmers in India combined with a survey based measure of social capital.

Keywords: groundwater, social capital, decentralization, game theory, common property theory

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Conditions of ‘Bricolage’ in Community-Based Forestry - Improving Adaptive Capacity and Beyond

The reform in 1999 in Indonesia recognized local communities’ rights to forests and provided the basis for broader and more active participation of communities in the management of forest resources, which had been controlled by the Government for decades. However, inconsistency and ambiguity in regulation as well as the lack of enforcement often resulted in rent seeking behaviours of local elites and marginalisation of politically weaker groups. “Constructing” history, for example, became a means of making a claim for forests and often resulted in overlapping claims by different groups. This often disadvantaged weaker groups such as those who moved as part of the government resettlement schemes. Recent changes in forest management, particularly triggered by the introduction of Reducing Emissions from Deforestation and forest Degradation (REDD) point to even greater risks for politically marginalized groups in the absence of a sound governance framework. However, this paper argues that these groups, while often viewed marginalized and in need of external assistance, actually hold key for sustainability of commons because of their exercise of bricolage. Bricolage, or what de Certeau
refers as a tactical act of marginalized groups, is closely associated with the notion of the art of making use of whatever at hand. While lacking the power of “strategy”, “tactics” opens up greater space for weaker groups to exercise their agency from the margin. Their characteristics as minority are linked with creativity and diversity and as such, bricolage is a critical element for adaptive capacity and sustainability of commons. Based on the study in Indonesia, the paper analyses conditions of bricolage that contribute to the improved sustainability of commons.

Keywords: bricolage, tactics, adaptive capacity, forest

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The Comprehensive Africa Agriculture Development Program (Caadp) As a Regional Collective Institution

The Comprehensive Africa Agriculture Development Program (CAADP), an initiative of the New Partnership for Africa’s Development (NEPAD), was developed in response to the neglect of the agricultural sector by donors as well as African governments. The program is also a response to concerns about the ineffectiveness of development aid due to absence of ownership and fragmented development interventions. Similarly to other NEPAD initiatives, especially the African Peer Review Mechanism, CAADP can be understood as an institution by which African countries aim to build a collective reputation regarding their commitment to improve governance and to develop agriculture. Most member states expect improved reputation to be rewarded by increased and superior forms of aid. There are a number of factors that favor a collective strategy of African countries to build their reputation regarding improved governance and commitment to agriculture: These include negative spill-over effects of poor governance (e.g., obstacles to developing regional markets); improved bargaining power of African governments vis-à-vis the donor community; long-standing political efforts to build an African identity; and a donor interest in reducing transaction costs by interacting with African countries though regional organizations rather than individually. While realizing these potentials, the CAADP effort to build collective rather than individual reputation involves the classical free-rider problem of collective action: Countries may not honor their commitments after having received increased aid—a strategy that will harm all member countries as it undermines the collective reputation. Since CAADP involves a collective commitment by the donor community, as well, donors face similar problems of collective action. They, too, may fail to honor their commitments, or revert to individual rather than harmonized approaches to support African agriculture. The paper discusses the strategies that CAADP can use to overcome these collective action problems and identifies the factors that will influence its success.

Keywords: agriculture, governance, regional organizations

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Development of Oil Palm Plantations and Local Rights and Livelihoods

Indonesia is one of the world’s leading producers of palm oil and key players in the emergent Bioenergy market. It is a major supplier of the raw material for biofuel industry (e.g. CPO) and producers of oil palm-based biofuels. Over the last few years, the global market for biofuels has expended due to the expectation...
that biofuels can relieve the global dependency on fossil fuels, mitigate climate change, and offer new opportunities to improve local livelihoods in developing countries. However, rising demand for CPO gave way to concerns over deforestation and its adverse effects on community livelihoods and local rights and access to land and forest resources. Oil palm plantations have been cultivated for many years in Sumatra and Kalimantan with adverse effects on forest and local people. Now, oil palm investments are directed towards Papua, the largest intact block of tropical rainforest left in the Asia-Pacific region, fueling debates about likely costs and benefits.

Drawing on data from two provinces in Papua, this paper seeks to inform the on-going dialogues about the advantages and disadvantages of the development of oil palm in Papua. This will be done by (1) examining legal and institutional frameworks relating to the development of oil palm, CPO, and biofuel production; (2) assessing the environmental, social and economic impacts of feedstock development; and (3) recommending options to advance responsible investments in oil plantations, particularly CPO-based biofuel industry.

Keywords: agriculture, governance, plantation

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Challenges in Confronting Climate Change: Rural communities, Commons, and Resilience

This paper suggests that specific measures need to be taken in order to decrease communities’ vulnerabilities against external incursions and to increase their ability to cope with the challenges that climate change presents.

In the face of climate change, commons play a crucial role in rural communities’ efforts to be resilient. Natural resource commons and the sustainable management of their territory provide communities with a basis and the means to adapt to and handle the adverse impacts of climate change.

In the international context it is the mitigation potential of community commons that has been receiving growing interest. This has brought about new incursions of powerful external actors but also confronts communities with the creation of new dimensions related to community commons like the creation of new commodities or rights.

Controversial initiatives like Reducing Emissions from Deforestation and Degradation (REDD) increase the international profile of community resources and their maintenance. However, there is also a risk of overriding community rights, augmenting social and territorial fragmentation and ignoring community needs related to rural livelihoods and adoption.

We argue that actions to fight climate change taken in the context of community commons must first and foremost serve to improve the resilience of rural communities. Therefore, global mitigation efforts cannot be pursued isolated from local adaptation and livelihood needs. In order to accomplish this task, it will be key to promote efforts that emphasize the integrity of the territory while reclaiming and improving the capacity of communities to effectively govern it.

In conclusion, drawing on experience with rural communities in Oaxaca, we suggest specific precautions that need to be taken in order to overcome present vulnerabilities and prevent the creation of new ones as communities face the threats and opportunities of climate change.

Keywords: forests, resilience, rural communities, governance, adaptation, territory
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Community Responses to Government Defunding of Water Projects: A Comparative Study in India and the USA

Decentralization is not a binary phenomenon. When central governments decentralize natural resource management, they often retain an interest in the success of the local efforts to solve natural resource problems. As such, many communities have seen continued central government investments in “decentralized” programs. These outside investments can serve an important role in moving community-based efforts forward. At the same time, they can represent risks to the community if government resources are not stable over time. Our focus in this paper is on the effects of withdrawal of government resources from community-based natural resource management. A critical question is how to build institutional capacity to carry on when the government funding runs out. This study compares coping strategies used by community-based project leaders in two different contexts, India and the United States. These strategies include aggregation of efforts across larger scales, desegregation down to lower scales, increased user contributions, and mission shifts to obtain new funding sources. We investigate how variables such as institutions; biophysical, cultural and political context; organizational mission; leadership; and member engagement affect the resilience of community-based management efforts facing substantial government disinvestments.

Keywords: decentralization, government funding, community response, institutions, water

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Roman Water Law in Rural Africa: Finishing the Unfinished Business of Colonial Dispossession

An important question in the light of Africa’s recent refocus on irrigation development is how smallholder farmers’ own arrangements to better develop and manage water can be fully understood, stimulated, and built upon. This taps water users’ financial, social and institutional capital and promotes ownership and sustainability of public investments by national and international governments and development agencies. Ironically, though, the recent wave of new water laws across the continent risk leading to the opposite, at least according to the texts. Based on literature and empirical research in West Africa, Southern Africa, and Latin America, this paper unravels this contradiction. It explains the water law reforms towards sophisticated nation-wide administrative permit systems as a colonial legacy. Imposing permit systems in plural legal contexts dispossesses local water rights regimes, a feature as old as its roots in Roman water law. Vesting ownership of water resources in the Roman emperor and, later, the European colonizers, has systematically served to dispossess indigenous prior users. There was hardly debate about the suitability of the laws when ownership of water resources shifted to the independent states. The recent global efforts towards Integrated Water Resource Management revived these often-dormant laws. In Africa a second driver of water law reform accelerated this: the discourse that permit systems are the most effective way to regulate water allocation, registration, tax payment, and pollution prevention. This paper demystifies that assumption and recommends how, in theory, permit system or any other formal water rights system could effectively target and regulate the few large-scale users, while recognizing and even prioritizing water uses by the majority of small-scale users. In practice, the key challenge goes beyond a merely legal recognition of existing arrangements and is to ensure better investments in the development of Africa’s abundant water resources.

Keywords: water, irrigation, governance, law, Africa
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Institutional Dynamics of Local Self Governance Systems in the Malabar Coast, Kerala

The effectiveness of state laws continues to challenge the top-down management of common property resources in many coastal villages in Kerala. Most often, state’s response to common property management is unidirectional and opens up channels to transform common property rights to open access. Amidst these institutional struggles, local self governing institutions continue to challenge state legal systems and evolve multi-dimensional governance systems. This paper documents the working of intrinsically diverse ‘kadakkody’ (sea court) system in the Malabar Coast of Kerala, India and discusses how the local level community-based self-governing institutions change due to technological developments and state interventions. The Kadakkodi system that existed in the study area during the pre-mechanisation era was an integrated complex governing system of the artisanal fishermen with regulative, normative and cognitive functions. The paper addresses three questions. What was the nature and functions of the kadakkodi system during the pre-mechanisation era? What are the major drivers of change? How did this system overcome stresses and adapt to the challenges of globalisation?

Keywords: Kadakkodi, self governance, common property, community-based management, institutions, conflict

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Whose Values and Valuable for Whom? - Biodiversity as Global Commons and the Yasuni-ITT initiative

The notion of value is innately significant to human society. Even though values are assigned to most objects around us, the debate of what should be valued and based on what grounds is re-emerging with regards to ecosystems, biodiversity and other environmental goods and services. Ecuador’s Amazon region, encompassing only three percent of the whole South American Amazon rainforest, harbors astounding biodiversity richness and pristine rainforests. This is especially true for the Yasuni National Park, a UNESCO world biosphere reserve. However, oil exploration is eating into the remaining undamaged areas of the park, with consequences reaching far beyond the risks of pollution and disturbance to the ecosystem and its inhabitants.

This paper will discuss the different perceptions of values with regards to the Ecuadorian Yasuni-ITT initiative and relates those to the technical proposal that puts forward to forego oil exploration, based on the condition that Ecuador will be compensated with at least half of the expected revenues. Assuming that the Yasuni National Park and its biodiversity represent a global commons, this paper will examine the theoretical motivation and reasoning of the ambiguous and innovative proposal put forward by the Ecuadorian government. Furthermore, it is argued that instead of focusing purely on the carbon dioxide not emitted through the initiative, the focus should be the significant biodiversity and the environmental services in Yasuni and possibilities of marketing these will be explored.

Keywords: Ecuador, Yasuni National Park, oil, biodiversity
Losing Sight of the Commons: The Case of Decentralization in Kerala, India

Decentralization assumes that local people play an active role in decision-making processes. This involves making decisions about the use of natural resources in a way that benefits the maximum number of people, without destroying the resource base. In most cases however, decentralization is confined to allocation of financial resources, and constituting representative institutional arrangements for the management of the same. While there is an increasing thrust on decentralized natural resource management, concerns of sustainable natural resource use and management are not central to such efforts. This is evident in the case of decentralization of forest and water resources. Lacking in all such efforts is an appreciation of the concept of the commons and stewardship of natural resources. Without such an appreciation, decentralization amounts to distribution of the existing resource amongst ‘stakeholders’ (in practice this is heavily skewed in favor of the local elites and the powerful sections). Reviewing efforts at decentralized natural resource management in the southern state of Kerala in India, which is known for its achievements in decentralization, this paper looks into how the concept of the commons and sustainable natural resource use has been neglected in efforts at decentralization. One of the unique features of decentralization in the state is a high degree of people’s participation. The paper argues that by failing to conceptualize local natural resources as a commons, and by paying little attention to the protection and sustainable use of these commons, the decentralization experiment in the state of Kerala lost out on a huge opportunity to orient local institutions and people to the importance of restoration and sustainable management of natural resources.

Keywords: governance, Natural Resource Management, Commons

Arriving at Principles for Effective Water Management by the Panchayats: Evidences From Studies in Ten States across India

The Panchayats of India are institutions that are constitutionally mandated to perform various functions that facilitate local self-governance. For natural resource management and water in particular, various sub-sectoral power centers already exist. Entangling these power centers and tying them up with the Panchayats is a process that is surely happening today, but very slowly and quite variably across the states and within sub-sectors of water. Today we have a cross-state heterogeneous picture of devolution on water that within a state itself is partly devolved in differing levels across sub-sectors. Furthermore, there exists too another project of the decentralization process in water management that lays emphasis on apolitical local people’s institutions. There has been a parallel movement at the center towards central acts and schemes, which necessitate more responsibility to the Panchayats in terms of planning, implementation and monitoring of these schemes. These and other external pressures such as those from multi-lateral donor and policy institutions have been instrumental in influencing this process of Panchayat empowerment in water management. The ability of the Panchayats, then, to actualize effective collective action by the community for decision-making on water management, gets hampered due to this current atmosphere of partial and incomplete devolution. Moreover, there are local factors of variegated political affiliations, allegiance to caste/community agglomerations and existing power inequities. How then, still, do we find that lustrous Panchayat which has been able to overcome all the inertia of the country and managed to find its own way of making use of whatever fund, power and legal strength it can hold on to and create path-defining local examples of self-governance in water management? These examples show us the way ahead and serve as models for others to follow.

Keywords: panchayats, water governance, decentralization
Groundwater Management through the ‘Commons’ Lens: Recognizing Complexity

The complex nature and diverse contextual regime of groundwater problems in India compel the development of a strategic approach to groundwater management. The complexity itself is due to the wide diversity not only in the hydro geological framework that defines the accumulation and movement of groundwater in different physical settings, but also in the social and economic drivers that determine groundwater use patterns and changes therein through a time-line. For the purpose of understanding the complexity, India can be divided into six or seven different ‘settings’. Each setting can be described on the basis of hydro geological systems (including the variability within one setting), the social-economic factors that are influenced by (and which, in turn influence) groundwater resource status and response strategies adopted by policy makers and communities to mitigate groundwater related challenges. Clearly, each setting warrants a strategic outlook if groundwater is to be managed on a ‘commons-basis’.

The development of strategies to respond to groundwater over-use and deteriorating groundwater quality require a ‘process-based’ approach, wherein there is a need to redefine the institutional structure that looks into groundwater problems in India. The process-based approach has many advantages over the current ‘institutional silo’ approach. First and foremost, it begins with a principle: the principle of perceiving groundwater resources under the category ‘commons’. Further, ‘processes’ are central to addressing groundwater problems and do not necessarily involve one-off solutions that are expected constitute a ‘pill for all ills’. Second, strategy development can happen efficiently only in a ‘phased’ manner, with each strategy subject to adaptation and refinement as experience is gained.

Keywords: groundwater, hydrogeology, typology, sociology, characteristics, strategies, processes

Groundwater Governance: Backing CPR Principles with a Process-Based Approach

Access to groundwater is “open”, and therefore difficult to control or restrict, despite its Common Pool nature. The fugitive character of groundwater cannot be uniquely defined, given the range of conditions controlling the accumulation and movement of groundwater resources. India is now the largest user of groundwater in the world. This has led to many problems, the foremost being the high degree of groundwater vulnerability – likely to affect at least 60% of India’s population. This vulnerability has been a consequence of many factors: the rapid shift from a community-based to individual “access” has imposed great challenges in efforts of demand-side community management of groundwater; complex issues surrounding the mismatch between administrative, hydrologic and aquifer boundaries have imposed limitations on clear-cut guidelines of groundwater governance; India’s water focus has been embedded in the management of surface-water systems, developed through public funding, leaving groundwater resources development in the hands of numerous individual private investments. Finally, the rigid separation in sectoral governance while looking at water - drinking water is dealt with separately from irrigation, for ‘departmental’ convenience – widens the divide between ‘uses’.

Notwithstanding limitations on managing groundwater as a ‘common pool’ resource, it has become imperative for India to develop a ‘governance’ process that will back efficient, equitable and sustainable management of groundwater on the ground. India’s groundwater governance vision must combine efficiency in supply, ensures equitable access and resource management through demand-regulation and ensures a process of data gathering...
that is oriented towards enabling site and situation-specific decision support to ensure sustainability of groundwater availability and quality. Such governance requires a healthy combination of collaborations, law making, facilitation, piloting and space for evolving a separate policy on groundwater for the country. Some promising ongoing initiatives in India are currently looking into some of these factors and could form the basis of developing clearer CPR-based groundwater governance in India.

Keywords: groundwater, Common Pool Resource, boundaries, processes, supply, demand

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Having No Community Land in Resource Poor Region Creates a Sustainable System: Case Study of Kanga yam grassland

Examples of sustainable management of tropical grassland on very large area are difficult to locate. The management of Kanga yam grassland spread over 4000 sq km in south India, in a sustainable way for hundreds of years; hardly make a news impitve of the frequent drought because of the collective action of the people and use of innovative technologies. The most important factor has been the absence of communal grazing lands, negating the play of ‘tragedy of Commons’. The cultivators in the Kanga yam grassland had occupancy rights since last 200 years (Hunter, 1881) which encouraged them to invest in the unproductive land over generations, building wells for drinking water to animals, identifying and using Balsmodendron berry as live fence (Voelcker, 1893) around the grazing areas, taking a collective decision to discourage goats in the region which damage the live fence etc. Thus, the paddock system of livestock rearing evolved, following the principles of rotational grazing and required minimal labour input because of the live fence around the grazing areas. The sustainable system was also reflected in stable human population during last century (growth rate: 0.45% p.a. between 1891-1991) and a healthy gender ratio (1046 female/1000 male). The study supports the observations of Dick and Gregoria (2004) that property rights should be of sufficient long duration to allow one to reap the rewards of investment and should be backed by an effective socially and sanctioned enforcement institution. The Kanga yam grassland offers an insight into the collective action in a resource poor region creating a sustainable system over hundreds of years which could be replicated elsewhere.

Keywords: Kanga yam grassland, property rights, tropical grassland

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Institutional Change Needs for Sustainable Urban Water Management in India

Rise in population coupled with rapid economic growth is seen as a major factor resulting in higher rate of water resources depletion globally. The problem of water scarcity is more acute in cities and towns of the developing world, where most of the challenges of water supply, sanitation and environmental sustainability are still unanswered. In these towns and cities, urban water systems are troubled with: 1) inefficient water pricing; 2) heavy leakage & unaccounted for water losses; 3) contamination of the supplied water and; 4) lack of political will, and institutional & financial capability for carrying out reforms. Situation in Indian urban centers is much alarming where distribution losses alone are in the order of 30-50 per cent of the total water supplied. The condition is even worse for informal settlements and slums in these urban areas where basic water and sanitation
infrastructure are altogether missing. In order to meet these growing urban water management challenges, there is need for paradigm shift, i.e., shift in the way the urban water resources are managed.

This research paper highlights the institutional change needs for sustainable urban water management in India. The institutional change will involve: 1) one or combination of organizational change measures comprising decentralization, private sector participation and, community-based management; 2) directive reforms and; 3) human resource development. The finer aspects will depend upon the physical and socio-economic environment, political situation and administrative set up that exist in the urban area. The institutional changes will be more so important for small urban towns where public utilities are given little attention. All these together can contribute to making Indian cities better prepared for averting the risk, in face of rapid urbanization, climate change and water scarcity.

Keywords: India, urban water management, organizational change, directive reforms, human resources management

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Vegetation Surveys and Institutional Analysis for Understanding the Selected Van-Panchayats Systems in the Kumaun Himalayas

Community forestry studies in the Central Himalayas have been mainly restricted to their social or forest health aspects with little efforts done to combine the two aspects for understanding the Van-Panchayat forests (VPF), a unique class of traditional community forests comparable to the forest stewardship of the west. The study was conducted in three villages of the mid-elevation (1800-2000 amsl) Uttarakhand Himalayas and was aimed at using a multidisciplinary approach of understanding the complex Van-panchayats involving forestry and sociological tools.

The study used a dual methodology of combining vegetation surveys with institutional analysis to understand the inter-relationships between the forests and humans. The vegetation surveys covering 37 ha of VPF and 24 ha of Reserve Forests selected as controls, involved laying down temporary quadrates (10mX10m for trees and 2mX2m for shrubs and regeneration) in the forests. The institutional analysis involved focus-group discussions and household surveys with the communities to understand their internal dynamics, conflict resolution mechanisms and management strategies.

The analysis showed positive correlation between active community protection and good forest conditions as evident in the case of Garhgaon village where vigilant protection and controlled extraction has resulted in rapid regeneration of the forest with high stem density, higher percentage of multiple stems and coppices; and high canopy cover. Majhera village has shown similar characteristics but the damage in recent months is being reflected in the lower canopy cover. In contrast, Satkhol village is experiencing continuous pressure on the forests leading to higher diversity and low canopy cover. Thus, for good forest conditions, protection seems to be key, which in turn is reflective of the community coordination and involvement. It is also evident that certain vegetative tools like canopy cover; regeneration density, percentage coppicing and multiple stems can be good indicators of the affects of people on forests.

Keywords: Kumaun Himalayas, Van-panchayats, multi-disciplinary, mixed-methods, forestry surveys, institutional analysis
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Climate Change and Natural Resources Management in Eastern Himalayas: A Livelihood Perspective.

We noticed that the entire eastern Himalayan region had unbelievably warm and pleasant winters in recent years. This was very visible in 1998-99 and 2008-09. Many people in fact missed usual winter conditions like fog, chill, frost and snow. The rhododendrons started flowering in the first week of February against the April-May pattern. Environmentalists largely attributed this unique climatic behaviour to global warming. Winter is the time when forest cover is under a cold spell and gets regenerative space. However, this long spell of dryness led to forest fires and young seedlings died. In fact, entire North East region, Bhutan and Nepal battled the blaze of forest fire during February-April of 2009. This literally dried up the many traditional sources of water. The entire natural cycle was disturbed.

Receding glaciers, hot winters, and poor regenerative cycles have started occurring with greater frequency. All these may lead to failure of multiple industries, mostly traditional in structure and composition. Continuation of environmental scarcity, along with an ever-increasing rural-urban development gap in turn could trigger off large-scale displacement and migration. The most telling impact is likely to be on the hydel power plants primarily fed by the water supplied by the glaciers in the mountain areas.

The issues of global warming and climate change have started affecting our farmers even when there is not much of awareness about this at the very local level. What would happen if the rainfall pattern changes and if the entire hydrological flows in our rivers and rivulets undergo changes because of the glacial erosions? There are visible phenomenon of phonology that is happening across the hills where traditional seasonality of the crops are disturbed and the altitude based cropping pattern are fast and unnaturally changing. This could change the entire recorded pattern of agricultural practices in the hills and could even dislocate the farmers. This will unsettle the very cradle of civilization in the mountain regions. These farmers have no control over the events at the global level but get struck by the adverse impact so profusely. This is where the institutions like Indian Council of Agriculture Research (ICAR) and Universities across the region have to play a very critical role. Firstly, in making farmers aware about such unnatural phenomenon, developing methods and instruments to shift to a better agricultural regime and finally building capacity among the farmers to not only cope up with the situation but helping them in transforming to other sustainable agricultural practices.

We also find that the governments in this part of region are not fully conversed with the negotiations on agriculture that are going at the global level under World Trade Organization. All these have definite impact on us in areas varying from subsidies to phyto-sanitary measures and from market access and technology transfer to intellectual property rights. By now we should have collectively made a case to our national negotiators about the very specific problems, needs and prospects we have at the regional and local level. Institutions like Agriculture Department, Spices Board and ICAR have to really look into these issues as urgently as possible. We cannot afford to bear a silent brunt of the decisions taken at the global level oblivious of the situations we have in the hill and mountain areas.

Keywords: glacial erosions, eastern Himalayan region
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The Dynamic Forest Commons of Central America: Research and Practice

This article reviews research on forests in Central America under the lens of common pool resources literature. Beginning with a review of research in the region, it focuses on three particular sites that were part of a study on tenure reforms from 2006-2009 by the Center for International Forestry Research and the Rights and Resources Initiative. The sites include the lowland community forestry concessions of the Petén, Guatemala, the communal forests of the western Guatemalan highlands, and the indigenous territories of Nicaragua’s lowland Caribbean Coast. Research highlights great variation in terms of the origin of land claims, the type of claimants, the type of forest, the extent to and means by which the state has accepted or recognized these claims to forest commons, and the ability to establish common property institutions, among others. While research in Central America demonstrates increasing interest in this field of study, as well as important progress regarding local rights to forest commons, it also highlights important challenges. The region’s forest commons and common property institutions are complex and dynamic. For example, studies show that despite the vast variety in forest commons, the types of threats they face are similar – particularly with regard to external competition for resources, the role of state and the ongoing need to defend resource rights. This leads to additional challenges for research, and requires expanding beyond the traditional questions and methods of common property research into other, related fields of inquiry. It requires greater attention to the dynamic processes that produce institutions, including territorial boundaries, and their associated organizations.

Keywords: Central America, forest commons, resource rights, research

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Formalizing Indigenous Commons: The Role of ‘Authority’ In the Formation of Territories in Nicaragua, Bolivia and the Philippines

Indigenous peoples have sometimes sought the formalization of their customary territories to demand the enforcement of their borders, which have often not been respected by outsiders or the state. The process of formalization, however, generates new conflicts. This article explores how the recognition of indigenous forest commons is connected to questions about authority. For communal properties in particular, issues of ‘authority’ are central to shaping how decisions are made, whose opinion or knowledge is taken into account and how access to land and natural resources is determined in practice. The process of constituting collective territories is intimately related to the constitution of authority, as it involves not only the negotiation of physical boundaries but also the recognition of a particular entity to represent the collective. Though an entity that holds leadership powers may already exist, it is likely to be endowed with new decision-making powers and responsibilities; and in many cases a new entity will have to be created. This is not a ‘local’ process but rather emerges at the intersection of relations between the community, or territory, and the state. Similarly, given that ‘authority’ implies legitimacy, such legitimacy will have to be produced. Drawing on a comparison of cases of two indigenous territories in Nicaragua and Bolivia and an ancestral domain in the Philippines, this article shows how authority emerges from often conflictive processes of constructing the commons and shapes community rights to – and powers over – forests and forest resources.

Keywords: authority, indigenous rights, demarcation, forest commons, formalization, property rights
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From Globalisation to Local Migration: System study of the Greater Mekong Region

This paper presents a system view developed for the flow of foreign investment and its impacts on migration dynamics in the Greater Mekong Region. System view was created using DPSIR (Drivers-Pressures-States-Impacts-Responses) framework.

The key driver of interest is foreign investment, an exogenous driver that is also influenced by endogenous national processes such as policy decisions and internal stability. Foreign investments create pressure on many aspects of the system, three of which are set as boundaries for this view: energy demand, food production and water demand. As a result of those pressures, the state of both land and aquatic resources changes. Consequently, rural livelihoods systems are impacted by these changed states, and the change might create either increase or decrease in the availability and productivity of the resources. Mechanisms that create direct and indirect pressures and impacts are presented and discussed.

One of the potential responses of the people in the areas of the lowering resource productivity and availability is outmigration. Outmigration occurs in two directions. It might manifest as outmigration to other rural system, one that is experiencing (or is being perceived as experiencing) increase in productivity and availability of resources. Or, the outmigration might result in exit from the rural system and migration into the urban areas. Either type of migration can be regional, national or trans-national. Employment opportunities created in the urban areas are also directly impacted by the foreign investment as a key driver, and are thus susceptible to changes in investment climate.

The dynamic between the impacts and responses is explored in more detail and preliminary findings are presented. In particular, study was interested in the migration between the rural areas and the outmigration to the urban systems. Nonetheless, the feedback loop of migration that occurs once employment opportunities in cities decrease also warrants further research.

Keywords: migration, foreign investment, natural resources

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Agro-Biodiversity in Mexico: a Common Resource of Rural Communities or a Property of the Transnational Industry?

In the recent two decades, agrobiodiversity has been in the centre of multiple discussions in scientific fora as well as in peasant and indigenous organizations. Face to the introduction of genetically modified organisms in agriculture, particularly in Mexico, the introduction of Bt maize; the rural organizations have become aware of the loss of their agro'biodiversity and of the interests of the transnational industries in getting control over it. This move would represent an massive exclusion of poor peasants from the access of a key common over which they are highly dependant.

In this work I analyze the contradictions and controversies around the conservation of agro‘biodiversity in Mexico among the national government, the peasant and indigenous organizations, and the transnational industries. The partnerships established between the government, some corporative rural organizations, and the industries pose a great challenge for the independent organizations that fight for agrobiodiversity control.
Even if the discourse of the government and allies express a concern on agro-biodiversity conservation, they have a hidden agenda that favors the “modernization” of agriculture through the introduction of Genetically Modified Organisms. The Mexican government has given facilities to the transnational industries enabling them to appropriate genetic biodiversity and to genetically modify local varieties of corn, squashes, beans, tomatoes, and hot peppers. As Mexico is center of origin of all these species, the privatization and modification of this genetic biodiversity has also global consequences.

I will also discuss the challenges that independent rural organizations face while trying to protect their agro-biodiversity as a common resource. Even though, there are good examples of some organizations that are continuously working on this field through a seed exchange program; many others are discouraged by different factors such as. The lack of governmental support. Forced out-migration related to the low prices of agricultural products, the lack of infrastructure and credits for agricultural production, and increasing poverty. The crisis of rural producers and rural communities has also created that favors the privatization of local agro-biodiversity by transnational agricultural and food industries.

_Keywords: agro-biodiversity, genetically modified organisms in agriculture, transnational industries, peasant and indigenous organizations, access/exclusion of key commons for poor peasants_

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_Situation and Property Rights in Agricultural and Unused Lands Upland of Vietnam_

The research aims at identifying the status of the management and use of agricultural and unused land in the upland areas of Central Vietnam via a case study of Hong Bac commune to identify issues relating to the exploitation and land use. This research is based on the bundles of property rights analysis framework and on field investigations through site surveys and discussions among the groups, who manage and use the land, including: the local authorities (State), community and households. The analyzed research results have demonstrated the performance as well as activities of the property right bundles to the local people and the State as for agricultural land and unused land; have identified and classified the existing formal and informal rights relating to the two kinds of land in the survey location; have clarified the reasons of the existence as well as the impact of the rights to the land exploitation of the local people. The research has evaluated the status and changes of land in general and agricultural land and unused land in particular, from 2000 to 2008. It has also analyzed the reasons for the changes of agricultural and unused land and of crop structure. The reasons are the changes in the land policies of the State, the spontaneous changes in crops and land exploitation of the people for earning their livelihood due to the general economic changes of the district and the demands of the agricultural product market. All the rights in the right bundles about properties on agricultural land and unused land are really exist. However, as for the government, these rights are formal and admitted by the laws, but as for the local people, they are informal rights and they follow the traditional customs which have great impacts on their lives.

_Keywords: governance, land, forests, agriculture_
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Although the Montes Azules Biosphere Reserve in the Lacandon Jungle (Chiapas, Mexico) was created in 1978 under the UNESCO’s Man and Biosphere programme, environmental authorities and local inhabitants have been unable to generate models for the sustainable management of the protected area’s natural resources. This is of course a complex problem, given that the implication is that the public good of biodiversity conservation and sustainable resource use prevails over diverse individual interests. We believe that this inertia could be unsettled by seeing this problem as an issue of democratic deficiencies in the relationship between the federal authorities and the communities that own large areas of the reserve. Although in recent years the communication and trust have grown to a certain degree between these two collective actors, there is still much to be done. But it does not only correspond to the authorities to face up to the diverse social and political challenges, but also to the communities’ own institutions and ways of organization. This paper analyzes a set of tensions generated by various private individual interests that have prevailed over the interests of conservation and sustainable management in the reserve. We pay special attention to the role played by particular practices (opportunism) in the internal organization of the town of Nueva Palestina, located within the reserve and we analyze the effects they have on the failures and limitations to move towards a more sustainable management in the Lacandon Jungle.

Keywords: Montes Azules Biosphere Reserve, Chiapas (Mexico), democracy, environmental policy, sustainable development, collective action in the commons

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Implications of Trends in Access, Benefits and Status of CPLRS in Rural Karnataka

In this study from Karnataka state, India, we define CPLRS as all common land resources to which some part of public has de facto access to, irrespective of the rights of use, management and control. We then look at the drivers of change in CPLR area and condition, as well as the ecological and distributional impacts of these changes, using a clear normative framework. Though historical endowment of CPLRS varies geographically and temporally, they generate significant use and non-use values at local and global scales (Jodha 1990, Nadkarni 1990, Pasha 1992, Kumar et al 2007). The wider academic literature contains debates about the usefulness of CPLRS, with advocates pointing to CPLRS as social safety nets, and critics favouring privatisation and land grant as being more efficient. The latter argument is also strengthened by evidence of declines in dependence and rural social cohesiveness, failure of state institutions to prevent elite capture of CPLRS, and declining interest in small farming in India. Added to this, policy and institutional fuzziness and market pressures might make CPLR history, in the not-so-distant future. When we examine these debates in the context of Karnataka’s CPLRS, we find an undiminished need to have well-managed rural CPLRS. The paper then looks at the governance reforms that may be necessary to manage and prevent conversion of CPLRS as well as to revive stakeholder interest.

Keywords: land, Karnataka, benefits
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Customary Use Rights in the Logging Concessions of Cameroon: An Illustration of the Resilience of the Local Socio-Ecological Systems

The paradigm of sustainable forest management constitutes a new opportunity to better integrate local populations’ expectations and perceptions in the forest activities. This requirement is explicitly stated in all forest laws of the Congo Basin countries but its implementation on the field remains under-documented.

In Cameroon, we have reviewed 30 Forest Management Plans (FMP) for logging concessions in order to assess how these documents effectively include customary use rights (for agriculture, hunting, NTFP and timber). It appears that the integration of local use rights into the FMP is very heterogeneous and can even been little compatible with the Forest Law.

Focusing on nine concessions, we also analyse the implementation of the social prescriptions described in the FMP. There is an overall problem of enforcement. Local practices are weakly influenced by the management schemes. Several reasons may explain this low impact: lack of control, hardship to distinguish between personal and commercial use of forest resources, proximity of the concession to the village, and lack of economic incentive to abide by the new formal rule.

Three out of the sampled concessions are FSC-certified: they do not prove to perform better than the non-certified concessions regarding the appreciation and the valorization of local use rights.

To conclude, the creation of logging concessions in the 1990s have had a low impact on local rights and practices. The local socio-ecological systems appear to be resilient to forest policy and formal management tools. By contract, extra-sector policies (agriculture and road infrastructure for instance) are the real drivers of change at the local scale. They have to be better understood and integrated in any attempt to sustainably manage forests with local stakeholders.

Keywords: socio-ecological system, resilience, forest

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Grazing rights and Practices in a Privatized Commons in Kenya

Considerable empirical research has demonstrated the conditions that result in effective management of CPRs. Less is known about how rules and practices evolve after CPRs are privatized, although a number of studies suggest that property rights transitions often lead to multiple, overlapping and contested sets of rights and obligations in the same resource. In this ethnographic case study, the emergence of new grazing rules and practices is examined in the aftermath of the privatization of a pastoral commons in Kenya. The study reveals that elements of private, common, and toll goods all co-exist on the same land and that understandings of rules vary across individuals characterized by both pragmatic and moral reasoning about the uses to which resources may be put. In addition, the transition from a fairly well understood communal land management system to the current one has dislodged former patterns of rule making and enforcement leading to gaps and uncertainties in both areas. One result of this state of affairs is that decision-making on land use appears to be trending toward smaller scales while collective action becomes increasingly challenging.

Keywords: grazing lands, Africa, property rights, institutional change
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**Territorialising Sustainable Development: The Politics of Land-Use Planning in the Lao PDR**

With the emergence of the sustainable development paradigm in the late 1980s, land use planning has become a key arena for political debates over society environment interactions and, in practice, an important means for territorialisation projects. The paper reviews the main planning approaches that have been employed over the past three decades in Laos, a country that has long represented a valuable policy testing ground for the proponents of sustainable development. It highlights three concurrent territorialisation projects that have paved the history of land use planning and contributed to fuel important tensions between central and sub national governments and local actors, national and foreign institutions, and land suitability and sustainability approaches. The paper argues that the latter tensions reflect an important dynamism and reactivity in the planning arena. It concludes that the capacity of land use planners to adapt to specific contexts and evolving socioenvironmental challenges should be harnessed in order to reconcile conflicting approaches to planning and, perhaps, to achieve sustainable development.

*Keywords: land use planning, sustainable development, politics, territorialisation, Lao PDR*

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**Homo economicus or Homo analogicus? Integrating Findings on Human Cognition into the Study of Social-Ecological Systems**

What set of assumptions will serve us best studying our own species’ role in complex, dynamic, social-ecological systems? Our paper addresses this question by drawing from developments in cognitive linguistics, anthropology, and psychology, as well as computer science and neurology. Building on the landmark work of Kahneman, Slovic and Tversky, but incorporating a consideration of the most recent theoretical constructs, we synthesize a 21st-century model of the human condition, informed by a nuanced, yet accessible, understanding of cognition. At the heart of our model is a human being whose ability to reason by analogy, whose capacity for case-based learning, and whose perception of the world via cognitive networks of association are each just as central as a proclivity toward the rational pursuit of self-interest.

Why, one may ask, is this important? What does ‘Homo analogicus’ enable us to do that Homo economicus cannot? In response, we argue that, while Homo economicus can grant us insight into human behaviour under a particular set of market-like conditions, the answers to many of today’s social conundrums involve the interaction of numerous individuals, groups and institutions, each with different relationships to each other, and each shaped by individual cognitions, a range of cultural influences, and by the wider ecological and geographical milieu. A pure rational-actor model cannot usefully account for these differences, each of which has a critical influence on commons management. This point has been argued repeatedly by those in both the cognitively focused social sciences, as well as by respected economists such as Elinor Ostrom, and Douglass North. Our interdisciplinary, yet broadly accessible, synthesis takes us one step closer to a truly functional model of the human condition. Examples drawn from the literature and the field help ground the concepts we present in tangible terms.

*Keywords: cognition, culture, behavior, Homo economicus, case-based learning*
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Compensatory measures in coastal ecosystem: how institutional indicators can help to disentangle ecosystem services equivalencies?

During the recent years there was an increasing interest in the concept of ecosystem services from the Millenium Ecosystem Assessment reports in 2005. This concept should enable to make the conservation of biodiversity more concrete and more sense-making for decision makers.

Ecosystem services can be described from different categories: support, regulation, provisioning and cultural. According to these categories, provisioning and cultural (recreational) ecosystem services are mainly related to private property whereas regulation, support and cultural (spiritual) are mainly related to common property. This is why compensation of injuries coming from damages on ecosystems has been mainly focused on provisioning and partly on recreational services. At the end, the compensation was a monetary fund devoted to cover the loss of private incomes due to the damage. However, things are changing now with new regulation systems in United States (Several Acts on the environmental protection) and European Union (Environmental Liability Directive) which oblige the responsible of damage on ecosystem to compensate it “physically” and, finally, to restore regulation and support ecosystem services for the benefit of the entire population.

In this communication we would like to analyse how these new regulation systems run, who govern the natural damage assessment processes, what type of ecological compensation are adopted, how performances are assessed, how conventions on ecological equivalencies are adopted, who is in charge of the enforcement, who support the cost of these new rules and who benefit from these collective services at different scales.

Keywords: ecosystem services, common property, regulation, compensation

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Managing Rangeland as a Complex Commons: How Interventions on One Component Impact the Whole

Significant parts of the Inner Mongolian grasslands in China can be considered as a ‘complex commons’. By this we mean that they comprise a bundle of ‘commons’; of vegetation and sub-surface water that is utilized in common, of shared indigenous livestock genetic material, shared cultural practices of indigenous groups, and sometimes shared economic activity, such as herder cooperatives. These commons are often mutually re-enforcing in supporting the resilience of the grazing system. These commons also supply a bundle of economic functions and ecosystem services. Previous research on the commons built on Ostrom’s (1990) work on common-pool resource management, but may have downplayed the complexity that arises when commons are composed of different but interdependent components as well as multiple functions.

Large parts of the Inner Mongolian rangeland system have been managed as a complex commons for over a thousand years, and indigenous people established their own management institutions that adapted to its changing characteristics. However, recent external interventions to promote property rights and so-called “modern high technology”, have affected both the grassland and livestock commons. In this paper I will focus on technological interventions relating to livestock, such as the introduction of exotic high-performance breeds to displace indigenous livestock breeds. This has been a long-term government project in Inner Mongolian pastoral areas, but implementation over the last few decades has rarely been successful. I will track and analyze herders choices...
of strategy in the face of these interventions, particularly showing how their behavioral choices affected other components of a complex commons, such as vegetation, and how their choices are associated with traditional norms, culture and socio-economic relationships.

Keywords: management, complex commons, livestock breed, Inner Mongolia

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Commons Research in Latin America: An Overview

Little is known about the state of commons research across the diverse regions and countries that make up Latin America. This paper attempts to address that knowledge gap, by focusing on three main questions: 1) what type of commons under investigation in Latin America? 2) How well represented is Latin America within international scholarship on the commons? 3) How well is commons research represented in the social and interdisciplinary sciences in Latin America, and to what degree has the teaching of commons theory made it onto the academic curricula of major Latin American universities? The findings are based upon the results of a survey sent to IASC members whose work is based in Latin America, and an exhaustive review of scholarly publications and conferences, including the proceedings of previous IASC Conferences, papers published in the International Journal of the Commons, the Commons Digest, along with work on the commons published in other journals.

Keywords: commons, Latin America, research, scholarship

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Guanaco Management in Patagonia: Lessons for Commons Research

Most literature on traditional commons deals with fisheries, forests, water management and irrigation. Wildlife use and management, however, has not been widely explored. Although guanacos (Lama guanicoe) are a rather “uncommon” common-pool resource, they do exhibit the two characteristics of common resources: high excludability and substractability. These wild relatives of llamas live in South America and are distributed widely across the region. It is estimated that the original guanaco population numbered 30–50 million, but numbers have since fallen dramatically, due, in large part, to the introduction of domestic livestock by European settlers. Farming activities exported to Patagonia rarely considered the use of native species complimentary to domestic livestock production, and guanacos were viewed as an obstacle to sheep ranching and consequently killed in large numbers. In recent years, a number of live shearing projects have been established in an attempt to reconcile habitat and guanaco conservation with economic incentives for local ranchers. However, the low market value of guanaco fibre leads to conflicts and competition on resource access and use, with many producers hopeful of receiving official permission to kill guanacos found on their properties. Competition with domestic livestock, the lack of an open established market for the fibre, uncertainty about resource rights, a deficient legal framework, a limited number of beneficiaries, the lack of common property institutions and governmental support are undermining the performance of sustainable use efforts. Using this case study, the paper provides insights into, and discusses the challenges facing the sustainable use of an uncommon common-pool resource. Lessons are thus drawn that could contribute to policy decisions as well as sustainable use programmes for other wildlife species in the region.

Keywords: sustainable use, conservation, local incentives, wildlife, Guanacos
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Agrarian Land use Change and Constructions of the Commons: A Case of Indigenous Agricultural Development in Taiwan’s Mountain Area

This study aimed to identify the variety of landuse systems and its social regimes in several specific political and economic circumstances on Taiwan’s mountain area especially in aboriginals’ agriculture development. We focused on the agrarian landuse change to analyze the interaction between social institution and environment capacity, and explore the adaptive process by coupled human-natural relations to constitute the implications of the commons from several distinct periods of mountain area development. For these reasons, Tayah tribe, an indigenous community of Atayal people in Taiwan, located at mountain area in the Shihmen reservoir watershed, was discussed with its complicated progress of mountain agriculture development.

This case shows that the progress of agrarian landuse in mountain area of Taiwan could be divided into four phases, which were mainly resulted from political and economic situation; each of them represents the product of dynamic adaptive process between social and ecological system, and also indicates how the land resources be interpreted /recognized into the concept of the commons at each period of time. These four phases are: (1) traditional Sweden agriculture before Japan government’s colonization; (2) paddy/rice farming production under Japanese colonial; (3) monoculture during primary R.O.C. authority in Taiwan; and (4) diverse cash crops connected with market economy.

Base upon the discussion, the evolution of the implications about the commons would be proposed, and the results also present interactive relationship in the reconstructions and/or transformations of the commons while concentrated on landuse issue related to the Social-Ecological System (SES) discourse.

Keywords: land use change, mountain agriculture, Atayal, Taiwan’s Aboriginals, Social-Ecological System (SES)

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Effective Management of Complex Coastal Commons and Increasing Their Resilience to Climate Change through Co-Management - A Practical Case Study from the Mekong Delta Region, Vietnam

For the past three years the Soc Trang Provincial Sub-department of Forest Protection, Vietnam, in collaboration with German Technical Cooperation (GTZ) has piloted a project in a coastal village of the Mekong Delta region to introduce co-management as a tool for the better management of mangrove forests increasing their resilience to climate change. The pilot project is the basis of this case study, which examines how coastal commons can be more effectively protected and sustainably used through co-management and increase their resilience to climate change. The case study explains the concepts of co-management including the four steps of the co-management process (consultation and organization, negotiation and agreement, implementation and monitoring and evaluation), and four key principles that must be applied during the process (integrated coastal area management (ICAM), participation, zonation and monitoring). It then examines the implementation of the co-management process in the pilot village and identifies some lessons learned. How the introduction of co-management enabled the village’s resource users and local authorities to organize themselves and negotiate and implement a formal agreement on their respective roles, responsibilities and rights in the management of the mangrove forest is
particularly addressed. The complexity of the legal and institutional situation with regard to managing Vietnam’s coastal commons, which has traditionally been sectoral in approach, is also described. The case study shows that through co-management it is possible to move towards a more holistic, intersectoral, multi-disciplinary approach in which the coastal commons are managed as an integrated unit leading to more sustainable resource use and resilience to climate change.

*Keywords: mangroves, co-management, sustainability, climate change, integration*

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**Implication of Forest Rights Act in the Context of Sustainability of Forests and Rights of Individuals and Communities - Special Reference to Implementation of Community Rights**

The Forest Rights Act 2006 came in response to the necessity of recognition of rights of communities living in and around the forest and dependent on them in one way or the other. The major gain so far has been the recognition of practice of agriculture as a legitimate use of the forest.

The Act also provides protection to communities against eviction and rehabilitation in the Protected Areas, Sanctuaries and National Parks by specifying that rehabilitation can only take place by consent for those areas that are defined as critical wildlife habitat. The lessons that can be learnt from Community Conserved Areas (CCA) where communities themselves have delineated critical wildlife habitat and have evolved methods which are inclusive instead of invidious are important in this regard as they imply that the necessity for inviolate spaces and hence forcible eviction is limited and even in such limited contexts, the possibility of working out an amicable solution in the context of CCA exists.

In this context it is proposed to study the issues related to three Sanctuaries / National Parks close to Delhi and review relevant literature / experiences. The issues emerging show some relationship with the conditions, which define man/ecoology, man/animal relationships. The Wildlife Act attempted to curtail rights relating to natural resource exploitation with varying degrees of success. The applicability of FRA in national parks and sanctuaries is an admission of the fact that rehabilitation of the local population did not work as had been planned. Can provisions in the Act like right to habitat, right to protect forests be used creatively to entitle local communities to develop micro plans for conservation?

*Keywords: critical wildlife habitat, community conserved areas, community forest rights, ecosystem services, rehabilitation*

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**Local Development in the Inner Rural of Northwest Iberian Peninsula - the Contribute of Common Property as seen by Stakeholders**

Commonlands occupy approximately 1 million ha in NW Iberian Peninsula with high average areas (500 ha in northern Portugal and 200 ha in Galicia). There are two main management models, stated by law – direct management by the communities and co-management with the State, the latter being dominant in Galicia and even more in Portugal and undermining the fulfilment of property rights exercise. This work aims to determine the potentialities of the contribution of the Iberian Peninsula commonlands to rural and local development,
using Participatory Rural Appraisal and testing both development indicators domain and centrality. The most important contribution of communal lands is related to environmental aspects. The prominence given by the stakeholders to environmental aspects may indicate that global appreciation is mainly due to the potential of natural resources as a wealth source, while economic and social aspects are more independent of communities’ power and will.

*Keywords: rural development, commonlands, Iberian Peninsula, PRA, development indicators*

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**Grasping at Development? Community Rights and Economic Implications of Biofuel Expansion in Tanzania**

The past three years has seen an explosion of investment interest (both local and foreign) in the biofuels sector in Tanzania. Much of this investment has been normatively justified on the grounds of improving energy security and contributing to broader economic goals within the country; the empirical implications of the rapid expansion of biofuels in Tanzania are currently under investigation. This paper presents a comparative analysis of the impacts on local property rights and economies of the spread of two major biofuels feedstocks, Jatropha and sugarcane. It establishes the direction of change in property rights to land and forest resources among relevant communities following actual and planned investments, and the distribution of those rights among differentiated actors in society. It explores the factors that influence the dynamics of rights under varying property regimes, from village land controlled by village level authorities to state-controlled land where communities have de facto access and control. The paper finally explores the extent to which biofuels investments contribute to local and regional/national development through job creation, revenue generation and service provision from biofuels revenues.

*Keywords: biofuel investment, large-scale land acquisition, Tanzania, property rights, economic impacts*

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**Mandating Recognition: International Law and Aboriginal/Native Title**

This paper identifies, summarizes and analyzes leading international and national laws and judicial cases recognizing or otherwise supportive of native/aboriginal title. Indigenous peoples and some other local communities typically hold these types of property rights. The paper references decisions of the International Court of Justice (ICJ), the Inter-American Court (IAC), and the African Court of Human and Peoples Rights. (N.B. Asia has yet to constitute any juridical entity comparable to the IAC or its European and African counterparts.) It lists and describes major international law conventions, declarations and other instruments. Finally, it summarizes leading cases and instruments in international customary (comparative/national) law supportive of legal recognition of community-based property rights. The paper is not intended to be exhaustive; nor is it or one hundred percent up to date. Rather, it establishes that the trend in international law — as conventionally understood, as well as customary international law, as evinced by a growing number of nation-states — is towards the legal recognition of indigenous peoples’ and some other local communities’ community-based property rights (CBPRs), especially aboriginal/native title. It evinces widespread and growing proof that international law is moving towards (and arguably already is) mandating legal recognition of indigenous peoples’ and other local communities’ rights to
indigenous territories and ancestral domains. This emerging mandate is apparent in international conventions and declarations, as well as more than ten nation states that are already obliged under domestic law, albeit in differing ways, to recognize indigenous peoples’ and others’ CBPRs, including rights ostensibly within classified/gazetted/public forest land and conservation/protected areas.

Keywords: international law, CBPRs
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Making Their Own Way: Recognizing the Commons in Water Management, Wyoming 1900-1925

In an era of population growth and climate change, when water management is increasingly important worldwide, it can be useful to reexamine how water management schemes have been crafted, and how they have changed, in the past. Especially in the U.S., where management through private property or central government control are the most familiar approaches to natural resources, it is worth considering an example of a different approach. This paper takes up an instance of Americans who changed an institution of centralized state management into an institution with strong attributes of common property management. Such was the case in the years 1900-1925 in Wyoming with management of water, which is there scarce and sought-after. Historical evidence from court cases, state records and correspondence details how and why, in response to their physical and economic environment, Wyoming water administrators and water users together made institutional change. They moved away from their centralized management system, once lauded as a model for the nation, to create a system far more complex - with aspects recognizable to students of common property.

Keywords: water, institutional change, property rights regimes

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Institutional Determinants of Performance of Community Based Drinking Water Organizations

This paper presents an institutional analysis of the underlying factors affecting the performance of community based drinking-water organizations (CBDWO) in rural areas of Costa Rica. These organizations provide water to 60 percent of the total rural population. There is, however, a great disparity in their ability to solve collective action problems related to water provision and hence, they tend to show different levels of performance.

This research tries to understand how different characteristics of the infrastructure, financial aspects and working rules of the organization, as well as socioeconomic attributes of water users affect the performance of CDBWOs, in particular their ability to provide water with acceptable levels quality for households in these communities.

Unlike from most of the literature related to collective action in common pool resources that has been constructed around single case studies and meta-analysis thereof, this research aims to contribute with findings from the comparison of an N-large sample of CDBWOs. Using a quantitative approach, the paper analyzes different characteristics of 41 CBDWOs that operate in communities of 150 households on average. An ordered probit model was estimated with additional information about socioeconomic characteristics and individual perception of water quality consumed by 800 villagers that live in these communities.

The main results highlight the relevance of a demand-driven approach, downward accountability mechanisms, size and age of infrastructure, and appropriate support from the government as the main conditions that promote
higher levels of satisfaction of people with water quality in these settings. The relevance of a demand driven approach, which includes a local willingness to pay for infrastructure construction and maintenance costs, suggests that CBDWOs could have high performance levels even without financial help from the government. This is an important finding for the ongoing debate in Costa Rica about the best way of water provision in rural areas.

Keywords: institutions, drinking-water, local governance

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From Community Based to Community Driven; the Evolution of the Commons Management in the Okavango Delta, Botswana

Botswana was one of the countries in Southern Africa that pioneered Community Based Natural Resource Management (CBNRM) twenty years ago, together with Zimbabwe, Zambia and Namibia. Whilst the different countries have recorded different levels of success, within Botswana, different commentators have evaluated the programme and scored it differently. Some argue that CBNRM has suffered multiple failures; it has failed to devolve management authority of local resources to communities as well as failed to generate significant benefits to improve the quality of life of rural communities. The same commentators also argue that where conservation of species occurred, it was merely incidental, having little or no direct causal effect from CBNRM. However, other commentators argue that CBNRM has had a mixed bag of results, excelling in some objectives and failing in others. Noticeably, these commentators argue that CBNRM has injected revenue in rural villages and reduced the levels of poaching. In this paper I reviewed the roles played by facilitators within five CBNRM projects in four Okavango Delta villages of Sankuyo, Seronga, Gudigwa and Tubu. Emerging from the analysis is a critical role in the CBNRM process that should be played by an actor that I refer to as the Broker, without whom the process is bound to struggle. The success and failures that have been experienced in CBNRM depict firstly the presence or absence of a Broker. Secondly they depict the strengths and weaknesses of the Broker. I conclude that the niche for a Broker is a permanent one and its fulfilment will transform natural resource management from Community Based to Community Driven.

Keywords: CBNRM, Broker

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Springs: A Common Source of a Common Resource

Spring water is the main source of water providing life to people in the mountain region especially in the Himalaya. Spring is a natural source of groundwater. Unlike wells, which may be owned and controlled privately; springs are generally community-owned and community-managed. Thus, they give a sense of a “common” resource i.e. groundwater shared through a common mechanism, i.e. the spring.

Decreasing spring discharge has become a matter of concern throughout the Himalayan region. Springs are points of ‘natural groundwater discharge’. The decrease in spring-discharge implies either or both of two scenarios – firstly, the recharge to the system which feeds the springs (mountain aquifers) has reduced; secondly, the storages of these mountain aquifers are tapped by artificial means such as wells. The recharge areas of these springs are site specific, depending on the rock type and rock structure. Current trends indicate emphasis on
spring recharge. Despite the complexity of spring hydrogeology, geomorphology remains the prime factor on which conventional watershed approaches for spring recharge are being promoted in the Himalayan region.

A systematic process of identifying the type of springs and characterizing them on the basis of their type, discharge quantities, seasonal factors and water quality is the way forward towards improved spring-water management in the Himalayan region. In the same vein, the socio-economic and administrative units are extremely crucial in the management of springs as ‘commons’. A recharge site, for instance, may be located within forestland, private land, common land, revenue land etc. The strategies adopted for the purpose of spring recharge will vary depending on these locations, the type of spring, dependent population etc., and calls for a scientific approach that includes all the above considerations.

*Keywords: spring, Himalaya, hydrogeology, common resource, socio-economic and administrative contexts*

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**Protecting the Water Commons in Vietnam’s Craft Villages**

Vietnam’s craft villages are rural villages that contain many family-based workshops, specializing in the production of ‘traditional’ handicrafts as well as newer activities such as solid waste recycling. Recent rapid growth in the number and size of craft villages has created economic benefits, but also water pollution and risks for health, agriculture, and other livelihood activities. The government treats water pollution as an externality to be managed through direct regulations, market-based instruments, public education or self-regulation. However such mechanisms have been ineffective, given the growing economic significance of craft production for rural livelihoods, and the significant growth in craft villages that has created many small and dispersed point sources of pollution. The paper presents research in the Red River Delta of Vietnam on the drivers of reduced water quality in this craft village region. By considering water quality as a “complex commons”, the research has been able to identify key actors at different levels of social organisation that need to be involved in finding solutions to the water quality crisis affecting this region of Vietnam. It analyses the configuration of production chains, direct and indirect drivers and the incentive (livelihood) structures influencing various stakeholders. The research highlights the need for stronger coordination between actors at multiple sites, sectors (e.g. state, resource users and civil society) and at different scales (e.g. local, regional, and national). It concludes that only through such an approach, is there any prospect of an equitably and sustainably addressing Vietnam’s current water quality crisis.

*Keywords: governance, water, complex commons, Vietnam, pollution*

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**Access and Benefits in Payments for Environmental Services, Forest Conservation and Climate Change: Lessons from a Global Review**

Growing interest in mechanisms to Reduce Emissions from Deforestation and forest Degradation (REDD) have heightened interest in learning from past and present payments for environmental service (PES) schemes – many of which take place on the commons. Eight payments for environmental service schemes operating in tropical forests were reviewed to answer the following questions: What have been the impacts of PES schemes on livelihoods? And what are the implications for the design of incentive mechanisms for REDD? The research finds that the PES schemes reviewed have provided some benefits to participants, for instance a small amount of
additional income, investment in community infrastructure and services where payments were made at the community level, and local capacity building. It highlights key issues that need to be considered in future REDD schemes, including: a) payments to environmental service providers often have not matched the opportunity costs faced by participants, which can diminish local livelihoods and ultimately undermine the sustainability of such schemes; b) high transaction and monitoring costs are involved in initiating and implementing schemes and require the design of appropriate contracts, e.g. groups contracts instead of with individual households; c) property rights can pose an important constraint to participation in schemes and the cases present some options for REDD to proceed in the absence of full ownership rights to forest resources; and d) payment schedules that cover the full duration of the PES contract need to be developed to benefit livelihoods, and they have to be tied to monitoring processes to ensure conditionality of payments. Despite the possible improvements in the design of PES schemes highlighted in the paper, trade-offs will often be needed between environmental and social objectives, and they will have to be clearly addressed by REDD implementation policies.

Keywords: forest commons, environmental services, REDD, climate change, livelihoods, governance, equity, rights, benefit sharing

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Decentralization of Forest Management, Local Institutional Capacity and its Effect on Access of Local People to Forest Resources: the Case of West Sumatra, Indonesia

This paper studies the readiness of local institutions to receive forest management right in West Sumatra, Indonesia, where local institutions have existed before the enactment of decentralization. We carried out focus group discussions to assess their readiness and a survey to learn its effect to households’ access to forest. From these field works, we found that most local institutions are not ready to fully absorb forest management rights transfer. They lack capabilities to formulate regulation and negotiation processes against disputed issues, which lead to conflict. The conflicts rose among people, among local institutions, and between local institution and local government after decentralization took place. Consequently, households are facing uncertainty in access to forest resources. Therefore, the powerful households get higher benefit than the poors indicating continuation of elite capture even after nearly on decade of implementation of decentralization policy.

Keywords: local institution, local institution readiness, decentralization, West Sumatra, forest management

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Gender Analysis in Forestry Research: Looking Back and Moving Ahead in International Research

Starting from CIFOR’s own research in the 1990s and 2000s, and extending to broader research outside the organization, this paper charts out the evolution of the integration of gender in forestry research and management. It synthesizes research and policy lessons from diverse forestry settings and also analyzes approaches to the integration of gender analysis in forestry research. Looking back for experiences, it also moves ahead to explore what new questions and methods can be used to capture changing global realities and foster better understanding
for policy and for practice. We then propose a conceptual framework and related analytical tools for exploring and understanding the influence of gender differentiation on forest resource management within a rapidly changing global context.

Keywords: gender analysis, conceptual framework, analytical tools, forestry research, CIFOR

Makoloo, Maurice Odhiambo

Rethinking Forest Governance in Kenya: Evaluating and Re-Inventing Traditional Governance Systems

At independence in 1963, Kenya had a forest cover of over 10% of its total area, quite within the global recommended levels. Forty years later this cover had dangerously dwindled to about 1.7% only. Factoring in emerging impacts of climate change, among other factors this has forced new thinking on the management of forests in Kenya with a view to increasing the forest cover to globally acceptable levels. This has included the enactment of new forest laws that explicitly seek to involve local communities in the management of the resource through the formation of Community Forest Associations (CFAs). Additionally, various ministerial orders have been given that each owner of land should plant at least 10% of their land with forests. Aside from challenges of enforcing such a directive, they all point to the root cause of the problem as being governance. Sadly, most traditional African governance systems were eroded by ‘modernity’. This was one of the impacts of colonization. Existing governance systems at the time the colonial powers arrived in Africa were viewed as ‘primitive’, ‘archaic’, and ‘backward’. The colonialists, therefore, replaced African governance systems with their own. At independence new African governments inherited these systems and have retained them to date. Emerging evidence, however, indicates that these African systems of governance are still relevant especially with respect to environmental governance including management of forests. Indeed, there is evidence that despite subjugation of many years, traditional governance systems have refused to die. This paper will interrogate these traditional governance systems and find out to what level they have been eroded, and thereafter determine what aspects need re-inventing to ensure benefits accrue to the communities concerned.

Keywords: governance, forests, knowledge

Makoloo, Maurice Odhiambo

Projecting Voices from the Grassroots: the Case for Community Based Natural Resources Management in Kenya.

The aim of this study is to emphasize that the local communities play an important role in environmental conservation and rural development and this is a fact that needs to be considered in the face of growing challenge of Sustainable Development.

The rural people who live (and bear the cost of living) with natural resources must be given the responsibility and right to manage and benefit from these resources thus the justification for a Community Based Natural Resource Management (CBNRM) Legal Framework (Policy and Law) in Kenya. Community-based approach to the stewardship of natural resources is a viable alternative to state management and can, if properly implemented,
result in more equitable distribution of power and economic benefits, reduced conflicts, increased consideration of traditional and modern environmental knowledge, protection of biological diversity, sustainable utilization of natural resources and actually help in the adaptation to Climate Change.

In many cases where the approach has been implemented it has not yielded substantial benefits mainly because of institutional, environmental and organizational factors. The successful implementation of CBNRM projects requires a legal and policy framework that empowers local communities and grants them responsibility and authority for natural resource management. It also requires that an acceptable formula be defined for the sharing of the benefits and responsibilities.

Community Based Natural Resource Management is working very well in some countries in Africa, e.g. Botswana and this justifies that’s possible. However, the main hurdle first in Kenya to have this system where decentralization of natural resource management succeed is to look into the existing legal framework even as we strive to enhance democratic governance following the decentralization that the government is embarking on.

Keywords: governance, wetlands

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Evaluating the Role of Co-Management in Improving Governance of Marine Protected Areas: An Experimental Approach in the Colombian Caribbean

Complexities associated with the management of common pool resources (CPR) threaten governance at some marine protected areas (MPA). In this paper, using economic experimental games (EEG), we investigate the effects of both external regulation and the complementarities between internal regulation and non-coercive authority intervention—what we call co-management—on fishermen’s extraction decisions. We perform EEG with fishermen inhabiting the influence zone of an MPA in the Colombian Caribbean. The results show that co-management exhibits the best results, both in terms of resource sustainability and reduction in extraction, highlighting the importance of strategies that recognize communities as key actors in the decision-making process for the sustainable use and conservation of CPR in protected areas.

Keywords: common-pool resources, governance, co-management, experimental economic games, fisheries, Latin America

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Pesticide Residues in Urban Water Bodies- Organic Farming as a Community Based Mitigation Strategy in Hyderabad Peri-Urban Area

The contamination of natural water bodies and tanks by pesticide residues is of great concern in the Greater Hyderabad Area. The rural and peri urban agriculture around Hyderabad is conventional with heavy usage of pesticides and chemicals, highly concentrated on paddy and vegetable cultivation. Agricultural pesticides are mainly of organochlorine and organophosphorous compounds. These pesticides are considered to be dangerous not only for the environment but for human beings as well. Pesticide residue reaches the urban water environment through direct run off, leaching, careless disposal of empty containers, equipment washings. According to a
study by School of Chemical sciences, India, pesticide concentrations exceeded allowable levels for drinking water in samples of river water and groundwater in Hyderabad. In order to reduce the levels of agricultural pesticide and chemical residues in urban water bodies, community based ‘Organic farming’ is being implemented as an alternative strategy. The paper focuses on the case study conducted in two mandals of peri urban areas around Hyderabad, Manchal (Rangareddy district) and Bommalaramaram (Nalagonda district). The community managed sustainable agriculture (CMSA) in these villages was initiated by NGO’s, PEACE and Vikasith Bharath foundation in cooperation with Self help group members in the year 2006. About 50 farmers in Manchal and 50 farmers in Bommalaramaram are practicing organic vegetable cultivation. The case study unveiled that due to organic practices in agriculture there is substantial scope for reduction in pesticide residues in common water bodies around Hyderabad, reduction in cost of cultivation of crops and improved health condition of farmers. The case study reveals the significant contribution of community managed sustainable agriculture in safeguarding the urban common property resource (CPR), the water bodies.

Keywords: pesticides, urban water sources, contamination, organic farming, Hyderabad

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Customary Rights and Societal Stakes Relating to the Expansion of Tobacco in the Miombo Woodlands with Particular Reference to Malawi

This study investigates how diverse dimensions of tenure and rights to land and forest resources have shifted in relation to expanded investments in tobacco, as well as the distribution of associated social, economic and environmental costs and benefits at both local and societal scales. The study focuses on the miombo woodlands of southern Africa, with particular reference to Malawi. Detailed focus group discussions were conducted in two of the country’s prime tobacco growing districts (Kasungu and Mchinji) to unravel shifts in tenure and rights and the local distribution of externalities. National level perspectives were mainly captured through desk study and key informant interviews. Assessments reflect mixed fortunes across a range of sectors and scales. At the local level, the expansion of tobacco engenders fundamental shifts in customary rights, disrupting crucial livelihood and safety net functions of forested lands. Forests also bear the brunt of tobacco expansion, compounding the effects of sharply rising patterns of displacement of woodland with extraction of wood for curing and the construction of barns. Whilst tobacco-induced deforestation may be localized, the mostly negative ecological externalities associated with it may - because of the public goods nature of impaired ecological services - extend way beyond the confines of the local. However, tobacco remains the major engine for economic growth and development in Malawi, its forest and ecological and other impacts notwithstanding – with the identification of strategies for re-orienting the development onto a more sustainable path remaining a major unresolved challenge.

Keywords: tobacco, forests, local rights, societal stakes
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**Involving Local Community in Fully Using their Participatory Potential: The Case of Garba Tula in Northern Kenya**

Northern Kenya is a biodiverse drylands area with communal land tenure systems and where competition over resources and land has led to numerous conflicts. Most of the common lands are under the Trust Land regime, controlled by the Country Council and not by the Central Government, as many people perceive. This perception, in spite of a favorable legal frame, often leads to poor accountability to local communities.

Through the implementing partner Wildlife Resource Advocacy Programme (WRAP), IUCN is supporting predominantly Booran pastoralists to secure their land rights to strengthening the sustainability of their natural resource based livelihoods. Using Kenya’s Trust Laws is aimed to secure communal land rights and enable dryland residents to diversify investment across many complementary livelihood strategies and income generating options. The case of Garba Tula district, an exceptionally biodiverse area covering about 10,000 km² and home to ca. 40,000 Booran pastoralists, is a sound example of how the current legal frame can be used innovatively.

Wildlife conservation initiatives had rather diminished the livelihoods of the local people through land grabbing and increased incidence of human-wildlife conflict. Motivated by interest in benefitting from conservation-related revenues observed in neighboring districts, as well as in securing their natural resources in the long term, the Garba Tula community has developed a plan of action for Community Based Natural Resource Management (CBNRM) with the support of IUCN. Having identified weak land tenure as one of the main obstacles for its successful development, the community is now well informed about how to assert its rights. Through WRAP, customary law is being formalized and the CBNRM is thus being adapted. Tasks of the WRAP include natural resource mapping, planning and development, capacity building, monitoring, and other services to the community. WRAP as a community trust will also represent the community in the Country Council and will likely play a role in encouraging investments.

Keywords: governance, pastoralists, Community Based Natural Resource Management, biodiversity, customary law, legal frame

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**The Political Economy of Irrigation in the Amhara Region of Ethiopia**

Why do irrigation schemes designed to alleviate poverty fail? Globally, there have been several attempts to design sustainable irrigation systems as a means of alleviating poverty in developing countries. Years after the initial investment, most of the irrigation schemes are no longer operational or operate well below full potential. This paper is an attempt to draw lessons of experience on the institutional design of irrigation schemes, which are more likely to contribute to sustainable irrigation schemes. This paper argues that sound irrigation systems have to be based on good irrigation engineering, which further needs to be complemented by good institutional arrangements to manage the irrigation scheme sustainably. The role of a good understanding between hydraulic engineering and a deeper social and institutional understanding is often misunderstood or ignored. Schemes addressing the two components in irrigation are more likely to result in poverty alleviation in the Amhara Region of Ethiopia. The paper further argues that whilst the neat bureaucratic irrigation planning never materializes, there is a need to consider power inequities, gender and the broader political economy of irrigation.

Keywords: power, gender, institutions, Ethiopia
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Self-management and Self-government in the Venezuelan Process of Communalization of the State

Since 2005, Venezuelan executive and legislative power began a shift towards participatory socialism with their promotion for the creation of communal councils by communities and the introduction of the concept of people’s power into the Venezuelan legislation. This included passing the Law of Communal Councils, the Law of Communal Economy and the bills for the Communes Act and the People’s Power Act, framed in the process of communalization of the State. This legislation introduced the legal possibility for transferring property and competences for political control to communities and their organizations of first and second degree (communal councils and communes) by traditional governmental instances (municipal, provincial and national). As part of this process, the Mayor Office of Libertador Bolivarian Municipality (City of Caracas) in 2009 decentralized its governance creating 31 parish governments – a sort of co-government between the municipality and the communities. The “Axis 3 of Gramoven” parish government, however, asked the municipality in March 2010 to transfer power and competences from the parish government to their proclaimed new communal government in formation to speed up the process toward self-government. This transfer from the parish government of Libertador Municipality to the government of a commune in construction in “Axis 3 of Gramoven” driven by the Assembly of 37 communal councils and 12 urban lands committees constitutes the case study of this article. Based on interviews to key actors and participant observation at “Axis 3 of Gramoven” assembly meetings, I examine the most significant changes in terms of government organization, social property (with direct and indirect ownership), levels of participation and people’s governmental awareness, to characterize reached levels of self-management and self-government in relation to the existing Republican and the new Communal State forms.

Keywords: self-government, re-territorialization, participatory socialism, urban commons, social property

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Linking Sustainability of Institutions and the Commons: The Process of Self-governance for Water Management in Northern Italian Farming Communities

As broad bodies of literature and empirical evidence have demonstrated, management of common-pool resources implies an institutional construction that would be able to take into account not only physical attributes of the resources, but also attributes of the community facing the collective action problem. Among these attributes, there are values of behavior generally accepted by the community as vehicle of shared learning and foundation of social order, crucial variables of relevance for the institutional analysis.

After a review of the related literature, it was analyzed how internal and shared values can affect the level of cooperation and the institutional evolution in local irrigation systems. The discussed hypothesis sustains that individual values in such communities can interact during the course of time with the process of water management, leading to an institutional evolution that translates individual demands in changing rules in use. Such a topic has been addressed applying IAD Framework and Ostrom’s design principles of long-enduring irrigation systems on small self-organized farming communities in Northern Italy, having as support a qualitative methodology of analysis based on in depth interviews.

As a result, it was notable that even if members of the community seem to understand and to accept all such principles, without exception, these principles by themselves have not led to a sustainable water management.
This might be due to a lack of a well-supported common vision of the resource, besides by a level of trust and of positive social capital not sufficiently widespread on the score of improper leaderships experienced.

Keywords: water management, farming communities, institutions, values, northern Italy

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Reconstructing the Commons for Equity and Accountability in Forest Benefit Sharing Arrangements in Ghana: A Time to Reconcile Law and Custom

In Ghana, the practices associated with the commons are mediated by, among others, the statutory and customary laws that define multiple and varied tenure rights over land and forest. The forest benefit sharing arrangement in Ghana has been highly criticised as inequitable and failing to guarantee accountability from local government and traditional authorities. The Ghanaian Republican constitution provides a formula for distributing forest revenue; benefits are presumably aimed at communities, but the law specifies chiefs and local government as beneficiaries without including any measures for downward accountability. This is problematic as there is increasing evidence that these presumably representative structures have ‘privatised’ these benefits.

Who should benefit from the forest revenues that the government shares with these entities? To a large extent, local communities have been alienated and local authorities, contrary to the fiduciary principle that is deeply established in both custom and the Constitution, have not been accountable to local citizens. The paper explores this subject further, drawing heavily on customary and traditional legal provisions and principles and other recent empirical observations. The paper then attempts to reconcile custom and formal law to argue that it was never the intent either under customary institutions or the modern state that chiefs and local authorities should not be held accountable. Increasingly, green NGOs and civil society groups have been calling for reforms in the benefit sharing arrangement to ensure that communities have direct benefits by ensuring greater accountability. Not surprisingly, Parliament has recently called for the passing of legislation to guarantee the downward accountability of those receiving the benefits from natural resources exploitation that were intended for communities. If this problem is not resolved, the paper argues that communities will continue to be marginalized even under emerging economically attractive ecosystem service payment arrangements. Its resolution, however, would help reconstruct the community sphere as a democratic socio-political setting that has long upheld good governance principles.

Keywords: accountability, commons, good forest governance, legal pluralism, Ghana

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Conservation Designations and the Commons: An Evolving Relationship

We critically review trends in the ways the roles, rights and responsibilities of local peoples are conceptualized in diverse conservation designations. The 19th century creation of National Parks in the United States, commonly accepted as the starting point of designating protected areas, was soon followed by initiatives in the British settler societies, colonial Africa, Europe, and Latin America that broadened the concept. The extensive documentation of these government conservation areas has given them great visibility. The tradition of setting aside community and private natural reserves is much older, but relatively poorly recorded which has contributed to their limited recognition. The emergence over the last twenty years of IUCN’S protected areas matrix raises the profile of both
overt and formerly covert processes of conservation and sustainable use of landscapes and biodiversity. It also provides a framework for exploring interactions between communities and conservation initiatives, and the impact of diverse approaches on common property rights and communal forms of resource management. Parallel to IUCN’S quest to reconceptualize protected areas, many institutions have proposed new designations in response to a growing awareness of the need to embrace the complexities of socio-ecological systems and to balance human livelihoods and rights with conservation efforts. Emergent labels including Globally Important Agricultural Heritage Systems and Satoyama-like sites have joined established categories such as Biosphere Reserves and World Heritage Sites. Indigenous and local communities, typically in collaboration with non-government organizations, have begun to designate their own protected areas as Indigenous and Community Conserved Areas (ICCAS), Indigenous Biocultural Territories (IBTS), Tribal Parks and broad range of Sui generis categories. We explore this nascent social movement through case studies from Malaysian Borneo, southern Mexico, Morocco and other regions that exemplify why conservation must embrace community protected areas that are inalienable, indivisible and established in perpetuity and where resource users have a role in setting local rules.

*Keywords: Protected Areas, conservation governance, resource management, indigenous and local communities, common property*

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**Demographic Factors Impacting Commons Management in Mexico**

The total Mexican area under collective tenure is estimated to be 103 million hectares, or roughly 53% of the country’s territory. In some regions, communal land tenure systems have achieved important gains in terms of forest conservation and management, as well as contributing to the social development of marginalized areas. However, factors such as an aging population, social exclusion (most frequently of women and children) and intense out-migration processes have modified household livelihood strategies and weakened collective capacities for local government and sustainable management of common resources.

This paper is based on two areas of research: an analysis at the national level that characterizes the demographic profiles of the country’s communal land owners, and the principal uses of common lands across different types of ecosystem. The results show an increasing dependence among local families on external inputs (remittances and direct subsidies to families’ consumption). The second analysis takes a case study approach to present the main impacts of out-migration process on social organization and forest management in three Mexican forest regions whose population live under extreme poverty conditions.

*Keywords: out-migration, demographic change, poverty, social exclusion, Mexico*

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**Village Land use Planning and Grazing land Availability for Sustainable Range Management in Tanzania**

In Tanzania a number of Acts have been recently passed that provide for the recognition and formalisation of village lands. The Acts cover both individual and common property land – the latter being managed under the authority of the Village Council. The Village Land Act thus provides a relatively secure tenure framework for communal land uses such as grazing pastures and forests, as well as specific requirements for basic land use planning and zoning.
The process of delimitating and formalising village lands is now being implemented. To date, village land use planning is being carried out throughout the country. Grazing land availability is a challenge to the transformation of livestock production in Tanzania. Annual total land demarcated for livestock keeping in Tanzania mainland increased from 706,783 ha in 135 villages to 1,423,201 ha in 266 villages between years 2006 to 2010 respectively. More investment is required to improve range productivity, range management and assist livestock keepers to improve livestock husbandry. Appropriate strategies for livestock development need to be identified in consultation with livestock keepers that fulfill the growing demand for meat and livestock products both in-country and for export.

This paper will describe the participatory land use planning process being supported by the Ministry of Livestock Development and Fisheries and development partners. A case study will focus on village land use planning in 3 districts Bahi, Chamwino and Kiteto where only 41 of the 170 villages have land use plans, with some designating 50% of total land as grazing. Challenges will be described including the need for initiatives that will provide for the mobility required by many livestock keepers; and how the management of these grazing lands will continue in the face of growing populations.

Tanzania National Livestock policy (2006) supports sustainable range development and management. The Policy’s main objective is to improve range management and utilisation in order to support sustainable productivity of livestock for food security, poverty reduction and improvement of pastoralist livelihood. The village land use planning process is one very positive step towards this.

Namely the Village Land Act No 5 (1999), the Land Use Planning Act No 6 (2007); and the Grazing and Land Animal Feed Resources Act No 13 (2010).

Keywords: Tanzania

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Legalization and Certification of Communal Rights to Resources (Land and Forests): the Difficult Path from Intentions to Implementation.

The paper will review some recent experiences of legalization of communal rights to land and forests in selected countries in Africa and South-East Asia.

It will be articulated along the following points:

(i) Summary of recent processes to legalize (i.e. make legally possible) and certify (actual issuance of certificates or ‘legal proofs of property’) communal rights to NR (land and forests) in Ethiopia, Mozambique, Niger (pastoral land), some countries in SE Asia (Laos, Cambodia, Vietnam possibly).

(ii) Analysis of these processes, along the continuum:

Political and intra-State processes > policy > legal framework > implementation.

(iii) Implementation. Its real extent; main actors; strengths, weaknesses, constraints and enabling factors; coalitions and conflicting interests.

(iv) Why and how legalizing communal rights to land and forests is important in order to mitigate large-scale land acquisitions. Current limitations. Constraints and enabling conditions for up scaling quickly and cheaply. What could be done to quickly implement large scale, massive, affordable legalization of communal rights?
(v) Short discussion of cross-scale interactions and linkages: from global negotiations and land transactions (States- Foreign ‘global’ investors) to local processes: land claims, legalization of local land rights vs. dispossession, impoverishment vs. local development, etc.

Keywords: Sociology, Development Studies, Africa, south East Asia, institutional analysis

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Investigation of the Impact of the Commonland Protection on Water Resources in Rural India using Geo-hydrological Methods

Water scarcity is a global problem, and adequate supplies to clean and safe drinking water is a major issue across the world. India is one of many countries facing water scarcity. India currently has 15% of the world’s population; however, they are sustained with only 6% of the world’s water resources. The conservation and management of commonlands benefit the low lying agriculture lands in terms of water and nutrients especially in arid and semi-arid regions of peninsular India. One of the biophysical interventions is to harvest rainwater through the construction of water harvesting structures (WHSs), or small earthen dams built to capture and store runoff to augment the water resources. Although the construction of WHSs are gaining popularity in India, geo-hydrological methods such as tracer tests or water balances are trying to determine if the structures are practical and whether or not they are helping to ease current water scarcity. At present, scientific assessment of the benefits of water harvesting to the commonlands in hard rock areas is hardly attempted. A WHS in a small watershed (Salri, Madhya Pradesh, India) which is located in the hard rock geology of the Deccan Basalts was investigated in 2007-2008 by Oblinger et al. from Clemson University. Oblinger developed a water balance model to investigate the impact of WHS; specifically, the amount of water that moves to recharge, and the length of time water remains in the structure. Subsequent fieldwork was undertaken in the same watershed in 2009 to further investigate the effectiveness of the conservation of common lands.

The same model developed by Oblinger is used in this study to compare the accuracy of her model, with what was observed during the 2009 fieldwork. It was found that Oblinger’s model accurately estimates the amount of water to recharge and the duration of water being present in the structure. Overall, using a simple model, with limited user inputs and easily accessible data, makes it possible to determine the impact water harvesting has to conserve water resources and help improve the commonlands.

Keywords: water scarcity, commonlands, geo-hydrology, water harvesting, impact

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The Role of Local Governance Structures in Managing and Mitigating Resource Used Conflicts A case of Eastern Same District, Kilimanjaro, Tanzania

Managing a complex socio-ecological system, particularly under upstream–downstream Common Pool Resources (CPR) constellation is a challenging undertaking. Though in theory decentralization in the management of CPR is looked upon as a panacea for solving the management puzzles governments, policy makers and researchers are still learning on how local governance systems can succeed to operate with minimal input from the central...
government where previously the resources management was centralized. The research was carried out in the eastern part of Same District in Kilimanjaro region, Tanzania to examine the role of local governance structures both formal and informal in management and mitigation of resource use conflict in the study area. The critical CPR under study included Water for irrigation, forests and Grazing lands. These resources are highly contested among different resources users and regulators, which have eventually brought about resource use conflict. Different methods were used for data collection, which includes PRA, household surveys, key informant interview, Oral biographies, and survey of documented materials. Data was analysed using content analysis, descriptive statistical analysis was carried out. Stakeholder's analysis was also used to uncover different characteristics of stakeholders.

The results indicated that legal and institutional Pluralism was one of the key element that made most of the key structures to function and that most of the formal structures were customized using local knowledge and experience to fit into the customs and norms of the local communities. The governance structures that were found effectively involved and successfully integrated into local norms and customs, they included Ward Development Committee (WDC), The Ward tribunal, Village and the sub-village levels, water users association, religious leaders, council of elders and family Elders. We conclude that the role of local governance structures should be acknowledged and encourage for smooth running of other formal structures.

Keywords: governance structures, conflict management, same district, Tanzania

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Increasing Collaboration between Agricultural Development and Land Tenure Reform Initiatives to Promote Indigenous Public Participation

This paper explores the possibilities of collaborative appeals to increase public participation in agricultural development and land tenure reform. Based on work done in Department Alta Verapaz, Guatemala, opportunities are considered that amplify the voice of indigenous populations by considering culturally appropriate methods for agricultural improvement and inclusion in land tenure reform initiatives. The case study examined is work I conducted while teaching organic composting methods to the communities of Sepacay, Chichicaste, and Xochela, while partnering in country with the National Coordination of Indigenous Peoples and Campesinos (CONIC). Using ethnographic and Participatory Rural Appraisal (PRA) methods, observations regarding organizational efficacy are made and suggestions for future collaborations are discussed.

Keywords: indigenous, agriculture development, land tenure reform

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Changing Scholarship on Changing Commons in Contemporary Japan

Studies of the commons began in Japan decades ago as a study of the struggle over property rights waged between commoners who wanted to protect their rights and the Japanese government that wanted to extinguish these rights and capture the resources of the commons for itself. These initial studies by legal scholars recognized the economic importance of the commons as a foundation for rural livelihoods but did not treat the environmental value of commons as particularly significant, did not see the Japanese struggle over the commons as similar to conflicts over shared resources that were occurring elsewhere around the world, nor did they see the ability to manage a commons as a remarkable institutional solution to free-rider problems inherent in collective action.
These additional visions of the commons as institutional, social, and environmental capital, as collective action, and as similar to battles over shared resources outside of Japan did not enter Japanese scholarship on the commons until the 1970s with the Entropy study group. This paper summarizes the contributions of Japanese scholarship and the Japanese commons themselves to our larger effort to understand resources, environmental services, community, and shared purpose. Studying the Japanese commons offers insight into additional variety in legal institutions, the vitality of commons management methods, and especially the link between using commons for livelihood in the past and using commons for environmental services and community-building even in an affluent society today. If commoners around the world can hang on to their commons through the process of economic growth, they may see their common resources growing greatly in value.

Keywords: Japan, legal scholarship, property law, property ward (zaisanku)

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Management of Wildlife as a Fugitive Natural Resource: A Case of Wildlife Conservation in a Savanna Ecosystem in Africa

In the realm of wildlife conservation in Africa, benefit-oriented “community-based conservation (CBC)” (Western and Wright, 1994), and neo-liberalistic “community-based natural resource management (CBNRM)” (Child, 2004) are (re) defined in the past few decades to foster local initiative. This paper discusses the applicability of these approaches to conservation of wildlife, which is characterized as a fugitive resource ranging from protected areas to communal and private lands. Pastor lists in the savanna ecosystem of the Southern Kenya have experienced suzerain/state-led coercive conservation since the early 20th century. A CBC project with tourism enterprise was launched in the late 1990s, and offered economic benefits to a local community leading to land privatization and agricultural development. It resulted in a smaller wildlife habitat and more human-wildlife conflicts. Afterwards, an international NGO made contracts with local landowners parts of whose private lands composed wildlife corridors for protected areas. Although, the people received tangible benefits such as monetary rewards, misunderstandings about the contents of the contracts caused friction with the NGO. In consequence, the people requested more claims and took no initiative in conservation. This situation is resulted from the fugitiveness of wildlife. In light of the ecosystem approach, the government and the NGO were reluctant to restrain the wildlife movement. Because of the large proportion of residents to fugitive wild animals, setting private ownership to them, as CBNRM recommends, was impracticable. Meanwhile, wildlife intruded on local farms and destroyed crops, but since it was national property, the people had no authority over its management. They complained about the seriousness of the damage and wanted the government to confine wildlife to protected areas. Therefore, for CBC to be more effective and successful in managing fugitive natural resources with local initiative, it must be more sensitive to the possibility of fugitiveness turning to destructiveness and arousing negative local attitudes.

Keywords: wildlife, fugitive resources, community-based conservation, savanna ecosystem, Kenya

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Lead Role of Women in Local Forest Governance Guarantee Gender Equity in Costs and Benefits from Forests? A Study of Four Case Studies from Vidarbha Region in Maharashtra

Joint Forest Management (JFM) program in India, introduced in 1990, identified women as important stakeholders but subsequently their participation in decision-making was found to be nominal. Most of the JFM Committees
(JFMCS) were headed by men and women held membership positions that had no powers. Successive revisions, evolutions and changes in JFM opened opportunities for women to head the JFMCS and thus provided more power to women in decision-making than before. However, has this resulted in better gender equity? The paper explores whether women-headed JFMCS have been able to ensure better participation of women than those headed by men and does this reflect in equity in gender-based distribution of costs and benefits from forests.

A comparison across four case studies from Vidrabha region in Maharashtra state is done, where two women-headed JFMCS and two headed by men were studied using methods like household survey, group discussions and researchers’ observation.

The case studies bring out the fact that participation of women, gender-equity in cost and benefits from forests and health of a forest institution are linked. A forest institution worked efficiently where active participation of women was found. It also reflected in higher benefits and lower costs to women from forests as compared to women in villages where forest institutions were inefficient. However, it was found that mere policy support for lead role of women in forest protection institutions does not lead to either overall active participation of women in forest governance or to gender-equity in distribution of costs and benefits from forest. Building leadership capacities in women and awareness in communities is very important before women are handed lead positions as they still have to face cultural constrains and hostilities. Positive, rigorous, and constant intervention of gender-supportive NGOs as well as the forest department is very essential in facilitating an effective role of women in forest management.

Keywords: gender, leadership, costs, benefits, participation, JFM, Vidarbha, India

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Community Dynamics and Natural Resource Governance: Building Adaptive Management Capacity for Increased Social Capability

The governance of Tongke Tongke’s mangroves in Indonesia, suggests that social institutions and local rules lead to their protection and sustainability. Social institutions, as neighbourly ties, collective identity, reciprocity and a shared obligation to protect the social and ecological landscapes, motivate community members to make responsible decisions over mangrove management. Community members act to benefit the overall good even when avowing individual rights. This leads to innovative power structures which are more locally sensitive and environmentally appropriate.

Keywords: governance, Community Based Natural Resource Management, dynamics, social capital, trans boundary, institutions, policies, practice, complexity, power relations, common property, privatization

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Collections from Commons - A Crucial Component of Survival Strategy of the Poor: Experience from West Bengal.

The dependence of the very poor, on collections from commons is a theme that is often reflected in important studies on the CPR-poverty nexus.

In the Indian CPR literature, this relation has been worked out mostly in the context of very dry, forested or fragile mountainous areas. The work has mostly related, harvesting of commons and income generating activities of the poor (i.e. collection for sale).
This paper looks at collections from commons, mainly for consumption by the very poor households. Collections, therefore, act to improve nutritional well-being of the poor.

The paper forms a part of the author’s PhD work, based on a 7 village study set in West Bengal where these villages together, cover all three agro-climatic zones of the State namely, Eastern Himalayas, dry lands of Eastern hills and the flood prone Gangetic Plains. The paper also looks at collections from village common water resources, particularly, ponds. In this sense, the pond is the eco-system whose status is important from the point of well being of the poor.

The aim of the paper is to vindicate the hypothesis- that poor, everywhere and anywhere, collect from the commons. What they collect and from which source, depends on endowment of common resources, special to that area. There is an attempt to statistically forge the link between poverty (low income) and collections from the commons using a binomial logit regression.

Also there is information on timing of collections. So collections during lean agricultural season, acquire importance of being safety nets for the very poor.

The simple policy prescription is that conservation of the common resources of the village act as best poverty alleviation exercise, in the absence of targeted programs of the state to affect levels of living.

Keywords: agro climatic zones, collections for consumption, from common land & in and around water bodies, collection for fuel, food calendar, ecosystem degradation

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Forest Communities and Forest Policies in Mexico and their Contribution to the Mitigation of the Globate Climate Change Process

Mexican forests have high biological diversity and productivity. There are mainly owned by local communities. This work analyzes the diverse socio-environmental conditions of these forest communities, and the coherence of forest policies in the context of the concern on Global Climate Change and the REDD initiative, with communities’ conditions and needs, through four sections:

(i) The discussion of the social, ecological, governance and economic conditions of forest communities, based on the results of a recent survey, designed using the IFRI method as a conceptual and methodological frame and applied in a sample of 106 communities.

(ii) The analysis of the results that shows:

- The presence of a close relation between the development of community forestry, the control of pressures on forests and the presence of protection and conservation activities.
- Communities with a relatively developed forest economy tend to be those with solid local governance, social capital, incentives to protect the forest and knowledge and technical capacities to do so. These communities are those with the highest socio-environmental resilience, the more able to face new environmental stressors. They are a small minority within the country, but a viable model to avoid deforestation and deterioration in Mexico.

(iii) The economic performance of Mexican forest sector during 2000 – 2008 that shows a pronounced deterioration in terms of production volume, value added, commercial balance, and contributions of forestry to local employment and income.
(iv) The analysis of forest policies including: the distribution of investment, the institutional performance, governmental enforcement capacities and the level of centralization.

We found that policy—including the programs of Payment for Environmental Services and the government’s proposal for REDD—is oriented by an over-simplified, restrictive and centralized vision largely that favors reforestation and restrictive conservation, undermines and over-regulates communities’ forest production and poorly values the role of local institutions and social capital for common forest conservation and governance.

As a preliminary conclusion I underline the need for policies and donors’ interventions oriented by the goal to strengthen resilience, towards the enhancement of communities’ incentives as well as their governance and management capacities.

Keywords: community forestry, local governance, resilience, forest policies, REDD

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Community-based Marine Turtle’s Conservation, a Complexity Analysis

By analysing a community-based marine turtle’s conservation initiative we concluded that in Cape Verde, among decision makers and developers, and coordination and policy implementing institutions, inclusively scientists, there is yet a difficulty in understanding and integrating the eco-systemic and human dimensions into marine resources management. Besides, there is also difficulties in understanding and applying the time scale strategic vision when establishing implementation instruments. In such direction here we attempt to un-wrap the complex nature of marine turtle conservation, the multiple-dimensional picture in which occurs as coastal common. We aim to emphasise the multiple-scale and multiple-level nature of forces menacing local populations of marine turtles and its supporting ecosystem, in such way contributing to an improved comprehension of the resources management and its operational implementation in the national environmental management system. We aim at influencing against the directions local coastal dynamics takes place, in an insular nation with a strongly sensitive to environmental changes eco-geography. We conclude on the appealing need for reinforcing policy strategies and legal frameworks with major integrative instruments and tools particularly for marine resources management, including concepts such as commons property rights and community-based conservation and co-management and the establishment of community conserved protected areas. Analysing local marine turtles conservation we fundament the need for a) introducing new policy and legal frameworks to legalise the right for local fishing communities involvement in the management and governance of their coastal commons, b) a mandatory institutional articulation of the local implementation of the environmental policy and c) the establishment of operational and flexible tools aiming institutional and financial sustainability for the local level implementation of the conservation policy. That all contributing for more effectively and operationally to articulate national efforts in a time and space bounded strategic vision. All that contributing for the sustainable development and improved livelihoods of small scale fishing communities

Keywords: community-based conservation, marine turtles, Cape Verde islands, coastal common, complexity analysis.
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The European Water Framework Directive (WFD) represents the latest European approach to meeting the challenges of managing the complex common pool resource ‘water’ in an appropriate and integrated way. The transposition of the WFD within the European Union member states requires institutional change, in order to comply with several of its substantive or procedural requirements. The paper investigates changes in water governance in Germany regarding the configuration, scope and spatial extent of issues considered in water management. Specifically, it wonders how prescriptions to adopt River Basin Planning and Management change governance. In contrast to previous water planning and management according to administrative boundaries, this implies a shift in the scale. The paper will present based on qualitative methods an illustrative case study of the Odra river basin and the governance of nutrient pollution. A conceptual framework is constructed to evaluate institutional change at three levels: formal institutional change, institutional change concerning the formal and informal interfaces between actors, and changes in actors’ mental models. Correspondingly, three theoretical propositions will be elaborated on: a) formal rule making considers actors’ alternative pay off s, b) in order to analyse communication mechanisms a transaction and transition cost heuristic is applied, and finally c) changes in formal and operational rules seem to change actors’ perceptions of problems and “mental models”. Empirically, the paper describes institutional change in each of these spheres including all different levels of governance (local, regional, national and international). It concludes that elevated costs would prevent formal institutional change. Formal and semi-formalised ways of interaction between state actors affiliated with different territorial delimitations are presented. Furthermore, an emerging change in the mental models of the object of river management and the hydrographic region, attributable to changes in actors and issues involved in the management is determined through the assessments of actors involved.

Keywords: water governance, European water framework directive, Odra river basin, institutional change, hydrographic boundaries

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The Role of Social Capital and Further Assets for Collective Action and User Participation to Solve Water Resource Problems In Future Megacities - Results of a Household Survey on Water Use In Hyderabad

Emerging megacities like the South-Indian city Hyderabad face huge challenges of water scarcity, partly due to population growth, and increasingly accompanied by the negative effects of climate change. Collective action of water resource users in urban areas could help addressing some of these problems. When calling for such bottom-up approaches it has to be assessed in how far the local conditions allow for collective action among the inhabitants. Social capital on the macro level (formal and informal networks, generalized norms of reciprocity, and trust that foster collective action) is identified to be a decisive factor facilitating cooperation as it may reduce reciprocal uncertainty, incentives to defect, and transaction costs. Especially in urban areas that are characterized by increasing individualism, social capital is a critical issue. This paper explores asset-related preconditions for
collective action and local self-help approaches on water issues in Hyderabad. It is examined whether and in how far highly and scarcely affluent neighborhoods differ regarding their inhabitants’ willingness for collective action on water management. A focus is laid on the importance of different assets and the role of social capital. From a survey of 502 inhabitants and water consumers in Hyderabad we identify the key determinants affecting the probability that neighbours are willing to address their water-related problems collectively. The results show that the amount of social capital among neighbors has a significant impact on their willingness to organize collective management and that the different assets have different degrees of influence on collective action differing by neighborhoods. From these findings we draw conclusions for decentralized collective water management in Hyderabad and similar urban areas.

Keywords: social capital, water, collective action, megacities

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What Good is Protecting the World’s Climate System? Global Public Goods and International Public Policymaking

International policymakers increasingly confront momentous challenges of collaborating to govern the global commons. Where they succeed, all countries reap the benefits. Where they fall short, peoples everywhere may suffer from their failure. Crafting global climate policy is typically cast as a question of forging international cooperation to furnish the public good of a stable climate system. Supplying public goods, however, raises difficult hurdles to collective action. Since all parties receive the common benefit whether they help produce the good or not, countries face strong incentives to free ride on others’ efforts rather than shoulder the burden with them. Since all states make the same calculation, few if any will act and, all too often, the public good go unprovided. This grim logic underlies numerous pessimistic assessments of the prospects for organizing global cooperation to effectively counter global warming.

Yet all public goods are not created equal. Providing some goods requires parties contribute private resources to ensure the collective welfare. Providing other goods demands parties conserve a collective resource rather than consume it for private benefit. So-called best-shot, weakest-link, and lumpy goods differ from standard public goods in the extent of cooperation between parties or in the aggregate effort across parties needed to secure their supply. Different characteristics in different combinations in turn set different challenges for collective action. Often, these crucial qualities are not objectively inherent to the goods but socially constructed by collective understandings between the parties. Rather than a single social dilemma, climate change can be construed as presenting any of several public goods problems, each raising its own obstacles and opportunities for international cooperation. Differentiating among the diverse types of public goods and scrutinizing the shared conceptions shaping distinct provision puzzles can illuminate alternative possible frameworks for collective action and suggest fruitful new approaches to climate collaboration.

Keywords: governance, public goods, climate change

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Dependence and Sustainability in Common Groundwater Use in Maharashtra, India

Irrigation is an invaluable input for increasing agricultural productivity and the sustenance of water bodies whether private or common property depends on the manner of current use.
This paper examines the presence of different regimes of property rights on water and its distributive structure in Maharashtra (India) using 990 household survey covering 18 talukas and 9 ecological zones. We categorise users in three non-overlapping categories of water source – those who use only private sources, those who only use CPWR and those use mixed sources (both private and CPWR).

We find that irrigation pump ownership is concentrated among the largest land owning category. We also find that there is a secular increase in the average production from exclusive CPWR sources as the irrigated land size increases in all three seasons. This clearly indicates that the use of CPWR increases with land size. The access to CPWR in addition to private sources seems to provide a boost to agricultural incomes that is not achievable by mere private or CPWR sources alone. CPWRs assume importance so far as supplementing incomes from private sources in concerned. They also of course are important as exclusive source of irrigation for a certain group of land owners. The expansive theme the paper addresses is who depends on CPWR and what is the degree of this dependence. Our attempts to answer these questions indicate options for sustainable use of water resources in rural India.

Keywords: water, irrigation, property rights, distributive structure

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When Pani Panchayats (Water Users Association) were introduced in Odisha, there was a lot of resistance from common people, and quite justifiably so. Though focus of these WUAs was on irrigation, the whole concept needs to be studied from a macro perspective of management of what we may call “water commons”. In fact, it is quite similar to the concept of “river commons”. The focus of this paper is on analyzing the overall concept of water commons in Odisha, with particular emphasis on irrigation and somewhat on drinking water. We believe that the attitude towards WUA would have varied depending on the characteristics of the localities. In Odisha, we sometimes talk about the North-South divide. Besides, some research has categorized Odisha’s districts into different categories like KBK, mining, industrial, and others. We would analyze whether the attitude towards WUA and its success have been different in different categories of districts, especially between industrial and non-industrial districts. In particular, we would try to gauge farmer’s attitude towards volumetric measurement of water and ferret out whether this attitude depends on the extent of land-holding by the farmer. Another central focus of the research would be to find out whether there has been a change in all these from the pre-reform period and the post-reform era, taking 1991 as the cutoff-year when the LPG (liberalization, privatization, globalization) led process started in the country, with ramifications throughout all the states including Odisha. In the course of our research, we would bring out the traditional conflicts - that have been far more pronounced in recent times - between water allocation for agriculture vis-à-vis industry, which are quite significant in places like Sambalpur and whether these conflicts have been somewhat influenced by the agrarian history of the localities.

Keywords: water commons, water management, water users’ association, industrialisation, irrigation
Effect of Joint Forest Management Programme on Community Forest Management in Odisha

Joint Forest Management (JFM) is an initiative whereby both the state government and the local communities are supposed to jointly work towards protecting the forest in the community. This movement is said to be quite strong in Odisha, an agriculture-dependent-state with a huge tribal population, especially in its backward KBK districts. The process of and the attitude towards forest management in Odisha perhaps has undergone a significant change due to the industrialization in the recent two decades, which has, among other things, led to diversion of forest land towards mining and other industrial activities. This paper proposes to analyze this change besides finding out if JFM has had an impact on it and how. In particular, the study would like to ascertain if the reliance of tribals on NTFP (non-timber forest-products, sometimes referred to as Minor Forest Products) – as measured by, say, the number of households dependent on NTFP for supplemental income and sustenance living or the proportion of household income derived from these - has decreased due to JFM. In this context the instance of Kendu Leaves collection would be analyzed with regard to its role in changing the socio-economic profile of communities. We would try to decipher, using econometric techniques, as to what extent rainfall, irrigation potential, and other variables have affected the NTFP-dependence among local households. We would try to determine as to how households in these communities choose land-use between agriculture and NTFP extraction, since the tradeoff may have important implication for long-run forestation in the localities. In this context, we would try to analyze a specific issue: how households in degraded forests in Odisha responded to firewood shortage. Finally, we plan to reflect upon the changes that the answers to the above questions might have undergone due to reforms-led industrialization during the last two decades.

Keywords: Joint Forest Management, Community Forest Management, non-timber forest produce, tribal livelihood, firewood

Threat to Forest Commons: Mapping the Livelihoods of Mining Induced Communities

India’s rich mineral reserves lie in the same regions that hold its greenest forests and tribal people. Mining is not only a direct, but also an underlying cause of forest loss and degradation. It also has a negative impact on wildlife, river systems, tribal livelihoods, tourism and climate. This paper tries to map the existing livelihoods pattern of the affected communities in the upcoming bauxite mining and alumina refinery areas of Andhra Pradesh. The study covered 355 households in Visakhapatnam and Vizianagaram district of Andhra Pradesh. Using the Sustainable Rural Livelihoods Framework, the study shows that all project-affected people do not have a sustainable livelihood. Though they are rich in some capital, they are lagging behind in other forms of capital. Land acquisition process has not completed in these areas. However, once it completes where will these people go? They will lose their agricultural land and the forest will be destroyed. What will be their new source of livelihoods? These are some of the unanswered questions, which the study has tried to answer.

Keywords: mining, forest, Andhra Pradesh, tribal
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**Changing Conservation Paradigm with the Enactment of Forest Rights Act: Scope and Challenges**

Orissa has the unique distinction of being one of the few Indian states where thousands of local communities are actively protecting and managing their forests while also meeting their own livelihood requirements from them. With 1/3rd of the state population critically dependent on forest resources, biodiversity conservation has always been an integral part of their socio-cultural life. Historically, the relationship between forests and forest dwelling communities has been characterized by coexistence and they have been integral to the survival and sustainability of the forest ecosystems.

Apathetically, these groups have been struggling since long to assert their rights over the resources which were customarily enjoyed and conserved by them since ages. Tracing the evolution of forest policy, we see the slow but systematic alienation of local people from the forests. The customary rights of the people were neither recognized nor recorded by the colonial government during consolidation of state forests. This historical injustice was further accentuated by the Wildlife (Protection) Act 1972 and the Forest Conservation Act 1980, which made environmental protection and recognition of the rights of tribal communities as mutually irreconcilable objectives. Non recognition of rights has made them victims of tenurial insecurity, forcing to lead a life of poverty and deprivation and ultimately the whole goal of conservation was threatened.

Enactment of ‘The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act’, 2006 was a historic event in the history of India as for the first time the state formally recognises the rights of the forest dwelling communities. The new forest rights law also empowers right holding communities to “protect, conserve, regenerate or manage” their community forest resources for sustainable use.

There is a positive shift in the forest governance scenario, but the institutional mechanisms for sustainable livelihood and conservation has to be worked out.

*Keywords: biodiversity conservation, forest governance, customary rights, Forest Rights Act, institutional mechanism, sustainable livelihood and conservation*

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**Building Sustainable Communities on a Foundation of Natural Resources: Examples from the Use and Management of Geothermal Hot Springs**

This paper shows how common-pool resources that have long been used and managed cooperatively can not only support their users in a traditional economy but can also contribute to sustainable livelihoods in the present. This study focuses on the arrangements used at two collectively used and managed hot springs — in the towns of Nozawa and Bessho in Nagano prefecture in Japan. Residents in both locations have managed their hot springs and other more familiar common-pool resources (like forests and irrigation) cooperatively for a long time, but have also modernized their methods over time. In both locations, co-owners of the hot springs have monitored not only the quantity but also the quality of their geothermal resources using scientific methods advised by specialists. They have also developed their management plans on the basis of prescriptions suggested by these specialists. Interestingly enough, in both locations a novel combination of open and closed rules is used: In addition to hotels, inns, and senior centers that pay a user fee to the hot spring commons association for connecting by pipe to the community geothermal resource, the hot spring commons association also runs several public baths, to which access is available at no or little charge, not only to community members but also any visitors to
the area, without apparent damage to geothermal supply or economic competition. Thus the hot springs commons operates as a community enterprise with services available to any customer. At the same time, the hot springs commons uses a “closed” rule concerning investment, and historically the association has not allowed the introduction of any external investment capital. All development and investment in the resource are internally generated, and this rule restricts ownership to members of the local community.

Keywords: natural resource management, Nozawa Onsen, Bessho Onsen, geothermal resources, hot springs, community enterprise

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**Layers of Authority, Boundaries of Decision-Making: Controversies Around the Traditional Courts Bill**

This paper focuses on traditional courts and the impact of imposing fixed jurisdictional boundaries for them within the context of deeper disagreement about the nature of traditional identity, boundaries and authority, particularly as this relates to dispute resolution. It describes the Traditional Courts Bill of 2008 and controversies over its key provisions.

The imposition of territorial boundaries by colonial and apartheid governments, and complementary legislation of distorted and oppressive powers assigned to traditional leaders, had many negative consequences for rural people. But this approach appears to be perpetuated by the present government. Policies and legislation that entrench fixed boundaries and authoritarian notions of traditional leadership continue attempts to define social identity, dictate jurisdictional limits and map a centralised system of dispute resolution onto the indigenous systems in operation. By giving primacy to controversial territorial boundaries (especially macro-communal ones) and refusing people the right to ‘opt out’, the Bill distorts the flexible, layered and nested social organisations and dispute resolution processes prevalent in customary communities. It also undermines means by which traditional institutions might be kept accountable. Put differently, contests over institutionally supported definitions of boundaries signify similarly deep concerns about power relations, and the tensions around authority and accountability – particularly in dispute resolution – brought about thereby.

Drawing from the body of commons literature on locally designed rule systems, layered jurisdictional boundaries and the politics thereof, and the centrality of dispute resolution in the building of authority, this paper interrogates these issues relative to the Bill and living customary law: Who can make the rules that govern the commons? Who has power to decide disputes arising from non-compliance? Whose disputes are they empowered to decide? Who else can participate in dispute resolution? What kinds of judgments and punishments are issued? And, of what status are these judgments?

Keywords: institutions, governance, law, dispute resolution

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**Drought Mitigation: Study of Factors in Adoption of Community Based Conservation of Commons**

Community participation has been widely accepted as a prerequisite for conservation of commons. The international Hyogo Framework for Action, disaster management act, 2005 and policy, all stresses towards a community based approach for solving the complex vulnerabilities of the people. However, there are various challenges in initiating, sustaining and taking up this bottom up approach to higher levels. This paper studies the
factors which acts as challenges and opportunities in conserving the commons for undertaking drought management at community level.

Availability of water for household, irrigation and industry is an acute problem in Rajasthan. This qualitative study examine in detail what takes communities so long to adopt the watershed approach for drought proofing.

*Keywords: community, participation, watershed, water, NGO*

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The Visible and Invisible Layers of Tenure and Rights in National Parks: Cases from Indonesia

In all 50 national parks in Indonesia, disputes over rights have erupted. Although long neglected, the parks are still in better condition than areas outside the park with natural resources and land (mostly) still plentiful. Although few parks are officially gazetted, most local stakeholders know and accept their existence. With reforms and decentralization, the national governments authority over parks and the parks itself have come into question, in particular their legal status where legal gazettement has been incomplete. Most parks are seen as open access with many actors competing to stake claims: Mining and oil palm companies eager to expand, local governments needing revenue for development, and indigenous and local people as well as land hungry migrants seeking opportunities to make a better living.

How can this tenurial mess be resolved? What claims are best awarded rights? Can a national park be managed as a commons where local people have recognized claims and take on its attendant duties? Would local governments be interested in conservation if the authority over protected areas is decentralized? Would it be possible to develop a layered system of rights (and duties) acceptable to both government and people?

This paper, based on 2 year in depth participatory action research in Kutai national park and comparative studies in several other parks (Danau Sentarum, Halimun Salak and Tesso Nilo), will discuss these issues of tenure in national parks in Indonesia, the opportunity for special use zones to resolve conflicts and a possible scenario for property reform to be applied in such special use zones.

*Keywords: tenure, property rights, conservation, National Parks*

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The Evolution of Reservoir Irrigation Systems as Commons in the Dry Climate Region of Contemporary Japan

Although Japan is a “green archipelago” associated with a rainy season, some regions have a fairly dry climate and are short of perennial rivers, and these have long adopted reservoir irrigation systems for rice cultivation from ancient times. Particularly in the areas facing the Seto Inland Sea (between the main islands of Honshu and Shikoku), in Kagawa, Hyougo, and Osaka prefectures, there exist many such irrigation works. As is the case in the Asian monsoon region, rice farming under reservoir irrigation has the attributes of CPRs, requiring some level of joint management, and the social and institutional features of CPR-like practices among such systems are quite frequent. However, because industrial base of agriculture has been declining as economic structure shifts in Japan, quit drastically in the latter half of the 20th century, institutional arrangements in irrigation have also changed, resulting in many alterations in the commons content. Notably, urbanisation and the transformation to
an industrial and service economy are the main culprits. The paper begins by explaining with stylized facts (a comprehensive summary) the institutional evolution of Japanese reservoir irrigation systems. This paper then goes on to examine the recent transformation in institutions and practice, using cases in the areas of Japan with centuries of history using reservoir irrigation. The cases include the historically important Mannō-Ike reservoir in Kagawa and the dense small irrigational ponds in the East-Harima area of Hyougo that are subject to intense urbanisation. The analysis of this transformation focuses on the degree to which custom and practices have changed, leading to outcomes that vary from demise, to adaptation, to survival in new roles and multiple uses for the communities of concern. The successful survivals incorporate resilience to shock, including the Great Hanshin-Awaji (Kobe) earthquake of 1995. The paper concludes with thoughts about whether the commons can provide a social basis even in urbanised and industrialised societies of the present.

Keywords: reservoir irrigation system, rice cultivation, Japan, urbanisation, traditional water custom and practices, new roles for communities

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Socio-Economic Benefits for Resource User Groups Through the Co-Management in Alua Beel, Bangladesh

Fisheries co-management is a new tool for the sustainable management of inland fishery resources whereby water bodies are operated and managed by local communities. This paper discusses the responsibilities, duties, and benefits of wetland users involved in the co-management of Alua Beel (low lying depression) in Dhaka Division of Bangladesh. The study was carried out through focus group discussions and semi-structure interviews. The results indicate that most respondents perceived that co-management activities had increased fish production (67%) and the availability of alternative income generating activities (57%), but very few respondents perceived that co-management offered environmental protection benefits (8%). Project results also suggest that many co-management action plans have been created and decisions made by members of the local elite. The only role local fishers have played in co-management has been in implementing project activities. Thus, fishers are not involved in co-management decision-making activities. The study identified approximately twenty different types of benefits (both direct and indirect) derived from Alua Beel’s co-management. These benefits help improve the livelihoods of poor fishers. Fishers desire for Alua Beel to continue to be co-managed with support (both technical and financial) from the government.

Keywords: water, wetland, co-management, livelihood

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Rural Land Regulation and Precarious Rangelands in West Africa: Lessons from Northern Benin

The back bone of the land bill enacted in October 2007 in Benin is the PFR (Plan Foncier Rural), meant to make inventory and register all customary use and ownership rights over each piece of land (including bearing natural resources), in view of securing holders’ rights. The process started early 1990s. The context was one of multiple access and unsustainable usages of rural land. The rational for establishing this land regulatory mechanism was that it would secure use and ownership rights, therefore induce sustainable management and livelihood at community and regional levels.

The pilot soon revealed difficulties for marginal categories (migrants, pastoralists, women, etc.) to claim and get
their access/use rights recorded in PFR documents. Generally, field agents in charge tend (and were brought) to focus on exclusive ownership rights for individuals or families, instead of recording multiple access and use rights. Hence, common pool resources as graze lands, lowlands, rangelands, even mountains edges etc. were registered as private ownerships. With the support of MCC funding, some 300 villages are expected to complete PFR process by end 2011.

This paper discusses the subsequent threats on the commons, particularly on rangelands in Northern Benin, in an aggravating context of climate change, increasing commercial pressure on agricultural lands and weak political and administrative decentralisation. The paper proceeds discussing the strengths and weaknesses of pastoralists’ individual and collective coping strategies, including the delimitations of grazing corridor. It explores promising avenues for stakeholders (pastoralist associations, local governments, state services and NGOs) to develop rural land management dispositions under the current legislation that preserve the commons and secure marginal groups.

Keywords: pastoralist, rural land management

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Marine Turtle Conservation and Community Well-being in a Globalized Coastal Town of Costa Rica: Methodological Contributions

I have based this paper on three years (2006-2010) of intermittent field work in the “globalizad” community of Junquillal on the Pacific Coast of Costa Rica, where the World Wildlife Fund commissioned me to help integrate endangered Leatherback marine turtle conservation efforts with community wellbeing as a strategy to help guarantee the sustainability of wildlife conservation. Based on concepts we borrowed from Amartia Sen and Manfred Max-Neef, especially, we defined community wellbeing as increasingly equitable access to community capitals, such that the people could satisfy their fundamental human needs and make use of new opportunities. Our research in this community, whose history and cultural composition make it a globalizad rural community, where “amenity migrants” from the the Industrializad World have come to live amongst the local coastal residents, revealed the important of identity as a motive force in the appropriate management of common property resources (CPR). Our principal contribution to advancing CPR management is in this increasingly common “glocal” setting, was in the methods we employed to foster the identification and appropriation of common interests within this diverse population. Some of these methods included the participatory reconstruction of a common history, the promotion of common spaces and motives for celebration, providing a common pool of pertinent information, and startling them with common visions of possible futures. These, we feel have contributed to improving their CPR management and to their own wellbeing.

Keywords: marine turtle conservation, community well-being, identity

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Irrigation Reform in Asia: A Review of 108 Cases of Irrigation Management Transfer

Irrigation management transfer and participatory irrigation management (IMT/PIM) have remained buzz words in the irrigation sector for around 30 years now. However, in spite of years of implementation and hundreds of documented case studies, evidence of impact of IMT/PIM has at best remained sketchy due to lack of comprehensive assessment that goes beyond mere descriptive case studies. The purpose of this paper is to fill in some of the gaps
left in the previous reviews through a meta analysis of 108 case studies of IMT/PIM from 20 countries in Asia. This makes it one of the most comprehensive reviews undertaken so far. Based on systematic review of these case studies, it is argued that successful cooperative action in large scale public irrigation systems takes place under a set of very context specific and process intensive conditions – conditions that are difficult and costly, if not impossible to replicate elsewhere. To take it a step further, it is also argued that lack of replicability of successful cases of IMT is not an issue of poor implementation or enabling conditions, as it is generally thought, but is related to conceptual weakness of the IMT model itself and therefore there is a need for a paradigm shift in the way publicly owned irrigation systems are managed.

*Keywords*: water, irrigation, Asia, participatory irrigation management

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**Well-Being or Destitution of Local Forest Commons? An Inquiry into the Sustainability of Forest Commons Using Multi-Country Data**

Local forest commons provide an important source of income, livelihood support and safety net for a large number of people across the globe. Dependence on forest commons is especially high among poor people living in developing countries but there is an increasing acknowledgement of the global benefits of local forests. Meanwhile, there is an ongoing debate about the most efficient property rights arrangement for local natural resources, where one side argues that forest commons should be transferred into private or government ownership. Despite extensive research into the management of local commons, there is still a lack of convincing cross-country analyses of the sustainability of local forest commons. To remedy this shortcoming, the proposed paper sheds light on two aspects of forest commons; i) whether forest commons contribute to sustainable development and ii) what factors contribute to the well-being of the users of forest commons. We depart from the literature on social welfare, sustainable development and environmental economics to develop a model for statistically analyzing the sustainability of forest commons. We let capital, measured in terms of agricultural land, livestock, education and density of forest cover be the dependent variable with indicators of physical, socio-economic and institutional factors as explanatory variables. The model is applied to a dataset collected by IFRI (International Forest Resources and Institutions), containing very rich cross-country data on forest commons and their users. Initial results indicate that managing forest as common property does contribute to sustainable development. We find a significant correlation between forest capital and agricultural land (negative) and livestock (positive) but no significant correlation between forest and human capital. These results are discussed and interpreted in terms of strong and weak sustainability. We find a positive correlation between forest capital and strong local institutions, leadership and distance from the settlement to the forest and from the forest to the market. We also find that the size of the forest common, divided by number of users, has a positive but decreasing effect on the density of forest cover. The results are discussed in terms of sustainability of forest commons and related to the discussion on privatization of common property.

*Keywords*: forests
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Interpretative Analysis and Adaptive Capacity: Local Communities in the Face of Conservation Policies

The goals of biodiversity conservation and protection of livelihoods are often in conflict. Legitimate tradeoffs between the two are necessary. In spite of the wide literature on such tradeoffs, interpretative dimension of conservation policies has been hitherto under-researched. Local communities idiosyncratically perceive and interpret their environment, threats to their livelihoods and availability of coping mechanisms; these perceptions often dramatically differ from those at the regional and national levels. Interpretations may depend on cultural, economic, discursive (or ideological) and organizational factors, as well as their interplay. The analysis of interpretative differences is important in order to address the divides and promote consensus in conservation policy design and implementation. Such analysis will also show the likelihood of local communities to engage in strategic response seeking. The range of possible strategies of local communities will be studied. Theoretical ideas of adaptive capacity and strategic responses to environmental change will be augmented with empirical insights from the Ba Be and Na Hang Protected Areas in the Northern Vietnam. Research methods will include semi-structured interviews at multiple governance levels, non-participant observations, and focus group discussions.

Keywords: adaptive capacity, policy translation, multi-level governance, response strategies, environmental change

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Fishery Commons in Japan: Their Legal Framework and Recent Crises

Coastal fisheries in Japan are very unique in the world in the sense that its major part has been managed by fishery cooperative associations (FCAs) of local nature. Each FCA has its own rule of harvest times (seasons, days, or hours of operation), mesh sizes of fishing nets, and others for sustainable yields. At the same time, each FCA is entitled with fishery rights of various nature over specific sea (or freshwater) surfaces. Such fishery rights are deemed to be real rights under the Fishery Act. Hence, each FCA can be considered as a common, which we call a fishery common in this paper. The purpose of this paper is then three folds.

Firstly, the paper describes the history and present of such fishery commons in view of the old and current Fishery Acts of Japan. Legal structure of multi-level fishery resources governance is analyzed.

Secondly, the paper points out the recent trend of weakening of FCAs by various reasons such as a nationwide policy of merging small, local FCAs into a large, prefectural FCA, politico-economic pressure on small FCAs to abandon fishery rights for industrial development (e.g., nuclear power plants construction) in coastal areas, conflict between traditional fishing activities of FCA members and new marine leisure of urban populace, and others.

Thirdly, the paper proposes possible directions of re-strengthening local FCAs from the viewpoint of environmental governance. An example of such direction has already been seen in the recently arisen rural-urban linkage in the form of participation of urban consumers in tree planting activities of FCA members to propagate uo-tsuki-rin (fish breeding forest).

Keywords: Fishery Cooperative Association, fishery commons, Japan, fishery act, multi-level resources governance
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First Nations Values in Processes and Outcomes of Protected Area Governance

Over the past few decades there has been increasing attention paid to ‘shared’ forms of governance and to the creation of new protected areas that are designed to address ‘non biological’ goals and values. This is has been evidenced in a number of international fora (e.g. the Durban World Parks Congress) and in on-the-ground initiatives around the world. The rationale for these initiatives has, in part, been based on the belief that well-designed systems of PA governance will help to deliver desired outcomes and meet linked socio-cultural, economic and environmental objectives. Yet this has been an under-researched area, and there is a relative lack of explanation as to how governance systems can best be designed to reflect the values and goals of various actors, as well as which specific governance structures and processes tend to result in particular desired outcomes. Addressing these questions has become increasingly important in British Columbia, where a number of First Nations are asserting increasing control over existing protected areas, as well as to establish new protected areas (managed exclusively by a First Nation) and design governance systems for them that demonstrably deliver outcomes consonant with cultural beliefs, values and goals.

This proposed research project will examine this perceived gap through an in-depth case study examination of the Tla-o-qui-aht Tribal Parks and the Pacific Rim National Park Reserve. Specifically, we will examine how values are (or are not) reflected in the governance of these two PAs, whether desired outcomes are being achieved, what role (if any) governance systems may have been played in those outcomes, and what sort of governance obstacles might exist in terms of positive outcomes. We will also build in comparative examples, including Gwaii Hanaas and First Nations forestry enterprises in Northern BC (eg. Tl’azt’en Nation Teeslee Forest Products). Finally, we will seek to collaboratively elaborate recommendations for the design of new initiatives, including the ongoing Tla-o-qui-aht Tribal Parks effort.

Keywords: governance, well-being, Protected Areas, indigenous

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Park-People Relationships and its Implications for Protected Area Management in Satpura Conservation Area, India

I studied park-people relationships in Melghat Tiger Reserve (MTR, Maharashtra) and Bori Wildlife Sanctuary (BWLS, MP) located in Satpura Conservation Area, having considerable tribal and non-tribal population dependent on forest resources of both protected areas (PAs). Socio-economic data were collected through household interviews in villages located within the PAs using open and closed-ended questionnaires. A total of 318 households (>20%) were sampled. While >50% were tribal households, >70% households were landless, marginal or small landholders. >80% families owned livestock. While >60% tribal households identified lack of employment opportunities within the PA and crop damage by wild herbivores as major problems; >50% households considered livestock predation a major conflict. More than 90% agro-pastoralist households in MTR were resentful of restrictions on livestock grazing. Alternative agricultural land was a major requirement for >50% families in BWLS as quite a few families were deprived of their landholdings due to submergence under the backwaters of
Tawa reservoir which was built on the western side of the sanctuary. The creation of these two PAs in early 1970s has brought about significant changes in the dimension and equations of dependence. For local communities it translated in loss of economic opportunities and benefits which they traditionally derived. This has resulted in negative attitudes towards the forest department due to increased human-wildlife conflict bringing considerable strain on park-people relationships. Major management issues that need to be addressed are: dependence of local communities resulting in conflicts with the objectives of conservation and negative attitudes of the people towards forest department; inadequate coordination between forest department and district administration and other institutions/agencies working in the area; and lack of sensitization of forest staff in people related issues.

*Keywords:* Natural Resource Management, institutions, forests, economics

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The Struggle to Defend Resource Rights: Actors, Strategies and Outcomes in Biofuels Expansion in Africa and Asia

The rising demand for biofuels has generated great interest in many developing countries in Africa and Asia. This interest emerges from the assumption that developing countries have large expanses of unutilized land, and that biofuels could contribute to income for smallholders as well as broader economic growth. The land-intensive nature of biofuels is a major concern and may result in adverse consequences for the land and resource rights of poor, rural people. Tanzania and Indonesia are two nodes of rapidly expanding biofuels sectors in their respective continents. They provide important learning sites about the relationships between biofuels development and local rights to forest resources. Because the security of local rights is increasingly called into question with the expansion of biofuels, whether (and how) local resource users are able to defend their claims and to exert influence over land allocation processes is critical. By comparing Tanzania and Indonesia, this paper explores the mechanisms by which communities resist and/or counter biofuels allocation practices that they perceive to threaten their continued access and control over resources. Specifically, it examines the types and effectiveness of actions that resource users and their allies at different governance levels use in attempts to defend against and/or mitigate emerging threats to their resource rights and livelihoods. Understanding community actions (and challenges to these actions) to counter threats is necessary to enable policy planners to define mitigative and remediative interventions in the biofuels chain.

*Keywords:* struggle, resource rights, actors, strategies and outcomes, biofuels expansion, Africa and Asia

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Customary Rights and Societal Stakes Associated with Mining in the Copperbelt of Zambia and DRC

This paper analyzes the implications of copper mining in Zambia on customary rights to land and forests, and the societal stakes associated with foreign investment in the mining industry. Copper mining affects forests in a number of direct and indirect ways, from deforestation during green site development and sourcing of high quality timber to the significant but indirect pressures over forests through the population pull effect of mining...
towns. The study was undertaken in Chingola District in Zambia, operation center for Konkola Copper Mines (KCM). Methods included stakeholder interviews with government officials and forest-based communities affected by the direct and indirect influences of mining. Results suggest that while mining has a key role to play in the national economy, local and societal stakes are high – suggesting that a series of governance reforms are needed to leverage greater benefits for rural communities and society at large, and to reduce the negative social and environmental externalities.

*Keywords: investment, mining, Zambia, ecological impacts, customary rights*

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**Groundwater Conservation and Management in India: Application of IoS and Wade Frameworks**

While addressing ‘asset specificity’ of groundwater in hard rock areas, institutional, neoclassical and technological strategies are in order. ‘Supply side’ technological (drip irrigation for ex) and neoclassical (water markets) solutions are slowly pervading. Institutional solutions are yet to enter hearts of farmers and planners. This study demonstrates application of Institutions of Sustainability (Hagedorn 2002) and Robert Wade (1987) framework for sustainable management. On the one hand, transactions and actors through institutional innovations and on the other, institutions and governance structures through institutional performance influence sustainable management (Hagedorn 2002).

Considering both frameworks, there is thus, dire need for State for effective and implementable groundwater regulation including creating awareness on water budgeting and installing water meters, rather than concentrating on electricity policy.

*Keywords: groundwater, governance, institutions, hard rock areas, transactions*

<table>
<thead>
<tr>
<th>Robert wade conditions for collective action</th>
<th>High possibility</th>
<th>Low possibility</th>
<th>Impossible</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Groundwater resource</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Smaller, clearly denned boundaries</td>
<td>✓</td>
<td></td>
<td></td>
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<tr>
<td>II. Technology</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>1. Higher cost of exclusion for groundwater farmers</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>III. Relationship between groundwater and farmers group</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Proximity of groundwater resource to residence</td>
<td>✓</td>
<td></td>
<td></td>
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<tr>
<td>2. Higher demand for and more vital Groundwater is for survival</td>
<td>✓</td>
<td></td>
<td></td>
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<tr>
<td>3. Better knowledge of sustainable yield of groundwater</td>
<td>✓</td>
<td></td>
<td></td>
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<tr>
<td>IV. Groundwater farmers association</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Relatively small number of farmers pumping groundwater</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Clearly defined boundaries for farmers overlaying aquifer</td>
<td>✓</td>
<td></td>
<td></td>
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<tr>
<td>3. Higher proportion of farmers benefiting from groundwater conservation groundwater compared to those exploiting for privatizing it</td>
<td>✓</td>
<td></td>
<td></td>
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<tr>
<td>4. Greater opportunities for discussion of common problems</td>
<td>✓</td>
<td></td>
<td></td>
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<tr>
<td>5. Greater extent to which farmers are bound by mutual obligations so that they abide by their promises</td>
<td>✓</td>
<td></td>
<td></td>
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<tr>
<td>6. Larger existence of joint rules (eg. punishments for rule breaking) for purposes other than groundwater conservation</td>
<td>✓</td>
<td></td>
<td></td>
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<tr>
<td>V. Noticeability</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Easier noticeability, detection of rule-breaking farmers</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>VI. Relationship between groundwater users and the state</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Lesser State interference in collective action</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>
Mobilizing Resources for Marine Turtle Conservation in Asia-A Cross Country Perspective

This article reports the results of a comparative study conducted in China, the Philippines, Thailand and Vietnam to assess households’ willingness to pay for marine turtle conservation and the potential to mobilize funds. Results suggest that many people place a low priority on marine turtle conservation compared to other public policy issues. The referendum to impose a mandatory surcharge on residential electricity bills would only pass for the lowest surcharge of 0.02 USD/month. If the poor were to be exempted, this modest surcharge would only generate a sum of 1.52 million USD per year which is under 8% of the total global expenses for marine turtles conservation.

Nevertheless, there is some potential for voluntary contributions. Based on the percentages of respondents who would voluntarily pay 1 USD/month, the potential revenue could reach 50 million USD/year. Mobilizing these also presents problems. The voluntary payment explored, asking people to ‘check off’ for marine turtle conservation program on monthly electricity bills might work once, but unlikely to be repeatable for other endangered species and environmental causes. The traditional prescription of ‘raising awareness’ is unlikely to yield results as urban Asians are already well informed about the existence and plight of marine turtles. Efforts to develop conservation financing mechanisms should therefore be directed in a different and more difficult direction to improve the trustworthiness of government tax collection and expenditure systems. Charities could explore potential for voluntary contributions focusing on the relatively small segment willing to voluntarily contribute and developing cost-effective ways of collecting payments. Finally, until Asia develops higher per capita incomes and trustworthy payment vehicles, the international community will need to play an important role in financing conservation in the region.

Keywords: willingness-to-pay, marine turtles conservation, contingent valuation, cross country perspective

Assessing Forest Change in Human Impacted Forests

Ecologists and practitioners have conventionally used forest plots or transects for monitoring changes in attributes of forest condition over time. Yet, given the difficulty in collecting such data, conservation practitioners frequently rely on the judgment of foresters and forest users for evaluating changes. These methods are rarely compared. We use a dataset of 53 forests in five countries to compare assessments of forest change from forest plots, and forester and user evaluations of changes in forest density. We find that user assessments of changes in tree density are strongly and significantly related to assessments of change derived from statistical analyses of randomly
distributed forest plots. User assessments of change in density at the shrub/sapling level are also related to
assessments derived from statistical evaluations of vegetation plots, but this relationship is not as strong, and only
weakly significant. Evaluations of change by professional foresters are much more difficult to arrive at, as foresters
are not familiar with changes in a number of local areas, and can instead better provide valid single-time
comparisons a forest with other areas in a similar ecological zone. We conclude that in forests where local users
are present, and capable of accessing the entire forest without restrictions on movement, they can provide
reliable assessments of changes in tree density. Forest users are less able to accurately identify spatially variable
changes in density at the shrub/sapling layer, and assessments of human disturbance and regeneration at this
level may require supplementation by vegetation analysis.

Keywords: forest institutions, biodiversity, monitoring, IFRI

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The Local and the National: Analyzing the Economic Implications of the Forest Rights Act, 2006

The Forest Rights Act, 2006 (FRA) has been hailed by many as a historic legislation. On economic terms, its main
merit lies in its contribution to livelihood security – it provides secure land tenure, recognizes community rights
to forests in addition to individual land rights, and attempts at gender equity. Further, under the assumption of as
positive relation between tenure security and conservation, the legislation is expected to benefit local and sponsored
conservation programs. However, at the same time the FRA poses a significant threat to the extractive
“development” path that the country has embarked on. In this paper, I conduct an analysis of FRA implementation
across the country to comment on its prospects for forest livelihoods and forest conservation. Further I explore
the inherent contradictions between traditional forest livelihoods and a neoliberal economic regime.

Keywords: institutions, livelihoods, forests

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Time Use and Labor Contributions: For a Different Understanding of Collective Management

Successful participatory or collective resource management is premised on adequate labor (and/or monetary)
contributions; the attention devoted to uncovering the factors that impact these contributions has enriched our
understanding of the commons and its relationship with those whose livelihoods depend on them. This paper,
however, turns its attention to the nature of these labor contributions and comments on their potential implications
for the sustainability of participatory or collective resource management. In doing so, two issues are taken up for
consideration – a) time allocation of livelihood activities within the household and b) the articulation of agrarian
subsistence livelihoods within a capitalist economy. Despite advances made in assigning market value to non-
market environmental goods and services, there is a relatively low degree of appreciation of the time required to
fulfill household productive and reproductive needs in agrarian subsistence livelihoods. Consequently, we do
not fully comprehend the ‘hidden’ cost of participating in collective resource management. An analysis of
intrahousehold processes and a deepening divide between capitalist production and social reproduction could
help explain time constraints faced by the poor (especially women). Understanding nature as an ontological
reality as well as an outcome of historically specific social relationships of production, and newer and/or
recombinant forms of resource management, this paper situates its analysis within the Indian socio-historical
context.

Keywords: time use, agriculture, forests, institutions
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Is Gender Relevant in Enhancing the Economic Competitiveness of Small-Scale Furniture Enterprises? Exploring the Central Javanese Small-Scale Furniture Value Networks in Indonesia.

A gender dimension is often lacking when analyzing value chains of most forest commodities. Yet gender is imperative at every node of the value chain. Accordingly, gender is crucial in the labor-intensive furniture industry. The small-scale furniture industry in Jepara displays a long array of network activities: i.e. from forest to log retailers through the mills and workshops; finishing firms, show rooms and furniture sellers until the final user. Indisputably, all those interconnected activities are conducted within the prevailing gender environment.

This study provides insights on the importance of gender in enhancing the economic competitiveness of small-scale furniture enterprise in Jepara. The results generally show more dominance of men than women in the value chain. However, more involvement and possibly higher incomes of females than males is observable in finishing as compared to any other furniture value adding activities. Women are more concentrated in finishing firms since finishing activities such as sanding; painting; polishing and packaging are regarded as women tasks. Women’s work is less valued than men’s work. This has implications on women’s skill upgrade; incomes; social status as well as innovativeness in other nodes of the furniture value chain. Women occupy a secondary position as compared to men within power relations. Gender inequity is unavoidable in the furniture value chain in Jepara. In a mean time, the women’s subordinate position in the gender hierarchy within and between firms in the furniture value networks can be taken advantage of to facilitate the improvement of economic rents. This knowledge compliments the development of comprehensive scenarios for further upgrading of the small-scale furniture industry in Jepara particularly and rest of the world with similar issues.

Keywords: gender, value chain, small-scale furniture industry, Jepara, upgrading

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Irrigation has a prime role in Indian agriculture offering food security as 40 percent of the cultivated area is irrigated and 70 percent of the irrigated area is devoted to food crops to meet the needs of the ever-growing population. While surface irrigation has been stagnating, groundwater irrigation has been increasing. In 1998, the groundwater extraction was 38 percent which increased to 58 percent in 2009. Facilitating policies towards electricity, credit, technological innovations in well exploration, extraction and use, demographic shifts, lucrative product markets and weak groundwater institutions are contributing to overextraction of groundwater. Since four decades, the groundwater extraction exhibited a trajectory of initial utilization, agrarian boom, growing scarcity and eventually bust with rapid fall in groundwater table in semi-arid regions in the hard-rock aquifers. This has forced several marginal and small farmers to shift to dryland agriculture as they could not bear the brunt of failure of wells increasing economic scarcity of the precious groundwater resource for irrigation.

The ineffective institutions efforts of the governance to contain groundwater overdraft have proved in vain. The challenge is thus to frame effective institutions focusing on resource management rather than resource development. As water is indispensable for agriculture and domestic purposes, innovative institutions, technologies of microirrigation, rainwater harvesting, provision of irrigation management services, and market measures subsuming
property rights, water entitlements, abstraction limits are crucial. Thus far, supply side of groundwater is being addressed by the State through schemes such as watershed development, tank rehabilitation, while the demand side is inadequately dealt. Thus key actions are necessary for demand management on individual and community basis. The community based approach to regulate groundwater incorporating IWRM is by promoting user groups with technical support and training involving local government, private sector and the community. Major policy changes on energy and technical aspects in accurate assessment of groundwater recharge and extraction, maintenance of isolation distance, quality pumpsets, information dissemination, implementation of the best practices and appropriate crop pattern are in order. While groundwater management approaches which are effective in one country may not be effective in another country due to variation in type of aquifers, number of users involved, alternative sources of water and the larger political economy. Thus local solutions with strong R and D linkages are crucial.

Keywords: groundwater over exploitation, groundwater institutions, property rights, water crisis, sustainability

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Social preferences in conservation under external rewards and the role of group heterogeneity and market orientation: Experimental evidence from the Andes

External reward mechanisms may provide resource users with an incentive to cooperate in common resource dilemmas so as to conserve that what benefits wider society, such as public ecosystem services. Yet relatively little is known so far about the extent to which these formal institutions interact with existing social preferences subject to group heterogeneities and different market contexts. This paper seeks to contribute to filling this research gap, by building on an impure public goods game incorporating unequal initial resource endowments, as well as different payment modes, in the context of agrobiodiversity conservation. Field experiments were conducted with farmers in market orientated communities from Bolivia and subsistence based ones from Peru. Findings indicate that farmers from commercial orientated backgrounds tend to free-ride on one another, whereas in subsistence-based communities inequality aversion plays an important role in determining conservation levels. Further, it is found that in the latter context, where pro-social behaviour is strong, rewards from outside the community might do more harm than good by spurring free-riding behaviour. Promisingly though, in communities that have suffered from an erosion of pro-social norms, certain reward systems appear to reverse anti-social dynamics and thus may contribute to solving conservation problems. These results highlight the importance of existing social preferences in determining the effectiveness of external rewards and the social costs involved by such interventions.

Key words: payments for environmental services, cooperation, collective action, public goods game, crop diversity, Bolivia, Peru

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Decentralization: Resolve Or Hide The Problem? A Comparative Case Study of Water User Associations in Turkey and India

Governance of common resources such as water calls for rethinking structure, legal frameworks and property rights. In order to promote the decentralization of water governance, Water User Associations (WUAs) were
created in many countries, such as India and Turkey, to operate and maintain irrigation systems as well as take over the responsibility of water distribution among water users. Despite progress in these activities, the efficacy of WUAs in terms of securing water rights for all water users has received criticism in some studies.

By looking at the power dynamics in the process of WUAs' formation, this paper assesses the performance of WUAs in Urfa province in Turkey and Andhra Pradesh state in India. This includes a closer look at institutional arrangements of WUAs in effectively managing the irrigation systems and protecting water user’s access rights. The result of these case studies is used to explore the underlying problems associated with WUAs in promoting sustainable water governance in terms of water access and allocation.

Employing a comparative approach, we argue that due to asymmetric power relations in these regions, securing equal water access and allocation is unlikely to be achievable. In other words, in the absence of a fair process of decision-making, WUAs will fail to achieve the intended benefits of decentralization policies. This raises the need to critically assess the premise of structural reforms in the water sector and a careful consideration of the water governance practices in managing water resources.

Keywords: decentralization, water user association; water access, water allocation, power dynamics

Navaratne, Champa Madhumathi

Unregulated River Sand Mining in Southern Sri Lanka: Actions to Overcome Adverse Impacts

Abstract

Athukorala, Kusum; Piyadasa, Ranjana

Rapid urbanization, the major cause for sand demand is responsible for unsustainable extraction of sand from rivers in Sri Lanka. As a result, river beds and banks degradation is happening in all major rivers in Sri Lanka which cause for lowering the stream flow and for dropping the groundwater table leaving the drinking water wells on the embankments of these rivers dry. It unkindly affects the water table-dependent vegetation in river basin areas and increase dry periods. Saline water intrusion into the fresh water body is seen in locations close to the sea.

As this situation has adversely affected on livelihood, agriculture and natural habitat, the objective of this paper is to present the activities a women’s volunteer organization, Network of Women Water Professionals (NetWwater) commenced to overcome the social and the environmental impacts of sand mining in the southern province river catchments.

Nilwala river in southern Sri Lanka is the major source for domestic and irrigation water in the area. In the recent past, water users of Nilwala river experience hard taste of drinking water during dry periods due to sea water intrusion along the river and a survey conducted by the university indicated that paddy fields near by the river are becoming fallow.

NetWwater organized awareness programs linking up with active civil society groups, religious institutions, water management institutions, enforcement staff, universities and media and made a great effort to influence decision makers to have a clear sand policy concerning environment, agriculture and livelihood. Research programs are continued to assess water quality and land degradation in the river and river basin. Water quality improvements and land reclamation programs will be commenced based on the results.
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Lagoon Systems as Platforms for Sharing Knowledge: Social-Ecological Responses to Reduced Access to Commons, And Dynamic Environmental Changes

This paper takes a broad social-ecological-institutional analysis of lagoon commons using lagoon case studies from across the globe. Lagoons provide extremely dynamic and changeable environmental arenas in which people and ecosystems are continually adapting in a highly inter-dependent system. Affected by processes of erosion and sedimentation, seasonality, and variations in resource abundance and distribution, lagoons are also susceptible to shocks such as pollution or extreme weather events. As scholars race to understand the implications of ecosystem change, including climate change, lagoons can provide learning platforms from which to understand how people cope, or not, with environmental change at its extreme and how governance strategies might support or erode such adaptation. We illustrate here that lagoon social-ecological systems, and the stresses they face, have a degree of commonality, and comparability, across different regional contexts. For example, the rotation of fishing grounds, evolved to achieve fair access amongst fishers, or community action to maintain a lagoon opening to the sea are just two characteristics common in lagoons worldwide. The trajectories of change, and the mechanisms that people adopt to live with those changes, are also comparable across different lagoons and are analysed here in terms of processes of governance, and outcomes for social-ecological resilience. We conclude by emphasising that what happens in one lagoon is a lesson for another, and yet this cross-fertilization is largely untapped in current lagoon research.

Keywords: commons, social-ecological, governance, resilience, adaptation, change, lagoon

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Flood Disasters, Local Commons, Collective Action and Individual Responses: Lessons from the Thai and Vietnamese Hillsides

Drawing on comparative case studies in flood-affected upland areas of Thailand and Vietnam, this paper explores the differences between collective and individual responses to disastrous flood events and subsequent mitigation strategies. Fieldwork was conducted between 2007 and 2009 with a variety of qualitative methods, such as semi-structured interviews in flood-affected households, focus group discussions and narrative essays written by local people. Evidence suggests that farmers’ willingness to engage in flood mitigation is curbed by the common perception that flooding is caused by a bundle of exogenous factors. In both countries, the majority of upland farmers did not link the severity of the flood events to existing land use, instead attributing responsibility to climatic factors and/or water management failures. In the case study from Vietnam, government intervention in formerly community-based water management has substantially estranged farmers from water governance and their sense of personal and collective responsibility within it. Their lack of engagement in any flood prevention strategies could also be explained by the fact that their major cash crop grown on hillside slopes was not affected by the flood event. In the case study from Thailand, where community-based water management remained largely unaffected by government influence, villagers agreed in a collective decision-making process to widening the riverbed after a severe flood, although this meant that some farmers had to give up parts of their paddy fields. Yet, following a second flood these farmers opened up new upland rice fields in the forested upper watershed areas to ensure their food security, thus increasing the likelihood of future flood disasters downstream. We conclude that external actors involved in flood prevention strategies need to be aware of (1) local people’s own causal explanations of flood events and (2) the potential trade-offs between collective action towards flood mitigation and individual livelihood strategies.

Keywords: flood response, governance, complex commons, mitigation strategies, mountainous regions
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Decentralization or Recentralization? Institutional Trends in Natural Resource Governance in East and Southern Africa

Natural resource decentralization measures which aim to strengthen local common property regimes for governing forests, wildlife, and rangelands have been widespread across eastern and southern Africa during the past two to three decades. During the 1980s and 1990s, a range of natural resource governance reforms took place, particularly in southern Africa, which had far-reaching influence on ideas about and practical experiments with community-based natural resource management. During the past decade, however, the institutional trajectory across much of the region has changed towards recentralizing authority and tenure over natural resources. These institutional trends reflect a range of political-economic dynamics characteristic of contemporary sub-Saharan Africa, including: growing commercial value of lands and resources through transnational trade in timber, wildlife, tourism, and agriculture; the reconsolidation of centralized patronage networks and closing of democratic space in many countries following the more reformist post-Cold War and post-apartheid (in southern Africa) periods during the 1990s; and weakened external support to natural resource decentralization or community-based reforms. Even while contemporary market trends, including new emerging markets linked to climate change such as biofuels and forest carbon, and regional political structures and incentives drive the reconsolidation of centralized resource governance regimes, local communities are contesting recentralization through a range of strategies and actions across the region. These contests over land and resource rights occurring at different scales are critical to the emergence of local common property regimes and more adaptive governance systems across eastern and southern Africa, as well as for the broader struggles over citizenship and representation of which they are an important part.

Keywords: Eastern and Southern Africa, natural resource governance, recentralization, political economy

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Determining the External Social Costs of Public Space Crowding: Life in a Tourist Ghetto

It can theoretically be stated that the property rights of a city’s public spaces lie with the local population, making it a case of common property. The right holders can therefore decide upon proper use and potentially exclude non-right holders. In reality, however, limiting use rights to public space in the form of exclusion is extremely difficult to impose and consequently seldom occurs. This results in a situation where the common property runs the risk of being over-consumed. Nevertheless, in contrast with environmental resources, this overconsumption will generally not result in a tragedy of the commons where the resource ultimately gets destroyed. Herein lays the major difference between public space and other sorts of common goods: public space is simultaneously subtractable and reproducible. The consequences of crowding in public spaces are temporal and intangible, in the form of utility loss to its users. This temporal aspect of crowding still induces significant societal costs, in the form of annoyance, loss of life quality or avoidance of the public space altogether. Quantifying these external costs, with special attention to the case of tourist crowding, will result in improved cost-benefit models and more adequate development strategies.

Keywords: public space, crowding, externalities, tragedy of the commons, choice experiments, tourism
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Customary Law as an Incomplete Theory: The Impact of Land Tenure Reform Law

Customary law urgently needs fuller and better theorization. It is over-used, and yet under-theorized. ‘Law’ is used to qualify ‘custom’. But the concept of law, and that of custom can be seen to conflict. The concept of law embodies a set of rules by an elected assembly representative of the people, which guide future conduct. It is dynamic and responsive to changing social practices. Custom on the other hand appears to be the very antithesis of law. It captures certain human conduct at a particular point in history; it imprisons society in a given social framework and ultimately fossilizes change.

But when we characterize custom as law, we seek to distinguish it from ‘custom’ traditions, beliefs or practices. We seek to expose as false the claim often made by contemporaries that customary practices reflect a return to the Dark Ages. We seek to articulate a fact of living; a fact of being; a reality of life for the more than 20 million South Africans who observe traditional life in one form or another. Sometimes, the fact of the existence of different traditional ways of life is presented as a conflict of laws problem. That law is in and of itself an embodiment of difference is often ignored in this understanding. My thesis is that a polity may encompass different cultures, beliefs and practices. Some of those practices could well mutate into law. But the character, morality and autonomy of the law does not change. Nowhere is this better illustrated than in the case of the South African Constitution.

Many South Africans of African descent follow traditional methods in their everyday business (whether it is use of traditional medicines or use of communal dispute resolution structures). These traditional methods exist within an overarching modern legal system of constitutionalism. This co-existence exposes the falsity of the choice between tradition and modernity. Modernity and tradition are not mutually exclusive. They may exist as opposites. But customary law provides the point of interpenetration between them. Customary law therefore is not to be found in ossified codes. It is to be found in people’s practices. In the paper, I use the current disputes between chiefs and communities over access to land and other resources to expose the false debate, which obtains in South Africa in the context of the implementation of the Communal Land Rights Act, 2004. In the debate, chiefs often use the language of custom, tradition and culture as vectors to claims of power, privilege and prestige. Because customary law is incompletely theorized, these claims have gained traction. In this paper, I begin the search for a complete theory of customary law. If that endeavor cannot be fully accomplished, to begin it is worthwhile.

Keywords: institutions, governance, land, grazing lands

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Carbon sequestration is crucial to cut down global emissions and carbon trading may provide several benefits for developing countries. This paper seeks to analyse, both quantitatively and qualitatively, the optimal forest management strategy when carbon has value for planted forests. The Faustmann model was extended to include carbon sequestration, multiple forest stands and spatial arrangements among forest stands. A direct search algorithm was used to look for the optimal sets of harvesting. To evaluate the model and get qualitative data, 291 household forest owners and 4 state enterprises, growing Eucalyptus urophylla and Acacia mangium in Yen Bai province, Vietnam were interviewed. The survey results show that the actual cutting age is 5 years. However, the model
suggests that the optimal rotation age is greater than 9 years for both species. Both adding carbon value and including the spatial arrangement make the rotation age shorter and the net present value higher. The rotation age of enterprises is shorter but the net present value is much higher than that of households. It is the household characteristics and silvicultural practices that make these differences. The study draws some policy implications based on survey analysis and model results.

Keywords: forests, carbon sequestration

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Carbon Credits: A Renewed Opportunity for Securing Resources Rights in Africa

Africa still depends on low input and extensive agriculture. The continent also relies on forests for generating foreign exchange and more importantly for meeting the energy needs of both the rural and urban populations. Therefore, the conversion of forests into other land uses is one of the major causes of deforestation. Selective harvesting of forests is also a common practice which leads to reduction of the commercial value of the forest and their subsequent conversion. Combating deforestation and degradation of forest resources through compensation for sustainable forest management ensuing carbon sequestration is a topical discussion on forests and their role on mitigating climate change. Many countries in Africa have been promoting participatory natural resources management, having adopted legal instruments to enable security of rights to forest resources by local communities while only few have legal provisions for security of rights to both land and forests. The latter is the case of Mozambique. Other countries such as Ghana have strong traditional authorities and customary rights are not only entrenched in the constitution, but determine the allocation of land resources and revenue sharing. One peculiarity of the reforms on resources rights in the continent is the focus on devolving resources for development of enterprises and derivation of economic benefits from the products. The forest services such as conservation of biodiversity, watershed protection, carbon sequestration are often not valued. This has resulted in an apparent high opportunity cost of forest conservation by the communities. In view of these, the paper analyses the extent to which the implementation of the REDD mechanism and carbon payments can reinvigorate participatory resources management in the continent, add value to resources under community control, contribute to improvement of the livelihoods and simultaneously enhance mitigation to climate change.

Keywords: rights, products, services, carbon payments

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Understanding Global Knowledge-Dynamics: A Case-Study of NFSC’s Project, Digital Community Archiving- Does It ‘Protect or Plunder’ the Indigenous Knowledge of the Nari Kurava Community?

The relationship between indigenous knowledge (IK) and intellectual property rights (IPR) is currently mired in violence and abuse. Whether the marriage of two antithetical worldviews- the one of global capitalism and therefore IPR, and that of the ‘commons’ and therefore the IK- is sustainable, given the monolithic power of the former, is a critical question in many minds today. Looking into the particular case of the Digital Community Archiving project that chronicles the IK of the Nari Kuravars, allows an understanding of the global knowledge dynamic created when oral, local knowledge is made available publicly for the world on the internet. That this material is freely available without copyright/patents etc., brings in the IPR dimension, and asks whether IPR is at all relevant or necessary to protect this knowledge. In this paper, I try to understand the global power dynamics
that accompany the commercialization of indigenous knowledge, the impact on the intellectual commons where IK is produced, and further, whether such projects open up a new space for the exploitation of IK while assuming a democratic, participatory stance.

Keywords: intellectual commons, indigenous knowledge, intellectual property rights, participatory development, knowledge-power complex

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Rational Choice Model: A Collective Action to Managing CPR among the Conflicting Prune Pastoralists - Farming Communities in Western Uganda

Literature indicates that the rational choice model of human behavior is used in the common pool resources management. It is argued that social and behavior theories explain better the outcomes of collective action efforts. For close to 40 year there has been a conflict in the use and management of the CPR between the farming and pastoralist communities in western Uganda. This conflict is the outcome of the government policies to reduce the CPR by creating a national park, privatizing the CPR while offering no permanent solution to the local farming and pastoralist communities to share the remaining limited CPR. The study attempts to explain whether collective action is possible in CPR management by eliciting information about behavioral aspects of the Basongora and Bagungu communities. We examine the gap between the beliefs, attitudes and behavior of these two communities to understanding some of the psychological factors that influence behavior contributes to designing policies that are more likely to achieve the desired conduct. Is it possible to design community based CPR management programs that would lead to successful resolution of this conflict? A cross sectional survey design methodology will be used to examine the behavior questions in this paper and it is expected that the findings will contribute to decentralized and localization of the management of the CPR to the benefit of the farming and pastoralist communities.

Keywords: rational choice model, survey, self-management, CPR, conflicts, Uganda

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Understanding the Role of Public Belief Systems in Perceptions of Bio-Physical, Socio-Economic and Cultural-Spiritual Vulnerabilities through the Use of An Emergent Analytical Framework

The social processes embedded within the ‘thinking’ and ‘doing’ of humans in relation to the use of common property resources such as the natural environment has been proven to be essential for both a holistic understanding as well as mutually agreeable solutions. In keeping with this trend, this paper explores how one may better understand the role of public beliefs systems in perceptions of bio-physical, socio-economic and cultural-spiritual vulnerabilities through the use of an emergent analytical framework. Conceptually public beliefs systems is a complex issue as it deals with a variety of factors such as for example different ways of attributing value and meaning, competing sources and producers of knowledge, and emergent questions regarding issues of truth in relation to beliefs that are particularly entrenched (be it within a community or an individual). Taking this complexity in to consideration and combining it with four different LiveDiverse* case study areas (South Africa, India, Vietnam and Costa Rica), the task becomes almost insurmountable. What this paper proposes is that through the
use of an emergent analytical framework one can come up with an approach to do this research in a way that not only produces relevant results but also allows for the inclusion of different voices at multiple levels in order to find the common ground required for a collective understanding of issues such as poverty alleviation, sustainable livelihoods and the sustainable use of our natural resources.

*This paper is based on research conducted for the LiveDiverse (Sustainable Livelihoods and Biodiversity in Developing countries) project funded by the European Union.

Keywords: belief systems, livelihoods and biodiversity, emergent analytical framework, vulnerability

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Challenges in Getting Off the Ground the New Nicaraguan Water Law: From Farmer Groups to Formalized Irrigation Districts?

The Nicaraguan Water Law was passed in September 2007. However, despite all new Water Laws need time to be implemented, the progress in Nicaragua is meager. It should be noted that Nicaragua’s water sector, especially in rural areas, is highly informal and mostly based on self-supply and on local water institutions. Regarding irrigation, the new Water Law considers the development of irrigation districts. In this sense, despite the lack of formal water users organizations, there are evidences of farmer groups that share and manage common irrigation systems. Therefore, the objective of this research is to assess the challenges in the formalization process of the agricultural water sector in a developing country, such as Nicaragua. Since major water-related problems have already been acknowledged, while the new Water Law still faces a number of barriers that may delay its implementation, it is essential to identify the socioeconomic, institutional and environmental factors that structure incentives for becoming involved in a formalization process. The theoretical framework is based on the literature on collective action, institutional economics and public policy. The empirical focus is given by 4 focus groups and informative interviews hold in the Upper Rio Viejo Sub-basin in North Nicaragua. The study focuses on (i) the problems related to agricultural production that farmers face, (ii) how they are organized for irrigation, (iii) how they perceive public organizations and (iv) the pros and cons of formalizing in irrigation districts. The study attempts to contribute to the Water Law implementation by analyzing both the impact of the Water Law in agricultural water managed areas and the cooperative behavior of the different farmer groups in the Upper Rio Viejo Sub-basin.

Keywords: irrigation, water law, informal organizations, formalization process, Nicaragua

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The New Nicaraguan Water Law in Context: Institutions and Challenges for Water Management and Governance

The Nicaraguan Water Law, enacted in September 2007, is the first attempt to implement a new water law in the country. This is not an isolated legislative process in Central America, as other countries initiated similar reforms based on the Dublin principles. Despite all new Water Laws need time to be implemented, the progress in Nicaragua has been meager. Thus, this paper provides a diagnosis about the Nicaraguan Water Law by identifying the major factors that may impede or delay its future implementation and enforcement. Based on a multilevel,
nested framework (Ostrom, 2009), this paper places Nicaraguan water sector reform in the context of institutional decomposition, transaction cost and political economy literature. Its empirical underpinning is provided by 41 in-depth interviews held by the authors among a sample of representative policy actors and stakeholders. The results show that the Law potential for solving water conflicts is yet to be seen in practice. Major barriers are found in the transaction costs of inter-institutional coordination, information gathering, property rights protection and enforcement and in strategic costs. For example, the institutional remapping grants new roles to old actors, as well as old roles to new. In addition, sugar-cane mills, rice and coffee lobbies have presence in the parliament and block the appointment of managers in the newly created institutions. At the root of the problems in Nicaragua is the inconsistency between advanced water objectives and weak institutions. Based on this, a number of policy recommendations are drawn with respect to prioritization, sequencing and timing.

Keywords: water institutions, institutional reforms, water law, governance, Nicaragua

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**Property Rights and Regimes: Implications of Managing Capacity through Co-management on Lake Victoria, East Africa**

With concern rising about the declining stock levels of one of the three commercial fisheries of Lake Victoria, East Africa, in the 2000s, the Lake Victoria Fisheries Organization (LVFO) embarked on the process of developing the world’s second Regional Plan of Action for the Management of Fishing Capacity. This plan commits the three Partner States of LVFO, Kenya, Tanzania and Uganda, to keeping Nile perch fishing capacity to 2006 levels and harmonizing licensing in relation to target species and capacity variables. The move to greater management of fishing capacity has taken place within the context of the lake wide introduction of a co-management approach, with community-based fisheries organizations playing a role in improving compliance with fisheries rules and regulations and in efforts to manage capacity. Both the introduction of new approaches to the management of fishing capacity and the co-management approach have potential implications for access to the fisheries and the nature of the property regime and its governance. The paper identifies these implications and draws on property regime theory to analyse the nature of the property regime and identify implications of changes in the regime for livelihoods and sustainability.

Keywords: property rights, property regimes, fishing capacity, co-management, Lake Victoria

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**Adaptation and Coexistence of Van Gujjars in the Forests: A Success Story**

The existence of Gujjar pastoral transhumance is one of the best examples of symbiotic relations of these pastoralists with the forests and sedentary population spread over in the migratory routes. The Muslim Van Gujjars are a pastoral group living in the foothills of the Uttarakhand Himalaya, are also known as buffalo grazers, follow transhumance between high altitude alpine meadows and forest foot hills without much diversification of subsistence strategy. The economy of Van Gujjars is completely based on milk production and supply of milk products along with the providing genetically well bred progenies of indigenous buffaloes to the hill people of Uttrakhand. The creation of new state of Uttrakhand, has led to a number of developmental initiatives taken up
by the state government which includes creation of more roads, a number of dams for harnessing hydel power and sprouting up of new urban centers. All these have disturbed and disrupted the migration pattern of Van Gujjars. On the other hand, the initiatives taken up by the state forest department in restricting the entry of Van Gujjars into their forests has further added to the problems of survival of these pastoralists. The Van Gujjars are well known for having evolved a resource management practice by utilizing the alpine grazing resources in summer and migrating to foot hill forests in winter. They also provide their buffalo manure to the small land holding farmers for their agricultural fields. Besides breeding their own livestock, Van Gujjars also take care of the animals of other communities, fulfilling the role of village cowherd. Henceforth, Van Gujjars have proved themselves very resilient, they have an intact social structures and mechanisms for mutual sharing of resources with the sedentary population. They also provide ethno veterinary services to the local farmers, and their livestock also represents an encashable asset. These exchanges are immensely welcomed by the sedentary population. With increasing international emphasis on the conservation of biodiversity, policies need to be devised out for the Van Gujjars so that they are able to benefit from recognition of their role in conserving livestock genetic diversity, promoters of valuable indigenous breeds of buffalo and indigenous knowledge and also about coping mechanisms from environmental stresses.

Key words: pasturelands, Van Gujjars, Gujarat

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Community-Based Forest Management in Tanzania: Strengths, Weaknesses, Opportunities and Threats

In developing countries, the failure of the policing model of forest management whereby the central government protected forest reserves by preventing local communities from using them led to the emergence of Participatory Forest Management (PFM). In Tanzania PFM takes two main forms: Joint Forest Management (JFM) whereby the forest is owned by the central government or district council and the local people are involved in conservation of the forest and; Community Based Forest Management (CBFM) whereby the community is given the right to own and use the forest that is on the general land. The village is the main basis of community organization in CBFM. The paper discusses the strengths, weaknesses, opportunities and threats of CBFM in Tanzania in the light of the origin and characteristics of villages and governance in the country. A historical account of forest management is given. Among the strengths are the government structures with strong villages for many years, willingness of people to participate in CBFM initiatives and village-village collaboration. The fact that the approach is exogenous both in conception and funding, its poor spiritual basis, inadequacy of technical knowledge at the village level, inequality in cost and benefit sharing, poor infrastructure and lack of legal documentation of the villages are seen as weaknesses of CBFM. Opportunities for CBFM include appropriate national policies and international conventions and funding initiatives for sustainable forest management. Threats to CBFM include land grabbing for bio-fuel production and other enterprises, conflict of interest with the district and higher-level government and poor governance. The paper concludes by suggesting the way forward for tapping the strengths and opportunities of CBFM and addressing its weaknesses and threats.

Keywords: decentralization, devolution, governance, participatory forest management, swot analysis
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**New Institutions for Managing watersheds: a Comparative Analysis of Watershed Committees in Japan**

This paper uses quantitative empirical analysis to examine the new governance of watersheds in Japan as carried out by recently created “watershed committees.” Recent literature on the commons emphasizes the importance of external actors like government authorities, non-profit organizations, and academic experts on the management of local commons, but we have little knowledge of the new effort to govern watersheds in Japan. Japan’s national and prefectural governments have established these committees in many watersheds over the last ten years, based on the River Law as amended in 1997. The goal of these committees is to allow academic experts and local residents to discuss jointly their plans for river development. While some of these committees have yielded beneficial output, such as new projects for environmental protection or the establishment of watershed partnership organizations, in other cases the watershed committees have encountered great difficulty in solving conflicts among stakeholders. However, these possibilities and limitation of watershed committee has not been carefully examined. This paper uses a dataset on watershed committees that incorporates measures of socioeconomic conditions, institutional design of the watershed committees, and the River Development Plan created by the committees. This paper then classifies their diverse institutional features and analyzes the relationship between institutions and the output of these committees.

*Keywords: Japan, watershed management, new institutions, river development, scientific expertise*

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**The Evolution of Institutions for Cross-scale Interactions in the Management of Commons: The Case of Community Forest User Groups Federation in Nepal**

This paper tells the story of how a nested/cross-scale institution emerged in the management of common pool forest management in Nepal. The story is about the networking of local level community forest user groups (CFUGs) into a nation-wide network, known as the Federation of Community Forestry User Groups, Nepal (FECOFUN). Over the past 15 years of its existence, and with over 15 thousand member CFUGs, FECOFUN has evolved as a critical bridge between local commons and multi-scalar processes of forest governance, articulating local voices in different spheres of policy making. In doing so, FECOFUN has also ‘radicalised’ local commons users beyond fatalistic mindsets, nurtured historically through hierarchical social institutions in Nepal. The evolution and functioning of FECOFUN was made possible through various factors, such as active leadership, unfolding democratic political system, and internal crisis into the anti-devolutionary forces, such as techno-bureaucratic mindset of state forest agencies. The case of FECOFUN shows that, such networking involves tremendous amount of transaction costs, which tend to be subsided by donors and other non-members, leading to weak internal accountability of the network. Likewise, when FECOFUN emerged as a significant field of power and influence
after 2000, it is facing increasingly tough challenges in maintaining fair rules and practices of power and benefit sharing among the network leaders and activists. Moreover, there is also an increasing tendency of free riding over the network’s symbolic and economic resources, as institutional rules evolve rather too slowly to regulate such unethical practices. Notwithstanding these internal weaknesses, FECOFUN continues to have significant political standing in Nepal’s forest governance. Finally, this paper draws key lessons from FECOFUN as regards the prospect, challenges and effectiveness of must-scale networking of commons in forest and natural resources governance.

Keywords: cross-scale interactions, commons, Nepal, federation of commons, nested institutions

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Institutions, Livelihoods and Forest Dynamics: The Case of Ramogi and Mau Forests in Kenya.

The study investigates the forest condition changes, the spatial patterns of forest dynamics, the causes of forest condition changes and the influences of those changes on local livelihoods. Landsat satellite imagery of 1985, 1995, and 2005 was used to create single data classifications and a land cover change image depicting the sequence of changes in forest cover between 1985-1995-2005. The spatial relationships between observed changes in the forested areas and key economic and institutional factors are then determined.

The results show the rate of forest degradation in Mau forest (transition from close forest to open forest rose dramatically from 9% in 1985-1995 period to 28% 1995-2005 period. Fragmentation and excisions were more pronounced in the second period. It is observed that rampant forest change occurred in areas located close to road, near the village, at lower elevations and on more gradual slopes. Ironically relatively low levels of degradation was recorded in Ramogi forest, which is a semi government forest (legally government forest but with a de facto control and claim of ownership by local community and / county council.)

The findings are further compared with results from an International Forestry Resources and Institutions (IFRI) - Sustainable Agriculture and Natural Resources Management (SANREM) based study on the forest adjacent households, association and effects on the forest condition. When compared the mentioned factors relate very closely and are very much similar.

Keywords: Landsat, remote sensing, spatial and dynamism

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Traditional Forest Use and Institutional Change: Case Study of Loita Community Forest, Narok South District, Kenya

Traditional forest use and governance have been in practice among pastoralist communities for some decades now. Traditional forest governance is practiced in forests which are owned by homogeneous communities such as Masai in Kenya. The Masai community lives adjacent to Loita forest in Narok South district and Mukogodo forest in Laikipia district of Kenya. This paper focuses on the Masai community living adjacent to the Loita forest. Since time in memorial, the Masai community living adjacent to Loita forest has relied on the forest for their livelihoods. They use the forest for initiations, as shrines and grazing. Historically, entry into the forest was subject to permission from the Oloibon (a traditional community leader) but with time, this responsibility has
since been transferred to Village Elders. The forest governance structure was therefore based on the traditional leadership. The objective of the study was to analyze how the Loita Masai community used to control the use of the forest resource and document how the community governance structure has changed over time and how the change has affected the management of the Loita forest.

Household survey and participatory rural appraisal tools were used to collect data form households living within five Kilometers from the edge of the forest. Analysis of the data was done using a SPSS program. Findings from the study were presented using simple statistics. Statistical tests (two tailed t-test and chi square) indicate that traditional forest use and institutional change have a significant effect on the condition of the forest.

Findings further show that despite the tough rules governing the utilization of the forest, institutional change coupled with change in lifestyle from pastoralism to sedentary have negative effects on the condition of the forest.

Keywords: Oloibon, traditional uses, pastoralism, morans and institutions.

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Forests, Communities and Urban Markets: Can They Co-Exist in a Devolved Structure

Despite the forest being such an important resource base, Kenya has experienced a major decrease in forest cover and forestland degradation, especially over the last three decades. Ultimately, Kenya’s forest cover has been reduced to 1.7% of the total national land mass, having decreased from about 2.0% in the early 1990s. The current coverage is very low as compared to the globally recommended 10%.

The pressure and degradation on the forests have mainly been attributed to many factors including illegal logging, encroachment on forest land for farming and charcoal burning. It has been suggested that these activities are largely being carried out by forest adjacent communities struggling to eke a living from the forests. This is a contraction from what policy statements and new legislative frameworks have suggested.

In an attempt to understand the link between forest condition and the activities of the forest adjacent communities, and how these are influenced by market opportunities; a study was carried out on four out of the eight forests where activities of the Institutional and Livelihoods Change in East African Landscapes (IFLEA) project was implemented. The four forests were selected based on their close proximity to urban areas of Nairobi (Aberdare), Kisumu (Ramogi), Naivasha (Eburru); and Malindi (Arabuko-Sokoke) with large market opportunities. Communities who live adjacent to these forests participate in forest management through Community Forest Associations (CFAs). Studies were carried out using the International Forestry Resources and Institutions (IFRI) research protocol. The forest, distance to closest major market, major products sold where used as independent variables while being members of a forest association and activities carried out in the forest to improve the forest were the dependent variables.

Results show that ready markets in urban and peri urban areas for firewood, poles and charcoal attract non adjacent actors into the forests. There is therefore urgent need to look at the fundamental causes of the pressure on forests, turn the threats by the adjacent forest dwellers into sustainable livelihood opportunities as well as institutionalize the relationships and linkages of the various actors in the forestry sector under the emerging policy and regulatory framework. This provides an entry point for adjacent communities, private sector and other actors to engage more formally with the forestry sector.

Keywords: devolution, degradation, community, markets, forest
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Commons Theory and Collective Forest Property in Mexico: When formal recognition of local rights is important, but not enough

Collective action theory and “the commons approach” are particularly relevant for Mexico, the first country in the world where collective property was recognized by the national estate. Through an extended Agrarian Reform implemented from the 1930 to the 1980, today’s more than 60% of the country is owned by communities. Collective tenure is particularly important in forest regions where it accounts for more than 70% of the lands, on the other hand 90% of communal lands are forested.

During the last thirty years collective property and communities’ social capital have sustained the arousal of numerous community forest enterprises producers of timber, resin, bottled water; providers of ecological and recreational services. Where this process has taken place community members have incentives to invest in sustainability, take part in collective action required by forest management and local governance, while local institutions and social capital have also strengthened. Successful forest community enterprises in Mexico are clear examples of the key impacts of the official recognition of property rights to local communities on the sustainability of the commons.

Nevertheless these cases only account for less than 20% of the common forests in Mexico, the rest of them face a wide range of problems such as land use change, forest fires, illegal logging, illegal cropping and intense out migration. We propose that historically and today the incomplete “devolution” or recognition of property rights has been a critical factor of this failure. More often than not communities receive formal rights, but the federal government kept management and even use rights in forests under vans (once more nearly 50% of the forestland of the country), or where logging concessions were granted to outsiders (the other half). Even today more than 20% of Mexico’s forests are placed within the borders of protected areas where communities have lost means for livelihoods and have little say in the governance of the territories.

The lack of nestedness among the central government actions and the local efforts have impeded the development of appropriate rules, and effective monitoring and sanctioning in most of Mexico’s forest areas. We argue that full recognition of local rights and strengthening of local productive and institutional capacities should be considered central axes of policies that aim to contribute to the sustainability and resilience of forest commons.

Keywords: institutions, governance, forests, property rights, social capital

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Pay Back Anticipation: A Driving Force in Communities Participation to Forest Management.

Participatory forest management is recognized as a more feasible approach to sustainable management of forests as it has a hub for livelihood improvement and forest conservation through the participation of local communities. Community forest associations are used as entry points for individuals to undertake management activities within
a certain forest station or jurisdiction.

Data was collected in Mau and Kakamega forests using IFRI/SANREM (www.umich.edu/ifri) methods to analyze economic and ecological factors influencing community participation in management. Results indicate that Londiani Community Forest Association (LOCOFA) in Mau forest and Muileshi in Kakamega forest show high dependence on forests by these groups. Results also show that payback/remuneration gained from the forests has a significant correlation with community participation. The findings further revealed that participation of communities in forest management practices is limited to protection activities but with little elements of other silvicultural practices. The community has therefore lost the sense of responsibility, ownership and in return it has lowered the community’s anticipation of returns for their activities.

The paper concludes that value addition to forest products; marketing and incentives by the government could strengthen the CFA’S and contribute towards their participation in forest management

*Keywords: community participation, pay back, marketing*

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**The Role of Shared Mental Models for Adaptation Policies: The Results of Expert Interviews**

The objective of this article is to explore the differences in perception of the adaptation to climate change among representatives of different stakeholder groups. We refer to the notion of mental models that are internal mental constructions interpreting and structuring the environment. We explore similarities and dissimilarities in prescriptions for how to adapt and how to govern adaptation across major groups of stakeholders involved in development of adaptation policy. The paper analyzes qualitatively in-depth interviews recorded with 31 European experts in the area of adaptation policy to extreme weather events such as floods, heat waves, and droughts. The experts were selected to represent three groups: scientists, policy makers, and practitioners, in sectors such as agriculture, urban planning, and tourism.

The results suggest that although promising adaptation measures exist, they are often not implemented due to differences in stakeholders’ mental models and different perceptions of how to adapt. The administration responsible for adaptation tends to stick to the traditionally used engineering approach and believes in structural measures. Scientists tend to view the challenges of climate change in terms of overall adaptation of society or different sectors. Policy makers and practitioners think and operate more in terms of costs, benefits, development, and wealth. Our study also reports geographical differences in adaptation policies. For example, in Eastern European societies, shared mental models that assume solidarity of taxpayers and responsibility of the state hinder development of autonomous and private adaptation based on example on insurance instruments.

*Keywords: mental models, adaptation, stakeholders, uncertainties*
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Land tenure, forest and political reforms: A look at their implications for common-property forests in lowland Bolivia

Forest commons adopt diverse forms, embrace a disparity of populations (e.g., indigenous people and forest dependent smallholders), and develop under disparate institutional arrangements. The emerging social and political claims evolved around the formalization of tenure rights, and devolution of decision-making powers. While these claims have been acknowledged in the legal and institutional frameworks, particularly after the approval of a new national constitution, their expected outcomes for enhancing people’s livelihoods and forest conservation will be difficult to achieve in practice since there is still a need to align the land and forest policy with the incentive systems shaping forest resources use in the commons. Uneven social structures and market powers tend to take the economic benefits away from local forest users, and weak local authority systems as well as resistance from state to promote self-regulation make difficult to achieve local territorial governance. This paper assesses two cases under which local communities are struggling to benefit from their forest resources under differentiated contextual political and market conditions. I argue that greater attention has to be placed on understanding the disparate outcomes resulting from policy responses in their attempts to address local social needs, and suggest some policy options to align the land and forest policy reform with the economic incentives in the context of multi-level autonomies.

Key words: Bolivia, forest reform, forest management, local autonomies

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Enhancing Tank Multiple Uses for Improved Livelihood Opportunities in Rural India

Irrigation tanks in India are common property resources. In South India, tank irrigation has a millennial history, and many currently used tanks were constructed centuries ago. Some 8.5 million small and marginal farmers who own less than 0.4 hectare account for about 80 percent of the tank irrigated area and produce about 5 million tons of rice per year. Of the 3.2 million hectares of tank irrigated area in India, the three southern states of Andhra Pradesh, Karnataka and Tamil Nadu account for about 60 percent. The performance of tank irrigation has generally declined in recent decades and rehabilitation is often no longer economic when irrigation benefits alone are considered.

However, tanks provide not only irrigation, but also other services including those related to trees, fishing, domestic water supply, livestock, and silt for fields. This paper examines tank performance taking into account these multiple uses based on an empirical study of 80 tanks in Tamil Nadu, South India. In order to see the changes in the nature and magnitude of multiple uses from these tanks data from 1993 and 2008 are compared.
The results indicate that the inclusion of these additional multiple uses enhance the total monetary value of output from tanks from 13 to 20 percent over irrigation value alone and increase the total revenue mobilized from tanks by 200-240 percent. Failure to recognize these values will result in underinvestment in modernization by both community and government agencies. Policies relating to revenue collection from the multiple uses and reinvesting them in the tanks need attention, along with ways of addressing the challenges of managing a multi-use commons, including involvement of multiple types of stakeholders (including irrigators, fishers, etc.)

Keywords: tanks, water, irrigation, common property resource, India

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Towards New Institutional Arrangements for Managing Forest Commons in Northwestern Ontario: First Nation and Municipal Partnerships

The forest industry has been the backbone of local economies in many remote locations in Canada. While this industry, which has focused on commodity products such as pulp, paper and lumber, thrived until the early part of this century, in recent years it has faced a major downturn that has resulted in extensive mill closures and unprecedented job losses to forest industry workers. Although municipalities that once benefited from the forest industry through employment and taxation are now experiencing negative social and economic impacts, Indigenous (First Nation) communities have generally been marginalized and received little benefit from the forest industry throughout its duration. This study examines the emergence of new institutional arrangements for the management of forest commons in northwestern Ontario (NWO) as an approach to improve the resilience of the communities that inhabit this vast boreal forest region. These arrangements involve new partnerships between forest-based municipalities and Indigenous communities to manage public forest lands. Communities throughout the region are promoting implementation of these new arrangements under a forest tenure system that is undergoing reform by the province as an approach to address the faltering sector. The study utilizes both qualitative and quantitative approaches based on semi-structured interviews with participants from 9 municipalities and 20 First Nation communities throughout NWO. The study participants include community leaders (mayors, chiefs, council) and key informants familiar with the forestry situation (former loggers and mill workers, lands and resources staff, and economic development officers). The role of government in responding to community interest in implementing new partnerships is also examined. The study results have been used to formulate policy recommendations to develop a long-term economic vision to support sustainable local communities and the forest ecosystems that they depend on.

Keywords: institutions, forests, community economic development, partnerships, forest-dependent communities

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Deconstructing The ‘Wicked Nature’ Of Unmanaged Recreational Land Use In A Rapid Resource Development Context: A Case-Study In Northeastern, Alberta, Canada

The oil sands region of northern Alberta Canada has fundamentally transformed both the natural resources of this boreal region and access by local users. While much attention has been paid to the footprint of oil sands mining
itself, this research focuses on those small areas of land in between development projects (structures and lease areas) which are valued and used for unregulated traditional and recreational use. In addition to a large indigenous population who have legal rights to these areas for ‘traditional use’, the region is increasingly characterized by a growing population of residents who seek to use the high-paying resource sector jobs; significant environmental degradation due to oilsands mining; a diverse mix of recreational land users (e.g., long-timers, newcomers; high-impact users, low-impact users); high uncertainty with respect to land user access; and, not surprisingly, recreational land use conflict. Moreover, the type of recreational land use conflict within this setting matches the criteria of a ‘wicked problem’; that is, a problem which involves a high diversity of stakeholders, is ill-defined, value-driven, and lacks consensus on solutions. Based on 25 qualitative interviews with recreational land users and state land managers, this paper examines: 1) the ways in which different types of recreational land users perceive their recreational activities in relation to the surrounding landscape; and 2) how these perceptions shape the nature of recreational land use conflicts. To conclude, the authors discuss the important policy implications these findings have for the state in addressing these ‘wicked problems’.

Keywords: qualitative interviews, Canada, mining, forests, all-terrain vehicle (ATV) use

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The Commercialization of Common-Pool Resources

Elinor Ostrom has made an important distinction between common-pool resources (CPR) and public goods, arguing the former is a subtractable resource whilst the latter is not. How we consume common-pool resources, such as fresh water, is becoming an increasingly contentious issue as the negative effects of climate change impact the supply of freshwater resources. Ostrom argues that common resource management is an effective way to limit the use and over-exploitation of such resources. The idea is becoming especially useful as water distribution is increasingly politicized. However, the problem, that will be the focus of this paper, is whether or not common resource management is being garnered in support of the privatization of common-pool resources? The subsequent problem this raises is how the notion of ‘collective ownership’ might counter the commercialization of common-pool resources? Studying the privatization of water, this paper will examine the connection between privatization and the management of common-pool resources with a view to expanding the discourse over how to fairly and equitably access common-pool resources.

Keywords: common-pool resources, public goods, water, privatization, equity

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Advocacy on Knowledge Commons - Framing Information, Institutions, Infrastructure

Some new technologies enable the capture of hitherto free and open public goods. This drastically alters the nature of the resource, as any technological capture of information/expression does; the resource gets transformed from a non-rivalrous, non-exclusionary public good into a common-pool resource (that needs to be managed, monitored, and protected, to ensure sustainability and preservation) or a private resource. But other kinds of new technologies enable the dissemination/sharing of what were private or restricted goods. Distinct as this is, this too fundamentally alters the nature of the resource; the proprietary nature of the resource gets transformed (not eroded, always) into common property, which is conditionally non-rivalrous and non-exclusionary.

We may reasonably hypothesise that KC advocacy in India has germinated from two concerns that stem from the
advant of these two kinds of technologies (often, it is the same technology!): that of enclosure and of inclusiveness, respectively. The narrative of enclosure, tempered by the ability of new technologies to “capture” resources that were previously “unowned, unmanaged, and thus, unprotected”, is one of privatization and commodification (i.e. justice in the regime of capture). On the other hand, the narrative of inclusiveness is constituted of Openness (Access, Formats, Source), interoperability, open innovation, scholarly networks, voluntary associations, and collective action (i.e. the right to benefit from disembodiment).

A critical survey of Advocacy trends on and around the idea of New Commons in India would be a fruitful exercise. Who is initiating & invoking these debates? What are the varied ideas of Commons & NC that underlie them? What are the kinds of stakeholdership reflected in these debates? What kind of relations do they have, and advocate, between actors of NC and the state? Is advocacy framed in terms of reform, justice or rights? What is identified as the ‘resource’ in NC advocacy-viz. information, institutional arrangements or infrastructure?

Keywords: new commons, open access

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Hunters, Gatherers and Foragers in a Metropolis: Commonizing the Private and Public in Mumbai

Mumbai is the commercial and financial capital of India, and is the densest and most populated city. With a culture of enterprise and abundant opportunities for upward mobility and livelihoods, the city also is home to a large population of migrants with insecure livelihoods. This paper addresses the incongruity of the presence of a large number of hunters, gatherers, and foragers in a metropolitan city on the way to becoming a ‘global city’ through large scale urban restructuring, infrastructure upgradation, and financialization of the economy.

Mumbai has a large number of groups eking out subsistence livelihoods through hunting, gathering, and foraging in the city’s semi-wilderness areas owned largely by private or public entities. These livelihoods are permanent or seasonal sources of income for a range of native and migrant households interlinked by relations of ethnicity, class, and exchange. While fishing in many of the city’s municipal controlled lakes is the main livelihood for the increasingly marginalized Koli fishers, people of other communities join in hunting for fresh water fish and crabs during the monsoons in streams flowing into the lakes or the sea. Pig hunting in garbage dumps is practiced by the Pardhi community, while gathering of fruits, edible leaves, and festival specific flowers and leaves is a seasonal livelihood for many. Apart from foraging for fuelwood and grass, other kinds of foragers include rag-pickers, and those who scavenge sites of building and slum demolitions for stones, tiles, wood, and other items that can be recycled, refashioned, and resold. Most of these sites of hunting, gathering, and foraging belong to private or government entities, and these activities are essentially ‘illegal’ involving paying bribes to diverse ‘gatekeepers’. The process of turning private and public lands into commons entails a complex web of interactions and outcomes involving livelihoods, ethnicity, class, migration, seasonality, and exclusion - yielding an understanding of a very different, sub-terranean aspect of Mumbai’s economy and social structure.

Keywords: urban commons, gathering, foraging, livelihoods

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Out-Migration, Local Governance and Collective Action in Southern Mexico

Since the 1940s, communal property systems in rural areas in Mexico have become widespread due to an extensive Agrarian Reform. Despite this, collective property rights have not been enough to bring communities
the development they crave. For more than 20 years, Mexican rural regions have faced a profound economic crisis, with many communities mired in poverty, low productivity and young families left landless.

Out-migration has been a response to this reality – a process that impacts the lives of individuals, families and communities through changes to local governance and commons management. Yet it is a heterogeneous phenomenon with different patterns and sets of impacts. Based on a study of 30 communities in the states of Oaxaca and Guerrero in southern Mexico, my research analyses the diverse impact of temporary family out-migration to the agricultural fields of Northern Mexico and longer-term individual migration to the United States, based on three interrelated aspects: (i) family livelihood and resilience; (ii) traditional spaces and practices of local governance; and, (iii) communities´ capacity to face collective action dilemmas (the construction of new rules, credibility of commitments acquired by community members and the monitoring of compliance). The large sample size allows me to enrich analysis with a variety of contexts exhibiting diverse levels and types of social and natural capital.

This work is the result of a collaborative research project carried out by a team from the National Autonomous University of Mexico (UNAM), four inter-community associations and two NGOs. Our work relies on a mixed methods approach, combining quantitative with qualitative approaches.

Keywords: local governance, collective action, out-migration, poverty, rural communities, Mexico.

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Poverty Alleviation through Fisheries Management: An Analysis of Fishing Cooperative Practice in Gujarat and Madhya Pradesh

Fish is the key asset on which the poor build their livelihoods. This is truer for tribal fishermen who have been displaced due to construction of large scale irrigation projects and have been given the right to fish in the reservoir. In the absence of appropriate institutional mechanism poverty and natural resource become interlinked in a manner with one exacerbating the other. In this regards, appropriate property right regimes are considered vital both for addressing the problem of resource degradation and alleviation of absolute poverty. Based on this conceptual framework the fisheries Cooperative (FC) has been practiced in Ukai and Gandhisagar, large scale irrigation project in Gujarat and Madhya Pradesh respectively. This study aims to examine through quantitative evidence how far the programme has been successful in reducing poverty incidence among participating FC households. The study also aims to analyze the exogenous factors determining fish output using a household production function under imperfect market condition. The study also aims to study positive changes in socio-economic indicators among FC’s. The results of this study will provide policy makers with important insights on management of degraded fish resource for poverty alleviation. If proved successful, this innovative experiment of Gujarat and Madhya Pradesh can provide valuable lessons to countries facing similar resource degradation and poverty problems.

Keywords: Fishing cooperatives, Ukai Irrigation Project, Gujarat, Gandhisagar Irrigation Project, Madhya Pradesh, poverty, community based management

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Community Based Conservation of the Commons in India

India is witnessing a slow but definite revival of community based management and governance of the commons. As is well known, considerable parts of the Indian landscape and seascape were historically managed by
communities (even when formally in the hands of rulers). However through the colonial phase and subsequent to independence, communities were systematically deprived of their role in such governance, and most of commons (other than in parts of north-east India) became state-governed, and increasingly now privately governed. Over the last few decades, however, communities are regaining their control over forests, wetlands, coastal areas, grasslands, and other commons, both through de facto means and more recently through de jure means. Part of this is the phenomenon of Community Conserved Areas (CCAs), areas with natural or semi-natural ecosystems that are being managed voluntarily by communities, through an incredible diversity of institutional structures, rules and customs, and for a variety of reasons. There are also some early steps towards making government managed protected areas (PAs) more participatory. Recent legislation relating to forests and wildlife has also provided greater opportunity to provide legal backing to these initiatives. All this points to the possibility of much greater community-based governance of the commons in the future.

Keywords: Conservation, Community Conserved Areas, livelihoods, Institutions, governance, sustainability, participation

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Decentralized Natural Resource Management: Equity Impacts on Groundwater Recharge Through JFPM in India

This study evaluates the economic impact of Joint Forest Planning and Management (JFPM), an institutional innovation focusing on decentralization in planning process. This enabled to manage forests and water at local level through collective action of Karnataka Forest Department for groundwater recharge in rainfed dry belt of Karnataka, India. The impacts on productivity, wage income, income generating activities and equity in distribution in Chitradurga and Davanagere districts, Karnataka, India are analyzed. Field data were collected for 2008 from the population of all the participating farmers possessing irrigation wells in JFPM + Watershed village (Bandekatte, Molakalmur taluk); JFPM village (Adavimallapur, Harapanhalli taluk); Watershed village (Hirehalli) and the Control village - Eigalbasapur (without JFPM / Watershed).

The net return per acre, net return per acre inch of groundwater and net return per rupee of irrigation water were respectively Rs.5709, Rs.413, Rs. 3.26 in JFPM + Watershed village, Rs.43978, Rs. 1716, Rs.8.42 in JFPM village, Rs. 8060, Rs.675, Rs.3.05 in Watershed village and Rs. 3369, Rs.247, Rs.1.04 in Control village. Conspicuously when open / dug wells are a failure all over the State, in this are, due to JFPM all such wells became functional yielding net return per acre, net return per acre inch of groundwater and net return per rupee of irrigation water of Rs.76740, Rs.1738 and Rs.11.30 respectively. Thus, collective action of the village community through JFPM is cost effective, remunerative and equitable in improving the groundwater recharge in dug wells which had/have become an archaic technology due to advent of deep borewells. The results tested significant using ANOVA. There were also gender impacts as in JFPM + Watershed village, 46 women benefited from employment realizing return of Rs.2400 per capita per year and in JFPM village, 16 women benefited

Keywords: JFPM, groundwater recharge, decentralization, watershed, rainfed area
Commons and Individuals: Is the Forest Rights Act Changing the Debate on Forest Commons?

Common property discourse in India since the 1960s primarily focused around individualization and encroachment. While individualization of commons is widely perceived as an investment and a settled issue, encroachment by nature has mostly been tentative, temporary and runs the risk of attracting enforcement of relevant laws. Though perceived to be essentially the same, there is a subtle difference between the two. While all individualizations can be seen as essentially encroachments, all encroachments are not individualizations. Encroachment would be more commonly linked to survival whereas individualization could be perceived as accumulation. Therefore, this fine distinction by default brings in the debate of rich and poor who are responsible for its constant and consistent erosion, besides, the players responsible – both state and non-state, institutional governance, governing laws and designs.

Post Forest Rights Act 2006, the ‘individualization of commons’ debate, however, has opened up new windows. While ‘community forest resource’- a common resource to protect where communities had traditional access and community forest rights’ – a statutory right to various commons which have been preexisting are much neglected subjects in the implementation of FRA for very obvious reasons of further loss of control over forests, the new menace of recognizing less forestland than what claimants have applied under individual rights is bringing in a different angle to the earlier ‘commons’ debate. Since in the remaining claimed forestland (earlier under individual use) legally forest land use would continue, smart thinking has been to design community based farm forestry programmes to pull out and establish a ‘common’ out of an erstwhile individual land to continue ‘negotiated’ control. This newly formed artificial ‘common’ will serve as a buffer between individual rights and the traditional commons, where the implications could be; traditional commons will continue to be restrictive with continued institutional uncertainty for communities, possible shift of control and livelihoods debates to the newly formed commons, etc.

The FGLG India, a group of multi-sectoral professionals including, foresters, forestry management professionals, lawyers, social scientist, community forestry specialists and activists among others who are also a larger part of the FGLG International proposes to have a panel discussion on this very pertinent theme that is also manifesting itself in various shades around the country with different tenure systems in the various parts of the country. FGLG India has been engaged in the Community Forest Rights and Community Forest Resource debate and have been advocating for recognition of such rights as well as resource for tribal and other forest dependent communities since the enactment of the law. In fact some members of FGLG India have been part of the Drafting Committee of the FRA as well as the Rules.

*Keywords: Community Forest Resource, Forest Rights Act*

Resource Rights, Landscape Designations and Empowerment: Transformations in the Relationship Between Communities and Conservation

We present a discussion and critical review of a suite of diverse conservation designations which conceptualize the roles, rights and responsibilities of local peoples. This paper examines arguments for and evidence related to
various categories of designation in terms of both their strict environmental objectives and broader development outcomes. We examine in particular the value of the IUCN protected area matrix, which considers both governance and management criteria, as a framework for exploring the diverse interactions between communities and conservation initiatives.

The extensive documentation of government conservation areas has given formal protected areas great visibility. In contrast, the relatively poor recorded accounts of community and private reserves, both ancient and contemporary, has limited their recognition.

Parallel to IUCN’s quest to reconceptualize protected areas, diverse institutions have proposed new designations in response to a growing awareness of the need to balance human livelihoods with conservation efforts and to embrace the complexities of socio-ecological systems. Emergent labels including the FAO Globally Important Agricultural Heritage Systems, “Satoyama-like” socio-ecological landscapes, and forest areas safeguarded under efforts towards Reduced Emissions from Deforestation and Forest Degradation (REDD) have joined established landscape designation categories such as UNESCO-recognised Biosphere Reserves and World Heritage Cultural Landscapes.

Indigenous and local communities, typically in collaboration with non-government organizations, have also begun to designate their own protected areas as Indigenous and Community Conserved Areas (ICCAs), Indigenous Biocultural Territories (IBT), Tribal Parks and other sui generis categories.

*Keywords: Institutions, indigenous knowledge, conservation, resource rights*

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**Sukinda Pata: A Case-Study on Changing Perspectives of Commons and Commons Management due to Industrialization in Odisha**

Sukinda Pata is a village located in the south-eastern part of Kalinga Nagar, the proposed steel-hub of Odisha that witnessed the death of twelve tribals and one policeman on 2 January 2006 in the wake of protest by local people against commencement of construction work by Tata Steel and generally against reckless industrialization in the area that was attempting to throw them out of their land. Jindal Stainless Steel, which has a plant in Kalinga Nagar, was planning to set up an ash pond in Sukinda Pata for its 500 megawatt power-plant around that hub. The proposed ash-pond was expected to displace livelihood 40,000 farmers as well as 5,000 traditional fishermen dependent on nearby rivers. Sukinda Pata has not only 6,500 acres of fertile land where multi-cropping is done, it is also rich in bio-diversity and a glorious example of sustainable living. This paper would analyze the pre-industrialization and post-industrialization economics of the locality, possibly using some statistical tools. It would also analyze, with the help of a survey, whether and how the attitude of the local people towards livelihood and environment has changed due to the proposed industrialization. We would extend these findings to come up with some general hypotheses regarding commons and especially management of commons by local communities as well as outside governmental and non-governmental entities (like private firms). This would, we hope, throw some light on the effect of activities in “invisible commons” (like, say, mines) on “visible commons” (like forests and rivers).

*Keywords: Sukinda Pata, biodiversity, ash pond, agriculture, industrialization*
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From Fuelwood Production to Carbon Sink: Changing Notions of Commons in Nepal’s Community Forestry

This paper describes and analyses the complexities of governing the forest commons in the face of emerging forest-climate debates. In particular, it analyses changing perceptions of tenure security and identifies legal and institutional challenges in defining and securing community rights over forest carbon. Within the discourse of climate change in Nepal, forests are being narrowly understood as ‘carbon sinks’ and are becoming global commons. Consequently, actors beyond local communities are putting forward their concerns over forest management policies and practices. For their part, local communities now have increasing responsibilities to meet global standards for sustainable forest management.

The paper builds on the study of forest tenure dynamics in community forestry in Nepal in light of the emerging debate around forest carbon ownership. Current regulatory and institutional frameworks are designed to recognise community rights over forest products. Emerging discourses of climate change have contributed to increasing public awareness of the role of forests in mitigating climate threats. Currently the government is preparing to implement ‘Reducing Emission from Deforestation and Degradation’ (REDD) with support from the World Bank’s Forest Carbon Partnership Facility (FCPF). As a result the prospect of carbon trade has increased and debates over forest carbon ownership have intensified, particularly regarding community carbon rights.

The emerging debate on forest carbon has huge implications for the legal, regulatory and institutional arrangements for managing Nepal’s forest commons. Are the existing laws and institutions adequate? Are they appropriate for addressing this additional complexity of forest commons and still continuing to provide a legitimate framework for securing community rights? What are the implications for theories of commons that focus more on local, place-based management units and less on the interface with external actors and forces? Based on Nepal’s long experience in community forestry, the paper examines these questions and identifies areas of further enquiry.

Keywords: community forestry, forest-carbon, tenure, climate change, Nepal

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Forests and Water: Securing a Balance in Mountain Ecosystems

The prevalent perspective, for over a century, of viewing forests as an economic resource of the state has been the single most important reason for creating the ‘tragedy of the commons’. Economic growth at the cost of ecological security has led to the impoverishment of marginal mountain farmers who have been dependent upon forests as support areas for sustainable livelihoods.

The loss or lack of title to environmental assets is an additional component of poverty, leading to the conclusion that environmental conservation is actually a necessary fundamental to poverty alleviation. Concepts like sustainable mountain development are more like a mirage in the desert unless forest ecosystems are restored for adequate hydrological and nutrient recycling functions.

This case study is anchored in a typical languishing river basin in the central Himalaya of India and discusses the urgency of viewing Water as an essential ecosystem service of Forests. It attempts to bring together the field experiences of community-driven strategies for renewal of the hydrological cycle in the river basin and their quest for restoring a fresh balance in their lives, in times of climate change.
While doing so, the paper highlights:

- the interface between man and nature as a necessary condition for survival of mountain farming systems
- reduction of forest cover and its impact upon food security and quality of life of millions of mountain people
- and, finally, discusses the need for galvanization of marginalized communities to form appropriate institutional structures at the grassroots, based on the experience of self help groups of women at the hamlets, creation of a dynamic basin-level federation and a multi stakeholder platform.

It is envisaged that this case study - action on the ground - would lead to an effective debate regarding the need to forge a coalition at the global level, with the aim of highlighting the role of Commons in Sustainable Development.

**Keywords:** tragedy of the Commons, ecological security, community-driven strategies, sustainable development, climate change

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**The Role of NTFPs in Coping with Crop Shortfalls and Loss in Two Villages in South Africa**

Rural households in the developing world are subjected to a range of risks, shocks and trends that impact on the bio-physical, social and economic environments in which they exist and that together constitute their vulnerability context. For many households living in South Africa’s rural areas, extreme livelihood insecurity and vulnerability persists to which household may employ a range of coping strategies.

This study forms a part of a broader one, which considered the range of risks to which rural households in two South Africa villages are vulnerable. The study considered the manner in which households respond to such risks. The results presented here focus specifically on land-based crises namely seasonal crop shortfalls and loss of/damage to crops. Household wealth and gender of the de jure household head were selected as characteristics for comparison. Although a range of coping strategies is considered, the particular focus is on the rural safety-net function of non-timber forest products (NTFPs) as there is limited empirical evidence of this. The research included participatory rural appraisal as well as semi-structure interviews. The research considered a two year period.

Forty-five percent of households reported seasonal crop shortfalls while 43% reported crop loss/damage. Households turned to NTFPs in response to both however this was not the most prevalent strategy. During discussions respondents noted a range of advantages and disadvantages to the rural safety-net function of NTFPs which manifested predominantly in the sale and use of fuelwood and wild edible herbs. The more anticipated nature of seasonal crop shortfalls as opposed to incidences that resulted in complete crop loss, allows for more adaptive strategies.

In light of evidence that NTFPs contribute to livelihood security, access to and maintenance of this resource base must not be undermined unless alternatives are provided. The findings provide lessons for climate change adaptation discussions.

**Keywords:** coping strategies, NTFPs, crop shortfalls, South Africa
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**Social Construction of Commons: How Could ‘Mixed’ Property Relations Become Subject Matter of Social Policy Arenas?**

While conceptualizing commons, competing views have been that from an economic theory perspective (often taking a point view of surgical precision) and social theory perspective (muddling through). Economic theory sometimes assumes that goods fall into the category of private or public goods because of their inherent qualities, for example, the debate on lighthouses. However, whether or not a lighthouse will be offered as public or private good does not as much depend on its inherent qualities, but on the social construction of lighthouses, shipping industry, fishermen’s solidarity, coastal property rights, liability rules etc. Social theory, on the other hand, seems to assume that it is not important to think about commons in a precise fashion. Many publications on social capital and common pool resources are quite hazy on the quality and definitions of commons. Why would a joint effort to manage a natural resource like fish stocks or a forest accumulate social capital, but breathing (i.e. using air as CPR) not? Or consider what urban sociology has to say about public space. Although much of this debate is very stimulating and enlightening, it’s also infuriatingly unprecise.

What remains concealed is that neither private nor public goods, neither the commons nor private property, exist independently from each other. Many property relations are based on notions of privacy and universal exclusion, and thus as a result of ‘social construction’. And this entanglement of private and common property is quite ordinary. However, unpacking this social construction and repacking for policy intervention is very important since poorest people rely primarily on commons for their survival. In this paper, through few case studies we intend to show how such social construction have been used as key social policy instruments while dealing with commons.

*Keywords: social construction, mixed property, poverty*

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**Financing the Management of the Commons: A case of the forestry sector in Sri Lanka**

The sustainable management of the commons is now being highly discussed with the recognition of the role played by the commons for social welfare and realizing the necessity of maintaining the stock of common resources for well being of the future generations. However, just like for other environmental resources, for commons, financing has posed a major challenge. This has opened the way for various financing mechanisms to be adopted for sustainable management of common resources. Among them are ‘market based instruments (MBIs)’ (environmental levies, user fees, tradable permits/quotas, deposit refund systems etc.), budgetary allocations and donor funding. Despite these achievements, however, it is not clear to what extent public and private financial management systems are transformed to cater to broad goals of sustainable management of the commons. One cannot overemphasize the necessity of innovative mechanisms for financing sustainable management of common resources amidst the vast commercial values involved with alternative uses of those resources. This study focused on the common resource of natural forests in Sri Lanka to examine the current situation of financial mechanisms existing to mobilize resources for implementation of sustainable management measures. Data gathered through secondary sources (policy documents, annual reports, budget statements etc.) as well as primary
information gathered from key informants was used for this analysis.

It was found that significant funds are being generated by the relevant institutions which are directed to the treasury through the Consolidated Fund mechanism and only a part of it comes back to these organizations by way of budgetary allocations. Unless supported by donor funded projects, these budgetary allocations are sufficient only for the management of these institutions rather than for mandated activities. This implies that conventional system of state financial management has not been geared to cater to the needs of sustainable management. It further indicates the necessity of working out appropriate fiscal allocation systems so as to enable respective institutions to mobilize necessary investment funds through self-generated income sources, within the laws of the country.

*Keywords: forestry, environmental financing, sustainability, Sri Lanka*

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Vegetation Diversity and Forest-Based Livelihoods Relationships in Forest Commons in East Africa and South East Asia

This study uses a social-ecological dataset drawn from 103 forests and associated villages, from 6 countries across East Africa and South East Asia, to examine patterns of relationships between forest species diversity and contributions of forests to household livelihoods for both subsistence and commercial uses. The joint maintenance or improvement of these two sets of forest benefits has emerged as a major policy goal of governments in the low-income tropics over the past 20 years, and has formed the basis for significant forest sector policy reforms in many countries. Yet, pathways to achieve this policy goal remain unclear and little empirical analysis has been undertaken to understand more explicitly the nature of relationships between forest biodiversity conservation and sustained forest-based livelihoods, or to identify policy-relevant factors which may contribute to positive outcomes across both sets of conservation and livelihoods-oriented forest benefits. Our analysis demonstrates clear variation in the nature of joint biodiversity and livelihoods outcomes, and investigates the extent to which key governance, biophysical, socio-economic and demographic factors are associated with more positive outcomes across both species diversity and livelihoods dimensions. Paired reference forests in each combination of forest type and study region are used to standardize species diversity measures, to compare species composition, and to examine the extent of composition change along a gradient of forest-based livelihoods dependency. Data were collected by the International Forestry Resources and Institutions (IFRI) research program.

*Keywords: forest conservation, species diversity, decentralization, tradeoff relationships.***

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Environmental and Sustainability Online Courses—A New Common

Since the advent of the Internet, online learning has become valuable to the traditional face-to-face method of teaching for educators. The myriad of ways in which online courses have been incorporated into higher education curriculums had resulted in positive and increasing popular method of learning for students. Online courses have now been incorporated in the environmental science programs at the University of Wisconsin. From
online seminars, study abroad and field courses, to the strictly online and hybrid degree programs, students are embracing this mode of learning. The convenience of learning in one’s own time and the ability to enroll in courses offered anywhere in the world provided one has a computer and Internet capability, are attractive to students. The ability to include the most current topics sometimes in real-time; use the multitude of online resources available; and the ever-improving visual effects to enhance delivery of information are amongst the advantages to educators. There are challenges and limitations as well. This paper will examine some of the approaches developed by practicing online educators to overcome some of these challenges.

Keywords: online courses, environmental, sustainability, new common, future

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Payments for Ecosystem Services in the Commons

The various commons of the Earth hold the life support systems that sustain us and all other life forms—free of charge. At present, payments for ecosystem services represent an economic mechanism for valuing and conserving commons and their essential life support functions. As a transition to a new worldview that embraces intrinsic value of natural and managed commons transcending economics, payments for ecosystem services may serve as a temporary bridge towards building a sustainable mindset and future. This paper presents examples of payments for hydrological services and carbon credits and explores appropriate contexts, opportunities, and limitations for application in the commons of the world.

Keywords: payments for ecosystem services, commons, sustainability, life support systems; future

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Stinting the Intertidal Zone: the many dimensions of privatizing a commons

This paper examines struggles around the governance of an intertidal commons on the both the east and west coasts of Canada. It relies on Foucault and on subsequent governance literature to address questions of rules of access, legal and institutional complexity, social and political power, and identity. Case material includes efforts by government to privatize access and other rights to shellfish beaches and by local communities to resist such efforts. The paper employs concepts of ‘rendering technical’, of ‘switch points’ and of ‘technologies of power’ to explore a variety of competing sources of rule-making and socio-political authority. Here, rapid social or economic change has put existing rules of access under pressure – opening up access to other actors and encouraging new approaches to governing natural resource use. These case studies highlight the complexity of how commons institutions are nested within larger mechanisms of natural resource governance.

Keywords: Canada, marine commons, commons resources equity

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Framework for Augmenting the Collective Intelligence of the Ecosystem of Commons-Based Initiatives
Commons are sustained by “communities working together in self-governing ways in order to protect resources from enclosure or to build new openly-shared resources.”[1] Self-governance needs shared knowledge. The scalability of commons-based production and distribution depend on the capacity of the communities to augment their collective intelligence.

My motivation is 4-fold:

• Present a framework for making visible and augmenting the collective intelligence of commons-based initiatives and social systems.

• Provide for increasing connectivity in and among commons, by identifying and strengthening generative principles and practices in their knowledge ecosystem.

• Increase the appreciation of how important is to evolve collective sensing and meaning-making organs to the growth and evolution of the commons themselves.

• Illuminate the need for a new research agenda on the Commons and Collective Intelligence; seed conversations for convening a research community focusing on it; and identify key questions to guide future research.

The paper will outline a typology of collective intelligence as a conceptual scaffold to pursue those aims, as presented below.

The price of not supporting the emerging forms of collective action with a framework that can serve as shared reference would be an enclosure on the commons’ invisible collective intelligence, by depriving its users from its full benefits.

Biosphere and its living ecosystems (carbon-based)

Sociosphere and its social ecosystem (relationship-based)

Noosphere and its knowledge ecosystems (mind-based)

Technosphere and its computing and communication ecosystems (silicon-based)

Contributing to the study of relationships among the 4 spheres, I intend to explore what it takes to grow collective capabilities to:

Design and sustain healthy community knowledge gardens (noosphere) that can boost collective intelligence, social creativity and well-being (sociosphere), strengthen the natural commons and learn from living systems (biosphere), supported by cross-media platforms for collaboration and coordination (technosphere).

[1] Mapping the New Commons, by Charlotte Hess

Keywords: commons, knowledge commons, Noosphere
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Following international guidelines, official biodiversity conservation strategies in Mexico have mainly focused on biological and ecological criteria and have often resulted in the official exclusion of local populations from protected areas. Nevertheless, many local initiatives for conservation, mostly without official recognition, are present in different contexts and presenting a variety of typologies. This is not surprising given that Mexico is a pluriethnic society, known for being one of the countries in the world where most of its forested territory is under different forms of communal property. Currently, efforts are being carried out to typify the variety of local participation practices in conservation in order to integrate them in an alternative strategy for the protection and sustainable use of biodiversity. Also, official co-managed programs such as those of payments for environmental services are aimed at strengthening these efforts, although with different levels of success. As a research group named Consercrom, we undertook a research project aimed at comparing conservation areas with differing levels of participation of local inhabitants in decision-making. For this, we studied six different rural communities belonging to four states located in southeastern Mexico. We related participation in decision-making regarding conservation to a landscape assessment of land use change in order to consider its effectiveness in reducing deforestation. Among our results we consider that efficient biocultural conservation strategies should be based on local participation, integrating and strengthening bottom up efforts. However, conservation will only be successful if regional development strategies are envisioned, considering that rural communities in Mexico are currently living in unfavorable economic contexts given a public policy that favors international trade and private interests.

Keywords: biodiversity conservation; community conservation; participatory research; Land Use Land Cover Change Analyses; Southeast Mexico

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Socioeconomic Consequences of Large Land Concessions in Southern and Northern Villages of Lao PDR

A recent study suggests that an estimated 2-3 million hectares, approximately 13 percent of the land surface of the country is under land concessions. Plantations of industrial crops such as rubber, tapioca, maize and other food crops are due to replace land under forest or shifting cultivation in an investment drive that began in 2002, bringing about adverse ecological and social consequences, partially offsetting potential of the big push to lift the living standard of Laotian citizen. The societal gain can be weaken further if concession-induced forest clearing is accompanied by forest clearing from domestic investors and local farmers who lost their livelihoods from large land concessions. However, the magnitude is uncertain as, according to another report, not all land investment can be carried out by foreign concessionaires.

If the rule instituted in the south (e.g. Bolaven Plateau) is effective, any large plantation that affects villagers are required to pay compensations that may allow farmers to acquire a new plot of land through purchase, find
employment or resorting to new forest clearing. With successful adjustment, local resentment to the land concessionaires can be substantially reduced. With a history of autonomy among local government in the Lao PDR, the officials in the South (the Bolaven Plateau) can be different from those in the North (Luang Namtha, Bokeo, etc.), in their response to the demand (or voice) of villagers and civil society. In addition, the feedback mechanisms, from the local government and foreign investors, in the North and the South can be varied and worth comparing. The same can be said to the “investor-authority collusion”, in the North and the South.

The paper will report a preliminary finding to answer questions above, with a field study combining rural rapid appraisal, surveys of local villagers, and interviews with government officials, investors and experts.

*Keywords: Lao PDR, land use change, large land concessions, socioeconomic impacts, rapid rural appraisals*

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**Repertoires of Domination: Decentralization as Process in Botswana and Senegal**

Decentralization ostensibly changes the distribution of authority between center and locality by empowering a variety of local actors and organizations, such as traditional authorities, multipurpose local governments, or user groups. While decentralization presents opportunities for the empowerment of some actors, it threatens others. We describe the set of acts actors can perform as they make claims to defend – or entrench and expand – their interests as ‘repertoires of domination’. We develop the concept of repertoires of domination and illustrate their influence in Botswana and Senegal, where government officials, local elites, and commercial interests have performed multiple acts of domination to limit the extent of local-level democratization achieved through the decentralization of natural resource management. The concept of repertoire brings attention to the substitutability and fungibility of acts, and the limited effectiveness of countering acts of domination one by one. It also highlights how acts draw on bundles of powers in multiple forms—material, discursive, coercive, etc.—that must all be attended to in an analysis of domination. Countering repertoires of domination requires the development of repertoires of resistance to carve out spaces of local discretion.

*Keywords: decentralization, forestry, wildlife, Botswana, Senegal*

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**Maximising Policy Opportunities to Enhance Community-Based Marine Resource Management.**

The inshore fisheries around the UK coastline are under threat from highly centralised policies that manage and control fishing, marine conservation, seabed mineral extraction, and energy generation. Numbers of fishermen are declining with negative impacts on both upstream and downstream industries, and on social well being of communities. Quota regulations that reduce fishing effort and financial security also create increased pressure on unregulated stocks and antagonism between different resources users (offshore and inshore fishermen, conservationists and energy generators). The UK government, however, is open to policy initiatives that will increase capacity for local community management of inshore marine resources. The paper examines the potential for change in six coastal communities around England. Inshore fisheries play a valuable role in small coastal communities through providing employment, local sources of high quality food, supporting service and tourism activities, and creating social capital and strong local identities. Alternative community based resource management
approaches are explored with a focus on perceptions of inshore fishermen and other community and regional level actors. The situation is complicated by actors who lack understanding of policy, regulatory frameworks, and the complexities of the marine environment. Lessons are drawn regarding the capacity to influence policy change that enables more effective local management of a commons resource.

Keywords: governance, institutions, policy, marine resources, community, fishing

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Urbanization and the Rural Commons: Peri-urban Water Resources under Transition in South Asia

Urbanization is likely to be a defining process and characteristic of South Asia in the years to come. This process is being sustained mainly through acquisition of rural commons such as land and water resources from the peripheral areas. As a consequence, this process is leading to acquisition of diverse water sources and iniquitous water uses by different users. This process of changing peri-urban landscape and its impact on commons in South Asia needs to be addressed by academicians, policy makers as well as civil society groups. The paper will deliberate on the issue based on the recently completed scoping study on the subject in four peri-urban research sites in three countries of south Asia. The four research sites are Khulna in Bangladesh, Hyderabad and Gurgaon in India and Kathmandu in Nepal. All these study sites have been selected because of the environmental stress that haunts their existence, further aggravated by climate change impacts. There are peculiarities in the nature of their environmental problems from which emanates the need to study them. For example, the peri urban areas of Bangladesh and Nepal are largely characterized by traditional livelihoods and the population is likely to be hard-hit due to the rapid urbanization process, whereby lands are required for increasing demands for homes. Being nearer to the sea, the climate change impact is very specific for Bangladesh while in Nepal, the fragile mountain ecosystem is not only disturbed due to urbanization process but also the impact of melting glaciers due to global warming generates much concern for the future. The case studies in India for Gurgaon and Hyderabad exhibit the problem in a different light. For these cities, the post liberalization period has seen a different form of development, where the process of change has been induced by growth of the Information Technology (IT) sector. The peri urban areas of these cities have been witnessing this change since long, but the possible impact of climate change has been realized much later when development has reached its peak and there is no scope to revert the situation. Moreover, being located on a different topography, the impact of climate change in these two cities would be felt due to rising temperatures, rather than from sea level rise or melting glaciers. The consolidated paper will present an overview of a trend that is leading to immense water insecurities in four locations in three countries in South Asia due to a combination of issues. Altogether, they are pointing towards a serious problem of engulfing urban water commons leading to having impact on the lives of the poor and marginalised whose are dependent on these commons for their basic survivals.

Keywords: South Asia, peri-urban, water insecurities, urbanization
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**Contribution of Common Property Resources to Rural Sustainable Development: A Case Study of Uttar Pradesh**

Common Property Resources (CPRs) play a significant role in the rural development and benefit rural population in a number of ways. The fuel wood and shrubs available from CPRs are used for cooking, heating and selling; grass, leaves and shrubs are used as animal fodder; bamboo, small timber, palm leaves and clay for house making/repairing and a variety of fruits, vegetables and fish, for sustenance, particularly during lean seasons. CPRs also contribute significantly to Private Property Resources (PPRs) like agriculture, cottage/household enterprises and livestock economy. These provide irrigation water, manure etc. for cultivation, raw materials, minerals etc. for cottage industry and grazing and fallow lands, fodder from forest etc. for livestock.

Uttar Pradesh, the biggest State in terms of population, consist of 70 districts, fall into 3-agro-climatic zones (A-C Zones) out of 15-agro-climatic zones in the country as delineated by planning commission. These are Middle Gangetic Plains (27 districts), Trans-Gangetic Plains (38 districts) and Central Plateau and Hills (5 districts). The percentage of Common Property Land Areas (CPLAs) to the total reporting land areas is 9.53 which is less than national average (15%) as estimated by NSSO in 1998. Here, as per data available CPLAs include- area under forests, permanent fallows, grazing lands/pastures and orchards-trees and shrubs. When we break up the whole CPLAs into these three A-C Zones, Middle Gangetic Plains constitute 13.74%, Trans-Gangetic Plains constitute 8.72% and Central Plateau and Hills constitute 12.90% to the total land reporting areas.

The main objectives of the proposed study are to: (i) examine extent of nexus of agriculture and CPRs; (ii) investigate how CPRs play significant role in the process of sustainable development of rural cottage/household industries and handicrafts; (iii) examine empirically the degree of dependence of livestock on CPRs and the CPRs’ contribution to the growth of livestock economy; (iv) investigate how the rural poor household’s livelihood associated with CPRs base; (v) search out some feasible solutions to the problem of degradation and shrinkage of CPRs.

The proposed study is mainly based on primary data collected through purposive random sampling.

**Keywords:** Common property resources; Private property resources; Economy of the rural Poor; Agricultural development; Livestock economy; Small and cottage/household enterprises

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**Agriculture and the New Commons: Insights from SRI in India**

Current discussions on new commons has unfortunately been restricted to technology-driven, human-made common pool resources largely focused on the internet and open source movements in software and more recently in drug discovery. This paper suggests first that the transformative socio-technical movement of new commons is less understood and appreciated. Second that new commons are emerging even in spaces otherwise considered traditional such as agriculture where emphasis and public policy in recent times has been away from knowledge commons and more in terms of intellectual property rights. With increasing evidence of the unfavourable ecological footprint of the industrial-agricultural paradigm, ominous climate changes, and embarrassing social and economic crises in India manifested in farmer suicides over the last decade, the paper...
suggests that India's agricultural research system needs to explore Knowledge Swaraj more pro-actively. Using insights from the way knowledge has been created in SRI or the System of Rice Intensification the paper shows how a less hierarchical and less linear architecture of innovation has enabled a new 'knowledge commons' to emerge in Indian agriculture, contributing substantially to household-level food security, also enabling farmers to cope with vulnerabilities. Open innovation in SRI has enabled the creation of this new commons in an era when privatization of agricultural knowledge has gained sway. Rainfed areas that have been marginal to the Green Revolution are becoming more central to the establishment of sustainability regimes. This innovation has been enabled by the extensive use of the internet, based on new kinds of networking within civil society playing an important role ensuring collaboration among diverse actors from the farm to the national level. The paper highlights the importance of facilitating knowledge dialogues, learning alliances and innovation networks to enhance innovation capacities and creating new knowledge commons.

Keywords: SRI, knowledge commons in Indian agriculture

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Does the Repeatedly Modified Community Forest Management Rules in Uttarakhand Himalaya Have Really Empowered Community? A Critical Analysis

The community-managed forests in Uttarakhand Himalaya formally came into existence in 1920s to satisfy the local communities that strongly protested against the British Government’s policy of increasing control of the resources so far being used as CPRs. The forest councils (Van Panchayats) were created to manage specified forest areas near villages with the purpose of involving local community. The management rules were framed in 1931 outlining the respective responsibilities of community and state administration in management the Van Panchayat forest. The rules modified and elaborated in 1972 and 1976 were opposed by the community on the grounds of restricting autonomy of Van Panchayats. As a follow up of new National Forest Policy 1988, nationally adopted Joint Forest Management strategy was implemented in Uttarakhand and community forest management rules were reframed in 1997. These rules were further modified in 2001 and 2005 with the objective of ensuring larger community participation. However the rules and regulations have not had desired results and there is only limited involvement of community in management of community forests. Though presently more than 15 % of the forest area of Uttarakhand is being managed by Van Panchayats, there are large gaps that are to be bridged for effective community forest management. This paper based on secondary information highlights the policy and management issues affecting the real participation of community in community forests being managed as CPRs.

Keywords: Community Forests, Uttarakhand, Himalaya, community participation, forest management

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Harnessing the Climate Commons: An Agent-Based Modelling Approach to Reduce Carbon Emission from Deforestation and Degradation

Men created a worldwide tragedy of free access to their global common atmosphere. Forest and land use change contribute 18% of GHG emissions, which cause global warming. Conference of Parties 15 in Copenhagen increased political commitment to reduce emission from deforestation and degradation and to enhance carbon stock (REDD+). However, government sectors, political actors, business groups, civil societies, tree growers and
various interest groups at different levels may support or reject REDD+. This paper describes REDD+ dynamics through the following methods i.e. identify key actors that influence REDD+ policy, categorize their objectives and interests, types of rationality and policy preferences, point out the strategies they used to fulfill their goals and simulate their actions and behaviors with agent based modelling approach.

Through actors-arena-institution approach, various possible REDD+ options are prospected. The model simulates: (1) how the providers would likely decrease or increase carbon stocks on their landscapes for their livelihoods under ‘business as usual’ institutions; (2) how they would likely negotiate with potential buyers to implement REDD+, with regards to the involvement of brokers (governments or NGOs); and (3) how they would likely implement REDD+ after the agreement. The model is developed as spatially explicit model to consider the complexity of REDD+ target landscapes. The simulation results are examined by 3E+ criteria i.e. effectiveness in carbon emission reduction, cost efficiency, equity among involved stakeholders and co-benefit of other activities. This study took Jambi landscape, Indonesia as a case study and compared with similar cases in Vietnam, Cameroon and Peru. The result explains why REDD+ work and doesn’t work, who win and lose, and develop scenarios of REDD+ institutional arrangement which would help to harness the global commons of climate change.

Keywords: Climate change, deforestation, agent-based modeling, Indonesia, institutional arrangement

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Implications of Trends in Access, Benefits and Status of CPLRs

In this study from Karnataka state, India, we define CPLRs as all common land resources to which some part of public has de facto access to, irrespective of the rights of use, management and control. We then look at the drivers of change in CPLR area and condition, as well as the ecological and distributional impacts of these changes, using a clear normative framework. Though historical endowment of CPLRs varies geographically and temporally, they generate significant use and non-use values at local and global scales (Jodha 1990, Nadkarni 1990, Pasha 1992, Kumar et al 2007). The wider academic literature contains debates about the usefulness of CPLRs, with advocates pointing to CPLRs as social safety nets, and critics favouring privatisation and land grant as being more efficient. The latter argument is also strengthened by evidence of declines in dependence and rural social cohesiveness, failure of state institutions to prevent elite capture of CPLRs, and declining interest in small farming in India. Added to this, policy and institutional fuzziness and market pressures might make CPLR history, in the not-so-distant future. When we examine these debates in the context of Karnataka’s CPLRs, we find an undiminished need to have well-managed rural CPLRs. The paper then looks at the governance reforms that may be necessary to manage and prevent conversion of CPLRs as well as to revive stakeholder interest.

Keywords: governance, access, grazing lands
Beyond Environmental Policy Impacts: Joint-Efforts on Improving the Effectiveness of Pasture Management in Northwest China

Environmental degradation showed its most serious situation in the Agri-pasture area in Northwest China, which had both significant negative impacts on local people’s livelihood and inevitable damage on living conditions of habitants in other areas. Corresponding to the environmental problems, the government implemented environmental protection policies, including the extreme policy of grazing ban. At the same time, farmers living in this area coped with the harsh environment and the enforced policies simultaneously. What are mutual interests between macro environmental policy makers and local people? What are the impacts of those policies on the pasture management effectiveness? How did policy maker, the farmer, other policy implementer, and other stakeholders develop an adaptive mechanism of pasture management during their interaction on Grazing Ban policy implementation? This article explored to answer those questions through a tracing study among 2001-2009, when grazing ban policy and relevant policies were implemented in Yanchi County, Ningxia Hui Autonomous Region in China, which is located in the middle part of the Agri-pasture area in Northwest China.

This article found that the interaction among stakeholders in policy implementation and the farmers’ coping strategy on external institutions formatted the art of pasture management, which could not be discussed only through policy impacts assessment. With the analysis of farmers’ correspondences and adjustment of their livelihood strategy while implementing policies, it was found that furtive grazing was used effectively by the farmers and their community in balancing environmental protection and livelihood development, when the policy makers tried to internalize the external costs and benefits of using grassland through policy of grazing ban. Furthermore, for a more sustained application of pastureland, the facilitated interactions and induced joint-efforts of the government departments, relevant NGOs and community people could make more effective pasture management.

Keywords: pasture management, grazing ban policy, coping strategy
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Community-Based Mangrove Ecosystem Regeneration: A Case Study in Malaysia

Natural Resources in Malaysia are exclusively managed by the State. Following the December 2004 tsunami tragedy, the Government of Malaysia has adopted mangrove regeneration as a priority environmental policy. Most of the regeneration efforts are undertaken by the government on a large scale, through the Forestry Department, almost exclusively in the west coast of peninsular Malaysia where the livelihood of the communities has been affected. Community-managed commons in Malaysia is rare or almost non-existent. The paper highlights a case study in Malaysia where a partnership between a State Government and UNDP has developed and implemented a community-based mangrove regeneration project. This initiative is the first of its kind where by the mangrove ecosystems in the project site area – a common – is managed by a local community in Malaysia. Situated in a logon in east coast of Malaysia, the Setiu Wetlands The project outputs are: a) Training and capacity building of local communities on fostering and sustaining the growth of mangrove forests; b) Capacity building of local authorities to support mangrove forest protection; c) Support for mangrove forest replanting and sustainable livelihood activities; and d) Developing a conservation management plan for replanted areas and the surrounding mangrove ecosystem. The State Government is also using the project area as a potential tourist attraction where all activities are implemented with the involvement of the local community. As one of the poorer states in Malaysia, this fits well with the poverty reduction policy pursued by the State Government of Terengganu. The benefits to the community include the enhancement of their livelihood activities including fishing, mangrove forest product extraction, and eco-tourism.

Keywords: Malaysia, mangroves

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Climate Change, Global Commons and Corruption in the Context of Sundarban Mangrove Forest in Bangladesh

Global commons are the most threatened objects in climate change scenario. The nature of these commons itself is vulnerable in the world of unclear property rights, externalities and different forms of claims. Sunderban, the world’s largest mangrove forest is in peril due to corrupt practice and its consequences are alarming especially in the realm of climate change. The aim of this paper is pose the concern that Sunderban as a global commons and its deterioration due to malpractice in using resource is a global loss. In exposing the loss the paper aims to highlight the corruption issue and its true loss in terms of total economic values. The importance of Sunderban is immense in terms of carbon sink as well as “bio-shield” against cyclone and high tidal surges. Moreover, destruction of the forest will bring havoc to ecology and unexplored and unutilized marine resources of the surrounding water system. The total valuation shows that the damaged monetized in normal accounting process is much less than the actual damaged enumerated using total valuation approach. Policy conclusion is drawn strengthening the norms of reducing corrupt practices and better management approach.

Keywords: climate, forest, corruption, management
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Can Greening the Micro Credit Contribute to Nature Conservation and Adaptation to Climate Change Impacts? A case from Bangladesh  

Invented in Bangladesh, microcredit is now practiced over a dozen of countries and supporting millions of poor people who are otherwise excluded from the formal lending sector and hardly have any alternative means of accessing financial services. In Bangladesh, currently, over US $ 2 billion is being rendered among 30 million poor people to take up small scale income generating schemes towards achieving improved livelihoods. While micro-credit has got wide recognition as a viable tool for supporting the poor to become self-employed, collective implications of millions of such small-scale income generating schemes on the natural resources seldom got attention especially in densely populated developing countries like Bangladesh where majority of its population still subsist on natural resources for their livelihoods. It is also not strived to use the microcredit program as potential conduits for building grassroots community awareness including women, who are the major users, towards conservation and enhancement of nature & natural resources. This paper describes the processes being undertaken through a CIDA funded project where academicians, environmentalists, NGO professionals and poor communities are working together in piloting microcredit as a channel for building grassroots capacity in environmental conservation and wise use of natural resources. Key efforts of the project are to greening the micro-credit as a part of the wider environmental governance framework as well as promoting healthy food items through practising organic agriculture. Among others, the credit borrowing communities preferred organic agriculture, plant nursery, fish nursery, indigenous fish culture, mat making by cultivating mat fibre plants as priority green schemes. This paper also highlights the possible linkages of green micro-credit with climate change adaptation which Bangladesh is urgently needed as one of the worst climate change affected countries of the world.  

Keywords: Bangladesh, climate change adaptation, environmental governance, green micro-credit, livelihoods, natural resource conservation  

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System Dynamics Modeling in Andhra Pradesh: NGO perspective  

This paper is primarily about reflecting on my participation in system dynamics modeling with a rural community in Andhra Pradesh. It is not only novel to do dynamic modeling of forest commons, but to introduce this type of modeling to villagers and engaging them in generating the data for model building. We built a system dynamic model of the interactions between the community and a nearby forest commons using an array of research techniques including Participatory Rural Appraisal, focus groups, key informant interviews, household surveys, and Group model building. One of the commitments during this project was the participation of people interacting within the systems: both the community members and local experts. The community was very involved from the beginning where they played a central role in defining the problem pertinent to their livelihoods and the forest commons. We used spatial and temporal PRA techniques and household surveys to build reference modes which defined the problem in terms of changing fuelwood availability in the forest commons over time. One of the major achievements at this point was the use of different research techniques to develop behavior over time graphs (reference modes), which are very important for model building. One of the highlights of this approach
was the rapidity of information exchange between different stakeholders. A significant innovation is to introduce system dynamics modeling to community members and local experts during the initial phases of “problem definition” and “building reference modes.” This paper identifies what worked, what didn’t, and how to improve future efforts from the NGO perspective.

Keywords: Andhra Pradesh, system dynamics, communities

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Working for a Common Good: The Shepherds and other Livestock Rearers of the Rishi Valley Special Development Area.

Traditional pastoralist and other peasant communities who rear livestock- mainly cattle, sheep and goats, located in Thettu Panchayat, Kurbalakota Mandal, Chittoor district, Andhra Pradesh, have historically depended upon the commons – (forests, revenue lands, agriculture fallows, watering holes/ tanks) for grazing, feeding, watering and managing their animals, which is their primary source of livelihood. The region has recently been notified by the Government of Andhra Pradesh as the Rishi Valley Special Development Area, with the specific objective of sustainable ecological conservation of the region for the overall benefit of the environment and the livelihoods of the local community. Since June 2009, Anthra in association with the Rishi Valley Special Development Area have been working closely with local pastoralist and peasant communities to develop a comprehensive plan for common property resource (CPR) management in the area so that the livelihood needs of the community are effectively and sustainably met. The multi-dimensional strategy has included:

• Detailed mapping of age-old customary grazing and watering practices of utilising the landscape, which has deepened the collective understanding of traditional land-use, as also generated vital supportive documents for the communities and the Gram Panchayat to confirm community grazing rights utilizing the Forest Rights Act.

• Experiences of confirming rights of grazing in forests, using the FRA, 2006

• Negotiations with other actors in the “commons” towards developing a shared and evolving strategy for the overall development of the commons.

Keywords: pastures, Forest Rights Act, shepherding communities, biodiversity

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Genetic Diversity in Seeds as Global Commons-Alternatives to Protect the Genetic Diversity from IPRs than by IPRs

Traditionally farmers have maintained high levels of crop genetic diversity as insurance for their subsistence farming. The heterogeneity in the crop genetic makeup allowed for yield security and also provided the necessary buffer against environmental variation (nutrition, health, climate, soil conditions and pests).

Over the years with the development of modern breeding and the creation of new improved crop varieties farmers have switched to commercial agriculture, replacing their diverse land races. As a result areas previously rich in agricultural bio diversity have been replaced with genetically homogenous fields. Along with this came
the heightened awareness that while incentives existed for farmers to develop new varieties, there were no perceptible rewards for genetic resource conservation. The disparity between rewards to genetic resource that form the basis of development of new crop varieties and rewards accruing to new varieties that are products of research has been pointed out.

The issue of farmer’s rights was first raised as a global concern in 1986, after which the FAO adopted the International Undertaking on Plant genetic resources(IU). Several years later FAO officially recognized the concept of farmer’s rights but the resolution as not legally binding. In 2001 after years of debate a legally binding international agreement on farmer’s rights was reached with the adoption of the FAO International treaty on PGRFA.

The treaty’s objectives are the conservation and sustainable use of genetic resources and the equitable sharing of benefits arising from their use. A multilateral system for access and benefit sharing established under the treaty, governs the exchange of germ plasm from 35 food crops and 29 forage plants.

A set of measures is called for to address the compatibility of seed laws and plant variety protection to take into account communities’ needs. Literature abounds on the topic to recommend reinforcing the traditional sharing system with a system of peer production and distribution of germ plasm as an alternative way to develop crop varieties and dynamically sustain genetic diversity.

Measures are also needed to strengthen farmers, practices of seed saving and sharing and to further non commercial, non profit and co-operative exchange. Relaxing seed regulations and granting farmer immunity from patents and plant breeders infringement could support this. Considering the collective nature of plant genetic resource management, trusteeship by farmers is suggested in such a way that it accepts personal contribution to a common good and a form of ownership derived from that contribution. In the countries of south Asia where agricultural modernization is being justified to ensure food security which is vying with traditional form of seed saving. It has to be emphasized that the controls brought in the seed system, controls the entire food system.

The objective of this paper would be to explore and give shape to the alternatives that emphasize the fact that the farmers varieties need to be protected from IPRs and not by IPRs.

Keywords: plant genetic diversity, farmers’ rights, IPR

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Changing Mandates but Fixed Mindsets: Forest Bureaucracy in Western Himalayas

Forest bureaucracy working under the national and state laws is the sole custodian of forest resources in India. Its performance in forest governance depends greatly on its internal working as well as organizational ethics. Presently, the internal working of the forest department has little space for planning, research and analysis. Forest department is facing an identity crisis as its prime working strategies of scientific harvesting of forests have been totally curtailed. Its performance is further crippled due to an overpowering hierarchical set-up, personal vested interests and absence of visionary policies. The forest officers lack motivation and skills required to change the existing system to make it useful to millions of forest users. The foresters are suffering with a negative image since inception of the forest department due to their failure in generating a confidence about their policies among general public. Some people think that foresters are mainly focused on managing their postings by appeasing public representatives and are least concerned to the success or failures of the government policies and programs.
They are primarily held responsible for degrading the livelihood base of millions of forest users, yet there are other external factors that impede the performance of the forest department to a significant extent. This paper explains the entire matter of organizational working and performance of foresters in the execution of participatory projects in Western Himalayan state of Himachal Pradesh, India. The paper also suggests desired improvements in the overall working of the forest department in order to achieve successful and pro-people governance of the forest resources.

Keywords: forest bureaucracy, forest governance, organizational working, participatory projects, Western Himalayas

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Human impacts of displacement from protected areas: lessons from the establishment of the Derema Corridor, north-eastern Tanzania

The establishment of a conservation corridor between forest reserves in the East Usambara Mountains, Tanzania, involved the displacement of hundreds of small-holder farmers who held customary land rights to the area and paying monetary compensation for their livelihood losses. Through a combination of qualitative and quantitative social research methods, the social impacts of the intervention and the livelihood responses of affected people were investigated. The results suggest that a failure to unambiguously identify rights-holders to resources in the area, inadequate commitment and follow up by the involved conservation agencies, and limited agency of local actors in the arenas of decision-making contributed to the unpredictability of the process and its outcomes, which were mostly experienced as negative. Many of the affected rights-holders, especially women, were not compensated for their lost assets. The poorest people were among the most affected whereas few wealthy people received the largest compensation and were able to invest in improved livelihoods. Clear definitions of local rights to resources coupled with fair and timely compensation, inclusive mechanisms for participation, and a sustained presence and commitment of the conservation agencies, are seen as pre-requisites for forest conservation interventions involving compensated human displacement that are to avoid negative social consequences to the affected people.

Keywords: forests, displacement, compensation, rights, Tanzania

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Globalization, Commercialization and the Commons: Nagaland (India) - A Case Study

Today, the concerns regarding climate change and depletion of natural resources are compelling us to look at use of natural resources for development with a renewed perspective. It has become imperative that development needs to be sustainable, inclusive, balanced, promoting equity and welfare of all.

However, what we are witnessing in practice in India is still the manifestation of skewed perception of development. In case of the north east region, which is rich it’s natural resources where rights over natural resources are still mostly vested with tribes and communities, the process of modernization and development is playing out into unwanted impacts like the “Tragedy of the Commons”, further giving rise to hoards of problems like environmental
degradation, deterioration in the standard of living, inter tribal conflict, etc.

Local conflicts and quarrels over water is a rising phenomenon across the State. Natural hydrological cycle has been altered due to destruction of catchment areas and headwaters. Rapid deforestation and land degradation are yet another source of concern.

For the past three years, the author has been working with the rural women in three Districts of Nagaland, to facilitate improvement in their livelihoods with a participatory methodology. Under this project women are organized into Self Help Groups and trained to add value to their resources by organic farming and processing organically grown produce and link them to the markets.

Based on the data gathered during this work, this paper will probe into and analyse the reasons for continuing degradation of natural and common property resources in this region.

It will identify the basic assumptions underlying the organized participatory development and will attempt to present a path/recommendations that will enhance people’s involvement and promote effective management of community resource management.

Keywords: land, agriculture, governance

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Loss of Access Rights Leads to Collapse of Traditional Fisheries Governance and Rise of Conflicts: A Case from Malala and Ebillakela Lagoons in Sri Lanka

A traditional fisheries governance system was in place in Malala-Ebillakela lagoons, which involved all relevant parties including fishers, non-fishers and government organizations to manage the lagoon ecosystem. The specialty about this system was the involvement of all parties, from different layers of decision-making, in the different forum across levels and the pressure which came from both fisher and non-fisher communities who were totally depended on the resources of the lagoons. However, with declaration of the lagoons as a bird Sanctuary and National Park respectively under the Wild life Act of Sri Lanka in 1990s, this common property was turned into a state property. Consequently, it came under the direct supervision of the Wild Life Authority. As a result, wild life authority started to control the access rights of the traditional fishers and non fishers, leading to conflicts between fishers, fishers and non-fishers, fishers and Wild Life Authority and so on. In the meantime, the ecosystem started to deteriorate in the face of uncoordinated infrastructure development interventions. This paper attempts to discuss the consequences of these developments and the collapse of the traditional fisheries governance system, and the impacts of introducing State lead management under the Wild Life Act.

Keywords: Self governance, legal frameworks, conflicts, Malala and Ebillakela lagoons, Hambantota

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Seeing Beyond Boundaries: Landscape Approach to Conservation and Livelihood Enhancement

There is a candid acknowledgement in the natural resource sector, thrown up by experience over the last decade and a half of the need to have an inclusive and decentralized approach to resource management, informed by progressively secured tenure and larger role for communities and their institutions. The progress towards this has
however remained rather limited. At the same time, loss of forest habitats and decline in population of charismatic species like tiger, has led to the ‘hands off’ approach towards conservation. As a result, one is again witness to the same acrimonious and polarized debate between the warring constituencies of the conservationist and the communities, that used to take place some two decades back.

Unfortunately this debate suffers from a poor understanding of the adverse impacts inherited by the 21st Century from the previous one. Besides, what one misses in such debate is the new context that early 21st century presents. A context, that is marked by growing market economy, mega capital, commodification of nature, the urge to get the “price” right and increasingly, consumerist life style, all attended by a scant regard for nature. Little wonder that the pristine biodiversity areas and fertile agricultural lands are under severe strain from mining, hydropower, transport infrastructure. Forest regeneration under participatory forestry has made impressive gains for resurrection of degraded forests in a number of cases in India. However in many areas it has also led to a “pressure shift”, leading to degradation of adjoining forests.

The role of forests in challenging the poverty paradox needs to be seen in the wider context of ecosystem services and goods they provide to all productivity sectors including all forest produce, agriculture and livestock. Though contribution of forests can be substantially enhanced by appropriate management and improved marketing, it is the natural resources in totality and NR dependent secondary/tertiary sectors that, when included within a landscape unit for management-development, could go a long way in challenging the poverty paradox. This paper, argues that adopting a landscape approach makes sense on economic/livelihood, ecological and socio-cultural considerations and can far more effectively challenge the paradoxical situation of poverty amidst plenty. The paper discusses the key elements to the approach and how it is different from the current approaches to forest management. The paper recommends some key steps and challenges in integrating landscape approach in cross sectoral programs

Keywords: forests, conservation, landscape approach

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Conflict, Collective Action and Resilience in Natural Resource Management: Lessons for Development Policy and Governance

Recent research has probed the causal links between competition over high-value extractive resources and violent conflict. Far less attention has focused on conflict over renewable resources that underpin rural livelihoods in agricultural landscapes, and in particular the positive ways collective action to resolve problems of allocation and access to natural resources can reduce the risks of broader social conflict. Using an adapted version of the institutional analysis and development (IAD) framework, we assess how the characteristics of the resources, the users, and governance shape the incentives for collective action to cooperatively manage contested common-pool resources. We undertake a comparative analysis of original case studies from 11 countries, in Southeast Asia (Cambodia, East Timor, Indonesia, Myanmar, and the Philippines), South Asia (Bangladesh and Nepal), and Sub-Saharan Africa (Rwanda, Sudan, Uganda, and Zambia). These cases represent a spectrum of conflict-sensitivity, from intense resource competition and low-level conflict to post-conflict reconstruction in the wake of civil war, and a diversity of resource systems involving forests, land, water, and fisheries. All cases involved new field research, with a range of methodologies including participatory action research, key informant and small group interviews, and household surveys. Triangulating the comparative analysis with findings from complementary studies in Asia and Africa, we derive a series of lessons for development policy and institutional and governance
reform in conflict-sensitive environments. These address strategies for: leveraging shared stakeholder interests in resource management to build community bonds across divisions of ethnicity, religion, gender or economic status that constitute conflict risks; establishing or rebuilding the legitimacy of resource management institutions in the wake of violence; supporting bridging organizations that span multiple ecosystem scales; and investing in human rights safeguards and multiple mechanisms of social accountability to protect the space for positive collective action and reduce incentives for violence.

*Keywords: environmental resource conflict, comparative analysis, collective action, governance, social-ecological resilience*

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**Common Pool Resources Management in the Amazon: A Fuzzy Approach of Public Bureaucracy Role**

In Brazil, particularly in Amazon some common pool resources management has not included in the federal environment regulatory framework. Specific areas as lakes, for example, have to deal with fragmented institutional arrangements in regulation on access and use of lake resources. Fishery and agriculture in wetlands or in the subjacent lands of water body have no regulation in Brazil federative arrangement. Local, regional and federal bureaucracies increase the cost of policy process to include common management strategies to resource of the Tucuruí Lake into the environment federal regulatory framework. This paper discusses a specific lake in Amazon. Twenty years after the Tucuruí dam has been built, the lake created by the dam, became a important fish resource to people who live along the shores of the lake. Thus, this artificial lake is a scenario of an intense conflict about access and use of Tucurui’s natural resources. The bureaucracy in several federative levels plays a key role in these conflicts. This paper presents results of two fields researches occurred in years 2006 and 2009 at Tucuruí Lake. Results are presented with the use of fuzzy logic to modeling institutional capacity of districts bureaucracies associating this analysis with ways of natural resources access and use of people who live along the shores of the lake. The model intend to identify how district and federal bureaucracy influence common pool management in the lake.

*Keywords: Common Pool Resources, Amazon, bureaucracy, dam, artificial Lake*

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**Traditional Knowledge as/and Commons: Where Do We (Want To) Go from Here**

Proposals for considering traditional knowledge as commons or developing traditional knowledge commons have been put forth, particularly in the context of combing them with protocols for access and benefit sharing. This paper examines that idea and explores its merits and demerits. It argues that such initiatives should be understood in the context of broader debates on commons, access and sharing and using open source principles/approaches to prevent misappropriation and to develop a protected commons. This protected commons is not (in) public domain and the development of various protected commons in areas as diverse as human genome mapping, plant genetic resources, microbial resources, scientific data indicates that there are options that negate both enclosure through intellectual property rights and allowing free and unhindered access as if it is public domain. We compare some of these commons with TK commons and point out that there are some unique features in TK that makes development of TK Commons all the more challenging- both in terms of theory and
praxis. We point out that while this idea and the use of protocols and combining both will be relevant for communities and researchers clarity is needed on many aspects, ranging from what are the objectives and whether such a combination is compatible with existing Access and Benefit Sharing Regimes. We argue that this idea deserved to be nurtured and tested before embarking on combining this with ABS regimes or making it as an option for non-commercial research in ABS regimes. Our hypothesis is that this model should be tried although there can be unintended consequences and there is reason to be cautiously optimistic about it.

*Keywords:* Traditional Knowledge, Access and Benefit Sharing, Convention on Biodiversity, open source, protocols, protected commons

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**Integration of Climate Change Adaptation Strategy with the Watershed Based Sustainable Rural Livelihood Approach**

Climate change is a fundamental challenge to the way we live on this planet. The poor and the rural communities surviving on the climate sensitive activities and resources are first to suffer and are more vulnerable. Watershed management as a means to manage common property resource and to ensure sustainable livelihoods for rural communities is a challenge. Integrating adaptation and mitigation strategies within the watershed management model shall ensure livelihoods for the rural communities and prepare them for the impact of climate change. Per unit geographical area emissions in a country could be another way of taking responsibility by global citizens in addition to the per capita and unit GDP production emissions. This ensures climate-friendly development pathway for future and involves every stakeholder contribution for climate improvement on planet.

*Key words:* climate change, watershed, rural communities, sustainable livelihoods, adaptation and mitigation, per unit geographical area emissions.

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**Learning from REDD Sites: Perceptions and Realities of Tenurial Systems in Indonesia and Vietnam**

Reducing emissions from deforestation and degradation (REDD) initiative is now recognized as key to climate change mitigation. It is a new concept that has recently begun to be implemented in forested developing countries. These countries often face challenging and complex natural resource and governance issues that will have implications on the ways in which REDD is implemented. As part of a much larger global comparative study, this paper offers preliminary insights on the implementation of REDD projects in Indonesia and Vietnam. Critical issues in forestry, including the extent of participation of local communities and tenure, are also key in REDD. The paper analyzes these issues by comparing and contrasting the situation in the two countries.

*Keywords:* REDD, governance, participation, tenure, Indonesia, Vietnam
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**Commons vs. Commodities**

At the beginning of the 21st century the commons have come back to the public debate, becoming the mantra of world movements, which are looking for a way out from the crisis of capitalism. The commons are not an experience of the past, nor only a reality for the “poor” in the less developed countries of the global South. They are a reality of the present, also in industrial countries North and South. To this end, commons ought to be redefined in terms of the present day situation. Today’s movements dealing with local natural resources can be looked at as “new” commons.

This paper – based on a book on the subject, to be published in Italy by Jaca Book in 2010 – first tries to identify these new commons in different national contexts, North and South. Then it traces the historical and philosophical changes that Europe underwent in the transition from Medieval times to Modernity. Ever since, commons have been systematically privatised (enclosed).

The analysis of the European historical experience is relevant because it laid the roots which shaped the new ecological and social world order: from colonialism, slavery and the ecological debt to the industrial mode of production and consumption, with its consequences in terms of natural and social destruction.

Drawing from the author’s 15 year experience as editor of the international journal of political ecology “Capitalismo Natura Socialismo”, the paper ends with the political proposal that commons become the foundation for new models of participatory democracy. This would enable ecologically sustainable globalization and socially determined democracy to overcome State-Market dialectics. Provided that, however, politics become “political ecology”, meaning that public policy choices are tied to natural resources limits.

*Keywords*: governance, New Commons, political ecology, colonialism, participatory democracy

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**Dichotomies in Forest Management: the Contrasting Perspectives of Communities, Managers and Scientists**

It is clear that integrating resource users and local communities into natural resource management is desirable in striving for biologically and socially sustainable conservation yet the management implemented in many protected areas is often at odds with livelihood objectives. In many locations, both social and environmental outcomes remain less than optimal, and in some instances tensions between management institutions and local communities remain high despite efforts towards implementing collaborative management systems or integrating local knowledge. There is frequently a dichotomy between the interests and perspectives, as well as bodies of knowledge and cultural backgrounds, of one or more of the different groups involved: managers, communities and research scientists. While well recognised informally, the formal articulation in theoretical constructs of the full triangulation, community, scientists and managers is novel, yet is required to advance understanding of the factors limiting improved outcomes. A key challenge in many protected forest areas is to overcome specifically these obstacles moving towards a convergence of interests and goals rather than remaining within current states that are typically characterized by compromise. We draw on long–term experience from several protected forests across Asia, Latin America and Africa where community, management and in some cases scientific perspectives, are at variance.
with each other, on the nature and urgency of management problems as well as their causes and solutions. A synthesis of experiences in these locations identifies common underlying factors and potential institutional and policy changes required for moving towards more integrative and less unilateral management outcomes in protected forests.

Keywords: Collaborative management, conservation, forest, integration, livelihood

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Governance of Marine Mammal Harvests for Human Consumption

Humans around the world have consumed marine mammals for millennia. In recent decades, this consumption has become central to tense global struggles among cultural groups over marine mammal conservation, international obligations, indigenous rights, and social values. In addition, marine mammals are dispersed, highly mobile, common pool resources, with complicated linkages to other harvested marine and terrestrial resources (e.g., fisheries and bush meats). Designing multi-level governance institutions that can address these issues, while coping with the considerable uncertainty about the status of stocks and harvest rates is a major challenge. Reliance on enforcement and/or market mechanisms has frequently been inadequate for accomplishing global wildlife conservation goals. Consequently, active involvement by local communities in management, so-called co-management, has become a widely touted option, in fact seeming imperative in many cases. However, the conditions that facilitate effective co-management at a local scale in support of larger geo-spatial marine mammal conservation objectives have received relatively little attention. We reviewed more than 600 sources of information on the recent and present-day acquisition and consumption of marine mammals by people around the world. Ostrom’s Institutional Analysis and Development framework provides a tool for our meta-analysis of the institutional and environmental variables associated with effective or ineffective community involvement in harvest management, research, and conservation. Through this framework, we explore the intended and unintended consequences of different forms of community engagement – to marine mammals, their ecosystems, and the humans who rely on them for nutritional, economic, and other socio-cultural needs. Our findings strongly support the need for meaningful community engagement, pluralistic goals and rules for management, and that singular reliance on higher-order rule making should be avoided. This will never be easy given the persistent conflicts over what is an appropriate relationship between humans and marine mammals.

Keywords: Natural Resource Management, conservation biology, political science

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Contingent Devolution and Community-Based Conservation: When Values Align or Conflict

Ghana and Tanzania have both developed frameworks to support community-based conservation (CBC) in which communities may be granted the right to manage wildlife resources. In these countries, formal legitimization by the state of particular CBC initiatives is contingent upon local stakeholders meeting a number of requirements to the satisfaction of various government entities. Research was conducted in communities that have launched CBC initiatives under the respective frameworks in each country. In the study communities, one key variable helping to explain why some communities have gone further than others in taking up the CBC opportunity, and
indeed why some communities have shown no interest at all, is the degree to which there is a co-alignment of values with the devolution-granting government entities. In other words, where governance frameworks do not seriously empower local stakeholders but rather create a system in which community-based conservation is contingent, the success or failure of particular CBC initiatives depends in part on a co-alignment of values between the community and government agencies. Because such co-alignment cannot be expected a priori in all situations, there is a need for governance arrangements that create opportunities for meaningful cross-level deliberation around differing values. There is a need, furthermore, for governance frameworks that do not put so much onus on local stakeholders to satisfy district- and national-level gatekeepers—governance frameworks, in other words, in which the right of local stakeholders to manage resources is recognized rather than granted.

Keywords: institutions, governance, community-based conservation, Ghana, Tanzania, devolution, values

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Transforming Ways of Life: How Out-Migration Affects Change in Resource Dependent Societies

The world over, the nature of rural livelihoods has changed profoundly. While some scholars suggest that local production systems are ‘disappearing’ under the influence of structural adjustment policies and market liberalisation, others argue that rural economies have merely diversified to become less tied to territorial-based resources. From a commons perspective, it is not clear whether customary ways of life are persisting while diversifying or undergoing fundamental transformations as people respond to new pressures and opportunities. With elevated out-migration threatening to extend into a fourth decade in the highlands of northern Oaxaca and a second decade in Orissa’s Chilika Lagoon, demographic impacts have intensified, while the cultural gap between rural and urban societies has narrowed. This paper uses community-level data from both regions to discuss how out-migration is speeding up changes associated more widely with ‘development’, ‘modernity’ and ‘globalization’. As new generations of community members share values, desires and beliefs different to those of their parents or grandparents, we look at the possible future scenarios facing these long-standing commons regimes.

Keywords: out-migration, rural livelihoods, Oaxaca, Orissa, resource-dependent communities

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Entangled Roots in Multiple Forest Commons and Communities

The forest commons, beyond formal common property regimes, is complex, multiple, and often entangled with public, private and common property units as commonly defined. In the Lacandon Rainforest and the Highlands of Chiapas, private and public development interests, as well as a variety of indigenous and campesino communities have distinct and often incommensurate views of the forest commons, both within and between groups. Beliefs about the status of human beings in the larger world condition the very possibility for the commons as property of any type. Likewise, beliefs about states and nations, and sovereignty and autonomy, condition the terms of relationships between actors (humans, other species, their physical surroundings, technologies, and artifacts) in forest ecologies. The invocation of “the common good” at different scales, and with reference to different sets of values and actors in varying types of relationships, are sometimes diametrically opposed or mutually unintelligible.
The case of Plan Puebla Panama, a mega-development project now re-structured and re-named Project Mesoamerica, and the widespread resistance to it in some regions, demonstrates multiple claims to the same areas of forest land, in the name of several different notions of common good for distinct communities. The paper explores the potential for polycentric networks of actors from different constituencies to cohabit multiple, complex, and entangled forest commons, in contrast to state and corporate reliance on Cartesian models of fixed territories in mutually exclusive spaces. In the name of the “common good” at national and international scale, Plan Mesoamerica threatens to replace the forest commons with several forest commodities, from “Cancun” and “Disneyland” private tourist development in the rainforest and its ancient Mayan centers, to hydroelectric dam sites, clear water springs for bottled water and soft drinks, waterfalls for recreation and aesthetic value, maize varieties old and “new”, medicinal plants from forests and farms, wind power sites, “biofuel” production sites, oil and gas resources, commercial ranches and farms, and timber, among others. The difference in a top down and a rhizomatic map of forest commons illustrates the contrasting visions and potential ecological and social outcomes of competing claims to forests by different communities across scales. Any resolution to the situation rests on value judgments about which types of claims and whose claims are (more) legitimate, and on the scope for simultaneous function of various combinations of commons.

**Keywords:** forest commons

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**Land Use Change and Adaptation to Climate Variability and Change**

As climate change evolves communities whose livelihoods depend upon agriculture activities in forested areas will face the need to adapt to minimize the negative effects or to take advantage of the opportunities brought by climate change. Adaptation can turn counterproductive if people adapt in ways that deteriorate forest conditions, which may reduce their capacity to adapt and increase their vulnerability to subsequent effects of climate change. Through a comparative analysis of 44 Spanish speaking protected areas in Latin America this paper seeks to advance our understanding of the potential effects of adaptation to climate variability and change on land use change. Since adaptation does not occur in a vacuum, the analysis assesses the relative influence of adaptation, socioeconomic, institutional and governance factors on land use change. The results indicate that land use change is significantly correlated to the existence of partnerships among key actors, community land tenure, communities’ democracy, income distribution, and adaptation choices. However, socioeconomic factors, such as population size, and access to infrastructure and technology were not significantly correlated to land use change. These results arouse controversy given the large literature suggesting these socioeconomic factors are key to explain forests conditions. This paper argues that once adaptation, governance and institutional factors are accounted it becomes clear socioeconomic variables are not the leading force behind land use change. Among the factors likely influencing land use change, adaptation choices, such as pooling and economic diversification, hybrid governance through partnerships, and income distribution are the most influential. To unveil these relationships is theoretically and policy relevant. The scarce resources allocated for the protection of forests and livelihoods associated to them in the context of social adaptation can be more effectively used if we know what factors and relatively how much they influence land use change. For this purpose it is critical to develop comparative studies that systematically analyze multiple variables for a large and diverse group of forests.

**Keywords:** land use change, adaptation to climate change, governance, institutions, Protected Areas
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The Collective Rights of Land and Water in Mexico, Public Policy and Social Resistance

In Mexico the collective rights to the land and the water have been recognized from 1917 by the Political Constitution. Exactly to derive from a vindictive movement like which it took place in 1910, it is that the resetting of the structure of possession of the land by means of ejidal grant and the land restitution, which altogether they conform the “social property”, was a central measurement of the new political pact that meant the constitutional decree.

The course followed by this modality of possession of the land has been since then complex, on the one hand, it has constituted an alternative of organization for the production whose operation depends to a great extent on the solidarity of the cooperation platforms which the community, that face policies that prioritize the competition and the market, that act in an inverse sense, feeding back the problems of “low productive efficiency”, abandonment of earth, aging of the holders of rights, etc., that they prevent to observe the qualities that it has in terms of social solidarity, environmental viability and alternative economy.

The problem is of urgent attention mainly because the social property continues regulating 54.1% of the system of land possession in the country, equivalent to 105.9 million hectares, grouping to 5.7 million posesionarios or coproprietors, of which a million 165 thousands correspond to women.

From the analysis of the main modifications to the agrarian legislation of 1992 and the behavior of the social property measured by the ejidales censuses of 1991, 2001 and 2009, this paper has the intention to show that although the certification of title rights, by means of which, the farmers could decide on the total dominion of their earth, persists a majority proportion of earth in collective dominion, that the transaction processes presents associate regional differences to their particular historical-economic contexts. These characteristics must be taken in account for the future public decision making.

Keywords: Ejido, Institutions, governance, water, land

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De-Central Power Generation as Suitable Supplement to Urban Power Distribution Systems? Results from a Consumer Behaviour Analysis in Hyderabad

The power sector in the south Indian State of Andhra Pradesh faces a significant supply deficit as well as restrictions in the national availability of fossil resources and grid capacity. Moreover, electricity supply is of low quality in terms of scheduled and unscheduled power cuts and peak deficit is continuously growing. Planned installments of new generation power plants – mainly coal fired – will be carbon intensive but insufficient to cover power demand with growth rates of 8 to 10% per year.

These developments highlight the importance of energy efficiency improvements to moderate growth in power demand. In the case of Hyderabad, characterized by rapid growth of power demand in the sectors of domestic and industrial customers, renewable energies for power generation have become more important during the last years. Consideration of demand for service quality improvements and stable security of supply requires precise knowledge of individual preferences in terms of marginal values of willingness to pay and the determinants of these values. Until now research on energy efficiency measures rarely consider consumers’ preferences. In order
to increase limited understanding of the willingness to pay (WTP) for improved electricity quality we use a choice experiment to estimate how consumer surplus changes with the introduction of energy efficiency measures and in how far consumers are willing to bear additional costs due to these initiatives.

With a survey of 800 private household customers we estimated the marginal WTP for improvements of power supply quality in terms of reduced scheduled and unscheduled power cuts, for renewable energy and preferences of institutional settings. With the results of this study we discuss how preferences for local applications of efficiency technologies can be realized and what are the pre-conditions on the policy level.

Keywords: energy efficiency, market behavior, Choice Experiment, willingness-to-pay

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Nationalisation, Property Rights and the Dilemmas of Coastal Commons Management in Kerala

Across world resource management is experiencing an approach towards top to down; ie incorporating more communitarian arrangements in policy and decision making. However, in India and Kerala since 1980, has experimented a series of aquarian reforms and policies for marine resource management which is bottom to top approach. The new inland fisheries policy of 2010 is the last nail to the coffin. These reforms tend to disregard the institutional needs of natural resource management in general and common property resource management in particular. Nationalisation of water bodies and the creation of modern forms of private property for fishing combined with exposure of local markets to global requirements led to over riding of resource. This have caused continuous decline in resources and undermined possibilities for collective action in the region. Traditional fishermen here have no legal say even though the gear/access rights were with them all overriding rights rest with the governments. This has lead to degeneration of property rights; insecure livelihoods and resource degradation. This article reviews the incentives and constrain faced by traditional fisherman in the wake of the policy reforms for common property resources management. How the communities bargain and adapt to institutional reforms for livelihood security. As well we envisage alternative directions for policy intervention for resource sustainability.

Keywords: resource management, nationalization, livelihoods

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Political Contestation of Common Pool Resources Under Conditions of Rapid Change: A Legal Pluralist Enquiry

Renewable CPRs still constitute an important source of livelihood in most rural societies. Such resources are embedded in social and geographical space, and their use is vigorously contested by actors operating at different scale levels. Under conditions of rapid contextual change, elites are observed to engage in ‘resource capture’ while local populations often suffer ecological and other forms of marginalization. Resource contestations often take the shape of conflicts about rights, in which parties involved refer to a variety of legitimizing institutions. Thus, law - of various kinds, levels and origins - plays an important role in such events, as an instrument to manipulate and steer events, a refuge against oppression, a means of protest, or an avenue of escape. In this paper we investigate such resource struggles as legal and governance conflicts involving issues of equity, (environmental) justice, identity and other values that may be at stake. We investigate situations of rapid change and harsh political contestation of renewable CPRs from the perspective of legal pluralism.

Keywords: resource contestations, renewable CPRs
Selling Wealth to Buy Poverty: 20 Years of Titling Experiences in Semi-Arid Kenya

Since the mid 1980s longitudinal research has been conducted among Maasai pastoralists concerning the effects of land tenure changes in the Kajiado District of southern Kenya. Supporters of group ranch subdivision, held in private by a group of families, argued that individual titles would raise living standards, increase the chances of procuring loans using the freehold title deed as collateral, minimize the exploitation of the poor by rich households, promote Maasai engagement in agricultural and industrial enterprises, and facilitate better maintenance of existing infrastructure. In general, those opposing subdivision claimed that ultimately the result would be the loss of land to non-Maasai, severe erosion in areas where cultivation started, a loss of Maasai culture, and restrictions on the movement of wildlife and livestock to the detriment of the district’s meat production and tourism. These arguments have been researched using four repeat surveys since 1989 and concluded in 2010. The surveys addressed the pros and cons of the process of individual land titling within the context of De Soto’s claims that formal property rights would increase household and individual incentives to invest and would provide them with better access to credit. Experiences among the Maasai group ranches, however, challenge this bold claim. The formalization of individual land rights has not triggered a widespread run on financial institutions by local farm owners, nor has it benefited the majority economically. Moreover, it has triggered unforeseen developments notably towards the availability of water for the local inhabitants. The Maasai and other small scale immigrant farmers now witness powerful neighbours lowering water tables. Finally, attention will be directed towards the effects for wildlife conservation. Results from a recent survey among the local members of two wildlife sanctuaries show a growing desire to stop these wildlife based eco-tourism conservation efforts.

Keywords: Kenya, Masai pastoralist.
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Contested High Himalayas: State Conservation, Tourism, Pastoralism and Borders

The narrative to define the borderland of Trans Himalayas in which, Changthang becomes a vast ‘empty’ space to many, contradictorily to ‘full’ of mysticism bestowed upon it by the local pastoralist tradition, to others. The presence of Buddhist holy grounds, alive with spiritual energy remains a local way to know the Changthang landscape. Trekkers and backpackers who reach this landscape on an exotic Buddhist trip also do not escape from this mystic cultural experience. Definition of Changthang takes a new shape with state agencies, metropolitan and international conservationists, and the tourism industry come together in an alliance to perceive implacable threats to the ‘unique’ and ‘fragile’ high altitude ecosystem of Changthang, as the landscape comes under a fold of a Wildlife Sanctuary- a haven for Tibetan Gazelle, Black Necked Crane and many more.

Anthropologists, on the other hand, have cautioned that the debated notions about a landscape can also be interpreted as a matter of the multi-vocality of differently positioned actors giving voice to contested representations. According to them, these contestations also constitutes a “globalised political space” in which new forms of political agency are being invented and contested in the context of both established and newly reconfigured structures of domination (Brosius 1999:277). This new discursive regime, which is also visualized to be a rich site of cultural production, is considered to be shaping the relationships between and among nature, nations, movements, individuals, and institutions (Brosius 1999:277).

The present field-based research in Trans Himalayan region of India proposes to spell out the discursive regimes of the changing relations among states, markets, social groups and their bio-physical environment in a microscopic view of Changthang. By side stepping from the binaries of the state and community the proposed cultural political analysis is an attempt to take stock of the complex practices in which the ‘everyday’ contestations and competing claims around Changthang Wildlife Sanctuary take place, as well as of how they are negotiated, deflected or pre-empted, as multiple groups lay claim over the natural resources.

Keywords: pastures, governance

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Dahanu Environmental Justice Movement in Maharashtra, India

Dahanu is one of the last green belts along the country’s rapidly industrialising western coast. Even though Dahanu was legally declared ecologically fragile, political and industrial interests continued to bring forward development projects in Dahanu Taluka. This led to a consistent environmental movement against the development activities proposed by the state and private actors. The Dahanu environmental movement’s target includes all development projects in the area and particularly protest against the Dahanu Thermal Power Plant. The movement, locally considered at the outset as a struggle by the local community against the nature of development policy of the state, eventually evolved into a middle class environmental movement demanding a polluted free and healthy
environment. The judicial system, which had long ignored the environmental concerns in Dahanu, took strong interest in protecting the environment as it became more environmentally sensitive over the years. Intellectuals, environmentalists, social activists, legal groups, and students from outside Dahanu, mostly from Mumbai supported the environmental movement in Dahanu, which soon developed into a larger battle to save the eco-fragile area of Dahanu. How do we explain this course of environmental movement in Dahanu in the last two decades? Is it an isolated struggle or does it reflect some general historical processes that emerged since 1970s in India? Why and how has Dahanu movement come to be reframed as middle class environmental movement in contrast to conventional environmental movement in India? Should such movement be understood as a new form of environmental movement emphasizing quality of life as its priority than livelihood, or should it be considered environmental movement of the educated urban middle class? Why is the goal of achieving quality of life and having a healthy environment, a significant issue for middle class people in Dahanu, insufficient to mobilize the support of other sections of the society?

Keywords: privatization, Participatory Socialism, social movements, Communal Councils, New State Forms

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Greening the ‘Wastelands’: Evolving Discourse on Wastelands and its Impact on Community Rights in India

This paper explores the impact of dominant discourses on governance of the commons. A large proportion of common lands in India are classified as ‘wastelands’. Starting with the results of a community-based wasteland development project (the Tree Growers’ Cooperatives Project, TGCP) for community rights, the paper explores how these and other outcomes of the project have been shaped by the evolving discourse on wastelands. The concept of wastelands originated in India during the colonial period. All lands that were not under cultivation (revenue-yielding lands) were classified as wastelands, over which the state asserted its proprietary rights. Some of these were later reclassified as forests or allotted for cultivation or plantation. Thus, the idea of wastelands originated from the perspective of revenue rather than ecology.

After independence, the discourse changed. The national government was less interested in land revenue but was keen on expanding agriculture to make the country food self-sufficient. During this period, wastelands came to be viewed as empty lands available for expanding agriculture and settling agricultural labourers. With the country achieving food self-sufficiency in the 1970s, the discourse surrounding wastelands changed again. Now degradation of forests and shortages of fuelwood and fodder were seen as the main challenges, leading to a massive afforestation programme in the 1980s to bring 33% of the country under tree cover. Subsequently, the emphasis shifted towards the watershed role of wastelands and a watershed development programme was launched for soil and moisture conservation. More recently, the discourse has moved towards climate change with the emphasis on the carbon sequestration potential of wastelands. This changing national discourse has profoundly impacted tenures and tenure-reform policies related to wastelands. The community rights outcomes of projects such as the TGCP can be properly understood only by examining the larger national discourses within which these projects are embedded.

Keywords: wastelands, afforestation, Tree Growers’ Cooperatives, India, discourse
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Administrative Centralization Threatens Commons-Owning Municipal Sub-Units: Property Wards (Zaisanku) in Toyota City, Japan

In Japan, when the Meiji government encountered great resistance to its drive to convert traditional commons into national forest and to extinguish village commons by amalgamating villages into larger municipal units, the government consented to allow communities to continue to own their commons, particularly forests and reservoirs, as new legal entities called “property wards” or Zaisanku. In this paper, we describe the characteristics of this system and discuss its current problems and its potential for resource management, using Toyota City in Aichi prefecture as a case study.

In Japan, local communities and village sections (such as Buraku or Ōaza) below the level of municipalities cannot in principle own land. When local authority borders are altered through processes such as amalgamation of municipalities (Gappei), existing community units in the municipality can be granted corporate status as property wards, which are recognized as juridical persons that are then allowed to own their commons. The property ward system is regulated under the Local Autonomy Law and falls under the control of the government bureaucracy. Even though the earlier management structure is respected, its operation can be rejected or negated by the bureaucracy.

Before 2004, the Inabu ward of Toyota city, Aichi prefecture was an independent town with 13 property wards. Under the Inabu town authorities, the customs of each ward were respected and each ward was managed autonomously. However, after Inabu merged with Toyota City in 2005, the city authorities placed broad restrictions on the use of revenues, threatening the continuity of autonomous management of the commons by the property wards. This example suggests that city bureaucrats have not recognized the productive possibilities of continued management of resources held by property wards as commons.

Keywords: Zaisanku (Property ward), Local Autonomy Law of Japan, municipality, bureaucracy, legal merger, amalgamation, Toyota City

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Fragmentation of Property Rights and Externalities: A comparative Study of Small Tank Systems of Sri Lanka and Tamilnadu, India

Of the various types of irrigation system in the Dry Zone of Sri Lanka and South India small tank systems are the least well-endowed in terms of the quantity and reliability of water. Yet, these systems have existed for centuries and continue to support a sizeable proportion of the population. The Tank systems generally provide or regulate water for multiple uses: irrigation, domestic needs, livestock, inland fishery and sub-surface moisture for upland crops. The multiple use of resources was facilitated by moderating the strategic behavior of agents in a semi-commons setting where the tank and water conveyance structures were held as common property and a system of private property rights exercised over scattered parcels of land in the command area. The resilience the system was further strengthened by operating the system within the framework of a moral economy.

In recent decades the economic significance of minor tanks is on the wane. Important performance indicators such as area irrigated, cropping intensities, productivity levels, efficiency in water use are below potential..
Farmers are increasingly compelled to rely on off farm employment and rainfed cultivation for their subsistence needs.

Underlying many of the problems is a set of circumstances creating a vicious cycle which starts with pollution pressure, sub-division of land, fragmentation of in property rights regimes from semi-commons to private property, degradation of the catchment area, deterioration of the water conveyance systems and the proliferation of groundwater development resulting in differential access to water and consequently significant socio-economic differentiation in a traditionally egalitarian society and weakening the moral economy.

This paper is an attempt to grasp the complex dynamics that characterize the transitional nature of agrarian systems and the fragmentation of property rights in tanks systems in Sri Lanka and Tamilnadu due to changes in social, economic, political, cultural processes and technological innovations. This paper identifies potential vulnerable areas in the management of commons property resources in the villages especially in the context of less reliance on local resources; change in the individual preferences; enhanced economic, social, and geographical mobility of people; the high transaction costs of social arrangements to manage local resources; gradual loss of common interests and group identity, and greater integration to the market. The paper attempts to examine the shape and the role of the institutions managing the small tank systems under such changing circumstance and propose institutional arrangements for the effective governance of the tank systems.

Keywords: Small tanks, property rights, semi-commons, water, land fragmentation, institutions, governance

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Changing Resource Access and its Impact on Pastureland Management in Mongolia

This is a study of natural resource management and mobile pastoralism in Mongolia. Since 1990, Mongolia has shifted from a centrally planned economy to a market economy. This policy transition has led to dramatic modifications in environmental management and practices in mobile pastoralism. These changes have resulted in the decline of pastoral institutions and traditional land use practices, leading to livestock overgrazing, environmental degradation, and increasing conflict over natural resources among herders. To date, there has been limited research on how these reforms have altered strategies used by herder groups to access key resources. This PhD research proposes to examine how and why changes in resource access mechanisms affects pastoral land management. In particular, this case study will concentrate on the Kherlen Bayan-Ulaan area, and seek to identify conditions and factors that influence the formulation of user strategies as well as to understand the diversification of strategies by different categories of users. Understanding resource access and its impacts on resource management is a necessary step if pastoral policy development is to be improved and pastoral institutions strengthened. Furthermore, this study will contribute to pastoral land management policy in Mongolia and to the theory of access and common pool resource management literature in general.

Keywords: grazing land, mobile pastoralism, resource access mechanisms

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Harnessing Complexity - European Approaches To Governing Coastal Commons

This macro-oriented paper analyses the troubled policy issue of Integrated Coastal Zone Management (ICZM) in Europe. Despite substantial efforts from the European Union and from individual European countries, workable institutions for sustainable governance of coastal common pool resources are not in place. From a feeble start
with the EU Commission Demonstration Programme in 1996, a series of attempts have through 15 years been made at formulating coherent coastal policies and designing appropriate institutional arrangements: The Water Framework directive, the EU Integrated Maritime Policy, The Maritime Spatial Planning Strategy, the new Common Fisheries Policy etc. None of these have really managed to harness the complexity of the coastal systems and despite strong political desires no forceful and binding coastal zone directive has so far been enacted. During this period, the coastal resources have acquired an increasingly more “common pool” character, not only in the form of coastal leisure areas and spawning areas for keystone species, but also in the form of healthy coastal ecosystems fit for aquaculture production. The paper takes as its point of departure the causes of the continued degradation and mismanagement of European coasts identified already in the 1996 Demonstration Programme: insufficient knowledge about ecological, social and economic interactions, insufficient sectoral integration and insufficient involvement of relevant stakeholders. These are analysed as persistent collective choice dilemmas that have been addressed in a number of large research projects like ENCORA, LOICZ, SPICOSA, etc. The transformation of this complex scientific knowledge to comprehensive policies and workable institutions now seems to remain a major obstacle to sustainable governance of European coastal areas. The paper analyses the underlying causes for this and explores possible avenues to remedy this science-policy gap by utilizing recent advances in institutional analysis for multi-complex action situations.

Keywords: institutions, governance, commons, coasts

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The Challenge of Ownership in the Communal Management of Natural Resources by the Local Political Decision Makers and that of Taking Gender Into Account: The Case of Protected Areas in Senegal

To cope with ecological, socio-economic and demographical changes, the rural populations in Senegal have tried to circumvent the degradation of their environment by promoting some local adaptation strategies. Indeed, in several areas, the populations have taken the initiative of closing some Inter-village Forestry and Pastoral Land Ranges to exploitation, so as to protect, conserve and use them to cater to their various needs. These local management measures are not, in most cases taken into account by the rural council, which is the local institution mandated for the management of the natural resources by virtue of Decree No. 96-1134 as of December 27th 1996 about the implementation of the act of law relative to the transfer of competences to the provinces, communes and rural communities as concerns the environment and natural resource management. Most of the local representatives are more concerned with the other competences than with natural resource management. Yet, the populations they represent mainly earn their livelihood using these natural resources. This work emphasizes the populations’ difficulties to succeed the management and to profit properly from the favorable socio-economic consequences of these protected land ranges in the absence of any external support. On account of the socio-economic, organizational, and institutional evaluation as well as the gender-based studies with or without any external support, we recommend sustainable local mechanisms, of support to the populations with communal local initiatives, of empowerment of the local political decision makers in charge of the environment committee, of dialogue between local stakeholders and of creativity in mobilizing the required financial resources.

Keywords: communal management, local political decision makers, gender, Protected Area, Senegal.
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**Cultural Commons and Cultural Communities**

“Cultural Commons” refer to cultures located in time and space – either physical or virtual - and shared and expressed by a socially cohesive community. A Cultural Common is a system of intellectual resources available on a given geographical or virtual area and could be thought as the evolution of the more traditional concept of cultural district or cultural cluster.

Ideas, creativity and styles of a community, traditional knowledge, credence, rites and customs, shared and participated productive techniques define a Cultural Commons. Some examples are: the image of a city, a local language, the brand of Barolo wine, an artistic movement, user generated contents on the web, traditional knowledge held by indigenous communities, and the creativity expressed by designers’ and artist’s communities.

In the first part the paper will propose a definition of what Cultural Commons are. In the second part Cultural Commons different evolutionary paths will be discussed highlighting the different effects that these different paths may have on the “performance”/“success” of the individuals agents who are part of the community. Finally two examples of Cultural Commons will be presented - the Milano design community and the artistic movement of the Futurism – comparing and discussing their evolution and their “performance”.

*Keywords: culture, communities, artists*

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**Behind New Barrier Walls: Private Contribution for Embankment Conservation in Indian Sundarbans**

The Indian Sundarbans, lying south of Dampier-Hodges line, a habitat of 4.1 million people is prone to natural hazards like cyclones and flood. In recent times the incidence of cyclone Aila has inflicted enormous damage in this area in terms of loss of lives and assets. Till date flood protection in Sundarbans against tidal surges had been ensured by 3500 km long mud embankments erected since the colonial period. In the aftermath of Aila policy dialogues are centered on structural measures to strengthen the embankments but institutional reforms to ensure proper maintenance of the embankments has not received much attention. Private contribution in embankment maintenance would largely depend on the magnitude of avoided expected loss vis-à-vis the effort cost of such expenditures. In Sundarbans, the incentive for such contributions are largely shaped by the type of land use in the riparian areas as well as the institutional structure through which such risk premium is ensured. However, large variation in contribution towards embankment maintenance is observable in stretches of Sundarbans resulting in differential damage potential from flood events. By analyzing the existing community institutions engaged in dyke maintenance in Sundarbans, this paper attempts to explain the possibility of collective maintenance in coastal public goods like river embankments. This study identifies the factors that determine private expenditures towards embankment maintenance in Sundarbans and the institutional arrangements that ensures it by conducting a household survey in selected villages of two blocks of Indian Sundarbans, Sandeshkhali II and Basanti that has been affected in the recent catastrophe.

*Keywords: fishery, coastal, mangroves, natural disasters, institutions, governance, endangered species, marine turtles, conservation fund, willingness to pay, contingent valuation*
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Commons for Internally Displaced Persons (IDPs): Excluded from Policy

Almost half of the displaced persons in India are tribals, most of whom are located in the natural resource-rich dryland and rain-fed areas of central Indian tribal belt and in North-Eastern region. Apart from loosing private properties, IDPs also lose access to common property resources. Commons are prime providers of food, especially for fodder and fuel wood in these areas (Jodha, 1986; NSSO, 1999). Small and marginal farmers and agricultural laborers are more dependent upon commons for their redistributive role (Beck, 2001). Common also add to social stickiness of communities leading to stronger social ties among them.

Security of livelihoods is an important guiding principle for rehabilitation policies. The assessment of impact of displacement as stated in the rehabilitation bill (2007) includes assessment of Commons from livelihood perspective. However, the provisions for resettlement, in the bill, do not accommodate Commons as a part of compensation. In absence of any specific policy, the case for conflict-induced IDPs is even worse. Moreover, as the institutions around commons are locally embedded, they cannot be created in absence of an enabling policy framework for communities. Similarly, the access to commons of indigenous population as against IDPs is also an ambiguous area. National policies on most of the natural resources deal with the state and private control only, augmenting to the neglect of significance of Commons in all other development policies, including one for IDPs.

The IFAD framework for sustainable livelihood examines the livelihood of poor by linking different elements like assets, vulnerabilities, policies etc., within a context. It examines the linkages between ‘service delivery agencies’ like institutional arrangement for commons and ‘enabling agencies’ like policy-making bodies, on livelihoods. IFAD framework can bring out the criticality of commons for IDPs. Such an analysis of current situations and legal-policy frameworks for resettlement in select states will help to bring out the lacunae in given agro-ecological and social contexts. This study will explore the possibility of developing enabling policy guidelines that can facilitate the access to commons for IDPs.

Keywords: Exclusions, livelihood, IDPs, tribals, policy

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Land Rights, Land Reform and Community-Based Natural Resource Management (CBNRM): Insights from Southern Africa

This paper focuses on the intersection of resource and land rights in lieu of recent land reform and distribution processes impacts on CBNRM in the southern Africa region. The study was based on the collation and review of relevant published and unpublished secondary literature on land rights, CBNRM and land reform. The study largely focused on South Africa, Namibia, Botswana and Zimbabwe given their comparable experiences of land dispossession and reform but drawing from different historical trajectories of Malawi, Mozambique and Zambia. The main body of the paper situates each of the seven countries under review, what the relationship between land reform and resources rights is, and the associated implications for CBNRM.

The main insights summarised in the paper are highlighted. First, the role of land and other resource rights is
central to the development of many communities and unequal distribution of resource rights has often precipitated conflicts as shown in Zimbabwe (over land, wildlife and forest resources), South Africa (over land, fisheries, medicinal and cosmetic plants, and minerals) and Botswana. Among other factors, equitable resource rights therefore play a role in building social cohesion, stability and peaceful co-existence amongst communities and with the State and other stakeholders. Secondly, in order to secure and maintain the security of community resource rights, there is need for comprehensive and inclusive tenure reforms, to include customary land rights distorted by colonial and post-colonial State interventions. Thirdly, the evolution of CBNRM policy has been issue-based, largely premised on wildlife, and proved effective in the short-term. The issue-based approach has its limitations in that it neglects the interaction between different resource rights and how they are particularly affected by complex land tenure arrangements and their distortion over time. Therefore an integrated CBNRM approach that takes cognizance of the vexed issue of land tenure is called for.

Keywords: land rights, South Africa

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The Gadfly as a Harbinger: Exploring Gandhi’s Hind Swaraj and Oceanic Circles

The Hind Swaraj by Gandhi, written at the turn of the 20th century, evoked strong reactions from India and elsewhere — for as well as against. The tract’s simplicity made it difficult for some to take it seriously, while for others its virtue was in its successfully breaking up contentious issues into basics. Like timber, Hind Swaraj grew in value with time, revealing, through the eventual Gandhian concept of Oceanic Circles, the transformation of a gadfly (as per some) into a harbinger.

Whereas Gandhi’s views in Hind Swaraj were making rounds over the years, his concept of Oceanic Circles remains inadequately explored. It is a worldview for the future and can be equally seen as a fair construct of the past, also. While autarky as state policy is frowned by modern international trade theorists, the concept of Oceanic Circles is based on the bedrock of decisions of populace, made out of volition. These volitions ought to be of strong civil societies in some sense, that are unwilling to be pushed into more and more international trade, without consideration either to the appropriate weight that needs to be accorded to the risks of international trade, or to the potential human rights violations in distant lands as also possible environmental degradation there - these are to be attributed to trade at a first or second remove.

The paper focuses on how the Oceanic Circles vision can contain knowledge derived from Science and Technology to tilt in favour of common good, through commitment to the commons and through countering forces that push nations into more trade on the questionable view that that is the way for maximizing welfare.

Keywords: Hind Swaraj, oceanic circles

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Interactions between the Implantation of Forest Rights Act 2006 and the Participatory Forest Management Programmes: A Study from the Western Ghats of India

The government of India realising the importance of recognising the tribal communities and other forest dwellers’ individual rights over the land they occupy and their community rights over non-timber forest products, enacted the Forest Rights Acts in 2006, aimed at restoring the traditional rights of forest dwellers and maintaining ecological balance. The present study found the implementation process of the Act to be slow due to lack of co-ordination.
between government departments, because, each department tries to take a “standing” that is based on its original mandate and objectives and ‘set of rules’ in a given ‘action arena’. Community rights and conservation duty provisions seem to be completely ignored in the process of Forest Rights Act implementation. No serious attempts were found in solving implementation issues related to critical wildlife habitats. Using survey data from 311 households of 21 tribal hamlets of the Western Ghats regions of Kerala State in India, the paper examines the determinants of ‘co-ordination failure’ at different levels of the implementation of Forest Rights Acts 2006 and its interactions with the participatory forest management programmes. In this context, the study also highlights the need and reasons for integrating the implementation of community rights and conservations duty provisions of the Act with the ongoing participatory forest management programmes to secure the livelihood of tribal communities and other forest dwellers.

Keywords: Forest Rights, action arena, coordination failure, Western Ghats, India

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Indigenous Arts and Creative Commons

Since time immemorial, humans have given vent to their creativity in the arts and these have stood the test of time. Be it music or dance, the birthmark of a race has been in its arts. Unfortunately, the opening up of global corridors has done more harm by erasing the native arts, leading to the slow death of scores of arts around the world. The death of the last surviving speaker of the Bo language of India’s Andaman Islands is testimony to this fact, since this language did not have a written record.

The birth of open source forums like Creative Commons, however, offers hope. By using the licenses offered by such forums, several disciplines of study like anthropology, linguistics, history, psychology, music and the arts, stand to gain.

This paper tends to study at two different perspectives – one, how different forms of traditional art forms were used in the pursuit of freedom and liberation as a collective form of expression around the world; two, how open source forums can be used to record these in the pursuit of higher principles of education. More specifically, this paper will explore how these indigenous artistic forms stand the risk of being lost thanks to the entry of mainstream pop culture. This paper also seeks to address how open source forums can provide due recognition to these people and help in restoring dignity to their art forms and sustain the travails of the future.

Keywords: traditional art forms, indigenous peoples, liberation, Creative Commons, dignity

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Facilitating Community Control and Governance of Forest Resources in Himachal Pradesh

The forests of Himachal Pradesh which form 67% of the total geographical area, have been long facing neglect and degradation due to the historical struggle for the control of resources by the state government and those who use it everyday- the local people. The only hope for these forests, on which depend the lives of most of the rural poor of the state, is to bridge the gap between the two stakeholders and create systems that would generate the necessary trust. The Paper shall deal with the experiences and challenges faced by Lok Vigyan Kendra in it ongoing initiative on facilitating participatory governance of forest resources in the Himalayan state of Himachal Pradesh. The objectives of the 4 year old initiatives are:
To create precedence of community control and democratic management of forest resources within 12 villages of Himachal Pradesh through:

a) Formation of legally recognized village level institutions for management of forest resources under the provisions of HP Participatory Forest Management Rules, 2001

b) Capacity building of community members and Forest Department staff on best practices on participatory forest management

c) Facilitating the formulation of management microplans and functional mechanisms for village level institutions

d) Capacity building for effective implementation of the microplans and evaluation of performance of village level institutions

e) Ensuring mainstreaming and replication of the project interventions through advocacy with the decision makers within the state forest department

f) Exploring best mechanisms for management of common resources through combination of enabling provisions of state laws as well as those of Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of) Forest Rights Act, 2006

Keywords: forest resources, institutions, governance, mountains, advocacy

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Climate Change and Adaptation of Local Institutions in Coastal Areas of Costa Rica

The turtle population of Costa Rica is important mostly from a biodiversity perspective (indicator of the health of the sea) and from its economic importance due to regulated turtle egg harvesting and tourism. Costa Rica has innovated and partially succeeded with different institutional arrangements, including community based management, to protect turtles. However, external shocks such as climate change (sea level and sand temperature rise) and a growing tourism industry are threats to the sustainability of these local institutions. This paper analyses the capacity of local coastal communities to cope with new challenges that might affect their livelihoods associated with turtles. We emphasized on the role of local institutions to mitigate the negative impact of climate change on local communities.

Two of the principal turtle nesting sites in Costa Rica and Central America are studied in depth in this paper. Both differ in terms of turtle species, turtle use (consumptive vs non-consumptive), climate scenarios (Pacific vs Atlantic) and institutional arrangements, among others. Using a qualitative approach and a framework for analyzing social ecological systems, this paper studies how different configurations of the natural resource base, the socioeconomic attributes of local actors as well as the governance system generate incentives that affect the patterns of interactions and outcomes in these two settings.

The main findings suggest that differences of the capacity of local communities to adapt their local institutions to new threats depend on the predictability of turtle reproduction and mobilization dynamics, the enforceability of locally devised rules, the homogeneity of local actors in terms of economic interests and future expectations, and the definition of property rights. The results also demonstrate the need to improve the coordination across scales of governance in order to minimize the potential negative impacts of climate change on vulnerable groups of society.

Keywords: Socio Ecological Systems Framework, local governance, turtles, marine resource
The Social and Political Context of Forest Fires: A Case Study in Andhra Pradesh, South India

The dependence of Indian village households on ecosystem services (ES) they derive from forest with the help of forest fires is the focus of this paper.

We studied 557 households in 14 villages and conducted a more intensive survey with focus group discussions and key person interviews in three villages in the northern part of the Sadhukonda Reserve Forest, Andhra Pradesh. Local perceptions on the importance of fire dependent ES derived from the forest, their importance for people’s livelihoods, marketing strategies, and the occurrence of forest fires, have been surveyed.

We found that out of 14 villages 10 where highly dependent on fire driven ES with their domestic use and three where equally dependent on these ES for their income. The local markets for forest products are accessible for all sellers and buyers without any restriction. The prices for these products are regulated by supply and demand and are not set from outside.

Amongst the fire driven ES, grasses and fuel wood where the most often named. The main causes to set fire to the forest are according to respondents’ opinion, hunting, herdsman, and carelessness.

Despite the high dependency of people’s livelihoods on forest fires there is no proper fire management plan in place nor is fire integrated in the actual forest management plans.

It is concluded that a fire off scenario would have a significant impact on local livelihoods and that fire policies and management plans have to be carefully revised taking this in consideration.

Keywords: forest fires, ecosystem services, livelihoods, local perception, Andhra Pradesh

Elite Capture in Post-socialist Local Commons - the Case of Albania

Local self-governance based on institutions for collective action can help overcome social dilemmas in the management of complex Common Pool Resources, such as fish. A common path towards local self-governance is decentralization, and within this context, a transfer of property rights from central government to local resource users. Yet, despite the well-documented successes of many decentralization policies in support of local common property regimes, the phenomenon of elite capture remains a risk. This paper investigates elite capture in Albania’s Lake Ohrid fishing region. Our empirical findings draw onto an in-depth case study on local consequences of 2002’s decentralization efforts by the Albanian fishery administration. We show how ‘blueprint’ approaches, top-down implementation, and weak institutions led to further empowerment of privileged locals. Our findings further indicate how those privileged locals realize significant personal gains at the expense of distributional inequity within the community. Specifically original insights are derived from our analysis of implications from the post-socialist context, which we show to facilitate capture because of a common susceptibility for destructive leadership and a lack of confidence in collective action. We believe that to understand those contextual peculiarities - and to act upon this understanding- represents a pivotal prerequisite to the functional and equitable governance of common property regimes in any transitional society.

Keywords: local self-governance, decentralization, elite capture, fishery, Case-study research, Albania
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**Customary Rights and Societal Stakes of Jatropha Expansion in Ghana**

This paper explores customary rights and societal stakes associated with the expansion of large-scale investments in Jatropha curcas as a biofuel feedstock in the Brong Ahafo region of Ghana. Drawing on the literature, national legislation and primary data collected around a large-scale jatropha plantation, the paper analyzes how jatropha expansion has shaped customary rights to land and forest resources as well as the distribution of costs and benefits among diverse groups of affected stakeholders. Drawing on information from investment promotion authorities, the literature, satellite images and household surveys with employees, we analyze the societal stakes associated with large-scale land allocation to biofuel investors – including the “public good” dimensions of customary land (revenue and job creation, ecosystem goods and services).

*Keywords: biofuels, forests, agriculture*

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**Help or Hindrance? Impacts of Carbon Funding on Participation by the Poor in Forest Development Activities**

Carbon offsets are a market mechanism designed primarily to reduce or compensate for greenhouse gas emissions. However, within the forest sector, carbon offset projects are gaining in popularity because they are also considered to offer opportunities for contributing to poverty reduction. Drawing on a literature review we outline the types of projects that are associated with greater opportunities for the rural poor and examine the growing trend in forest-based carbon projects within both the regulated (Clean Development Mechanism) market and the unregulated voluntary markets. Based on three case studies in Uganda, including one agroforestry project and two cases of collaborative forest management, we then examine whether carbon funding has promoted or hindered participation in tree-planting and management activities, and how the institutional design of the projects has influenced poverty alleviation outcomes. We discuss possible impacts on poverty alleviation in terms of an expansion of opportunities, reduced vulnerability and increased empowerment. The case studies suggest that risks to the wider community, particularly for large-scale forestry projects, may outweigh the relatively small benefits to the participants. The research highlights four ways in which carbon funding can affect the poverty-alleviating outcomes of forest-based projects: (i) through the carbon income itself (including issues of price setting, scheduling of payments, targeting of individuals versus groups); (ii) additionality, leakage and permanence requirements (which can affect site selection, participation criteria and the need to protect tree stocks against risk); (iii) monitoring and assessment processes (associated with high transaction costs but potentially better extension services); and (iv) local and national policy environment (particularly the extent to which carbon-related policies are coordinated with land and natural resource management policies). We conclude with some lesson learning for wider debates relating to carbon offset projects in the forest commons.

*Keywords: Carbon offsets, institutions, governance, collaborative forest management, agroforestry*
Poverty and Food Security in Indian Forests - How to Tackle both with what the Commons Provide?

Common property resources are very much used by almost all of India’s tribal forest dwelling communities nowadays. In a research survey of local knowledge of forest and the use of natural resources among some of the Orissan tribes throughout the 1990s it was found that commons play a crucial role in the supply of their daily life needs.

Food security was found to be best achieved among three selected tribes of Orissa, the Dongaria Kondh, the Kuttia Kondh and the Juang by applying their traditional indigenous knowledge. Among forest dwellers, indigenous knowledge of forests represents societal resources as a culturally inherent form of collective action in its natural surroundings. Social life is characterised by securing the survival of the group or community through social activities maintaining the livelihood patterns of one’s culture, by religious beliefs and personal experiences of the environment, as well as collective knowledge that is passed down over generations. Social life in a forested area depends on the potential to use resources in order to maintain local identity.

Methods used in the research survey were structured observation, group interviews, focus interviews, narrative interviews and structured questionnaires used in face-to-face interviews. The results of this research venture show that common property resources are basic means to sustain the subsistence economy of the considered tribes that – although being apparently poor for outsiders - can be taken as a basic form of sustainability in a transitional phase of being integrated into a national mainstream policy of resource use.

Keywords: forest dwelling tribes, societal resources, indigenous knowledge, Orissa

The Road of Commons Research in Brazil: Advances, Gaps and Barriers

Commons-related studies in Brazil have been carried out at least since the late 1980s. In the past 10 years or so, the number of scholars active in this area has increased considerably. As of March 2010, we identified 49 PhD level scholars working with or publishing on the commons, according to the site of Plataforma Lattes (http://lattes.cnpq.br/).

This is the Ministry of Science and Technology´s official database of all scholars, their publications and research areas. This paper addresses the advances, gaps and barriers to commons research in Brazil, based on a short questionnaire sent to all scholars identified in Plataforma Lattes. Of the 49 academics we initially indentified, about 30% received their PhD degrees abroad, mainly from the USA. About 60% of these 49 scholars supervise Master students and 30% supervise PhD students, but not necessarily in commons or commons-related areas. The most important resource foci were fisheries (41%), watershed management (31%), protected areas (26%), and forestry (12%). We map the opportunities for training of new scholars in commons research.

Keywords: Brazil, commons, research, scholarship
Diversion of Land for Mining Activities

Minerals are archetypical non-renewable resource. These resources are generally out of purview of CPR studies except for a couple of studies of oil field extraction. Probably because of this lack of interest CPR studies have not made much foray into one of the important commons problem created by mining activities, that of diversion of land. There are stray case studies, but not a holistic discussion. Mining includes a wide range of variations: underground, open cast, and open access land mining, small and large scale activities. Then there are land degradation in vicinity, slow regeneration, and the indigenous peoples’ issues who account for a large section of the affected people. This paper will summarize the issues for varieties of mining and associated activities from the perspective of land diversion from primary uses and environmental degradation. Thereafter it will study how CPR approach can be used or are being used to overcome some of these problems. Finally, it will study whether the sustainable use of non-renewable resource using CPR paradigm takes care of some of these problems.

The information base for the study is Indian situation. However, the paper would refer to some other cases from the rest of the world for explanations and exemplary purposes.

Keywords: land, mining, governance


Mount Elgon ecosystem has experienced a dramatic increase in landslides incidences in the last decade with often catastrophic consequences on settlers who dwell on its steep slopes. Many scientists argue that the problem has been brought by severe environmental degradation of it commons, coupled with the changing rainfall pattern in the region. The problem has reached human-environmental crisis level with over 350 people buried alive in just one incident in March, 2010. The issue that affects over a million people, is of big concern to Uganda government, which is now planning to relocate thousands of people to safer places. The guiding question of the paper is to what extent has landslides affected the co-existence of the people and their environment on Mount Elgon. The overriding objective is to determine the possible causes, effects and measures put in place to deal with the problem. We analyze the environmental, socio-economic, livelihood and management indicators to determine the above-mentioned variables. We take a snap-shot at enabling legislations being used to guide the process of managing the problem and also examine and compare similar situations happening elsewhere in the world with the view utilizing lessons learnt.

Keywords: commons, co-existence, degradation, landslides and vulnerability.
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Is Decentralization Enough? Lessons from Mexico’s National Payments for Ecosystem Services Program for the Targeting of REDD+ Initiatives

International policy makers have begun to promote Reduced Emissions from Deforestation and Degradation (REDD) initiatives for their potential to accomplish the triple win of climate change mitigation, poverty alleviation, and biodiversity conservation, a concept referred to as “REDD+”. A central component of this policy narrative is that decentralization of control to the communities who live in or around forests will lead to improved management of both carbon stocks and biodiversity resources and that the financial incentives provided through REDD initiatives will improve local livelihoods. My research challenges the somewhat simplistic calculations of this policy equation by examining the relationship between local-level institutional dynamics and the social and environmental impacts of the national payments for ecosystem services program in Mexico. The program, one of only four such national-scale initiatives in the world, pays rural communities to conserve forest commons and has been targeted by international policy makers as a model for the development of REDD initiatives. Based on case studies in thirty-two communities participating in the national program, I combine GIS analysis of deforestation rates with an examination of the interactions between local-level institutional dynamics and the impacts of the program on socioeconomic well-being and ecosystem management. I conclude that REDD+ initiatives will be most effective at achieving both additionality of climate change mitigation positive social impacts if targeted to communities: 1) with strong pre-existing local institutions; 2) whose primary limitations to enforcement of rules and adequate forest management are financial; and 3) who have other economic incentives to conserve the forest commons.

Keywords: decentralization, REDD, payments for ecosystem services, ecosystem management, institutional dynamics

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Changing Pattern of Agricultural Productivity in Brahmaputra Valley, Assam, India

Introduction of green revolution technology has many variants for agricultural land use intensification and increasing agricultural production as well. The authors have tried to probe into the changing pattern of agricultural productivity which is not only result of agro-ecological conditions of land but also of the use of improved seed-fertilizer technology. Such scenario is a recently emerging phenomenon in the Brahmaputra valley.

Comparing inter- and intra- zone differences of agricultural productivity, a profile of agricultural productivity is examined with a focus on isolating the effects of seed-fertilizer technology. It is found that the use of High Yielding Varieties has significant effects on enhancement of agricultural productivity in the lower parts and use of fertilizer in the central as well as upper parts of the Brahmaputra valley. As a result, two really differentiated scenarios of the change of agricultural productivity have been observed. First, the scenario of per humid weather conditions with floods and natural calamities prevailing in the upper northern and lower parts of the valley restricts productivity level and also creates variations in its areal pattern. And the second one is related to the scenario of sub-humid climate of fertile alluvial soils (Morigaon - Dibrugarh area of upper southern part of the valley) in which the processes of diffusion of seed-fertilizer technology are operated through the market centers and intensification of rural road network. These conditions of agricultural practices increase productivity fast with diversifying its areal patterns. Consequently, the obliterated pattern of productivity change is observed in the valley.

Keywords: seed fertilizer technology, diversified pattern, point concentrated effect, line-aligned features.
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Contribution of Leasehold Forestry in Reducing Poverty among Participating Households in Nepal

The paper analyzes the role of leasehold forestry (LHF), an innovative forest management regime being experimented in the hills of Nepal with the objective of reducing poverty among participating households. LHF is degraded public forest lands granted on a 40 years lease to identified poor households with the purpose of forest regeneration and raising forest incomes. Using micro-data collected from some 508 LHF households and 61 control households, the contribution of the LHF in reducing various dimensions of poverty and inequality has been examined.

The findings reveal that LHF biomass contributed around 5 percent of household income. Though the non-LHF households with similar poverty and resource characteristics receive about one fourth less biomass flow income annually, the poverty incidence, poverty gap and severity among these two categories is not significantly different. However, among LHF households, LHF income contributed to reduce poverty incidence, poverty gap and severity by around 10, 17 and 22 percent respectively. Within the LHF households, there exists considerable inequality in the biomass income from LHF and the LHF benefit sharing was not found to be pro-poor. The study concludes that allocating land alone is not sufficient to ensure utilization and benefit flow for resource poor, socio-economically weak people as high transaction cost and lack of strong economic incentives discourage defending property right and utilization of leased forest land.

Keywords: Leasehold Forestry, non-market valuation, poverty impact, inequality

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Patterns, Utilization And Management Of Common Land - A Case Study Of District Una, Himachal Pradesh, India.

Common land or as commonly known as Shamlat Land in North West India comprising states of Punjab, Haryana and Himachal Pradesh, is an important common property resource. This is the land which is accessible to and jointly used by people living in a particular geographical location such as villages or cluster of villages. It includes community pastures, community forests, common dumping grounds, wastelands, etc. In developing countries like India, this type of land is a significant component of the land resource base of rural communities. Common land is most often a finite but replenishable resource, therefore it requires responsible use in order to remain available.

The study of patterns, utilization and management of common land is vital. It can provide interesting insights to policy planners, administrators and community developers. This paper covers a district of Himachal Pradesh, India. It examines the patterns, utilization and management of common land in the district. Data used in the paper is collected personally from revenue records. However, the data is also supported by field work conducted in selected villages of the district.

Keywords: common land, Himachal Pradesh
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**System Dynamics Modeling in Rajasthan: NGO Perspective**

In December 2009, an international group of social scientists, forest ecology experts, energy engineers, and system dynamics modelers gathered on the outskirts of the Kumbhalgarh Wildlife Sanctuary to scrutinize localized, progressive deforestation and the linkages to livelihoods of populations that depend on forest products extracted from within the federal delineations. This study, conducted for the purpose of designing sustainable conservation policy, utilized participatory rural appraisal methods and expert testament to tap into local knowledge and account for discrete behavioral aspects. A heavy reliance on community participation as well as group model building afforded the construction of a system dynamics model that helps to quantify and map the economic decisions of village households located within and around the sanctuary and the resulting ecological impacts on the sanctuary. The resulting research model can be utilized to further study the depletion of this natural resource due to human activity, and after subsequent model analysis and field testing, to suggest potential strategic points of intervention and conservation policy. This paper identifies what worked, what didn't, and how to improve future efforts from the NGO perspective.

*Keywords: system dynamics; computer simulation; participatory methods; capacity building*

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**How Can Societies Create Common Access to Nature? The Roots and Development Process of the Bruce Trail, a Canadian Case Study**

The relationship between nature and human beings is a fundamental theme of commons studies. Every economic activity takes place because of ecological support. However, the relation between human beings and nature has become invisible and indirect for us. Generally, it is supposed that the more invisible and indirect the relation, the less attention we pay to the natural environment. In this sense, it is very important that society allow the right of common access to nature so that people can appreciate and enjoy the blessings of nature.

From ancient times, access to nature was open to the public or local communities in many countries. However, industrialization, urbanization, and urban sprawl have threatened the right of common access to nature. Some regions - for example, Scandinavian countries - have sustained this right throughout industrialization and globalization. On the other hand, in Japan, a district court denied the right of common access to the shore in 1978. Why do some regions succeed in maintaining the right of common access to nature, while some regions fail? How can we keep, reintroduce, create or transplant this right?

This paper explores these questions by clarifying the roots and development process of the Bruce Trail - 800km of main trail and over 290km of associated side trails from Niagara to Tobermory along the Niagara Escarpment - which has been built and maintained by the volunteer-based organization, the Bruce Trail Conservancy. It is interesting how they have succeeded in creating such a long trail in a country that has a strong private land ownership tradition. My conclusion is that they have transplanted ideas from other countries, in particular Norway, while at the same time adjusting these ideas to the Canadian situation, as they have built a unique open-access trail system.

*Keywords: common access, the Bruce Trail, property right, case Studies, Canada*
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There is a growing trend towards decentralization of forest management in the developing nations of South and South East Asia. Over the past two or three decades, Nepal has taken a lead in initiating innovative policies of community-based forest management. Even in the changing scenario, Nepal has been involved with a variety of forest management practices, beginning with centralized forest management system and moving toward semi-decentralized forest management system as leasehold forestry to decentralized community forestry management system. Traditionally, centralized government control forests have been regarded as the appropriate solutions to control the overexploitation of resources. Limited ascribing use and access right to leasehold forestry user group is a forestry approach to address ecological restoration of degraded forests and poverty alleviation of rural household, where as community forestry approach regarded as shifted policy toward encouraging participatory system of management by local people. Not all of forestry management approaches are equally successful and there is considerable debate about the role of property rights, operational rules and internal and external support in managing the resources in a sustainable manner.

Forest inventory analysis in term of number of trees, saplings and diameter at breast height (DBH) indicates considerable increase in forest condition within the community forests and moderate increase in leasehold forests where as decline forest condition in government managed forests. Analysis of existing forest laws, policies and local institutions studies, revels substantial variation among the three management regimes in terms of the property rights regimes within which they function, the monitoring and harvesting rules, and the level of internal and external support. In general, the leasehold forest groups had limited permission for harvesting products and change operational rules however community forest groups enjoy the highest bundle of property rights and better level of monitoring systems, In contrast, state forests have the weakest monitoring and management activities. With limited downward accountability and state forced institutions which are relatively inflexible and unable to adapt changing governance system lead neither to the betterment of forests, nor to the strengthening of local communities. In many if not most instances, decentralization reforms tend to be louder needed in county like Nepal.

**Keywords:** Decentralization, centralization, property rights, forest management regimes and rules at multiple levels

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Drainage, biodiversity and a landscape-scale solution: reviewing a UK delivery model

A project in the Severn Vale in England aims to ensure the long term conservation of an area of lowland peat that has long since been enclosed and used for agriculture. A small wildlife area survives but managing this alongside the productive agricultural areas has proved contentious. A new management approach was attempted 2 years ago that recognised the potential for collaborative action that might stabilise the peat soils, and therefore carbon emissions, and improve wildlife habitats, increase flood prevention and help to ensure that the area is managed locally using local skills and knowledge capacity. This paper is based on an evaluation of the delivery model used to establish a local management group that is now the main link between the statutory agencies and the management of the area. This places the project within what is increasingly called an ‘adaptive management’ context, a term used to describe projects that are looking to find solutions where there is ecological and social uncertainty. In this case the uncertainty seems to have been replaced by a desire and willingness for ‘co-
management, through adopting a process that engages the local community and key local stakeholders while at the same time fulfilling the requirements of statutory agencies. The paper outlines the delivery model and focuses on the ability of this delivery model to be transferred within the UK, where such approaches are rare, and the implications of mainstreaming such an approach.

*Keywords: habitats, delivery model, UK*

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**Governing of Commons: The Bhoodaan Way**

Vinoba Bhave, an ideologue of Gandhian thought and devout practitioner developed the Gandhian doctrine of trusteeship and gave it a concrete form. He appealed big land owners and asked land as gift to be distributed to landless poor. He called it Bhoodaan that gradually culminated into Gramdaan, where the land of the entire village was donated to the community and treated as community property. Bhoodaan activity began in 1951 and soon became a movement in whole of India. About 4 million acres or 1.6 million hectare of land was received as daan – gift till 1970, when the activity ended. The land distributed to landless had inheritance rights but did not give right to alienate. Bhoodaan is a case of collective ownership and private use.

The paper will analyse the Bhoodaan and Gramdaan movement in India in the framework of common property management and use of natural resources. The process of receiving land as a gift, its distribution to landless and plans for production and management would be analysed. Unlike the traditional community based naturally evolved systems of commons management for private and public economic benefits, Bhoodaan is a system that is introduced to a community with basic principle and value of non-violence. It is expected that the communities will experiment and naturalise it. The Land management policies of the State have failed in supporting the commons and the livelihoods options of the people. Instead, in collaboration with business, it is privatising it for building an industrial society. The paper would examine the theory of Bhoodaan as a case study and comment whether it would simultaneously solve the problem of equity in land use in agriculture and also achieve ecological sustainability in common property framework.

*Keywords: Bhoodan, Gramdan, right to alienate, livelihoods, equity in land use, ecological sustainability*

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**Forest Commons? Smallholder Tree Plantations in Vietnam**

Tree plantations have expanded significantly at the global scale. Vietnam has experienced a rapid expansion of industrial tree plantations over the past decade, mirroring the general increase in Asia. Yet Vietnam is also special because a large share of the tree plantations are owned and managed by smallholders. Smallholder plantations have become a primary source of raw materials for the pulp and paper and wood chip industries as well as the booming construction sector in Vietnam.

This paper seeks to identify the political and economic factors that influence smallholder tree plantations in Vietnam. It identifies the opportunities motivating smallholders to establish tree plantations, points out constraints on their ability to benefit from the rapidly growing demand for wood and assess the effects of tree plantations on local livelihoods. Using data from empirical fieldwork in two provinces of Vietnam, the paper pays particular attention to issues of access to land, finance, and wood markets.
The paper uses these insights to explore the reasons underlying highly individualized management practices. Although there are clear potential benefits to cooperation (e.g., joint marketing, labor exchange for harvesting, technology dissemination, etc.), tree plantations are thoroughly household based. The paper shows that the opportunities available to households for engaging in tree planting is highly varied, as they are conditioned by larger scale political and economic forces. In particular, its findings attest to the importance of state policy as a key differentiating force in Vietnam. Land reforms have given secure land rights to individual households. Direct state involvement in the financial system may guarantee smallholders access to capital with suitable conditions, but the access is highly individualized despite the existence of savings and loans groups.

*Keywords: forest, tree plantations, social differentiation*

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**Violence and the Commons: Dynamics of Property and Authority**

Access and property regarding natural resources are intimately bound up with the exercise of power and authority (Sikor and Lund 2009). The process of seeking authorizations for property claims, such as claims on forest resources, also works to authorize the authorizing politico-legal institution, such as a forest management committee. Applied to resources held in common, this recursive relationship implies that social actors attribute authority to commons institutions once they seek to turn access into property by seeking endorsement from such institutions. Vice versa, as the power of a particular commons institution becomes legitimized as authority, this process simultaneously endorses some claims on resource commons over others. Violence confounds the picture. Violence is a common means by which property rights get erased, weakened, strengthened and created. Violence is also part of the repertoire available to politico-legal institutions seeking to solidify their power and to create new grounds for claims of authority. Consequently, commons institutions may derive (part of) their power from the exercise of violence. Property rights to commons may arise from threats and acts of violence. Reference to commons may even legitimate violent practices. This paper discusses the conceptual relationship between commons and violence. It proceeds on the basis of theorizing about the recursive relationship between negotiations over access and property, on the one hand, and contestations about power and authority, on the other. The conceptual relationship between commons and violence is also examined through a series of empirical cases.

*Keywords: access, property, authority, violence*

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**Tragedy of the Global Commons: Causes, Impacts and Mitigation**

Global commons including climate, ecosystems and their services to human beings have been under great biotic and abiotic pressures for decades now. Biodiversity is being lost at an almost unprecedented pace. Climate change including such aberrations as global warming, floods, droughts, eruption of volcanoes, tsunamis, hurricanes and, melting of glaciers will bring about rapid and unpredictable changes in the earth’s entire biophysical system and adversely impact on human wellbeing. There are thus massive indications of a tragedy of global commons caused partly by human activity and partly by natural factors. But times of crises are also times of opportunity. There have been many initiatives in the past at both national and international levels to mitigate the adverse impacts of climatic aberrations on human wellbeing and avert the tragedy of the global commons. But the measures adopted followed conventional lines of unsustainable technological and economic practices and weak
institutional structures.

There is a growing awareness now for the need for adoption of active public policies to create more sustainable economic structures and processes to mitigate the tragedy of the global commons and avert the ecological crises. Green accounting, green gross domestic product, a global Green New Deal, low carbon economy and a green energy revolution are some of the catch phrases that now find their way into governance and management of global commons.

The paper attempts to identify the causes of the tragedy of the global commons, assesses the impacts of the tragedy and explores strategies and policy options for mitigation of the adverse impacts of the tragedy.

The paper proposes a theoretical framework for diagnosing the root causes of the tragedy of the global commons and explores alternative management regimes for the global commons. The strategy proposed comprises a mixture of institutional, command and control, and market-based instruments, depending on the relative uniqueness and resilience of the global commons in question. The paper is largely based on a review of the relevant literature available on the subject and partly on the empirical work done by the author over the last three decades or so.

Keywords: global commons, tragedy, climate change, causes, impacts, green accounting

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Lok Vaniki Policy

The Govt. Of Madhya Pradesh in 2001 has introduced scientific management of private forests under Lok-Vaniki Act and rules in compliance of the Hon’ble Supreme Court’s directive. This is also in appreciation of the worldwide growing concern of management of small-scale private forest. Madhya Pradesh is a leading State in this respect. The State Govt. has entrusted the Government forest protection to the people under the Joint Forest Management, a welcome step under the National Forest Policy. This places better trust in private forest management, which can contribute substantially to the forest cover of the State. In addition to attaining the desired goals of forest cover increase, it will improve rural economy on the whole and check illicit felling in the government forest.

‘Lok Vaniki Adhiniyam 2001’ is a unique legislative Act, which for the first time in the country takes a paradigm shift in the policy of Forest Management of Natural (pristine) Teak forest.

Taking the queue from the State owned Forests management plans, Lok Vaniki presented proposal to the Madhya Pradesh State Govt. of preparing a scientific management plans for its over 1,00,00 hectare of natural forest on private Revenue lands owned by more than 2000 farmers all over the State.

Project Objectives

• To create a long term concept for ecological forest management and a secure and sustained source of income for farmers with small private forests
• To access domestic and global market which require a sustainable and scientifically managed forest
• To diversify to none nationalized timber for furniture and other wood based industries
• To create certifiable and managed forest on degraded land not suitable for agriculture
• To extend certification also to other crops grown by the respective farmers
• To create ecotourism within these certified private forest areas in Madhya Pradesh
• To contribute to improved soil and water erosion control measures within the private forest areas in Madhya Pradesh
• To systematically include some 100,000 hectares of private forest available, into the official carbon management policy including credits for carbon sink

Methodology
• Joint survey by Forest and Revenue Departments to identifying undisputed forestland of farmers.
• Creation of Chartered Foresters who are qualified for preparing scientific management plans for the farmers and also responsible for getting it passed by the District forest Office as per the Forest Conservation Act.
• Prepare scientific management plan, by Chartered Foresters, of 10 years, for annual cut not more than 5% of the woodlot, which makes it well within sustainable limits.
• Planting trees 1.5 times the cut,
• Monitoring by Forest Department, NGO and self-assessment

Benefits
• Since the implementation of Lok Vaniki Act. Lands, which were Liability to the farmer with zero income, have earned from Rs50,000/- to Rs5,00,000/- per annum.
• Increasing forest cover
• Looking at the benefits has given incentive for new plantation.

Keywords: forests, Lok Vaniki Act, benefits

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Efficacy of Groundwater as ‘Commons’: An Enquiry into the Implementation of Groundwater (Control and Regulation) Bill of 1992 in selected States in India

Though in India water has been perceived as a common pool resource (CPR) for centuries, in the current scenario, water as ‘commons’ exists more in theory than in reality. The case of groundwater is even more complex considering the present state of prescription under the Indian law where ownership of land carries the ownership of the groundwater under it. This has resulted in the excessive, indiscriminate use of groundwater leading to over exploitation. The pressure on ground water resources has increased many folds in the recent past with the shifts in the agricultural patterns, urban growth and rising demands from various sectors of the economy. Central Groundwater Board data paints a gloomy picture of the status of the groundwater resources across the country with an increasing number of ‘critical’ and ‘over exploited’ blocks. This critical state of ground water resources has led to the urgent need for groundwater regulation in India. The Model Groundwater (Control and Regulation) Bill of 1992 was formulated and circulated by the Central Government for the consideration of the states, and eventually been adopted in many states across the country. This paper examines the effectiveness of the Model Bill with the analysis of the provisions of the Bill as well as implementation challenges in the various states in India. The paper also addresses the larger debate on the issue of groundwater as commons.

Keywords: groundwater, commons, regulation, over exploitation, India
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Global Genetic Resource Commons: Conflicting Regulatory Framework in Intellectual Property Regime

Genetic resources constitute a vital part of biodiversity inherited by mankind from generations before us. Genetic resources are governed by a number of laws including CBD (Convention on Biological Diversity) for access and benefit sharing of genetic resources, conservation and its sustainable use, ITPGRFA (International Treaty on Plant Genetic Resources for Food and Agriculture) for Plant Genetic Resources, the Interlaken Declaration for Animal Genetic Resources for promotion of livestock biodiversity to promote global food security. The Intellectual property (IP) system has been linked to biodiversity, traditional knowledge and genetic resources as IP is seen as a principal component to extract benefits out of traditionally held and conserved genetic pool and knowledge associated with it. At international level significant unsolved issues exist about scope of access, regulation and sovereignty over genetic resources and traditional knowledge like regulations for disclosure of origin and prior informed consent. The developing countries have earmarked the patent monopoly suiting their needs arising out of creations of mind, but the knowledge associated with genetic resources and traditional knowledge has been categorized into Prior Art suiting the needs of Developed countries. For their benefit all genetic resources have been put together as “common heritage of mankind” and the benefits are being reaped by developed countries. The need of the hour is to streamline international regulations and treaties, which provide access and benefit sharing regimes incorporated in the TRIPS agreement with mandatory provisions under WTO for the knowledge holders and conservers of genetic resource biodiversity.

Keywords: access and benefit sharing, intellectual property, genetic resources, trips, WTO, CBD, ITPGRFA

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Achieving Conservation and Livelihood: A Case Study from Orissa, India

The forest policies are primarily reviewed from time to time on the assessment of function of formal/state institutions responsible for conservation and management of forest. However, a variety of informal institutions embedded with social and human capitals, operating at grassroots level, do not get recognized for their conservation potential by the policy makers as these institutions are legally not recognized. Besides, there is lack of scientific methodology to empirically measure the effectiveness of these institutions. Consequently, there exists a knowledge gap between the appreciation of issues between the policy establishment and that of the stakeholders at the local level. Through an interdisciplinary approach, we provide empirical evidences in favour of local institutions regulating community based forest management (CFM) in the state of Orissa, India and present model for sustainable development.

The integrated approach of remotes sensing, GIS and field inventory developed in the study is an important scientific contribution to monitoring of the forest cover and livelihood studies at a village level, where majority of CFM operates. By virtue of statistical soundness of the methodology, the study has provided convincing and easily understandable results in favour of community based forest management in Orissa as a viable option towards forest protection and management. The comparative analysis on the livelihood patterns in the three districts of the state revealed that CFM has contributed towards forest protection and regeneration; however, the potential of forest towards livelihood enhancement is not yet fully realized. The study further discusses a model
to achieve ecological sustainability on one hand and enhancing incomes of the forest-dependent communities on the other hand.

*Keywords: community based forest management, integrated natural resource management, ecological sustainability, livelihood enhancement*

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**Adapting to climate change: Opportunities under NREGA**

The impact of climate change would be the most severe for the poor communities, living in the developing nations with limited options for livelihood and high level of dependence on the natural resources. The impacts would increase the food insecurity, water stress and extreme weather events which would affect the livelihood security of these communities and increase their vulnerability. It is therefore important that development programmes targeting such communities should be underpinned with the measures of adaptation to climate change. National Rural Employment Guarantee Act (NREGA), implemented on a national scale is one such programme that creates employment by undertaking diverse activities aimed towards water harvesting, drought proofing, flood protection and plantations.

The study evaluates the ecological and economic impact of NREGA in Panna, a drought-prone district of M.P. Threat in relation to climate change, would be more severe as the district is characterized by high level of poverty (72% of population under BPL) and less irrigated land (11.8%). Construction of wells, renovation/construction of ponds, plantations and watershed management are some of the major activities being implemented. These activities are measures towards adaptation to climate change apart from having direct outputs in terms of enhanced agricultural productivity due to increased availability of water and land conservation. Results show an increase in irrigated land by 26% and subsequent increase in their average household income by 15%. In case of Kapil Dhara (construction of well on individual land), there is 100% increase of irrigated land and 45% increase in their income.

With respect to people’s perceptions, more than 50% of the respondents ranked prevention of soil erosion and increased soil moisture as the most important benefits accrued due to plantation, but only after they were briefed about different benefits including wage employment, materiel and ecological benefits. This indicates that sensitization of the masses towards role of NREGA in climate change adaptation would add to people’s appreciation and participation in the program for championing development with adaptation.

*Keywords: climate change adaptation, NREGA, food security, water scarcity, soil moisture*

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**Halting the Forest Degradation: Search for Livelihood Based Forest Conservation in India**

In India forest felling causes 1-2% depletion of forest annually. Rapid industrialization is likely to consume around 5% forest in near future. In this background steady decline of forest is inevitable unless alternative measures are adopted. This will have grave consequence both on climate as well as people’s livelihood.

In India nearly 3 million people directly depend on forest for their living. However, they thrive on subsistence
economy hence vulnerable to exploitation. Drawing example from remunerative livelihood based forest conservation models as promoted in India, the paper discusses the viability of forest conservation by the forest communities under sustainable livelihood regimes.

Paper analyses three remunerative livelihood based forest conservation approaches viz. Eco Forestry, Sustainable NTFP Based Livelihood Management, and Community Forestry for Tasar (Silk worm) Culture. These models were studied as separate cases and a comparative analysis was then drawn. It has been observed that while eco forestry scheme generated year round fuel wood for forest communities besides doubling forest user’s income without impairing forest health, Sustainable NTFP Based Livelihood and Community Forestry for Tasar Culture resulted three times higher income, one and half times more employment days besides ensuring the sustainable use of NTFP and Tasar hosts plants.

*Keywords: forest, livelihood, tasar, commons, India*

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*Forest Management in Central India: Conflicting Agglomeration of Maoist, Displacement, Poverty and Conservation of Forest*

For past five years the Central Indian States (Chhattisgarh, Jharkhand, Orissa) have become the hub of new industrial activities. Large scale mining activities and setting up of new industrial plants particularly in tribal dominated districts have caused massive displacement. Apart from tribal displacement, such industrial activities are also causing mass scale acquisition of forested area as most minerals are covered under forest flora. There is growing violent resistant against mass displacement. Sensing the deep public disenchantment, Maoist in the garb of people’s messiah, have mobilised an arms rebellion against industrialization and government establishment. Forest has become their hideouts and in many places with the passive support of locals they virtually turned these forests into their own self styled republic.

These two developments virtually made all traditional forest protection activities: government sponsored Joint Forest Management Activities and NGO activities related to forest protection defunct. Maoist has banned the movement of all forest products without their permission. For forest dependent communities this has caused further impoverishment as they cannot collect the NTFP and sell it freely. As a result such communities become indifferent about forest management. In this back drop the paper analyses the implication of present influx of industrialization, growing Maoist clout in forest area and public dissension against all these development and the government establishment. Paper also explored new arrangement of forest protection and management with public, people and corporate partnership. Drawing example from Central Indian States paper emphasized that by sensitizing industry as well as people with alternate development opportunities, a more viable joint management can be worked out with broader public, people and corporate partnership for forest conservation and NTFP management. Cases from state of Orissa and Jharkhand showed that industries do adopt a positive outlook towards forest management for ensuring better business environment. People when they find viable livelihood contribute more pragmatically to forest management. Government’s responsibility in such cases is to nurture such environment.

*Keywords: forest, livelihood, NTFP, commons, India*
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Pampered Views and Parrot Talks: In the Cause of Well Irrigation in India

The paper reveals some of the fallacies in Indian irrigation. They are as follows. Groundwater is a democratic resource; access to well irrigation is more equitable than canals; well irrigation is more productive than canal irrigation and therefore is superior to canal irrigation. Surface irrigation is becoming increasingly irrelevant in India’s irrigation landscape in spite of growing investments, and therefore future investments in the sector should be diverted for well irrigation. The growth in well irrigation in semi arid regions of India can be sustained by recharging the aquifers using local runoff. Well irrigation can boost agricultural growth and eradicate poverty in water-abundant eastern India.

The paper makes the following arguments. The inherent advantages of surface irrigation system over well irrigation such as higher system dependability and the ability to effectively address spatial mismatch in resource availability and demand, means the second is not a substitute for the first. The use of outdated irrigation management concepts which treat “drainage” as waste leads to underassessment of efficiency of surface systems. Sustaining well irrigation in semi arid and arid regions would need “imported surface water” rather than local runoff for recharging. The use of simple statistics of “area irrigated” to pass judgments about performance of surface irrigation systems is sheer misuse of statistics, as there are complex socio-economic and hydrological processes adversely affecting their performance, which are beyond the institutional capacity of irrigation agencies to control. Well irrigation alone cannot boost agricultural growth and reduce poverty in eastern India as the region has very low per capita arable land, and offers low marginal returns from irrigation owing to high humidity and rainfall. Finally, to conclude improving the performance of irrigation systems, be it gravity or well, and sustaining the country’s irrigation growth is a governance challenge.

Keywords: India, irrigation, agriculture growth, poverty reduction, governance

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Complex Commons under Threat of Mining and Development: The Process for and Content of a Community Veto

The Sekuruwe community of Mokopane district lost much of its land to an international mining company when the cabinet member responsible for communal trust land leased the valuable agricultural land with the approval of the distant leadership of the larger tribe, but without talking to or negotiating with the community itself. Three hundred families lost their best mealie fields and vegetable gardens, and their best communal grazing land, springs and dams. Their gravesites were moved, and they lost access to their sacred places to make place for a tailings dam of the world’s richest platinum mine. They would never have agreed to sell or lease their land. The community lost most of its commons and is now challenging the minister’s decision in the South African law courts. It is fighting to retain its soul.

The Protection of Land Rights Act requires that communal land cannot be disposed without a decision in terms of its customary law and the consent of a general meeting of affected community members, and the South African constitution insists on the recognition of customary law. The minerals act [MPRDA] supersedes the tenure laws and allows the state to authorise mining with minimal recognition of the rights of owners and occupiers. In the court litigation proceedings and other advocacy measures adopted by the community leadership,
like elsewhere, customary law is and is pitted against the powerful external driver in the form of national state law designed to further class interests.

The stories of the Sekuruwe and Enderois communities are replete, and the urgent project at hand is to guide and debate the rules and procedure of engagement between miners, developers and the owners/users of commons. The paper will explore

- the voices of owners, users and occupiers of commons,
- the boundaries of their authority, their living local or customary rules, procedures and institutions,
- equality of arms and bargaining strengths,
- ecological, sustainability and other interests.

All of these must be considered to give substance to the demand that any disposal of commons must be subject to the consent and veto power of its users, and the concomitant implications for governance of commons. A veto power gives legal political impetus and grounding for governance arrangements.

The paper will also cover developments in international soft law on the application of the FPIC principle to commons and community property.

Keywords: law, mining, consent under customary law

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Applying Indigenous Traditional Knowledge in Forest Management in Canada: Moving Beyond Rhetoric

Across Canada, governments—provincial and federal—are exploring the application of Indigenous Traditional Knowledge (ITK) in forest management. Some governments have enshrined the use of ITK in policy; others are more tentative. Indigenous peoples themselves ask that their knowledge be considered in trying to solve the complex environmental problems being faced across the country—from infestations of mountain pine beetle attributed to climate change to maintenance of wildlife habitat and protection of local water systems during timber harvesting. What is the state of application of ITK in forest management in Canada? This study is based on a synthesis of the knowledge in this field. The study reviewed existing literature and examined case studies across Canada. Results show that: 1) there are still major issues to be solved around “ownership, control, access and possession” of Indigenous knowledge before Indigenous people are comfortable sharing this knowledge, 2) some Indigenous communities have been able to negotiate agreements with the State that are leading to operational changes in forest operations; and 3) mutual learning can lead to improved outcomes in forest management that respect the rights and values of Indigenous peoples while maintaining science-based decision-making.

Keywords: Indigenous Peoples, knowledge, forests, governance, Canada

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Contested Views of the Causes of Social Collapse among Pastoralists in Northern Niger

Pastoral nomads of the Sahel in West Africa traditionally adapt to many climactic extremes. Due to their mobility, it is perceived that pastoral peoples are less vulnerable to the threats of climate change (McLeman 2006, Henry 2004). However, over the course of the last forty years, with climate as a proximal cause, Tuareg and WoDaaBe
Fulani pastoralists in Tahoua, Niger are choosing a sedentary lifestyle in direct contradiction to their traditional values. The result is a failure of their pastoral system. By capturing the life histories of these former nomads, this study will illustrate how their views, however conflicting, are forming new models of adaptation and cultural identity.

*Keywords: migration, IDPs, drought, nomadic, pastoralists, Tuareg, Wodaabe, Sahel*

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**Streets as Urban Commons**

In Indian cities today, streets (1) serve various purposes – for transport, as market spaces to earn livelihoods, to source goods, to sleep (for the homeless), as socialising spaces in the form of street-side benches, and as urban forestry locations. As such, streets are shared resources where all stakeholders have equal interests and hence streets should be considered as commons.

In recent times, State policies and programmes have created imbalances in access and use of streets. For instance, in Bangalore the increasing number of personalised motor transport (cars and two-wheelers) is causing congestion. Attempting to reduce congestion, the government is building flyovers and widening roads. These measures are increasing motorable road space on streets and drastically reducing the amount of space for other components – pavements, trees, street-side benches. Hence streets are being conducive only for motorised transport users, while restricting access for pedestrians, vendors and the homeless. Additionally certain state actions are reducing access for street vendors (2). Overall streets as commons are abused, their relationship with people becoming impersonal.

One cause for the abuse is that there are no laws or customs governing the use of streets. Streets are not traditional commons and have no customary laws governing them; the present legal framework in India (the Public Trust Doctrine largely) is restricted to the natural commons. Contributing to the abuse is the lack of recognition of streets as commons in popular discourse coupled with the absence of discussion on the rights of all citizens to adequately use streets.

There is a need for research to show how streets serve various sections of the community and also analyze the impact of increasing the road-space on streets. There is also a pressing need for a greater discussion on the framing of streets as commons. Meanwhile, various inclusive options based on principles of social justice and equity need to be explored, to govern the usage of streets. Else streets will soon turn into roads serving only the needs of motorised transport users, often the dominant communities in cities.

(1) Streets is being used here as that entity which encompasses roads, pavements, street-side trees, street furniture like benches etc

(2) The Urban Development Department of the state of Karnataka, India recently issued a circular asking for corporations to limit access to street vendors – in terms of which streets they can use, the timings when they an ply their trade, what sort of goods can be sold etc.

*Keywords: streets, governance, commons, equitable use, Bangalore*
Shifting Discourse: Analysing State and Community Relations on Rights and Governance of Coastal Commons in India

The beach front and the coast play a crucial socio-economic and socio-cultural role in the lives of traditional fishing communities. Historically, communities have evolved an intimate relation with particular stretches of coastline that they use, the area that is in front of their settlement and extends on either side of their settlements. In addition, the sea shore is an integral part of their social, cultural and economic fabric; the way their communities are organised.

This paper first gives an overview and history of the governance of coastal spaces by fishing communities and then the State in India. It illustrates the use of beach space by fishing communities and their governance patterns illustrating its critical linkage to their livelihood through select case studies from Tamil Nadu, India.

The paper also traces the historical demands of fisher communities to the State, for rights over these spaces of access and the use of beach space, as well as regulate the entry of external actors. The paper traces and examines the response of the State and the campaigns against the ‘reform process’ and deregulation of coastal management legislation in India. We focus also on the development and articulation of demands for coastal land rights made by fisher communities and juxtapose this these narratives with the changes in community governance patterns of the coastal commons. The paper analyses the factors influencing the relationship between the State and the communities over the issue of land rights, given the challenges of community governance and State initiatives.

In conclusion, our paper makes a case for a revised approach to coastal land use and land rights suggesting the need to modify existing land use and rights based policies to accommodate and recognise the dynamics of community-based governance structures and patterns.

Keywords: coasts, rights, governance, fisherfolk, State

Property Rights Issues in Seasonally Altering Multiple Use Wetlands: A Study of Kole Wetlands, India

Wetlands which face several anthropogenic and other threats are complex ecosystems providing substantial benefits to human society. This paper examines the property rights issues associated with Kole wetlands, a Ramsar site in Kerala, India which is a complex wetland resource. The nature of property rights associated with this resource changes according to its seasonal alteration giving rise to complex management issues under the existing wetland agriculture –fishery interactions. The paper places the livelihood issues within the seasonally altering property rights regime and identifies the various inter-linkages and feedbacks between various uses of wetlands each having varied property rights. Both secondary and primary data have been used to examine the property rights issue of the wetlands. Further qualitative primary data have been organised under the Driver Pressure State Impact Response (DPSIR) framework to understand wetland-agriculture/fishery interactions and the various pressures facing the ecosystem. It is seen that the property rights on the wetlands ranges from private property to common property according to the seasonal alteration of the ecosystem and the use to which it is put to. It is also observed that various types of onsite and offsite livelihood activities supported by the Kole lands are
sometimes in conflict with each other. While the existing institutional mechanism of Padasekharams play a major role in governing agricultural use mainly rice cultivation of the wetland they fail to do so when it alters to a completely flooded wetland ecosystem. The study explores the reasons for this failure as well.

*Keywords: Property Rights, seasonal alteration, multiple use, DPSIR, Kole wetlands, India*

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**Decentralization and Ignored Local Dynamics: A Case Study on CBFM in the Philippines**

Decentralization has emerged as a major strategy for many developing countries to achieve environmental management, and it has created new local commons. Existing empirical studies on the subject have been attentive to the dynamics among user groups and the multi-level dynamics. On the contrary, these studies focus very little on heterogeneity among villagers, user group members and non user group members inside a village, and how these heterogeneity affect the outcome of decentralization. This research seeks to shed new light on the study of decentralized natural resource governance by focusing on relations between these two actors.

In this case study, the forest which is under Community-based Forest Management (CBFM) in the Philippines today, has provided various livelihood resources to the all villagers as communal forest for a long time. Most villagers survive by using three types of land: (1) upland/forest for fuel woods and timbers, (2) backyard for vegetables and fruits, and (3) lowland for rice. By decentralized forest policies, however, only user group members can legally access its resources inside the CBFM area, the policy divides the villagers into members and non-members. CBFM area to the members means resources of fuel woods and timbers, on the other hand, non members think it is important as a watershed for providing water to lowland rice field. Most of the non members want the members non to utilize any forest product inside CBFM area for preventing soil erosion and lack of water, moreover, they complain the foresters if they give cutting permissions to the members. These pressures by the non-members result in protection from excessive forest utilization inside CBFM area. Therefore this ignored local dynamics affects CBFM project implementation process in different ways of other actors like local government, forestry bureau and NGOs which are focused on so far.

*Keywords: decentralization, local dynamics, heterogeneity, Community-based Forest Management, Republic of the Philippines*

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**Incentives for Farmers for the Management of On-Farm Timber Trees in Ghana**

In Ghana, farms and fallow lands contain more timber trees than the remaining of the natural forest. On-farm timber trees are however under a great threat because farmers are destroying them. An important reason is that farmers do not get any benefit for keeping timber trees on their farms. The aim of the research was therefore to find possible ways of sharing forest benefits to include farmers. Perceptions of stakeholders on roles played in on-farm timber production, and on how forest benefits can be shared to include farmers, were investigated. The research also focused on determining how farmers could be motivated to keep on-farm timber trees and sought stakeholders’ views on a possible benefit sharing scheme that includes farmers.

The research employed the use of Participatory Rural Appraisal (PRA) methods including questionnaires, interviews and Focus Group Discussions (FGD’s). Results obtained, were later validated with the various stakeholders.
The study on stakeholders’ roles revealed very interesting findings. For instance, whilst some stakeholders saw the Traditional Council’s role as giving support to the timber companies to have ‘trouble free’ operations, they saw themselves as educating farmers to preserve trees. The Stool landowners saw their role as educating farmers and protecting trees from fire, while other stakeholders did not see them doing anything in on-farm timber tree management. Additionally, the District Assembly (DA) role was seen to be more of providing infrastructural development but not being directly involved in on-farm tree management. The Forestry Commission (FC) saw their role to be in the preparation of trees for felling and monitoring logging activities, but some other stakeholders saw their roles as being limited to the reserved forest.

Sampling of stakeholders’ views on the inclusion of farmers in forest benefit sharing showed that on average, the farmer should receive 9.4% of timber revenue. Findings of the research also pointed that farm input and implements, cash, adequate compensation and infrastructural improvement were incentives that could motivate farmers to keep on-farm tree.

An important conclusion of the study is that, there is a general lack of awareness among stakeholders of each others’ roles in the management of on-farm timber trees. Also farmers will be motivated to keep timber trees if they receive a share of timber revenue. Moreover, there is a general willingness on the part of stakeholders to include the farmer in the current benefit sharing scheme. The general view was to reduce the share of the FC and the DA in order to include the farmer in the scheme.

It is recommended that immediate research should concentrate on drawing the line between what stakeholders say they do, what they should do and what they actually do. Also, a cost benefit analysis is needed to determine the actual cost of inputs that the various stakeholders make into on-farm timber production and the commensurate benefit. Further research should also focus on the possibility of giving farmers benefits annually for keeping timber trees on their farm. In the interim, a new scheme is recommended to improve the situation of on-farm timber production.

Keywords: On-farm timber trees, incentives, farmers, benefit sharing scheme, Ghana

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Impacts of Co-management Activities on Livelihoods in Satchari National Park

Bangladesh has declared 19 protected areas under the Wildlife Preservation Amendment Act (1974) including national parks, wildlife sanctuaries and game reserves. To reduce the dependency of local people on protected areas, the Forest Department initiated in 2004 the Nishorgo Support Project (NSP). NSP identified local stakeholders and formed forest users groups (FUGs), community patrolling groups, and community management committees to provide local people with alternative income generating activities consistent with conservation. This project sought to assess the effect of collaborative management activities on rural livelihoods in 4 villages outside Satchari National Park by comparing the livelihood status of FUG members to non-members; and to assess whether there has been any change in the forest dependency of these 4 communities or in the condition of the forest following NSP activities. I gathered both primary and secondary data; primary data collection techniques included household surveys, focus group discussions, and key informant interviews. The study found that FUG members received support to invest in alternative income generating activities such as plant nurseries, livestock rearing, fish culture and other activities. This support had a positive impact on the livelihoods of people who participated in them with only 5% of FUG members involved in forest resources extraction whereas 49% of non FUG members were engaged in forestry related activities. Out of 17,836 households living in and around the park, however, only 508 were FUG members and among these only 189 households received support for alternative income generating
activities. Project results question whether alternative income generating activities can ever be sufficient to have a significant impact on forest condition.

*Keywords: forests, co-management*

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**Adaptive Learning Networks for Improved Floodplain Management**

Adaptive learning is a structured process of “learning by doing” that emphasises the learning process in management. Previous work on adaptive learning networks has focused on exchanges between individuals or focused on technical aspects of resource management across villages. However, co-management is increasingly being adopted in floodplain commons. In Bangladesh many community based organizations (CBOs) have been formed and left to continue managing wetlands when projects ended. Over 250 existing CBOs involved in managing floodplain natural resources were brought together into a learning network. The CBOs identified lessons and good practices and spread their adoption. They identified gaps and opportunities, and coordinated innovation to address common problems.

The adaptive learning process evolved through workshops among CBO leaders at a regional level and two-way communication between leaders and members of their CBOs. By bringing together CBOs that had before concentrated on either fishery management or water management for rice, and reviewing together constraints and opportunities, proven practices spread and new options were tested. Over three years 56% of participating CBOs acted to improve fisheries management, and 72% now have fish sanctuaries. Taking a system-based view of natural resource management encouraged a quarter of the CBOs to test dry season crops that need only about 20% of the water used by the dominant irrigated rice. The aim was to preserve more surface water for fish to survive in. Most of the alternative crops were shown by the farmers to give better financial returns than rice, and crops such as garlic are now spreading in several CBO areas.

Overall the benefits of an adaptive learning network are: more rapid and systematic learning than individual trial and error, encouraging innovation, more efficient channels for advice, and strength in numbers to face threats such as external pressure to access common water resources.

*Keywords: Natural Resource Management, Development Studies*

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**Implications of Floodplain Aquaculture Enclosure**

Bangladesh has extensive floodplain wetlands covering over 4 million ha. These remain an important source of livelihood - fish contribute about 60% of national animal protein consumption, and wetland plants are used for fodder, food and construction. Over fishing, short term leasing of use rights, flood control and drainage, and pollution all have negative impacts. In contrast several projects have helped establish local community management in many of these commons, and in these areas fisheries and wetland productivity have been restored through simple measures such as sanctuaries and closed seasons.

However, community organisations and poor floodplain users face a new threat in the private lands that are
seasonally flooded and form a major part of Bangladesh’s freshwater wetlands:

- In the last decade the area of private seasonally flooded land enclosed with bunds and fences for monsoon aquaculture grew by 30-100% a year depending on the location. This trend shows no sign of slowing.

- In different regions this is organised by individual landowners, informal groups, or companies that lease in land.

- These systems are productive but have high input costs, and catches of wild fish decline.

- Large farmers are the main beneficiaries, by operating aquaculture, as investor share-holders, or by receiving payment for use of their land.

- In all cases poorer people report that they loose. The landless loose access to natural fisheries and other aquatic resources, although some gain employment. Marginal farmers and sharecroppers loose both common aquatic resources and access to land for cultivation.

The Government of Bangladesh, some donor projects and NGOs are promoting enclosure, but instead of being subsidised this private enterprise should be regulated before loss of natural floodplain fisheries and inequality become too widespread.

*Keywords: enclosure, floodplains, aquaculture, fisheries*

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**Tribals’ Struggles, Law and Self Governance: Insights from Jharkhand**

Many of the major struggles in India today are taking place around the right to use of exploit natural resources, and the best use of these resources: Are lands more productive under mining or agriculture, under forests or mining, under cereals or bio fuels? Is land best managed under tenures of private property, common property, or state ownership? If land is to be acquired, what is the best way of doing this from the perspective of the losers, and how does it fit in with the present law? To a large extent debates over ‘development’ are often, and interestingly waged around the law – its making, interpretation, and implementation- has remained relatively less explored in the contemporary debates on land alienation and displacement in India. The question of who gets to decide on the existing law or the substance of new laws therefore is very critical. There is very little sociological work on law and natural resources. The focus here would be on how rights to use, own, and access resources have been historically and legally framed, codified, and operated in practice by the state and by villagers in dialogue with the state. These issues will be discussed in the backdrop of the struggles of the people and organizations over citizenship and democracy in Jharkhand where rights over natural resources at the centre. This will lead to drawing important implications for strengthening of the self-Governance and autonomy among the local communities.

*Keywords: tribals, governance, forest*
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Adaptive Behavior Assessment Based on Climate Change Event: Jakarta's Flood in 2007

Response to reducing climate induced event such as flood is not only responsibility of community itself but also largely responsible of government agency in carrying out its mandate to be in the forefront of disaster risk management and climate risk management. Government must have adequate capacity to carry out its task for climate change adaptation because successful implementations of adaptation strategy will be depend on government’s performance particularly government in local level. Beside that the role and contribution of community organization could be effective partners of the LGU and community in responding to climate change impacts.

Hence, this study would be assessing adaptation behavior of local communities as well as decision makers in climate risk areas in Jakarta to determine the set of adaptation possibilities that would be appropriate to be implemented in Jakarta. This study is important to be conducted consider the fast rapidly of climate change that inducing many disaster in this region. Beside that as well as government agency and stakeholder need this study to perceive the preparedness of Jakarta to facing climate change disaster that would be conducted in the future.

Keywords: adaptive capacity

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Taking Account of Social Risk at “Devastated Places”: A case study of “recovery” of commons in Kurnool, Andhra Pradesh, India

Every year a large number of places in India are adversely affected by hazard events or disasters. The degradation of places may occur, for example, due to flooding, or earthquakes, or tsunami, or dumping of industrial waste and so on. At the affected places, many areas are termed as “commons.” The question that is being addressed in this paper is—do areas that are accessed and controlled as “commons” recover sooner than, say, privately managed places? In particular, how do the governance systems assist or hinder recovery of places will be examined. As an example, I illustrate “recovery” of commons due to floods that occurred in the year 2009 in Kurnool and its surrounding areas in the state of Andhra Pradesh, India. Commons are commonly and strongly associated with the involvement of community, and it remains a puzzle as to what factors and/or conditions may explain the ease or difficulty in the recovery of commons. Through field work, open-ended interviews at the affected areas and with officials that were engaged in managing the flooding event, I discuss the social process that is being implemented in Kurnool. The focus of this paper is on commons that have been especially “devastated” or “degraded” by a hazard/disaster event.

Keywords: risk governance, floods, Kurnool, commons
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Best practices to cope with climate change induced challenges in agricultural water agencies.  
The cases of California, Germany, and Spain

It is becoming apparent that with the immergence of climate change, adaptation at the institutional level is of great importance. Stronger institutions can cope with present climate variability and are in a better position to deal with future adaptation (GWP 2009). We supplement current conceptual papers on adaptation to climate change with empirical material about innovative institutional approaches, describing the types of political, governmental and organizational solutions that can be found in the agricultural water sector, particularly within water agencies. In Germany, Brandenburg, we present the work of an interdisciplinary team State Water Balance and the adaptive measures it implemented in eight test sites together with local water and soil associations. Besides the reestablishment of self-governed drainage boards plays a crucial role. In California, we highlight an interdisciplinary Climate Action Team comprised of different agencies that coordinates the state’s various ongoing mitigation and adaptation programs. We explore the Upper Kings River Basin initiative in the light of growing recognition of adaptation criteria for regional funding agreements. In Spain we present a nationwide program to register water rights and the an innovative and at that time novel approach of continuity of public meetings and hearing which led to the Catalan Convention on Climate Change. We find similar trends in the various cases towards integrated solutions, such as interdisciplinary collaboration and cross-agency working groups. Besides this horizontal collaboration the role of vertical collaboration, i.e. water users and interest groups involvement is increasing. The second trend is the recognition of adaptation criteria for funding agreements. A linked institutional effect of this is that local organizations are empowered to draw their own projects. Yet all these new forms of collaboration share the problem of interplay, bureaucratic inertia and path dependencies within administrative bodies.

Keywords: agricultural water agencies, Institutional initiatives, climate change, adaptation, governance

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Conceptualizing re-scaling of water governance in Portugal, Spain and Germany

The paper aims to develop a framework for explaining shifts in the territorial delimitation of and the level from which common pool resources are governed within different European industrialized countries. The described phenomenon is also called “re-scaling”. In broad terms, the framework will consider changes in characteristics of actors, characteristics of state action, characteristics of transactions, cost effectiveness of governance, property rights and governance structures as variables potentially explaining re-scaling of water governance. The mentioned variables recur to various theories of institutional change. The framework will subsequently be applied to the different ways in which Germany, Spain and Portugal dealt with the drivers of “re-scaling” comprised in the
European Water Framework Directive (WFD) (Integrated planning and management of “hydrographic” regions). In Spain and Portugal the WFD coincided with re-scaling which implied shifts in the spatial delimitation and vertical allocation of water governance. In Germany, it resulted in setting up new coordination mechanisms between Länders that share a hydrographic region. In each case, the role of actors involved in resource management and the way transactions are considered in decision making processes have changed. Data on these three cases has been collected throughout extensive qualitative and quantitative field work. As a further step to coherent theorizing of “re-scaling” of resource governance, subsequently the paper discusses the explanatory value of the previously developed analytical framework. Specifically, it addresses the roles of state structures, changes in properties of transactions, mental models and ideologies and path dependency for decisions on the scale and delimitation of resource governance. As an outcome the paper aims at detailing a pathway towards the way different theories need to be articulated in order to adequately conceptualise re-scaling of resource governance.

*Keywords: Re-scaling, water governance, analytical framework, Europe*

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**The Impacts of Migration on Common Property Management: A Study of Migrant Fishing Fleet in India**

Marine fishery resources, being mobile and dynamic, pose difficult management problems. In traditional societies, fisher migration was tuned according to the seasonality and mobility of various species. Those mobile pathways were limited to the boundaries of neighboring communities and legitimized locally by various communitarian institutions. Intra-state and inter-state migration of fishers and fleet as experienced today in the fishing economy of India has been a product of blue revolution that increased especially since the early seventies. Complexity of push and pull factors that fastened fisher migration and lack of a proper administrative mechanism to regulate access to distant fishing grounds resulted in the ruin of marine commons. The objective of the paper is to explore the administrative and informal institutions which provisioned access to migrant fleet at various fishing grounds within the exclusive economic zone of India. The paper also examines the conflicts between migrants and local fisher groups at various locations and discusses the impacts of such conflicts and settlements for the sustainable and equitable uses of marine resources.

*Keywords: migration, marine fisheries, conflicts, institutions, management*

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**Sustainability of Community Based Organisations in Bangladesh**

In recent decades community based management of commons has been emphasised, whether based on existing local institutions or new local organisations. Bangladesh has a long experience of establishing community based organisations (CBOs) to improve management of freshwater fisheries and floodplain resources since the mid 1990s. Several hundred such CBOs have been formed, aimed at: empowering local communities, especially the poor; sustaining common natural resource bases particularly fish and water; and achieving a fairer distribution of benefits. Initiatives have been project based, raising questions over sustainability of such arrangements, what conditions enable CBOs to sustain, and whether the institutions for commons management change over time. This paper examines the approaches adopted in structuring CBOs, how they have evolved, and the performance of CBOs.
The paper is based on work with about 250 existing CBOs that graduated from direct project support and have networked together to learn from their experiences. This reveals that most CBOs are interested to improve their performance in terms of the productivity of their commons, their governance, and the role of and benefits to the poor. On average 64% of CBO members are poor, and almost all CBOs report regularly consulting with poor floodplain resource users. Although most CBOs report that a few traditional users of aquatic resources lost access, 90% claim that overall the access of the poor improved, and this is supported by rules that allow subsistence fishing by the poor, for example. CBOs have over time and by learning from their peers broadened their interests in natural resource management by adopting rules and norms limiting surface water abstraction, pesticide use, hunting, etc., as well as widely adopted fish sanctuaries and closed seasons. Governance has also strengthened with wider adoption of transparency in financial management and elections of leaders.

**Keywords:** learning, governance, wetlands, fisheries

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**REDD Me My Rights: Crafting Mechanisms for REDD in Indonesia**

Given the high deforestation rates in Indonesia, the country stands to gain significant economic benefits through REDD implementation. Current projections show that by halving annual rates of forest loss, the estimated value of carbon credits from REDD in Indonesia could reach between US $2.5 and US $4.5 billion per year. Numerous organisations – including domestic and international NGOs and environmental groups, start-up companies, bilateral donor projects, and local and national government agencies in Indonesia – are racing to develop some 20 different REDD trial schemes throughout the country. International banks, including Merrill Lynch and Macquarie Group of Australia, are among potential investors. The national government has already issued enough new regulations that a ‘harmonisation’ process is now necessary.

This paper attempts to provide a brief update on the state of REDD architecture in Indonesia, with particular emphasis on the issue of forest tenure and property rights.

**Keywords:** REDD, forests, Indonesia

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**Barriers to Effective Multilevel Governance Process in Marine Protected Areas in Vietnam**

Functional interdependencies of ecological-social systems have been increasingly recognized by scientists. While an ecosystem-based management approach is preferred by natural scientists, a collaborative governance approach has been preferred by social science researchers. Integrated approaches towards consensus decisions and sustainable outcomes are a research focus for natural resource management scientists. These integrated studies ensure not only integration of adjacent ecosystems, but also the interlinking of scientists, policy makers, actors and civil society across scientific disciplines, management sectors and governance levels. These approaches have been studied in different areas with varying results. This study of multilevel governance in Marine Protected Areas in Vietnam used a qualitative methodology to identify factors that cause fragmentation problems leading to ineffective management of these MPAs. These barriers relate to formal institutions, socio-economic conditions and social capital. This study revealed that different barriers have been found at different governance levels.
Socioeconomic conditions have strongly affected the participation of local communities, whereas formal institutional arrangements are major barriers to the collaboration between state-actors across sectors in the governance processes. However, mutual trust, communication and respect may nurture and foster the participation and collaboration by actors in multilevel governance processes. This paper argues that personal interests, relationships, interpersonal skills and leadership can also influence the collaboration between actors from different organizations in governance processes. This influence can be even more obvious where the governance processes are constrained by insufficient formal institutions. The paper also concludes that an adaptive and flexible institutional structure is essential for multilevel governance processes of social-ecological systems. Functional interdependencies of ecological-social systems have been increasingly recognized by scientists. While an ecosystem-based management approach is preferred by natural scientists, a collaborative governance approach has been preferred by social science researchers. Integrated approaches towards consensus decisions and sustainable outcomes are a research focus for natural resource management scientists. These integrated studies ensure not only integration of adjacent ecosystems, but also the interlinking of scientists, policy makers, actors and civil society across scientific disciplines, management sectors and governance levels. These approaches have been studied in different areas with varying results. This study of multilevel governance in Marine Protected Areas in Vietnam used a qualitative methodology to identify factors that cause fragmentation problems leading to ineffective management of these MPAs. These barriers relate to formal institutions, socio-economic conditions and social capital. This study revealed that different barriers have been found at different governance levels. Socioeconomic conditions have strongly affected the participation of local communities, whereas formal institutional arrangements are major barriers to the collaboration between state-actors across sectors in the governance processes. However, mutual trust, communication and respect may nurture and foster the participation and collaboration by actors in multilevel governance processes. This paper argues that personal interests, relationships, interpersonal skills and leadership can also influence the collaboration between actors from different organizations in governance processes. This influence can be even more obvious where the governance processes are constrained by insufficient formal institutions. The paper also concludes that an adaptive and flexible institutional structure is essential for multilevel governance processes of social-ecological systems.

Keywords: Environmental Governance, Institutions, Natural Resource Management, Marine Protected Areas, social-ecological systems

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Community-Based Co-Management Mechanism of Forest Resources: A Case Study of Baishuijiang National Natural Reserve, China

Research on community-based co-management mechanism of forest resources is essentially an academic research proposition of mechanism design on common property resource. Although a group of community-based co-management (CBCM) mechanisms in forest resources has been constructed in Chinese Natural Reserves at the very beginning step, but there is blind area in its mechanism operation evaluation in local level. As the Economic Mechanism Theory and Institutional Arrangement Theories are widely used in social economic life, its application in CBCM of forest resources is still far from sufficiency. Based on such bundle of theories, this paper is trying to evaluate the current China’s CBCM mechanism, especially through the case study of Baishuijiang National Natural Reserve (BNNR), from three evaluation perspectives: the operation efficiency, equality and sustainability. Meanwhile it also try to figure out the gaps existing in cross-level rules and regulations in forest resource
management, to identify the interaction among community-based co-management mechanism operation, community attributes and forest condition in local level, and to come up with recommendations for efficiency improvement of CBCM for China.

Keywords: mechanism, forest resource, efficiency, equality, sustainability

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Envisioning Communal Use Beyond Communal Ownership: The Future of Kenya’s Maasailand After Group Ranch Subdivision

Since the advent and robust promotion of private landownership in the 1950s in Kenya, there has been a steady and concerted effort to shift land tenure in the traditionally communal Maasailand towards individuation. The first attempt was to convert all communal lands into group ranches which were, mostly large blocks of lands owned by a known number of people who used it communally. This study looks at the emergent pre- and post subdivision trends from a human-ecological perspective in the Amboseli region. The findings reveal that even though group ranches are still regarded as the best land tenure regime for expansive land uses, a substantial majority would rather have it subdivided. Group ranch members noted that pastoralism will decline with individualization, with crop farming seen as the alternative. A land market had already started in the newly subdivided areas, particularly in the high potential areas such as land next to infrastructural utilities, well watered areas and those adjacent wildlife sanctuaries. In lieu of these anticipated changes and in order to sustain pastoralism and other expansive land uses, group ranch members were willing to form a landowners association which increases the exploitable natural resource base of an individual. Although there may be new economic innovations characterizing some of these strategies, most are grounded within traditional social networking mores. In the face of a failing group ranch model, it was noted that there are certain nascent innovations whose objective aims at retaining the concept of communality even after the commons have been redefined.

Keywords: Amboseli, group ranches, negotiated land tenure, subdivision, local livelihoods

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Value of Good Governance in Governing the Illana Bay Coastal and Marine Commons: Experiences and Lessons Learned from the Philippine Environmental Governance Project

Illana Bay is an important common fishing ground for four conflict-affected regions in southwestern Mindanao in the Philippines. While this area remains to be among the most biodiversity rich marine waters in the Philippines, the resource base has considerably declined over the years. The application of the Regalian doctrine had led to the breakdown of traditional access and use rights over time and left the marine and coastal resources under unregulated access. The latter was compounded by population growth and the encroachment of commercial fishers, thereby leading to severe degradation of the coastal environment. Other culprits include the massive commercial fishpond development in the 1970s, rapid population growth, encroachment of commercial fishers, deforestation, harmful resource exploitation, and weak governance. Faced with increased competition over declining coastal and marine resources, eight local government units and the provincial government of Zamboanga...
del Sur decided to form the Illana Bay Regional Alliance (IBRA 9) to conserve, develop and properly manage their shared resources. With support from the Ecogov Project, IBRA 9 had embarked on a baywide initiative that includes the formulation and implementation of integrated coastal resource management and fisheries management plans, organizational capacity development, delineation of individual municipal water boundaries, zoning of municipal waters, preparation of unified fisheries ordinances, conduct of integrated awareness campaign, and the strengthening of inter-local government unit law enforcement capacities. The coastal resource management plan included a zoning framework to rationalize priority use areas and clarify rules on preferential access, thus not only improving resource management but minimizing resource use conflicts. The promotion of transparency, accountability, public participation and multisectoral and inter-ethnic collaboration helped advance resource management as well as mitigate local resource use and access conflicts. Improved coastal governance has also helped indirectly address the decades old conflict between the Philippine government and local Moro rebel groups.

Keywords: network governance, preferential rights, integrated coastal resource management, resource use conflict

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Changes in Property Rights, Forest Use and Forest Dependency of Katu Communities in Nam Dong District, Thua Thien Hue Province, Vietnam

Sustainable participatory management and conservation requires an understanding of site-specific, rights structure, resource use and dependency patterns. This paper documents these issues practiced by the Katu people in Nam Dong district, Thua Thien Hue province, central Vietnam, before and after natural forest allocation to the communities. Household interview, key informant, group discussions were used for data collection and crosscheck. Descriptive analysis and pair-sample T-test are main tools used to explore those parameters. We found a weak performance of property rights and differences in the De facto to the De jure rights of forest recipients. On contrary to the increased rights, forest use and forest dependency have been reduced due to the degradation of resources, availability of alternative opportunities from agriculture and animal grazing options. It is necessary to consider the post-allocation programmes to have better forest management and the satisfaction of local people on the forest resources they manage.

Keywords: participatory management, forest allocation, property rights, Katu people, Vietnam

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Against The Odds: Creating a Community-Managed Protected Area on Disputed Land

Defining and enforcing appropriate property rights for common-pool resources presents an enduring conundrum. The problem is particularly difficult when multiple stakeholders claim use rights, the resource base is threatened by incursions, and legal property rights are disputed. The Montaña Camapara Reserve in Honduras exists within this set of challenges to clear property rights and sustainable management. The reserve was formed in 2001 by three municipalities that have shared communal rights to the mountain and fought over their boundaries across centuries. In 1995, one of the municipalities obtained a national land title that included most of the mountain, despite objections from its neighbors. The mountain’s springs provide water for nearly two dozen villages. Its land is coveted by coffee growers and farmers, who began clearing the mountain for coffee and staple crops.
during the 1990s. Several obtained private titles. In this context, people became concerned for their water supply, and formed a grassroots movement to protect the mountain. The movement’s supporters pressured municipal authorities to create a reserve and remove landholders. Over the course of nearly a decade, about 20 farmers agreed to relocation, residents cooperated to fence the reserve, and the three municipal governments reached an accord to defend the mountain from further incursions. Recently, forest cover has been regenerating where farmers agreed to abandon land, but the national government has not recognized the reserve, and formal property rights remain in dispute. Drawing on ethnographic fieldwork, satellite images, and archival research, this study explores how the watershed reserve developed collaboratively despite a history of conflict. It examines: How did this locally-managed forest watershed reserve become established despite property rights disputes? What kinds of institutions and social relationships have helped to create and maintain the reserve? What lessons can be drawn for understanding the roles of conflict and shared experiences in managing forests with multiple owners and competing rights?

Keywords: forest tenure, institutions, conservation, dispute resolution

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Property Rights Analysis and Rights Allocation for Co-Management in Tam Giang Lagoon, Vietnam

Development in a context where people rely on natural resources requires forms of governance with increasing role of communities. This involves allocation of rights and power from higher management through arrangements such as co-management. Unless there is concrete understanding of how households use their resources, and what property rights exist to support this usage, it can be difficult to form effective governance systems in the actual practice. This paper draws from the research in Tam Giang lagoon, Vietnam to provide a framework for property rights analysis that highlights existing property rights regimes in the lagoon and discusses how such rights are formulated, practiced and their functions changed over time. Through looking at the bundles of rights that various property rights holders utilize, the analysis shows a mixed function of property rights regimes. This mix of functions varies among specific types of resources, activities and across points of time. Therefore, it illustrates how property rights analysis helps generate more effective management interventions.

Keywords: common pool resources; fisheries association, fisheries co-management; property rights analysis
Towards a Right-based Approach or a New Legal Framework Required

From public utility to public works to public purpose as the rationale for “taking” land, the Land Acquisition law that acquires private land has become quite complicated with more uncertainties than certainties on what constitutes public purpose over the years. The Supreme Court is yet to give finality to what constitutes public purpose despite 116 years of the enactment LA Act. Today diversions have been effected through various legal instruments such as SEZs, LA Acts including other Special Acts such as Special Area Development Acts, Highways Acts, Forest Conservation Act, Town and Country Planning Acts Social Welfare Acts such Slum Rehabilitation Acts and several methods and adhoc criteria being developed for government land transfer to other uses to name a few. All such acquisitions, diversions are being dubbed as national interest, public interest, economic growth, FDI, vibrant economy, public service etc. Compensations are being given which is quite contested or by adhoc criteria being used including CAMPA, NPV etc. The current principles adopted are far from adequate from ecological, livelihood and sustainability standpoints. The moot question therefore is whether the status quo is to be maintained or a new frame is developed. The answer is too obvious. So what are the starting points? Here are few pointers to developing a new legal framework which puts diversion of CPLRS to strict legal scrutiny. The seventies saw the emergence of a national Land Use Policy Framework with state wide networks of State Land Use Boards – often a high profile but toothless body. There is an urgent need to rethink not only the National Land Use Policy but the entire framework of the State Land Use Boards and make it an effective body to make real assessment of land at hand and the criteria that is being used for allocating to various land uses. The second issue relates to “right sizing”. What are the criteria for the amount of land required for a given purpose? Very little in terms of developing credible criteria has been worked out which can stand legal scrutiny. Third, while new framework is developed to look at issues raised above afresh, existing provisions and instruments need to be modified to bring in the necessary changes. Using provisions such as preliminary surveys (existing in some state LA legislations on LA) and expanding their relevance for developing criteria for land acquisition; developing new criteria for diversion of various categories of forest land and their livelihood impacts on dependent communities especially in the light of new instruments such as Forest Rights Act; reversal of land transfer processes especially when it has not been used for the purposes for which it was diverted; strict monitoring of diverted land and whether they conform to the general and special conditions based on which they were granted diversion permissions..all these need to be examined to ensure that while a new right based framework is developed there are enough safeguards to secure CPLRs which are essential for millions of vulnerable communities across India.

Keywords: land, law, rights
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Innovation Systems in Forest Resources Management: Lessons Learned From Community Forestry Programme of Nepal

There have been various attempts to engage states, markets and communities in managing natural resources to achieve both conservation and poverty reduction. In Nepal, a participatory approach to forest management popularly known as “community forestry” (CF) has proven effective in conserving forests and meeting the livelihood needs of forest-dependent communities. Since 1978, CF has evolved at both the local institutional and national policy levels. However, uneven socioeconomic relations, power dynamics, cultural contexts and other factors pose a challenge for sustainable livelihoods.

Moving away from traditional research and extension services, a new emphasis on innovation systems has emerged. This approach demands greater attention to interactions among actors in knowledge creation, dissemination and application. This research draws on the decade-long experience of ForestAction in adaptive, collaborative processes and management approaches, self-monitoring, and participatory action and learning with 60 CF user groups in three districts of Nepal.

Preliminary results reveal effective forest management and governance innovations, adoption of planning and self-monitoring in enterprise development, and marketing of forest products and services to user groups. Furthermore, CF service providers and collaborators employ more adaptive and collaborative approaches and are more responsive to the demands and concerns of forest users and other socially marginalized groups.

Keywords: forest management, innovation system, forest users, collaborative approach, poverty
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Endangering the Commons- Special Economic Zones Act, 2005: A Case Study of the Coastal Belt of Andhra Pradesh, India

Traditional Common Property Resources which may include forests, water bodies, grazing lands and the like provide the resource base for a large number of livelihoods especially in the agrarian economies of South and South East Asia.

With reference to India, these CPR’s are under threat as a result of the Special Economic Zones Act of 2005 that designates public lands as foreign ‘enclaves’ dedicated to the promotion of export processing, and insulated from the domestic economy with relaxed labour laws and state controls through simplified bureaucratic and customs clearances to attract foreign and domestic investments in various sectors of the economy.

The area under focus would be the coastal belt of the southern Indian state of Andhra Pradesh where the Government as a part of the Coastal Industrial Corridor has proposed to promote industries in SEZ’s along a stretch of 972 kilometres pertaining to sectors like pharmaceuticals, bulk drug manufacturing, petroleum, petrochemicals and refineries. Going hand in hand with these, is the development of large scale infrastructure in the form of thermal power plants causing wide spread pollution in the area. The most affected are traditional coastal and fisher worker communities - not only have some of these zones come up between their villages and the water bodies forcing them to abandon their occupation because of circuitous routes to work but also, dredging operations along the ports and dumping of waste by industries have caused the death of a variety of fish.

In the wake of such developments this paper, analyses how the state itself through this law is enabling the loss of rights of access and use of these commons and the repercussions for environmental governance in the framework of equity and the manner in which loss of livelihoods affects sustainable use of the environment.

Keywords: governance, rights, Special Economic Zones, water bodies, livelihoods

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Evolution of Property Rights Regimes in the Groundwater Economy of India

The ‘open access’ regime of groundwater has resulted in the over-exploitation and near-depletion of the resource due to the negative externalities imposed by the self-interest maximising behaviour of individual agents on society, which increases the social cost. Institutional changes in the agricultural sector have aggravated the situation of groundwater exploitation, which has led to a policy concern that groundwater resources should be shifted to a common property regime. However, the shift would take place only if the ‘perceived’ transaction costs are lesser than the ‘perceived’ benefits. This is unlikely and therefore raises doubts whether a shift to would take place given the empirical constraints. Even if this transition does take place, the cost of negative externalities
will persist because of ‘bounded rationality’ and ‘information asymmetry’ among the agents. While policies for community management of groundwater as a common property resource have been initiated in Spain and Mexico, this shift has not led to much success due to ‘resistance’ from the stakeholders. Similar problems would be encountered in the Indian context, due to externality problems, and coordination and collective action problems involved in regulating the behaviour of dispersed individual agents across geographical locations. The paper would examine (a) theoretical and empirical constraints involved in shifting the present regime to a CPR regime and (b) if the transition to a CPR regime does take place, what would be the transaction costs that such a regime would meet. The present study would provide some new insights into the current debate on property rights regimes for groundwater management, apart from providing some policy implications on his issue to help the decision makers devise appropriate strategies (in particular in developing appropriate institutional mechanisms) to facilitate the optimum use of this increasingly scarce resource.

Keywords: governance

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The Origin of the Forest, Common Property, and the Law

India’s landmark Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act seeks to repair the historic injustice of the dispossession of India’s forest dwellers by granting conservation authority to forest communities and by creating procedures for both individual and collective land-claims. The Act seems to enact what McCay (2001) has called a “romancing of the commons”: it rejects the neo-classical economic assumption that the rational users of limited resources will ruin those resources by granting an empirically unwarranted coherence and ecological will to “communities.” Through ethnographic research on the implementation of the Forest Rights Act in Sonbhadra, Uttar Pradesh, I follow the circulation and use of knowledge of the Act in order to understand the commons as a romantic discourse that nonetheless, as McCarthy (2005) suggests, carries profound political possibilities. Drawing upon theoretical work in linguistic pragmatics and Science and Technology Studies, I argue that “the commons” is best understood as a pragmatically-potent floating signifier, simultaneously capable of producing coordinated social action and of masking the complexity of human-non-human interaction behind a romantic façade. To understand the actual relationships between people, places, and things enabled by the Forest Rights Act therefore requires a tracing of the unequal distribution and deployment of the apparently common resource of legal expertise.

Keywords: Forest Rights Act, legal knowledge

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The Management of and Conservation Practices at Agojo Marine Park and Sanctuary in Catanduanes: Convergence of Initiatives for Eco-Governance

Philippines have gained international recognition and respect as a country giving high premium to natural resources management.

In the Bicol Region, the most popular strategy for coastal resource management is the establishment of marine protected area or marine park and sanctuary. the oldest of this is the Agojo marine park and sanctuary strategically
located along the Lagonoy Gulf specifically at Agojo, San Andres, Catanduanes, Philippines. 

The establishment of the sanctuary has holistically addressed the management and conservation issues in the area. Substantial recovery from the previous damaged condition of the fragile ecosystems has restored biodiversity of its natural resources and has significantly contributed to the enhancement of the quality of life of the stakeholders on the adjoining communities.

This tangible reward experienced by the residents brings forth dramatic positive change in their attitude to support the management and conservation initiatives of the local government units, other government organizations, non-government organizations, peoples organizations, and academic institutions, actively advocating for environmental conservation and protection, building partnerships for the sustainable development of marine resources, and promoting empowerment of coastal communities.

Different interventions at the sanctuary were employed by the different sectoral groups composed of LGU of San Andres, Department of agriculture, ACOMDO, US Peace Corps Volunteers, Catanduanes State Colleges, MFARMC, Youth Science Clubs, DENR, US Embassy, RP-Japan KR2 program and BFAR among others. The convergence of initiatives in the area from these sectors ranging from legislations, development and livelihood projects, capability building, advocacy and development of IEC materials, on site field researches and extension services have eventually shaped up the state of environmental governance and ecological parameters of the Agojo Marine Park and Sanctuary.

Keywords: Marine Park and Sanctuary, Catanduanes, conservation, management, eco-governance

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Gaon Ganrajya (Village Republic) Movement in Rajasthan: Asserting Traditional Rights of Tribes over Community Resources through Legal Framework

The Panchayats Extension to Scheduled Areas Act (PESA) 1996 provides a legal framework for decentralized management of community resources by tribal communities in scheduled areas in India. The process of its implementation is varied and slow across the nine scheduled area states. The spirit of strengthening Gram Sabha (village assembly) for managing community resources through the act is totally absent in all these states. Meanwhile organizations like Jan Chetana Sansthan (JCS) and Astha working in tribal areas of Rajasthan helping the communities to establish what is known as “village republics” or “Gaon Ganrajya” taking the cue from the provisions of PESA. Many villages declared self-rule by installing stone slab with new constitution inscribing on it (Down to Earth, August 31, 2002).

To what extent these organizations facilitate the implementation of article 4.d. of PESA i.e every Gram Sabha (village assembly) shall be competent to safeguard traditions and customs of the people, community resources and customary mode of dispute resolutions. What is their role in ensuring implementation of PESA i.e., related to ownership of minor forest produce, prevention of alienation of land, power over institutions and functionaries and over local plans and resources over such plans?

To find out about the Gaon Ganrajya movement and its interface with PESA, a study was conducted recently in the five scheduled area districts of Rajasthan. Many villages in these areas declared themselves “village republics” with the active involvement of JCS and Astha and started asserting their rights over community resources like water, land and forest (Jal, Jammen and Jungle). Manathgaon village in Dungarpur district is one of the earliest to declare itself as village republic in the late 1990s. It formed forest protection committee consisting of the members of the village assembly. They operate based on rules and regulations to protect and use the adjacent forest which
is considered as their community resource until forest department took over. After almost more than ten years of its control and effective access and sustainable use, the traditional forest species is getting renewed giving hope of future to the forest and the communities depending on it.

Keywords: community resources, legal framework, forest-tribes, India

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What Commons? Rethinking Participation in the sub-Saharan African Water Sector

Global reports and major funding agencies herald the comeback of agriculture on the international development agenda as a means of achieving the Millennium Development Goals. Within this renewed interest, irrigation is presented as pivotal to increasing food production and alleviating poverty. This is especially the case in sub-Saharan Africa, where macro indicators point to an underdeveloped and underperforming agriculture-cum-irrigation sector. While large dam projects are still prevalent, small-scale irrigation has also become the focus of increased attention from researchers, national decision-makers and the international development community. Indeed, small-scale irrigation fits well within the development narratives of decentralization and participation. This paper questions such perceptions. It uses the example of small reservoirs in sub-Saharan Africa to highlight that small scale irrigation projects are, firstly, based on narrow visions of the ‘commons’ and participation that rarely consider the experiences and perceptions of local populations; secondly do not account for the de-facto institutional “bricolage” and the diverse land and water claims that they contribute to; thirdly, and in contrast to the new vocabulary of development, continue to regard intended beneficiaries as ‘recipients’ rather than participants with agency; and, finally, largely ignore power distribution issues that characterize decentralization reforms within and outside of communities. Further investments and reforms are said to be the remedy. These are unlikely to succeed, so long as they adhere to a narrowly-defined notion of development. This paper calls for a new approach, which acknowledges the multiple claims and uses of natural resources, and which recognizes that projects contribute to shaping new meanings of space and relationships to environments, whose fairness depends on the vantage point considered.

Keywords: water resources, governance, development narratives, small reservoirs, participation, sub-Saharan Africa

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River Basin Management and Decentralized Water Harvesting: The case of Meghal River basin, Gujarat

Meghal is a small river basin in southern Saurashtra, Gujarat (80 kms long, 208 sq. kms, catchment size) which has seen the development of more than a thousand water harvesting structures. Many of these are very small in size and more than 90% of them have a potential storage of less than 5 MCFt. However, together these structures – small check dams, Boribunds, percolation tanks, recharge wells – have transformed the hydrology and agriculture of the basin. In a region which is characterized by semi-arid hydrology, and high inter-annual fluctuation of rainfall, such additional storage serves to maintain some amount of security against drought. Since 2002, AKRSP India has been working in the Meghal River basin with a view to implement Integrated River Basin Management
(IRBM). Besides the technical and socio-economic interventions, AKRSP has encouraged and assisted in the formation of a core-group of local leaders from roughly 50 villages to adopt a common river basin identity and initiate water resources planning at the river basin level. River basins are widely accepted as the optimal unit for water resources planning and management. This principle however, becomes difficult to implement as river basins often cross administrative and political boundaries. The case of Meghal river basin is unique since most of this small basin falls under the Malia taluka of Junagadh district.

This paper presents preliminary results from an on-going research program to understand the hydrological and socio-economic impacts of the intervention and the evolving institutional framework for IRBM.

Keywords: water, groundwater, river basin, institutions, India

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Model of Pollution Management on Badung River

Denpasar is the only city in Bali Province. The character of this city is different from other cities in Indonesia because of the uniqueness of Bali culture. There are traditional institutions that hold an important role on public policy especially on development program for welfare community or managing common resources. The implementation of this traditional law based on traditional norm. Badung River is the big river in Denpasar City and separate Denpasar City being two part that used by community for many activities such as home activities (cleaning, take a bath, water source for drinking and agriculture activities) or industry activities (throwing away the liquid waste). That is why the sustainability of this river has to be done by all Denpasar community. Recently, this river is not clear anymore because of many reasons. This research aimed to know the effectiveness of traditional law on managing pollution of printing and dyeing industries on this big river. This research used survey method for collecting primary data and then analyzed that data by ordinal regression to know the internal and external factors that impact intensity of that pollution significantly. The result showed that the traditional law is not effective enough for decreasing pollution rate produced by printing and dyeing industry on Badung River. Intensity of pollution just influenced by (1) level of waste management knowledge of the entrepreneur, (2) the attitude of the entrepreneur toward public program especially on waste and pollution management, (3) the financial support, (4) the education level of government supervision.

Keywords: pollution management, Denpasar City, traditional law, ordinal regression

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Beyond Win Win: Interrogating the Evidence on Ecosystem Service Related Synergies and Tradeoffs

The ecosystem services approach has become increasingly prominent in policy debates over the last decade, building on a much older tradition of knowledge and policies relating to natural resource management strategies and their interactions with human well being. There has been a long-standing recognition of the extent to which livelihoods (especially of the rural poor) depend upon and influence the health and resilience of natural ecosystems. More recently, there has been a growing interest in exploring relationships between biodiversity conservation and ecosystem services, climate mitigation services (through carbon sinks) and other forest-based ecosystem services, as well as ecosystem services and poverty alleviation. However, the use of the ecosystem services concept does not eliminate the inevitable conflict that characterises many natural resource management decisions. Although there are circumstances in which synergies may emerge between particular objectives, there are usually
opportunity costs associated with any strategy for ecosystem management, and stakeholders within the system are differentially exposed to these costs. Market-mechanisms (such as Payments for Ecosystem Services) may allow for novel strategies to exploit potential synergies, but these are unlikely to eliminate the reality of tradeoffs that characterise many decision contexts. This paper will review the current state of knowledge about the extent of spatial and temporal overlap between ecosystem service flows from particular landscapes, as well as the ways in which different stakeholders benefit from these flows over space and time. It will use a systematic review methodology to identify studies that deal explicitly with the issue of ecosystem related tradeoffs. It will focus on evidence that establishes circumstances that result in synergies or ‘win-wins’, and those where there are tradeoffs associated with the pursuit of multiple objectives, by multiple stakeholders, across multiple spatial and temporal scales.

Keywords: ecosystem services, synergies and tradeoffs, political ecology

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Self Governance under Weak Rule of Law: An Experimental Study among Kavango Forest Users

Self-governance is possible if a large enough share of individuals uses informal sanction on free-riders. Recently, experimental economists have argued that in the presence of a weak rule of law in a country self governance does not work since free-riders do not accept being sanctioned and yield to reason but are spiteful and claim for revenge which prevents self-governance (monitoring and sanctioning does not work anymore and might even be misused). Building on these claims we designed a field-experiment to assess forest resource harvesting and subsequent sanctioning behaviour. The experiments were carried out in the Kavango woodland savannah of Namibia. In this region with a weak rule of law we show that self-governance does work although the proposed relation of spiteful punishment exists (i.e. the sanctioning of people who cooperate). Self governance is the preferential treatment compared to government regulation measured in terms of cooperation and resource protection although we observe frequent use of spiteful punishment and rule breaking which reduces earnings. We test various hypotheses on the determinants of spiteful punishment which often occurs in settings with a weak rule of law and combine our findings with ethnographic evidence on cooperation and competitiveness in the society. We highlight the role of individual revenge and group composition with dominant people as drivers for spiteful punishment. We also test whether the screening of an awareness movie had an impact on behaviour in the experiment.

Keywords: forest management, Southern Africa, self governance, spite

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Whither Common Properties - Learnings from the field

Common Property Resources comprise about 15% of the total area of the country and if the forest lands are included, they comprise almost 40% of the total geographical area. Such common lands have been considered to be important for their criticality in terms of their being sources of biomass for the rural poor and also for their critical role in the ecology. However, what has been probably less emphasised in literature has been the role that commons play in terms of people’s identities, and adding to their solidarities.
Southern Rajasthan is characterized by hill farming systems in the Aravalli ranges, a major part of which has been categorized as state/community owned lands or Common Properties. Most of such uplands are either categorized as forests, pastures or other categories. (72 % in Udaipur District). These lands are fraught with the problems of degradation and encroachments. Seva Mandir has been trying to rejuvenate such commons over a period of last 20 years and has worked till date on more than 5000 hectares of community lands.

The paper tries to follow a case study method to explore the links between the health of the commons and their linkages with community solidarity. The paper will examine how vibrant village institutions can lead to sustainable management of commons. More interestingly, it will try and examine the returns of well managed commons in terms of contributing to community cohesion and empowerment, leading to wider returns (beyond natural resources). The cases shall try and explore the various field level experiences of Seva Mandir in the development of commons and role of various factors like Community Cohesion and Village Leadership that have led to better management and development of such lands on one hand and poor upkeep in some other cases because of the disintegration of the same village institutions.

Ultimately the paper tries to analyse key factors which tend to lead towards the success or failure of interventions such as these, through mapping of community dynamics and management of commons over a period of time (Longitudinally) and comparison with similar such cases elsewhere (Latitudinally).

*Keywords: Common Property Resources, afforestation, regeneration, management*
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Local Communities’ Participation in Forest Management and Their Access to Forest Resources under Forest Decentralization in Uganda

Many countries, including Uganda, adopted forest decentralization as national policy for increasing local people’s access to forest resources. Both local communities’ participation in forest management and access to forest resources greatly impact their livelihoods. Indeed, the Uganda Forestry Policy of 2001 and the National Forestry and Tree Planting Act of 2003 stipulate improvement of livelihoods and public participation in forest management. Despite the current forestry policy and its enabling law being in existence since 2003, it was not well understood whether decentralized forest management was improving local communities’ livelihoods in Uganda, hence this study. The objectives were to: (i) Assess local communities’ participation in decentralized forest management, (ii) Assess local communities’ access to forest resources under decentralized forest management and (iii) Determine constraints and opportunities facing local communities’ participation in decentralized forest management and their access to forest resources. Social survey data collected from 2005 to 2009 by Uganda Forestry Resources and Institutions Center covering several sites in Uganda was subjected to descriptive and content analysis. Secondary data was also examined. With exception of a few cases, local communities were not actively participating in decentralized forest management. Access to forest resources generally remained unchanged and mostly illegal. Constraints to participation in forest management and access to forest resources revolved around local communities’ alienation from forestry issues while opportunities included among others their willingness to participate in forestry issues and presence of an enabling forestry policy and law. It was concluded that forest decentralization was yet to substantially contribute to livelihoods as local communities’ participation in forest management had not been widely implemented thus hindering their full access to forest resources. Uganda’s current forest policy and law should be fully implemented, including collaborative forest management with local communities fully participating in designing, managing and monitoring forestry resource activities.

Keywords: Forest Decentralization, Uganda, livelihoods, local communities, full forestry law implementation

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Legal Pluralism and the Commons in the North-East India: Reading the Emerging Landlessness Issue in Nagaland

At the time and before the inception of most of the states in the North-East India, the outlook of the State towards the region was of non-interference and indifference. This is read in the form of the Constitution (Thirteenth amendment) Act, Article 371 (A) which provides legitimacy inter alia to religious and social practices of the Nagas, Naga customary practices, ownership and transfer of land and its control over resources. Ironically, integration of the highly diverse yet democratic nation demanded over the years a form of intervention and
negotiation. This article maps transformational change over the last five decades (1959-2009) in a village in Nagaland. The land owning practice of the Naga tribe is unusual. Today the tribals are the custodians of about eighty nine per cent (89%) of the total land mass of Nagaland. The paper discusses the customary practice of land ownership and its impact on the identity formation across social institutions. Massive out-migration in Yimjenkimong village in 1964 and division lately within a church in the 1990s on one hand and the State purchase of land from the tribal villagers during 1960s are rather intriguing. Credibly, a sense of legal dualism between the State and the customary practices needs to be examined in order to locate the emerging landlessness issue in contemporary North East India. By and large, the tribal communities retain its uniqueness through the ongoing oral tradition. Therefore, with its rather elusive written history, a description of some critical events helps form an ethnography which explores social institutions of the past and the present. Implications from such events through life history analysis and in-depth interviews are fore grounded in this paper.

Keywords: Customary practices, Legal Dualism, Social Institutions, State, tribe, village

Diagnose Complexity in Social-Ecological System: Understanding Irrigation Institutional Changes in Imperial China

Adopting the diagnostic approach that Ostrom (2007) proposed, this paper offers an in-depth explanation of the emergence of irrigation self-organization in Qing China. The paper examine the underlying variables indentified by Ostrom (2009) for self-organization with Chinese empirical materials from a history dynamic perspective, and shows that the SES framework is fairly robust as a powerful tool to diagnose the complexity in the social-ecological system. Besides the variables affecting the likelihood of self-organization indentified by Ostrom (2009), the variables in contextual settings have been proved to be important such as the population trends, government policies and globalization, which provided initial forces or supporting environment for the development of self-organization in this study. Identifying the complex interactions among the variables is a big task for social scientists and better theories can be developed with the guidance of the SES framework.

Keywords: Irrigation systems, water, Institutions

From Local Commons to Forest Users’ Group In Access to Pastures: From the Perspective of Mobile Sheep Herders in Nepal

Mobile pastoralists include nomads and transhumant herders and present challenges for common property management. The mobility of pastoralists often extends beyond the boundaries of village forests. In Nepal, transhumant sheep herders move seasonally from their permanent village and high alpine meadows (4700m) to sub-tropical forests (650m). So, they must seek their pastures by means for paying grazing charge, negotiation, and establish social relationships with local people who have right to access to village local commons. In middle of 1990, however management of village commons has been changed. Government of Nepal changed their forest policy by pressure of international agencies because discourse that “forest degradation was going on by restriction of local user” were spread among international societies. New policy, included participant of local users and system of ‘forest users groups ’, established national wide. The villagers of migration routes of sheep herders also organized new ‘forest users groups’ in order to protect their local commons. However conflicts over
boundaries of forests were occurred frequently. The sheep herders were sometime forced to involve in such conflicts. This paper aims to report changing relationships of the sheep herders and their owners of pastures. First, from observation of my fieldworks from 1995 to 2009, use and access of pastures along migration route of the sheep herders are clarified, including case of the summer pastures, midlands villages, and winter pastures. Then, second, tracing some changes after introduction of forest users groups from 1996 to 1998, and third, point out recent changes of access of pastures from 1998 to 2009. Changes of forest management brought some troubles for the sheep herders. National system of forest users’ group incorporated local users but not for mobile pastoralists. So, the sheep herders must keep their use right of pastures by themselves. Also, increasing of grazing charge is remarkable. Ironies of forest conservation are seen. While numbers of sheep and the herders are decreasing and so the pressure to pastures also declined, the price of grazing charge become so expensive. And dividing boundaries of the forests and establishment new forest users group are also considered to influence the price of grazing charge became so high.

Keywords: Pasturelands, Nepal

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International Fisheries: How Do We Get There From Here?
The oceans are being emptied and, while there is no shortage of ideal solutions to the problem of overfishing, the reality is that fisheries management fails much more often than it succeeds. The recent nomination of nine large marine predators for endangered species status—including the iconic polar bear and exceptionally valuable bluefin tuna—highlights the severity of the situation. The rejection or delay of all of these nominations highlights the nature of the problem: fisheries management is a matter of political strategy rather than either biological or economic science. Given the critical nature of the problem, we believe that it is time to examine the potential for success in the current system and explore possible steps to a better system; one that combines ideals and incentives.

Keywords: Institutions, governance, fisheries, incentives, global

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Supporting Collective Action through Community Development Funds: An Institutional Innovation for Herder Poverty Reduction in Sichuan, China
Tibetan herding communities in western Sichuan have a long tradition of migratory livestock grazing on seasonal commons as an adaptation to fluctuating climatic and grassland conditions. However, recent national grassland management policy reforms have allocated pasture holdings to individual herding households. A key rationale for this process is to reduce grassland degradation through achieving a “grassland-livestock balance”. An important question for local communities and action researchers has become whether it is also possible to reduce degradation and achieve a grassland-livestock balance while continuing to utilize grasslands as a commons.

From 2007, Sichuan NGO Shuguang Community Capacity Building Center and collaborating partners used community development approaches and Ford Foundation funding to work with herders in Huolonggou village and explore this question. This alpine herding settlement is a government-designated provincial poor village and is mainly dependant on yak-grazing and opportunistic collection of medicinal herbs for livelihood support. It
became apparent that its continued utilization of pastures as commons was intrinsically linked to other collective actions in the village and that sustaining this capacity and willingness to act together could be an important resource for poverty reduction and grassland improvement. With facilitation from Shuguang, villagers (1) elected a sustainable grassland management group that also managed a village community development fund; (2) revised the village social contract to include processes for rotational grazing, resting and re-vegetating pasture, regulating the number and type of livestock to reach a grassland-livestock balance, and resolving conflicts and (3) provided revolving funds for household actions to improve the quality of the grazing commons.

Findings from this case study indicate that community development funds can contribute to improved grassland management and herder poverty reduction where they are (1) supported by, and serve to further enhance, capacity for collective decision-making, action, and enforcement; and (2) where they become sustainable within broader government institutions and policies.

*Keywords: Grasslands, China, Tibetan, case-study, trust-funds*

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**Tacit Knowledge Matters for the Reproduction of Institutions (& Inequality): But How to Actually Get a Grip on it empirically?**

There is an emerging consensus that tacit knowledge matters for the reproduction of institutions and inequality. Bourdieu’s habitus concept and the work of Hodgson on habitual behaviour serve as examples. Tacit knowledge, knowledge that agents cannot easily codify, forms the basis of socially acquired behaviour. It shapes path-dependent processes and can contribute to the disempowerment of the poor. Neither the concept of tacit knowledge does receive much attention in common pool research nor do empirical approaches suitable to analyse it. The paper outlines the link between tacit knowledge, the reproduction of institutions and the relationship to inequality in resource access. It describes the “Documentary Method” as an interpretive research strategy to uncover tacit knowledge. Finally, it relates the findings to current methodological discussions in commons research. The paper concludes by cautioning against research strategies that do not allow include interpretive elements.

*Keywords: tacit knowledge, Institutions, path-dependency, inequality, documentary method*

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**Truncated and Fragile Victories: On the Outcomes of Forest Tenure Reform in Western Pará**

The paper analyses the outcomes of tenure reforms in the Brazilian Amazon that intend to secure forest-dependent traditional people’s rights to land and forest. These rights are infringed upon by logging companies and ‘land thieves’. It draws on three case studies conducted in the years 2006–2008 in the federal state of Pará.

Results show that demarcation of the areas subject to reform significantly reduced external pressure on communities’ land and resources. This increased access to non-timber forest products crucial for subsistence of traditional people. Communities lack capacities and resources to elaborate ‘management plans’, the approval of which by the Federal Environmental Agency is mandatory for concession of rights to timber. In effect, communities remain dependent on small traders who have financial resources and contacts to “legalise” illegally cut wood.
With regard to the ability to benefit from logging, this leaves communities in a situation very similar to the pre-reform one. This paper underlines the importance of the analysis of social relations that influence resource access and focuses on the question of power. Further steps to put rights into practice are needed in order to enable traditional people to benefit from their resources. Chief among them is the effective devolution of rights to timber to the communities by the Environmental Agency.

The paper reports on the mixed outcomes of recent tenure reform projects. It suggests a framework that focuses on social relations and highlights that traditional people’s access often remains mediated despite tenure reforms limiting their ‘ability to benefit’.

Keywords: power, property rights, forest tenure reform, Amazon, traditional people

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Experiences in Collective Action Influence Trust and Reciprocity Experimental Findings from Cambodia and Vietnam

We implemented a trust game (Berg et.al. 1995) in eight communities in Cambodia and Vietnam. Half of the communities were involved in a community-based project in the year before the trust game was implemented. The other four communities did not participate in a collective project. Within the project the common use of public waters was envisaged to implement an aquaculture project. We find much higher trust levels and reciprocity in the villages that participated in a community-based project. However, all communities decided not to continue the project after a one year trial. Reasons for this decision are manifold and complex, but mainly attributed to external factors. Thus, although the project is described as a “failure” by villagers and was discontinued, the experience with collective action and coordination among water users led to higher trust levels. This hypothesis is supported by the regression results presented in this paper, where the “experience with a community-based project” is the variable with the largest effect on trust and trustworthiness. Local users in the communities studied are cooperative, but rather external factors like unsecure property rights, hinder the cooperation on local levels. Conclusions will be that external factors can strongly influence the success of collective action and play a major role in community-based projects. Recommendations will be given for further community-based projects in the Mekong Delta.

Keywords: trust, field experiments, Cambodia, Vietnam, water management

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Law and Complex Systems: Facilitating Meaningful Engagement between State Law and Living Customary Law

The question of the appropriate accommodation of living customary law by state law and institutions has become central to the question of the governance and sustainable existence of commons in South Africa. This is the result of the development of jurisprudence in South Africa that increasingly acknowledges customary rights as the basis of the continued protection and promotion of the rights of rural communities to access communal land and resources. Unfortunately, post-apartheid state law and institutions do not reflect these developments, thereby effectively excluding many poor rural communities from the commons as their customary rights are ignored.
The reluctance to properly accommodate customary law is partly based on the difficulty to identify and give content to customary law as a system and partly on the fact that many of the concepts of customary law – indeed the very understanding of law itself – are foreign to and even irreconcilable with the semantics of state law.

The issue of the facilitation of a meaningful engagement between state and customary law is significant in terms of both access to the commons and in terms of the eventual governance of common property.

This paper will argue that the theory of complexity is useful not only for our understanding and description of the elusive customary law system, but also in understanding how state law can accommodate customary law in a way that allows for the customary system to operate as the open and adaptive system that it is. This approach will, in turn, facilitate the localized and distributed forms of governance often characteristic of traditional communities. Finally the implications for the sustainability of the commons will be explored in the light of the exceptional and often quoted resilience of traditional communities.

Keywords: complex systems, governance, customary law, legal and social exclusion

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Implication of Management Structure for Forging a Common Knowledge Base

This paper reports the results of a social network analysis of the science policy network around the management of the Northern Prawn fishery in Australia. This fishery has a reputation of being one of the best managed in the world. It combines both a fully developed co-management approach to management and a high quality individual access rights. The overall network hierarchy, while varied, is relatively low compared with most other fisheries. Fishers, scientists, environmentalists and government managers interact on a number of committees of various types. Social network analysis is a sociological technique based on the analysis of data about relationships between people, such as the frequency and quality of their interpersonal context. This analysis assesses the implications of different ways that scientists, managers and stakeholders organize their common work within an overall fisheries management framework. A formal, web-based survey gathered data of three types: on the frequency and characteristics of respondent’s interactions; on their own attitudes and opinions about the knowledge base for management decisions, and on respondent’s individual characteristics. Several hypotheses were tested that examined how network location influences the degree to which those who disagree about the social objectives of management are able to come to a clearer agreement on a common knowledge base about the fishery. This information is useful in designing dynamic management structures that allow effective stakeholder interactions.

Keywords: governance, decentralization, fisheries, social network analysis, Australia

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Rural Response to Climate Change: Lessons and Challenges from Indonesia

Changes in climate provides new unexpected and uncertain phenomena for farmers to adapt their farming strategies. Relying on past experience only would not help farmers to anticipate the future climate situation. Observation on the present problems of farming strategies in relation to changes in weather condition needs to be improved significantly, so as to enable them to develop their farming strategies better and to reinterpret their cosmologies. The cases from Indonesia (Yogyakarta and West Java) reveal the advantages the farmers gained by
enriching their existing knowledge through detailed daily rainfall measurement and agroecosystem observation. Farmers, however, faced some constraints in organizing their activities through collection action in carrying out the observation and addressing vulnerability based on water management and availability as common pool resources. The paper examines the process of facilitating farmers to be rainfall-observers in their own fields, its benefits to their knowledge and practical advancement, as well as the constraints the farmers and researchers had in building up a collaborative research and addressing farmers’ vulnerability in a changing climate.

Keywords: adaptation to climate change

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Transnational Land Deals and the Citizenship of Commoners

If they are not recognized as citizens with right to property and participation, commoners stand severely weakened in the face of external pressures on their resources. This paper explores the thesis that the large transnational land deals seen across Africa in recent years fail to recognize commoners as citizens. Widespread disregard by investors and governments for land and water rights is linked to a view of rural women and men as subjects rather than citizens, as per Mamdani’s thesis. Once the subjects of chiefs, then of colonial and post-colonial governments, commoners now face a choice between dispossession and becoming subjects of transnational corporations and their allies. Furthermore, a double paternalism is at play. First, investors and investor governments have disregarded the accountability of African governments to their citizens, both land users and the general public. Second, international organizations and civil society actors have tended to assume that African governments must be controlled through new regulations rather than be held to account through democratic action and the commitments that governments and the African Union have already made in, for example, the African Charter on Human and People’s Rights and its Protocol on the Rights of Women. Yet, across Africa transnational land deals have sparked citizen protest, ranging from civic unrest leading to the change of government in Madagascar to civil society land alliances. It is of both academic and developmental interest to understand whether and how these organized initiatives affect the trajectories of the land deals, enhancing the status of commoners as citizens and challenging the double paternalism in global responses. To elucidate these questions this paper analyses media content and other secondary sources on transnational land deals in Africa.

Keywords: land deals, commercialization, globalization, citizenship, Africa
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Towards Community-Driven Conservation in Southwest China

Conserving biodiversity and ecosystems is now a priority in China. Consequently, the country has followed western conservation models by creating large numbers of public protected areas. However, this approach often disenfranchises local people, not only causing resentment and denying them access to territory and environmental services, but also failing to draw on their experience of long-term land management. The case of Yunnan serves to illustrate how state perceptions of biodiversity and the administration of protected areas often comprise a simplified view that conflict with local customs, usages, and insights of the interaction between people and nature – interactions that may be mutually beneficial. With reference to the unique aspects of Chinese history, society, national character and political systems, this paper analyses conservation planning in China and calls for the further development of cooperative relationships between the State and communities to formulate conservation policy: community-driven conservation. Such relationships are being recognized around the world as a way towards more balanced and pragmatic conservation management.

Keywords: Protected Areas, Yunnan

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Active Adaptation to the Climate Change: Agency and Social Organization: A Case Study in Dry Land Rural Community in China

So far little knowledge has been developed about how an affected population develops coping strategies to the climate change. The paper reveals the central role of human agency in the adaptation process, with the local people changing production system, redeveloping the knowledge, reshaping their social network and reforming their social organization for better livelihood. The study also shows the interactions between local community and the policies. It argues that local capacities should be paid more attention by the policy makers, and thus to reduce the costs socio-economically and improve the effectiveness of the planned adaptation policies.

Keywords: active adaptation, climate change, agency
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**Multi-scalar Planning Processes and the Impacts on Zanjeras**

The Zanjera is a well-known common pool resource and indigenous irrigation system in the northern Philippines (Coward 1979; Siy 1981; Yabes 1990; Ostrom 1992). Zanjeras vary in size from a few hectares to 1000 or more, and scale from one zanjera to federations of two or more Zanjeras. Planning processes conducted by Zanjeras or those that impact Zanjeras occur from community to regional to international scales.

Prior to the 1980s, Zanjeras in the eastern areas of the province of Ilocos Norte were self-governed with their own planning processes and administrative structures. As of the 1970s, many of these Zanjeras have been subject to planning processes in projects by the National Irrigation Administration (NIA) at a national or communal scale, some with support of international donors. First was the Ilocos Norte Irrigation Project (INIP), now the Ilocos Norte Irrigation System (INIS II), a large, regional irrigation system of dams and canals funded and planned in part by the Japanese International Cooperation Agency (JICA). NIA initially used a top-down planning process in INIP, then shifted to a more participatory planning process that involved Zanjeras (Yabes 1990).

A series of severe typhoons, economic changes and projects and actions by other government agencies also have affected on-going planning processes and administration by Zanjeras and NIA. This paper will analyze planning processes that involved to varying degrees Zanjeras in eastern Ilocos Norte from 1978 until the present, from community, provincial and national to international scales. The paper will also identify how Zanjeras have adapted or changed their planning processes in response to planning processes from other scales. Sources of data for this research include a survey of 45 Zanjeras within INIP’s boundaries in 1985-86, a survey of the same Zanjeras in 2010, interviews with NIA staff and zanjera leaders, and a review of project documents.

*Keywords: Zanjera, irrigation, planning process, Philippines, case study*

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**System Dynamics Modeling of Livelihoods and Forest Commons in Dryland Communities of Andhra Pradesh, India**

The very poor, in drylands of India, survive because of vital ecosystem services from forest commons. Economic and environmental uncertainties, institutional variations governing ecosystems, and productivity of dryland cultivation intensify and complicate the linkages between household poverty and dryland forest commons. These economic ties to local ecosystems not only affect the biophysical properties of a forest commons but also how people organize their livelihoods at the household and community level that further influence local
ecosystems. In this paper, we discuss system dynamics and its use and value in examining the interplay between forest ecosystems and livelihood strategies in a dryland village in Chittoor district of Andhra Pradesh, India. We do systems dynamic modeling with key stakeholders – the villagers, using traditional participatory action research techniques combined with group model building. This approach – Community Driven System Dynamics – to derive data from actors to understand the structure of social-ecological systems and the behaviors they generate over time is innovative and holds significant value for understanding human and natural systems interactions.

We will present the results from a community based system dynamics modeling research from a village in close proximity to a dry deciduous forest. Results will include causal loop and stock flow models of feedback mechanisms between livelihoods, forests, and exogenous drivers mediating the social-ecological systems. Simultaneous examination of changes over time in both the biophysical aspects of forest commons and the diversified livelihoods of forest dependent rural poor in India will 1) lend sharper insight into the linkages between human and forest ecosystems, and 2) point to high leverage points of intervention in such coupled social-ecological systems.

Keywords: System Dynamics, social-ecological systems, forests, Andhra Pradesh

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Disentangling Drivers of Fuelwood Collection from Forest Commons: Improved Stove Programs versus Participatory Forest Management

Since 1984, Indian government and non-governmental organizations have disseminated improved (fuel-efficient) cookstoves (ICS) to curb ecological degradation from unsustainable fuelwood collection from forests and other common lands. Studies of ICS programs’ impact on fuelwood collection routinely overlook factors beyond the stoves themselves that drive household fuelwood collection. Specifically the impact of participatory forest management (PFM), a key intervention to regulate household fuelwood collection from forest commons, has not been systematically incorporated in previous studies. Our paper deploys multivariate regression analysis to estimate the quantity of fuelwood a household collects from common forests. We examine the impact of two central factors on fuelwood collection: household use of an ICS and the presence of a PFM institution in a village. Data are from a 2008 household survey in Chittoor District, Andhra Pradesh and Kolar District, Karnataka, India (n = 99). Controlling for key social and economic variables, ICSs do not have a statistically significant impact on the quantity of fuelwood a household collects from the commons. Households in villages with PFM collect 48% less fuelwood from the commons than households without PFM. The lack of effect of ICSs is explained by: 1) near universal “stove stacking,” or concurrently using several cookstoves in one household – often an ICS and a traditional cookstove; 2) dysfunctional ICSs that likely do not improve fuel efficiency; 3) successful PFM activities that have increased forest conservation, and therefore fuelwood supply, which reduces the incentive to use ICSs efficiently or at all. We conclude that improved monitoring and evaluation of households’ entire cooking needs to reduce stove stacking, cookstoves’ performance and maintenance post-dissemination, and non-stove factors that affect household fuelwood collection is necessary to make ICS programs more effective.

Keywords: fuelwood collection, improved cookstoves, participatory forest management, Andhra Pradesh, India
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System Dynamics Modeling at the Winter Institute: Faculty Perspective

In December 2009, Foundation for Ecological Security, Washington University, IIT-Bombay, and Tata Institute of Social Sciences joined together and organized a Winter Institute “Linking People and Nature: Winter Institute on Energy, Environment, and Development.” Experts from FES, students and faculty from 3 educational institutions worked on three case studies related to the institutes theme. This presentation will provide an account of what it takes to organize participants from three institutions, work across disciplinary boundaries, and pull together modeling exercise of protected sanctuary and its linkages to household livelihoods inside and outside the boundaries of that sanctuary. Presentation will distill key lessons, insights, and difficulties of dynamic modeling in the field.

Keywords: System Dynamics

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Environmental Mainstreaming: Framework for Analysis of Environmental Mainstreaming in Developing Countries

The sustainable use of Common Pool Resources (CPRs), in particularly of natural resources from forests and rivers, often faces challenges in developing countries where poverty reduction and livelihoods improvement are afforded higher priority together with socio-economic development. While the rural poor in many parts of the world rely on CPRs from forests and rivers for their livelihoods, general economic development often undermines and threatens the sustainability of CPRs. In order to address this challenge, it is critical for socio-economic development policies and strategies to adequately value and mainstream the use of CPRs. Various development policies and strategies adopt sustainable development principles and attempt to integrate CPRs. However, in reality the implementation of such an integrated policy often faces substantial challenges. Understanding the mechanisms and challenges of integrated policy implementation is therefore critical for improving the governance of CPRs. This research analyzes how socio-economic development policy attempts to integrate CPRs, in particularly the natural resources from forests and rivers, in the areas within and around protected areas. The research then analyzes how an integrated policy can be translated into implementation, it identifies some of the challenges facing implementation, and it analyzes the reasons behind the challenges. The research is conducted as part of the EU funded LiveDiverse project, which includes case areas in India, Costa Rica, South Africa, and Vietnam. This paper will discuss the preliminary findings from the on-going research.

Keywords: Mainstreaming CPRs, Integrated Policy, natural resources, socio-economic development, livelihoods, India, Costa Rica, South Africa, Vietnam

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Community Based Co-Management of Pasture & Forest Resources in Mongolia

Herders, communities, community associations and local governments are the key stakeholders in pasture and forest management in Mongolia. In this paper focus on two main approaches, as a multi-institutional, holistic
approach, and a bottom-up approach for co-management of pasture and forest resources study, which is undertaken in 4 different ecosystems of Mongolia. To date, most stakeholders have accepted the principle of co-management, as useful for guiding the sustainable use and management of common natural resources, as pasture and forest. However, in the face of natural and human influenced difficulties, co-management arrangements can succeed in the short and long run, when all neighborhood herders, forest user groups and all other stakeholders need to be involved actively and contribute. Successful co-management also requires defining roles and responsibilities of stakeholders and participatory monitoring for its implementation. At the same time, national and local policies and laws should be supportive and responsive to diverse local realities. In line with ecosystem specifics co-management arrangements are included a major role for the communities, as well as for different social and disadvantaged groups, such as women, elders and youth. Paper will highlight results of participatory action research in the selected study sites, with the problem solving and networking in all levels, as well as benefits and practical importance of institutional evolution for CBNRM, in the form of user groups, communities and community associations, and local level CM teams. Through the participatory action research we draw lessons on collaborative learning processes, with the involvement of community members, researchers, university professors, teachers, students, as well as, central and local government officials.

Keywords: pastures, co-management, forests, institutions

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Pastoralism and Rangeland Management in China: Between Commons and Privates

Rangeland covers about 40% of China and is its largest terrestrial ecosystem. It is also home to its pastoralism and pastoral peoples. Traditionally, this rangeland was used as a commons by these different groups. After the establishment of the Peoples Republic of China, rangeland was designated as state-owned and managed by local People’s Communes as commons mainly for grazing. During the 1980s and 1990s, the “Household Contract Responsibility System” was introduced and national policy increasingly promoted the allocation of rangeland user rights to individual households. Since then, livestock numbers have greatly increased and the livelihoods of many pastoralists have improved. However, this was accompanied by rangeland degradation and desertification which was widely attributed to over-grazing. Since 2003, a program of “Reducing Grazing and Restoring Grassland” has been enforced in the pastoral region. By the end of 2008, 62 million h2m of rangeland (about 15.8% of the total) had been fenced and access for grazing was forbidden. In addition, more and more rangeland was reclaimed for cropping and mining and these became new threats to the rangeland ecosystem. Besides the fencing associated with enforcement of the “Reducing Grazing and Restoring Grassland” program, more and more rangeland was fenced off to “Protect Public Welfare Forests.” This meant that more and more rangeland became a ‘conservation commons’ for ecological protection purposes. How to manage the rangeland resource between the commons and privates became a challenge and a key for the sustainable development and ecosystem restoration. The case studies on pastoralism and rangeland management in North-West China stated that over-grazing correlated to “privates”, but the exclusive “conservation commons” was not the effective solution. The sustainable grazing and participation of local pastoralists for rangeland management and decision-making were critically significant.

Keywords: rangeland, China, pastoralism, grazing-ban, conservation, policy.
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**Exploring the Political Implications of Experiments on Common Pool Resources**  
Given the intense water scarcity and the interlinked socio-economic and environmental problems in both parts of the divided since 1974 Cyprus and the institutional structures, unable to prevent or soften water allocation inequalities, conflicts within each Cypriot community are unavoidable. Additionally, irrational political decisions shape the water agenda of both sides. Opportunities for mutually beneficiary common water projects are disregarded because of mistrust in an insecure political environment. Instead of island wide master plans, there is a growing dependence—with political implications—on third countries to secure adequate water supply.

The authors explore the existing cooperation mechanisms of citizens and identify how to utilize them effectively in the policy-making arena. This way the paper enters the political discourses on the reunification of the Island from a “soft” entry point, focusing on the benefits of cooperation on a common urgent problem for both communities: the declining natural resources and their effects on the socio-economic Cypriot environment.

In the given context, lab and field experiments on common pool resources have been conducted, inspired by the innovative work of recent Nobel Prize laureate Elinor Ostrom and colleagues from Arizona State University. As such an experimental study on dilemmas on the commons, following the field experimental protocols for a forest and irrigation game, was conducted with students and farmers from both Cypriot communities.

Through the largely experimental and action oriented research, the authors acquire an overview on how future policy and decision makers but also stakeholders at community level perceive and manage the natural resources, identifying similar patterns of cooperative behaviour. The so far results challenge the current discourses on natural resource management in Cyprus and set the basis to explain a series of deficits. The authors conclude that Cypriots hold self-governance qualities that could greatly contribute to the welfare and wellbeing of the whole Island, enhancing in a bottom-up way any political solution that could be given to the “Cypriot Problem”.

*Keywords: Cyprus, field experiments, conflict and cooperation, common pool resources*

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**Common Resource Management, Power Dynamics among Local Actors: How Women Struggle for their Access to Wood Market in Burkina Faso**  
Natural resources constitute the main source of the country’s energy consumption, based for about 85 percent on wood and charcoal. Since 1980, Burkina Faso government launched the sustained exploitation of wood through its program of forest management. This program is based on politics of participatory management including the rural actors as active partners in the exploitation of wood and the management of wood market, as well as on the question of the conservation of the natural resources.
Women are important actors in the forest management as both members of the several local organizations (sometimes amounting to 50% of the members). But their main role is as hand workers; they are loggers. The wood market is not open to them; they must contend with men for the market and for getting a truck which is necessary to arrange their logs transportation. Moreover, most of the truck drivers refuse to deal with women.

My approach focusing on power dynamics among local actors will certainly help us to understand the interactions of men and women loggers in the arena of power. I aim at emphasizing the competition in securing women access to the wood market. The preliminary surveys I conducted in the Bougnounou district maps a situation which was previously almost completely ignored. Women cannot be competitive in selling their wood and, even worse, they cannot voice their dissatisfactions as they are dependant on the men in the wood production chain. My focus is to see what kinds of strategies women are getting under way to be competitive. This study will provide an invaluable contribution to the study of how gender affects power dynamics in forest management.

*Keywords: forest management, wood commoditization, women, power dynamics*
**Institutional Arrangement for Managing Common Effluent Treatment Plants (CETP) in Hyderabad**

Pollution is a common bad and various policy instruments are required to efficiently abate it. Untreated or partially treated industrial effluents contaminate water or soil resources into which they are released. This has serious welfare implications. Following the principle of command and control policies, India introduced Common Effluent Treatment Plants (CETP) to jointly treat effluents from a cluster of industries by means of collective action. The performances of these CETPs have been analyzed by earlier works in similar institutional set-up. The issue of appropriate institutional design has been examined using Ostrom’s design principles. The conditions of sustainability of institutions have been studied using Rawls fairness, stability and efficiency criteria. However the existing institutional arrangement i.e. the rules and the incentive structure which govern the behavior of the various actors, are accepted as given. So there is a need to evaluate in greater detail the process which leads to the evolution of the current institutional structure. The production of chemical pollutants from industrial production and its release to an external environment is a nature related transaction which is influenced by actors like, industrial units and regulators, and influences others like farm and non-farm consumers of contaminated water or soil resources. Thus any institutional set up is rooted in the physical properties of these transactions and behavior of the actors involved in such transactions. These are the fundamental forces which design property rights and subsequently the existing governance structure. This paper will thus apply this heuristic to understand the design and sustainability of CETPs in Hyderabad.

*Keywords: pollution, collective action, transactions, sustainability*

**A Common Pool of Services: An Analysis of the Knowledge Commons of the Generation Challenge Programme (GCP)**

The article aims to investigate the efforts of Generation Challenge Programme (GCP) of the Consultative Group of International Agricultural research (CGIAR) to set up a pool of upstream genomics knowledge, capacity and research tools to allow different research partners to develop their own research programmes. Particularly it will analyse how a common pool of upstream breeding services of the GCP is used in downstream location specific breeding programs of Indian national research institutes. The research will study the delivery mechanism of GCP through which the advance technologies of plant breeding are made available to the research partners in the developing countries. Moreover it will study how the national level partners are taking advantage of those technologies as well as how platforms of civil society groups sharing mechanisms of knowledge production offer
an opportunity for local development of the crop varieties. The scientific objective of the article is to indicate whether the establishment of a common pool of services enables civil society groups, farmers and workers organizations and non-governmental organizations to re-direct breeding programs and to improve the attuning of the breeding programs to the needs of these civil society groups. The research applies a critical technographic research methodology and is inspired by critical social theory and political economy of knowledge and commons, and the critical constructive framework of technology development. It is expected that the outcome of this research will contribute towards better understanding of the Commons paradigm, enriching the theoretical discourses and empirical analysis of GCP and strengthen a critical reflection on the interrelationship between Open Source, Commons with the developmental aspects.

Keywords: open source, commons

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Climate Change and the Resultant Cross-Border Refugee Migration of the People from Bangladesh into India

My paper (which this poster-presentation will be based on) will examine over the long-term (40 years from the independence of Bangladesh in 1971 to current day 2010) five critical factors namely; 1. Flood driven refugee migration from Bangladesh to India 2. Drought driven refugee migration from Bangladesh to India 3. A study of tidal wave patterns and its impacts on flooding the planes of Bangladesh 4. A measurement of the population migration as a result of the above environmental catastrophic events, and 5. A super-imposition of all the above statistical data to draw an empirical conclusion beyond just a mere measurement of census driven population statistics. The theme of my poster would directly relate to my MA thesis which looks at how environmental degradation has affected migration of the people from Bangladesh into India. Broadly speaking, I am looking at how the effect of global warming has contributed to the creation of a new group of people that I will term “environmental refugees”. My long-term interest in climate change and the resultant cross-border refugee migration has over the years coalesced into a broader research interest of environmental refugee migration patterns. This poster will look at how these migrants have been affected, but also how they affect the economic infrastructure of the recipient nation. This falls directly under the academic discipline of Political Science. The geo-spatial coverage spans Bangladesh and India through a case study of the region.

Keywords: environmental refugees

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Changing Role of Communication in Community Forestry

Globally, Community Forestry has been steadily expanding in its extent and scope. More and more rural communities living near forests have found community forestry as a legitimate way to access, control and manage resources that are critical to their livelihood and cultural needs. Over the years community forestry has taken many shapes and is called differently in different countries and sometimes in different parts of the same country. Most countries see it as a means of involving community for the benefit of the community and forest that they manage.

While policies and institutions play an important role the importance of communication between different entities like the government and the Community Based Institutions (CBIs) is often not given the importance that
it deserves. This is even more important especially with rapid changes in technology, changes in environment including climate and its influence on younger generation. The values and aspirations that exist at the community level require reassessment and the top down approach may no longer be an effective or accepted means of governance function.

The poster draws experiences and empirical data of the authors from Gujarat in India and British Columbia in Canada. The poster looks at traditional modes of communication existing in these two countries with vastly differing rural economies but comparable cultural interests in its tribal and first nation societies. It highlights the problems and issues associated with existing communication methods and strategies. It looks at the scope of innovative approaches like “Horizontal Communication” and shares experiences for the potential use of Q-Method to assess and communicate values and perceptions in a meaningful way for effective management.

*Keywords: community forestry, communication, values and aspirations, horizontal communication, Q Method*

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**Public Institutions and Public Parks: The Creation of People’s Park at University of California, Berkeley**

The story surrounding “People’s Park” in Berkeley, California is one of community empowerment, democratic action, urban conservation and community control of commons. Beginning in 1969, community activists designated this underutilized 2.8 acre plot of land, privately owned by the University of California, as a public park. As its name suggests, “People’s Park” became a shared inclusive space where the community preserved land designated for University parking lot by building community gardens and creating a gathering place for political action, particularly in response to the Vietnam War. Community occupation was met with strong opposition by the University and State Government and in 1969 the United States National guard was deployed to reclaim control and eliminate what was considered to be a direct leftist challenge to the property rights of the University. It was during this era that People’s Park emerged as a powerful symbol of community controlled public space and a haven for democratic free speech. Despite major University crackdowns and police intervention, the community has maintained co-management of this land and remains as a refuge for socially marginalized groups including the city’s growing homeless population. The history of People’s Park illuminates the politics of urban poverty, homelessness, and access to public space in contemporary United States. It also serves as a powerful example of community management of commons, which remain in spite of growing trends towards privatization and commercialization of public space that increasingly threatens common lands throughout our rapidly globalizing and urbanizing world.

*Keywords: public parks, urban renewal, homelessness, community activism, community management, University of California at Berkeley*

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**Examining the Gendered Dimensions in Using Open Access Water for Production among Rural Market Gardeners**

This paper examines the gender dynamics surrounding open access to and control over water at Mutsvati Dam among horticultural farmers in Mutsvati village in Domboshava district. In Domboshava district small scale horticultural agriculture is the backbone of the community as it has over the years helped in guaranteeing an
income for those practicing it and in the process helping in overcoming poverty and enhancing food security. This paper adopted a citizen ethnographer approach interpreting ethnography as a research process based on fieldwork using a variety of (mainly qualitative) research techniques which included use of multiple research methods in the form of life histories, in-depth interviews, observation, Focus Group Discussions and engagement in the lives of the community in Domboshava district in order to get a qualitative understanding of the nature of changing gender dynamics surrounding access to and control of water for irrigation purposes. Giddens’ structuration theory is adopted as the theoretical framework to analyse findings. Findings reveal that gender relations surrounding open access to water are taking a new turn in the district.

Keywords: water, open access, gender, class

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Developing a Participatory Model for the Assessment of the Proposed Tipaimukh Dam Project in Manipur an Ethnographic Approach to Environmental Valuation

The proposed construction of the Tipaimukh dam in Manipur has been the focus of increasing concern for more than a decade. On the one hand, proponents of Tipaimukh dam construction, including the Government of Manipur and National Hydroelectric Power Corporation (NHPC), emphasize the economic benefits of the dam such as flood control, hydropower generation, employment opportunity and tourism. On the other hand, the original inhabitants around the river Barak facing displacement, environmental groups and academic experts point to the potentially huge costs to the socio-ecological habitat of the affected region and question the overall feasibility of the project. The method of systematic environmental valuation that could eventually influence the decision making process, however, is based on incorporating the total economic value of a project into conventional Cost Benefit Analysis (CBA). Given that the economic value of environmental damages caused by the construction of the dam is difficult to determine, an important aspect of the debate refers to the list of variables – both use and non use values - to be included in the cost benefit exercise of the proposed dam. The present paper is an attempt to bring together environmental valuation techniques such as the choice experiment model and the ethnographic method to assess and evaluate the environmental and socio-cultural costs (and the attendant WTP and WTA) of the dam to the Tipaimukh region. Significant in this study is the fact that the proposed dam site is at the confluence of the Barak and Tuivai rivers. Located about 500 m upstream of the Tipaimukh multipurpose project, Ruonglevaisuo (as the confluence is known locally) is a historically sacred site of the Hmar tribe as well as their kindred tribes (the Hrangkhawls and Darlongs of Tripura, the Beites of Meghalaya, Sakecheps of Assam and Komrems of Manipur). Legend has it that it was at the Ruonglevaisuo that the kindred tribes parted ways after centuries of traveling together, thus revealing its regional importance. Moreover, the rich eco-system of the Tipaimukh supports both fishing and agrarian subsistence cultures and the inhabitants’ relationship to their local habitat is one of reciprocity involving both “gift” from one generation to the other and equally a “debt” that must be repaid. The absence of meaningful participation of the people of Manipur, especially from Tamenglong and Churachandpur districts, during the design and planning stages of the Project, makes it even more critical to place the present study within a wider human rights approach to development and eco-system management.

Keywords: environmental evaluation, Common Property Resources, indigenous communities, dams, human rights, participatory development
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Change and Adaptation in the Swiss Alps: Bargaining Processes and Rule Constitution in the Collective Alpine Farming Example of the community Alps Laax and Sumvitg (GR)

The Swiss agriculture is in the middle of a profound process of change. The adaptation to a liberalized market, rising competition and structural changes are serious challenges for the whole agricultural sector. Affected by those changes is also, and especially, the alpine agriculture. During the last few years, new ways and models were increasingly discussed, which could help the alpine agriculture to persist within a fast changing economic, political and social environment. In the alpine agriculture there are institutions that collectively manage their natural resources (cooperatives under private or public law, municipalities, associations of cattle holders aestivating their cattle on the Alps etc.). Adaptation to a changing environment for them means that all actors – like farmers, alp staff, cattle holders and Communities – need to renegotiate rules, roles and tasks. Therefore, the institutional setting of these common property regimes basically determines their ability to change. A high institutional flexibility, i.e. mechanisms to enable collective decision making and action, is needed to adapt to external (market, climate, structures etc.) and internal changes (generation change, shift in ideological values, new member constellations etc.). Not every institutional setting is equally capable to adjust to change. Some institutions find a way to adapt or even benefit from changes through innovation; others end up in conflictive situations that hinder sustainable and innovative processes. The focus of this research is the collective management of alps as a common property and the processes of change and adaptation it goes through due to changing conditions. The aim of this research is to identify conditions, which lead to institutional change that fosters ecologically and economically sustainable developments. As mentioned before and also reflected in the title, rule constituting and bargaining processes will play a major role. Also the evaluation of existing rules regarding their acceptance and impact at a local level will be a focal point. As theoretical background, the 8 Designed Principles of Elinor Ostrom (evaluation of the sustainability of the institutions) and the model of institutional change by Jean Ensminger (explanation of institutional change through the influence and interaction of external and internal factors) will be used. The field studies will take place during two alp seasons (mid June to mid September 2010 and 2011) at community Alps in Laax and Sumvitg (GR). Living and working on the Alps is crucial to this research as it is the precondition to gain insights into emic views and perceptions that influence the behaviour of individuals and their role within the community. Local perspectives have often been neglected in governmental decision making processes and previous studies in this field. Now, this qualitative and field study oriented approach shall bring new insights by giving local perceptions and impacts the attention and relevance they deserve.

Keywords: Alpine, agriculture, Switzerland, common property regimes, collective management

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Participatory Village Development Planning: Towards Self Reliant Communities

Indonesia’s village development planning has rarely been based on genuine community participation. Village Development Plans are often developed by only one or two village leaders, and mainly used by the local (district) government to meet a requirement to obtain national government budget assistance. Participatory planning to improve villagers’ capacity to develop and manage village resources is not commonplace. Capacity is still very low; local communities often feel powerless and dependent on “outside” experts to determine their development problems and find solutions. The SUSCLAM Program (Sustainable Coastal and Livelihoods Management Program) is working with local NGOs to improve local community capacity to be able to plan and manage their coastal
and marine resources sustainably. The program sites are in eight coastal villages of Tomini Bay (bordered with North Sulawesi, Gorontalo, and Central Sulawesi provinces) in Indonesia.

**Objectives**

- To improve village community capacity to formulate and implement participatory Village Development Plans, including sustainable and gender sensitive coastal resource management.

**Process**

- Site selection
- Community development and organizing
- Baseline information gathering on village socio economic and bio-physical conditions
- Data analysis as the basis to develop Village Development Plans
- Development of participatory and gender sensitive Village Development Plans
- Implementation of Village Development Plan prioritized activities

**Results**

- Improved local community capacity to plan and implement participatory and gender sensitive village development priorities, including managing village coastal resources sustainably
- Increased community social capital and collective action
- Participatory and gender sensitive Village Development Plans
- Implementation of Village Development Plan prioritized activities according to community needs, and with wide participation.

**Recommendations**

Need for policy mechanisms to:

- ensure that participatory and gender sensitive village development plans becomes the basis for plans at higher administrative levels (district, province, national).

*Keywords: participatory village development planning*

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**Using Biomimicry for Designing Knowledge Gardens for Commons and Inter-Commons Collaboration: A Participatory Action Research**

Move the edge of optimizing electronic and social technologies for boosting collective capabilities to manage complex governance tasks in commons and inter-commons collaboration, at increasing scale. Lay the foundations for prototyping a cross-media environment serving that purpose, by identifying its design requirements in a participatory action research that involves concerned commons groups.

Augmenting capabilities in the commons movement for enriched collaboration and coordination, at increasing scale and supported by the best of Web 2.0 and 3.0, became essential to:

- protect and strengthen natural and new commons, worldwide
- develop shared policy platforms
- let shared vision/worldview emerge from conversations and practices connected across time and geographies

*Keywords: biomimicry, commons, knowledge commons*
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Saving River Commons from the Negative Impacts of River Sand Mining - A Perspective of Affected Stakeholders in Sri Lanka

In Sri Lanka, the demand for sand has been a contributory factor to the rapid increase of river sand mining. Escalation of river sand mining in Deduru Oya and Ma Oya rivers in Sri Lanka is seen as damaging and leading to conflicts. Sri Lanka has an extensive background of civil society led campaigns related collective action in issues related to environmental governance. Protests were conducted at regional and national level as well with the activists ultimately having sought in some cases (Chilaw Water supply ) the Supreme Court for recourse citing loss of human rights.

The activity described in the poster is essentially a process documentation of an advocacy and awareness building activity carried out by a volunteer organization with river sand mining (RSM) affected stakeholders in the river basins of Deduru Oya and Maha Oya . Though localized at the onset, this advocacy effort has now resulted in some national level actions and therefore has implications for all other water bodies currently experiencing the same set of problems. The interaction between affected communities with NetWater revealed the extent of environmental, structural and social damage caused by RSM. The issue is much wider spread than the rivers referred above. Media scans of newspaper reportage carried out in 2006-2008 reveal that that at least 25% of Sri Lanka’s 103 rivers reports some level incidence of illicit RSM.

The issues

The poster highlights developmental issues related to environmental governance of a complex commons, namely interprovincial rivers and an ongoing initiative in raising awareness.

Keywords: river basin management, environmental governance

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Promoting sustainable fishing and aquaculture practices and looking into Ecotourism as a potential option for diversifying livelihoods in Chilika Lake

Chilika is second largest lagoon in the world which supports more than 150000 fisher folks living in more than 132 villages on its coast. It is one of the hotspots of biodiversity and shelters a number of endangered species. Chilika being one of the Common Property Resource and majority of the individuals concentrate on unsustainable fishing which create a threat to aquatic ecosystem. It asks for diversification of livelihoods and relevant policy changes so that sustainable and diversified use of Natural resources can be promoted. Local inhabitants have immense knowledge in Biodiversity specifically birds, their migration pattern and breeding cycles which is utilized in Community Based Ecotourism as a tool to link livelihoods and biodiversity conservation. Since Community based Ecotourism in ecological hotspots like Chilika can’t sustain without sustainable management of Natural Resources. Moreover unsustainable fishing in the Chilika employing traditional fishing practices poses a threat to other aquatic life as well.

Paper attempt to analyse different policy regulations supporting/prohibiting fishing and aquaculture in Chilika,
their implications on the local communities and likely suggestions for policy makers keeping the common fisherman perspective in focus.

Sharing experiences from a yearlong experience from implementing Ecotourism in Chilika and suggesting it as an alternate livelihood option, its role in management and conservation of Chilika biodiversity and required policy and institutional mechanisms from forest and their concerned department.

**Keywords:** aquaculture, fisherman, ecotourism, livelihood

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**Ecological Services Of Percolation Tank and Canals in the Community Management of Groundwater and Welfare Implications in Hard Rock Areas of Karnataka**

Ecological services of irrigation tanks and canals in groundwater recharge and welfare Implications in Hard Rock Areas of Tiptur, Karnataka, India are analyzed. Community of farmers mobilized Rs. 0.1 million and offered their labor constructing a percolation tank to impound water for groundwater recharge. Primary data from 35 farmers each from (i) farmers owning irrigation wells in irrigation tank (GWIT), (ii) farmers owning irrigation wells in canal irrigation (GWCI), and (iii) farmers owning irrigation wells in areas not served by tanks and canals are farmers under sole irrigation (GWSI). About 33% are small farmers (< 5 acres), 50% medium (5-10 acres) and 17% large farmers (>10).

More than 70 percent of cropped area is under Coconut /Areca nut, the coping mechanism due to groundwater scarcity. The proportion of well failure in GWSI was 45% followed by GWIT (20%) and GWCI (19%). Externality cost was Rs. 957 in GWIT, Rs 863 in GWCI, and Rs. 3226 in GWSI. Net return per acre, per functioning well and per rupee of irrigation water were Rs. 12210, Rs. 96979, Rs. 18 in GWIT, Rs. 10912, Rs. 77190, Rs. 21 in GWCI, and Rs. 9292, Rs. 57665, Rs. 6 in GWSI.

Technology and institutions played a significant role in groundwater recharge. Thus the real cost of groundwater fell from Rs. 32 per acre inch in 1986 to Rs. 15 per acre inch (2008) due to tank. Cost of groundwater (net return) per acre inch in GWIT is Rs. 34 (Rs. 365), in GWCI Rs. 44.46 (Rs. 449) and GWSI 113 (Rs. 547). Surface water recharge from tank reduced economic cost of groundwater and improved net farm income to Rs. 10.73 per acre inch for GWIT, Rs. 10.1 per acre inch for GWCI, Rs. 4.84 per acre inch for GWSI.

**Keywords:** percolation tank, hard rock areas, India, groundwater, recharge

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**Interweaving Socio-Cultural Aspects in Community Based Forest Management**

Culture of the community is rarely taken into account when formulating policies. Lack of understanding of local tradition and practices and non-familiarity with the diversity at the local level are some of the reasons. As policies tend to be macroscopic both while formulating as well as during implementation it fails to tap into or synchronize with the local tradition and beliefs. On the other hand there is an inherent and established relationship between the local inhabitants and local resources, specifically forests and is reflected in their deeply rooted practices and rituals.
In Gujarat, India, it is observed that when people pursue management of forests, they also make those changes in their lives that assist forest management. This also interweaves the exiting cultural practices that enhance biodiversity or practice conservation, making it more acceptable and sustainable, since it is in the very belief system of the people. On the other hand, the destructive practices that are no longer functional are restricted with the help of Forest Department’s awareness programs.

Based on empirical observations, the poster explores how policy formulation and its implementation can be more sensitive to indigenous beliefs, while being more effective, in both conservation and ensuring livelihood opportunities for them.

*Keywords: forests, law, culture, governance*

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**Shifting Discourse: Analysing State and Community Relations on Rights and Governance of Coastal Commons in India**

The beach front and the coast play a crucial socio-economic and socio-cultural role in the lives of traditional fishing communities. Historically, communities have evolved an intimate relation with particular stretches of coastline that they use, the area that is in front of their settlement and extends on either side of their settlements. In addition, the sea shore is an integral part of their social, cultural and economic fabric; the way their communities are organised. This paper first gives an overview and history of the governance of coastal spaces by fishing communities and then the State in India. It illustrates the use of beach space by fishing communities and their governance patterns illustrating its critical linkage to their livelihood through select case studies from Tamil Nadu, India. The paper also traces the historical demands of fisher communities to the State, for rights over these spaces of access and the use of beach space, as well as regulates the entry of external actors. The paper traces and examines the response of the State and the campaigns against the ‘reform process’ and deregulation of coastal management legislation in India. We focus also on the development and articulation of demands for coastal land rights made by fisher communities and juxtapose these narratives with the changes in community governance patterns of the coastal commons. The paper analyses the factors influencing the relationship between the State and the communities over the issue of land rights, given the challenges of community governance and State initiatives. In conclusion, our paper makes a case for a revised approach to coastal land use and land rights suggesting the need to modify existing land use and rights based policies to accommodate and recognise the dynamics of community-based governance structures and patterns.

*Keywords: coasts, rights, governance, fisherfolk, state*

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**Managing Reconfigured River basins: Lessons from Saurashtra, Western India**

Meghal is a small river basin in southern Saurashtra, Gujarat (80 kms long, 208 sq. kms, catchment size) which has seen the development of more than a thousand water harvesting structures. Many of these are very small in size and more than 90% of them have a potential storage of less than 5 MCl. However, together these structures
-small check dams, Boribunds, percolation tanks, recharge well-have transformed the hydrology and agriculture of the basin. In a region which is characterized by semi-arid hydrology, and high inter-annual fluctuation of rainfall, such additional storage serves to maintain some amount of security against drought.

Since 2002, AKRSP India has been working in the Meghal River basin with a view to implement Integrated River Basin Management (IRBM). Besides the technical and socio-economic interventions, AKRSP has encouraged and assisted in the formation of a core-group of local leaders from roughly 50 villages to adopt a common river basin identity and initiate water resources planning at the river basin level.

River basins are widely accepted as the optimal unit for water resources planning and management. This principle however, becomes difficult to implement as river basins often cross administrative and political boundaries. The case of Meghal river basin is unique since most of this small basin falls under the Malia taluka of Junagadh district.

This poster presents preliminary results from an on-going research program to understand the hydrological and socio-economic impacts of the intervention and the evolving institutional framework for IRBM.

**Keywords:** water, groundwater, river basin, institutions, India

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**Political Ecology Fieldwork Immersion: Using Institutional Frameworks to Teach Outsiders about Natural Resource Ownership and Access**

For more than ten years, the International Sustainable Development Studies Institute (Chiang Mai, Thailand) has been teaching undergraduate university students about forest and river-dependent communities’ control over coastal, forest, and river resources, in field based courses. This paper outlines how we introduce students to institutional-level questioning on history of local resource management groups, resource access and use, exclusionary mechanisms, strategic collaborations, and power relations in very unfamiliar contexts. Host villagers report that the process of explaining and demonstrating these mechanisms and developments repeatedly to outsiders has honed their skills in conceptualizing and/or communicating about their local governance institutions, a skill some villagers perceive as useful as they negotiate sustained resource access. The paper concludes with summary points of progression in student understanding of political ecology through firsthand experience in village settings throughout Thailand.

**Keywords:** political ecology, local institutions, natural resource access, environmental justice
videos
videos

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Use of Visual Media for Protecting Rivers Endangered By Illicit River Sand Mining In Sri Lanka

This video presentation records an ongoing initiative carried out mainly by a coalition of CSOs and volunteers in Deduru Oya basin, Sri Lanka, a river which is being severely damaged by sand mining on the river bed and river banks. Illicit and unregulated river sand mining has created damage to riverine ecosystems causes biodiversity, livelihood and water security losses. Localized efforts for combating this trend through community action met with limited success. Ultimately a networking initiative by CSO with local community organizations from Deduru Oya was able to raise profile nationally for this invisible disaster through successful use of media. This process is depicted in the documentary with footage of damage caused by river sand mining. The Video “Shifting sands, Weeping rivers” was produced 2009 by Sri Lanka Water Partnership and NetWwater (Network of Women Water Professionals) Sri Lanka with support from Water Integrity Network and Global Water Partnership. The Run time is 18:10 mins. The film was produced and directed by Kusum Athukorala. The original format is Quicktime movie and the equipment needed for viewing is a PC or laptop with appropriate software and a multimedia.

The attached clip on Youtube (http://www.youtube.com/watch?v=S3U4dwMPcsE) was produced for the COP 15 using edited clips of the original film. The version of the film proposed to be screened for IASC conference may contain new footage regarding the results of bank conservation program undertaken by the community and CSO partners in 2009.

Duration: 18 min 10 sec

Keywords: river sand mining, community action, conservation

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Looking For Collective Action in a Watershed: Experiments and Cooperation for Development in Colombia

Description of its original purpose if not created for this Conference itself: The purpose of the video is twofold. First, the video aims to spread the scientific outcomes of the research project “Sensibilizing and Capacitating Local Communities in Rural Colombia for a Better Management of their Natural Resources”. Second the video intends to raise awareness about the relationship between poorness and natural resources management in rural Colombia. The video is to be showed in Spanish and Colombian TV show and film exhibitions. Distribution to organizations with scientific or educational aims will be free of charge.
Synopsis: Similar issues related to the use of natural resources are encountered by local communities all over the world. This video-documentary attempts to illustrate the case of one of those communities. Specifically, the video-documentary portrays the story of a group of researchers who use economic field experiments and participatory methodologies to better understand the collective action dilemmas of managing a watershed in the Andean region of Colombia. In their 10-day trip to rural Colombia, the researchers conduct an economic experiment and a workshop using participatory methodologies with more than 170 locals. The experiment studies the implication of different levels of scarcity in the management of a watershed. After the experiment, participants discuss in the participatory workshop their daily problems and how these relate to scarcity and weak management of the watershed. The combination of the economic experiment plus the discussion raises the awareness of participants about the importance of cooperation between them and with local organizations (NGOs and government) for the sustainable use of the watershed.

The project is funded by the Department of Cooperation for Development of the Government of the Balearic Islands (Spain), and is a joint venture between the University of the Balearic Islands (Spain), the Pontificia Universidad Javeriana (Colombia), and WWF-Colombia.

The video-documentary has two main audiences: first, a general audience who is concerned about problems related with the sustainable management of natural resources at the level; and second, a more technical audience who is interested in the potentialities of combining field experiments and participatory tools to induce awareness about the social dilemmas of natural resources management in local communities.

Duration: 23 min 50 sec

Keywords: water management, payment for environmental services, empowerment.

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Breeding Invasions...Lives (tock) at Stake

Breeding Invasions...livestock at stake explores the intricate connections between the land, people, animals and food and takes an incisive look at the policies that are dismantling these organic linkages, resulting in an artificial separation of livestock and agriculture. The film, through conversations with livestock rearers, farmers and scientists, exposes this unfolding tragedy, of dwindling livestock, destroyed livelihoods, acute indebtedness, polluted environments and unsafe food increasingly being produced by energy intensive monoculture, industrial farming systems, which threaten sovereignty over our land, food and animals.

Duration: 52 min 18 sec

Keywords: livestock, public policy

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Livelihoods Restoration of Back water Fishermen: DHAN Foundation’s Post Tsunami Interventions

Tsunami the killer wave devastated the lives and assets in coastal districts of Tamil Nadu in India on December 24, 2004. International and national concerns and funding support came pouring for relieve and restore the livelihoods and assets of Coastal fishermen only. But the fringe coastal communities like back water fishermen

Videos
and Coastal agriculture farmers were left in lurch. DHAN Foundation categorised these ‘left out’ and ‘highly affected community’ and made systematic relief and restoration by building the social capital of people and initiated micro finance activities and other development support. This 20 minutes documentary exclusively captures the plights of backwater fisherman in Nagapattinam district.

Duration: 11 min 43 sec

Keywords: back waters, fishermen, Kalanjiams

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Melati, Melati; Achdiawan, Ramadhani; Ipunk, Ipunk

Survival of Javanese Furniture: Sustaining the Commons, Life and Future

Furniture making has long been a part of Javanese culture of Indonesia. The Javanese consider teak and furniture as a valuable part of their commons. Local carvers and furniture makers absorbed the influences of Chinese, Indian, Arabic and European designers, producing to this day intricate designs and highly sought after furniture. The 17th century port city of Jepara remains today a major centre of furniture production in Indonesia with about US$100 million export annually. However, the small-scale furniture producers, amounting to 12,000 of units, remain in poverty. This caused by unhealthy competition among producers in setting price and using wood resources. This situation is part of the legacy from Javanese business practices. The global economic crisis in 2008 had made situation even worse.

The 20 minutes video titled ‘Survival of Javanese Furniture’ illustrates the conflicting roles of different furniture actors including wood growers and traders, furniture producers, exporters and local government. The video also shows the emergence of small-scale furniture producers association in sustaining their common, their life and their future. This association acts as a living institution where the producers developed their common vision, constitution, rules, strategy and actions. The association acts as vehicle to sustain their commons, improve their wellbeing, decision making engagement and mainstream gender balance. Although it is a case, but the lesson from this cultural rooted industry can be learned by similar industries in developing countries particularly when people associate themselves to protect their commons and lighten poverty.

Duration: 19 min 40 sec

Key word: furniture, Jepara, small-scale producers, association, poverty

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Clear As Mud: Mangrove Conservation and Community in Cambodia

This documentary video Clear as Mud: Mangrove Conservation and Community in Cambodia was made for the purposes of advocacy, shared learning and community confidence building inside and outside Cambodia. The stars of the film are ordinary fisher folk, women and men, whose voices and actions depict their perspectives, analysis and insights into how and why they turned away from being destroyers of mangroves to being its guardians.

The video was made by the Participatory Management of Coastal Resources Research Project to document the process of how it collaborated and organized with a community of fisher folks and other stakeholders from local
to national levels over the past ten years to turn a depleted mangrove area into a protected mangrove site. This site located in the southwest coast of Cambodia became officially designated in 1993 as the Peam Krasop Wildlife Sanctuary.

The main message of the film comes from its title, a Cambodian proverb, clear as mud, that when the benefits of mangrove conservation are clear, the community will rally to protect the mangroves from unsustainable depletion.

The context for this film shows how Cambodia, once rich in natural resources, became resource poor because of the in-migration of displaced peoples within Cambodia after the war; illegal deforestation and overfishing with the opening up of Cambodia and its integration into regional and global markets; and poor resource management and the unregulated use of natural resources.

The project engages the concept of community-based natural resource management (CBNRM) in Cambodia initiated by the Participatory Management of Coastal Resources Project based at the Ministry of Environment as a response to resource declines and lack of access to common pool resources.

New challenges are emerging. Shrimp farming and sand mining threaten to undermine important gains made. How will mangrove communities succeed in managing this important ecosystem?

Duration: 22 min

Keywords: CBNRM, governance, complex commons, mangroves, community organising

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Justice Delayed: Forest Rights Act Implementation in Andhra Pradesh

The film examines the implementation of the national Forest Rights Act 2006 in the state of Andhra Pradesh. In passing the radical FRA the Govt. of India finally acknowledged that the state appropriation of tribal’s forest commons had involved an ‘historical injustice’ which should be corrected. The film explores the FRA implementation on grassroots level. Shot during 2008-9 it includes interviews of activists, Govt. officials at several levels, intellectuals and ordinary people. The film exposes the blatantly labyrinthine nature of the bureaucracy in the country and the consequent difficulties for marginalised tribal peoples to get redress for the acknowledged injustice. The film was recently reviewed in the Hindu

http://beta.thehindu.com/life-and-style/society/article309772.ece

Duration: 59 min 31 sec

Keywords: forest commons, India, Andhra Pradesh, legal reform justice

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Building Resilience of Community Fisheries in the Tonle Sap Lake: Collective Action and the Capacity to Manage Resource Competition

The Tonle Sap Lake is the heart of Cambodia’s freshwater fishery, a source of livelihood for more than half the country’s rural population, and a vital source of nutrition. The lake and its floodplain is governed by a complex mosaic of tenure regimes, with commercial lots operating in parallel to community managed fishing grounds,
and with seasonally-variable access to land, water, and aquatic resources. This video reports on an action research initiative aimed at addressing resource conflict in the Tonle Sap, implemented through a unique partnership of the Fisheries Administration and a grassroots civil society network called the Coalition of Cambodian Fishers. The project aimed to strengthen the capacity of this network of fishing communities to engage in collective action beyond the local scale, in support of governance arrangements that anticipate and manage competing uses of aquatic resources equitably. Specifically, it focuses on the collective capacity to identify and articulate threats, negotiate with authorities to represent the common interests of fishing communities, and collaborate with government and private actors to resolve resource conflicts equitably. Employing the Appreciation-Influence-Control model of stakeholder engagement, the project convened a series of 10 consultations at community and provincial levels in the five provinces surrounding the lake during September 2009-May 2010, followed by a national consultation. The video shows the facilitated process of reflection and collective problem solving that enabled grassroots actors to secure commitments to action from neighboring communities, local government, police, and national agencies. As a result, significant resource disputes have been resolved, and capacity improved for future collaborative dispute resolution in the fisheries sector. The video shows how a low cost, whole-system approach to stakeholder engagement can catalyze multiple actions in parallel that tap the power of social norms to reinforce commitments without the need for a centrally managed project structure.

Duration: 12 min

Keywords: freshwater fishery, livelihoods, resource conflict, Cambodia

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The Challenge of Local Water Governance

The Competing for Water research programme (www.diis.dk/water), which has documented the extent, intensity and nature of water-related conflict and cooperation occurring over a 10-year period in one district in each of the following countries: Bolivia, Mali, Nicaragua, Vietnam and Zambia.

The video forms part of a conclusion-based media kit, which apart from the video also contain journal articles, press-leases, policy briefs and short sound and video clips – all speaking to the Competing for Water programme conclusion illustrated by the video.

Video abstract:

In many countries, it is the task of district and other local authorities to authorise and monitor use of water for small-scale irrigation (e.g. a couple of hectares or less) and ensure that small scale irrigation does not conflict with leaving enough water for human and animal consumption. The video illustrates the magnitude and complexity of this task – a task and a level of water governance which is often grossly neglected if efforts to improve water governance.

Duration: 11min 30 sec

Keywords: water, governance, institutions, decentralisation, poverty
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When New Powerful Water Users Emerge

The future can only rarely be predicted on the basis of the past. The advent of new and often powerful water users such as mining companies, electricity plants, cigar producers inducing tobacco contract farming, bio-fuel plantations, etc. radically alters the level of competition over water resources and the nature and extent of water-related conflict and cooperation. Dealing with such new and powerful water users while at the same time ensuring adequate access to water for domestic and productive purposes for all rural and urban dwellers constitute an immense task for which district and national authorities are often only poorly prepared politically, legally and technically. The video illustrates the dilemmas involved at the local level and the implications they have for local people drawing on the case of mining in Vietnam and tobacco growing in Nicaragua.

Duration: 10 min 29 sec

Keywords: water, governance, power, mining, tobacco, irrigation, poverty, Vietnam, Nicaragua

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Semmiñ Ŋaari Boor (Double Bladed Axe)

Senegal’s Foresters convince the villagers of Daru Fippu to ‘manage’ their forests to generate income for their community. The foresters speak of conservation, but insist on production. They speak of participation, but use villagers as labor. They speak of development, but block villagers from lucrative markets. When the sympathetic forester, Mbaxan, tells the poorly paid villagers that urban merchants get ten times the forest-edge price for charcoal, the villagers are shocked. Mbaxan tries to help the destitute villagers gain access to the urban market, but is stymied at every turn. The village of Daru Fippu federates with nearby villages to stand up to the Foresters’ double talk and to claim their rights.

Duration: 49 min 41 sec

Keywords: forests, tribal, Senegal, community

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Lifelines for Livelihoods: Reviving Tank (Lakes) Cascades in Hydrological Approach

Irrigation tanks (Traditional water harvesting structures called Lakes) are our heritage handed over to us by our ancestors and are the lifelines of villages. Tanks (Lakes) are small irrigation structures predominantly serve small and marginal farming communities to sustain the agriculture production by supplementing the monsoon rains. A proper maintenance of the tanks will prevent famine, starvation and unemployment and bring in prosperity.

Tank (lake) irrigation in Andhra Pradesh, India has played a vital role in the development of its agricultural economy. There are around 79,000 small and minor irrigation tanks providing water for irrigation and domestic
use, supporting grazing land, fuel wood growth and ground water recharge. Many of these tanks are hydrologically linked in chains (called tank cascades) that cut across administrative boundaries.

The share of the tank irrigated area in India has declined from 16.51% in 1952-53 to 5.18% in 1999-2000, whereas the share of ground water irrigation has increased from 30.17% to 55.36% during this period. In the last 25 years, about 1.7 million hectares of net area under tank irrigation has been lost, amounting to a capital loss of about Rs.51,000 million.

DHAN Foundation, a not-for-profit Non Governmental Development organisation since 1992 demonstrated successfully at grass roots in rehabilitation of over 1800 traditional irrigation tanks with community empowered nested institution approach. Traditional tanks are considered as flood mitigators due to their equitable water distribution among hydrologically linked tank cascades. They are also seen as drought mitigators.

This paper analyses the revival of tank cascades in Nalgonda district of Andhra Pradesh, India with participation of all stakeholders.

Duration: 19 min 39 sec

Keywords: tanks, governance, long term sustainability, agriculture development, lifelines for the villagers
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