

A woman in a patterned sari is sitting on the ground, holding a yellow container. A small black dog is in the foreground. The background is a blurred outdoor setting.

Common Voices

Issue 1

Introducing Common Voices

Ostrom: Taking sustainability research mainstream

Working for a living: NREGA in Andhra Pradesh

Amritya: Sustaining groundwater

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Women harvesting paddy in the Sunderbans, adapted from photograph by Pankaj Sekhsaria ©



Introducing

Common Voices

The commons, as shared resources, are an integral aspect of many resource management systems the world over.

Their relevance spans across a variety of geographical regions, political ideologies and stakeholder groups, and their maintenance in some cases is of critical importance to providing sustenance for the poor and the landless. While their importance to sustainability is no longer in question, there still exist opportunities for discussion, research, application and better dissemination of commons-based information.

We present the inaugural issue of *Common Voices*, as the first step in our effort to familiarise professionals and lay people on the themes of the 13th Biennial Conference of the International Association for Study of the Commons (IASC) to be held in Hyderabad, India. In the run up to this event which is to be held in January 2011, we hope to facilitate exchange of information on the commons, to inform participants and observers about events and opportunities, and to stimulate lively discussions among those who use, manage and study the commons.

One of the main objectives of this initiative is to disseminate the key premises and results of scholars and practitioners who have pioneered work on the commons. We start with none other than Elinor Ostrom, who was the recipient of the Nobel Prize in Economics in 2009. The selection committee lauded Ostrom for 'her analysis of economic governance particularly with reference to the commons'. In addition to the recognition of Prof. Ostrom's seminal contribution, we feel strongly that the Nobel award also signifies a turning point away from macroeconomics and markets, and the coming of age of sustainability research and alternate governance pathways. For India, this is particularly timely as organisational partners gear up to host the conference of the IASC of which Ostrom was the founding President.

As this publication evolves, we hope to bring more profiles of pioneers as well as essays and perspectives from leading scholars and practitioners. We also hope to report on emerging regional and thematic issues that are of significance to sustainability. For example, in many parts of India, struggles surrounding land, ranging from corporate land grab to the claims of forest peoples, have been emerging as issues of concern. With the establishment of a 'Committee on State Agrarian Relations and the Unfinished Task in Land Reforms' under the chairmanship of the Rural Development Minister, and a 'National Council for Land Reforms' under the chairmanship of the Prime Minister, these issues are likely to receive renewed attention and hopefully some amount of relief to those to whom injustice has been done. As a hotspot of traditionally managed governance systems which have evolved over centuries, the South Asian region also has many success stories to tell. By focusing on case studies from the region, we aim to communicate lessons from some of these diverse accounts of success (and failure), and explore their relevance in providing solutions for the future.

The digital era has also ushered in a sea change in the way information is shared, transmitted and used. One of the emerging themes related to the commons has been that of the new generation (non-conventional) commons which include the internet and public resources, databanks, media and traditional knowledge systems. These commons are united by the underpinning concepts of knowledge and technology sharing. While knowledge as a shared resource has endless possibilities, in certain contexts such as traditional systems, it may need to be protected or regulated from misuse. In subsequent issues of *Common Voices*, we hope to address some of these issues and report on upcoming events related to them.

This publication has been initiated with the aim of addressing practitioners and lay readers from different backgrounds, regions and disciplines. Like any other effective effort, the success of this publication will also depend on the communication that we receive from readers. We encourage our readers to send letters to the editors on content that is already published or independent contributions that will inform us of your alternate perspectives or practitioner experiences.

Common Voices is an initiative of the Foundation for Ecological Security (FES). The newsletter is managed by a small editorial team comprising individuals from this organisation as well as independent contributors. It has to be mentioned though that we draw extensively from the work of practitioners who work at the grass roots level. We hope this endeavour contributes at least in a small way towards meeting the tremendous challenges facing sustainability today.

Editors



Common Property Resources

Common property resources (CPRs) are natural or man-made resources characterised by common or communal use where people have access and usage rights but not exclusive ownership over them. Common resources may be traditional or modern, with the defining factor being their use and governance by multiple stakeholders. Village commons, forests, fisheries and irrigation systems that have developed over long periods of time are examples of traditional commons, whereas modern resources such as the internet, genetic databanks and digital resources are considered as new generation commons. The access and use of these resources or properties are usually governed by a set of rules that have evolved over time and the resources are managed with long-term sustainability in mind.

Traditional commons provide a variety of services to people and ecosystems. In India and much of developing Asia, the commons are of critical importance to the livelihoods of rural communities especially the poor, landless and itinerant groups. From the point of view of sustenance, the commons provide critical livelihood support, in the form of shelter, food, water, fodder and energy requirements, to rural people. Common lands also act as safety nets during periods of resource scarcity such as drought and other natural disasters. At the same time, although in principle, the commons are accessible to all members in a community, access to these resources is sometimes restricted to the more powerful community members. Even today, Dalit communities and minority groups are denied rights and have a hard time accessing benefits from some of these lands.

In addition to providing livelihood support to rural people, common property resources are vital components of socio-ecological and cultural systems and have a value way beyond economic benefits. Many commons foster significant amounts of biological diversity and perform ecological services like the maintenance of forest cover, improving soil moisture regimes, enabling nutrient cycling, recharging groundwater systems and the maintenance of watersheds. The commons are also strongholds of social and cultural diversity and over the years have played a role in the development of numerous traditional social institutions and governance regimes which are important for community cohesion and solidarity.

The current threats to traditional commons play out in different ways. The first is with respect to the institutional breakdown of governance systems that were developed

over many centuries. The seeds of this process were sown when the British brought more and more lands under state rule. Following Independence, in a situation typical of developing countries, India's misplaced government policies encouraged further nationalisation. In many places the threat is also compounded by the failure of anti-poverty measures undertaken by the government. State acquisition, privatisation and encroachment is also significant on common lands which are officially classified as 'wasteland'. This classification facilitates conversion for biofuel cultivation, corporate contract farming and for inclusion into SEZs. As the amount of common lands available with communities decrease, the increased pressure on the remaining areas result in increased degradation as well as decreased livelihood benefits and ecosystem services.

Internet and other public resources, databanks, genetic information repositories, technological systems and traditional knowledge systems are some of the issues that come under the purview of new generation commons. Cutting across traditional spaces, the underlying factors that unite non-conventional commons are information and knowledge. Looking at knowledge as a commons especially in the digital era also entails examination of aspects such as public policy, intellectual property rights, privatisation and benefit sharing. Sharing knowledge especially with respect to the digital commons (e.g. making available the results of government funded scholarly research) has positive impacts and is largely desirable. However, in certain contexts such as traditional knowledge commons (e.g. ethnomedicine), this has to be carried out while ensuring equitable profit and credit sharing arrangements with local communities whose contributions are often usurped or forgotten by more powerful groups.





Elinor Ostrom

Taking Sustainability Research Mainstream...

In 2009, the The Royal Swedish Academy of Sciences conferred the Nobel Prize in Economic Sciences on two individuals who have been instrumental in establishing economic governance as a field of research: Elinor Ostrom and Oliver Williamson. While Williamson's contribution is largely in the field of conflict resolution and mutual dependence behind hierarchical organisations, Ostrom's work focuses on the evolution and growth of institutions and mechanisms that govern the commons.

Elinor Ostrom has broken the mould by attaining more than just the honour of being the first woman laureate in this field (which in itself is a richly deserved recognition). In an era of market meltdowns and economic recession, Ostrom's work stands out as an approach away from macroeconomics and markets to scenarios of common property management where the assignment of rights and responsibilities do not follow standard market procedures. Her pioneering work has shifted the focus to sustainability research and has implications across a range of resource use systems and institutions. In this article, we attempt to provide a snapshot of her achievements to commons research as a whole and to south Asia in particular where a significant portion of her research is situated.

Key contributions

One of the key contributions of this political scientist has been towards challenging conventional wisdom and overturning the prevailing view in support of Garrett Hardin's long-held 'tragedy of the commons' hypothesis. Hardin postulated a pessimistic and largely hypothetical scenario of the commons being degraded when multiple individuals with selfish interests depleted resources. In his view, environmental sustainability was bound to be a victim in the long-term. Ostrom's research on the other hand which is grounded in fieldwork and ethnography demonstrates that given the right institutional frameworks, the fate of the commons need not be mired in tragedy. In fact she goes on to show that human societies have and continue to successfully manage common property resources in a variety of resource situations including forests, fisheries, grazing lands and irrigation systems. Ostrom also identifies a suite of rules and conditions that lead to successful management as well as a range of threats that can negatively affect the process. These range from effective boundary demarcation, adaptability to local conditions, collective choice arrangements, effective monitoring, the use of graduated sanctions (for rule breakers), mechanisms of conflict resolution and compliance, self-determination, and the role of multiple layers of nested enterprises for larger common pool resources.

Ostrom's research on the other hand which is grounded in fieldwork and ethnography demonstrates that given the right institutional frameworks, the fate of the commons need not be mired in tragedy.

The importance of this research lies in its potential to garner support for common management by developing the right institutional frameworks. Such approaches are different from privatisation or government control, the two most often touted panaceas by experts. From the point of view of social justice and self determination, Ostrom's work acknowledges the efficacy of a number of self governing traditional management systems that work well. Since human-nature interactions are naturally complex and context-dependent, single governance systems are unlikely to succeed across the board. She cautions against the one-size-fits-all strategies that are increasingly being promoted and calls for diagnostic approaches.

Few individuals have succeeded in navigating the tricky interface between theory and validation. While her observations have drawn from theory and empirical studies, the key to Ostrom's work lies in her ability to compare and test them in actual situations employing a wide ranging suite of techniques ranging from ethnology to remote sensing and game theory. Working across disciplines, Ostrom also works towards articulating knowledge from a range of disciplines to develop integrative conceptual frameworks that resolve resource management dilemmas. She has also been instrumental in developing the Institutional Analysis and Development (IAD) framework in which analysts focus on decision-making individuals within resource governance institutions. The key pathway for IAD includes an exploration of "participants in positions who must decide among diverse actions in light of the information they possess about how actions are linked to the potential outcomes and the costs and benefits assigned to actions and outcomes". Ostrom's work throws light on the evolution of institutions for collective action. She demonstrates that common resources can be shared and managed effectively through systems that get around the free rider problem (free riders are those who misappropriate resources or expend less effort than necessary towards an outcome) by planning and forethought involving incentives, rewards, etc.

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In 1973, Elinor, along with her husband Vincent Ostrom co-founded A Workshop in Political Theory and Policy at Indiana University. The Workshop remains the base for professionals working on the commons; here they can interact, contribute and learn from each other. Ostrom is also the Founding President of the International Association for the Study of the Commons and was also instrumental in the development of the International Journal on Commons.

Lessons from and for South Asia

The commons are of paramount importance to south Asia where local communities traditionally managed their resources for hundreds of years. A rich diversity of bio-physical attributes of the region have also led to the development of a variety of user-managed systems that have evolved over long periods of trial and error. We highlight two critical studies carried out by Ostrom and her colleagues on south Asia's common property resources:

Irrigation systems in Nepal

In a comparison of Nepal's Agency Managed Irrigation Systems (AIMS) and Farmer Managed Irrigation Systems (FMIS), Ostrom and colleagues show that the latter were more successful in allocating water resources efficiently and equitably. Ostrom validates a counterintuitive perspective by demonstrating that the success of locally managed systems were partly attributable to the poor

Congratulations to Elinor Ostrom from IASC President Ruth Meinzen-Dick

Monday's news of Elinor Ostrom winning the 2009 Nobel Prize in Economic Sciences is still reverberating, causing much excitement. In awarding the prize, the Royal Swedish Academy of Sciences noted it is "for her analysis of economic governance, especially the commons". It is so encouraging to see the explicit recognition, by the economics profession, of her landmark studies in the factors that encourage cooperation.

Those who have been privileged to work with her know how richly deserved this recognition is. Those who are not familiar with her work, who still believe in the inevitability of Garrett Hardin's "tragedy of the commons" have a treat in store, discovering her research. She is a brilliant scholar who can still communicate her ideas to a wide audience, an inspiring teacher and generous colleague.

I am fortunate to be in the former group. I have been following her work on cooperation for managing water, forests, and other shared resources (even the internet!) for more than 20 years. She was the founding President of the International Association for Study of the Commons (IASC), instrumental in building an organization that brings together researchers and practitioners to build understanding and improve institutions for the management of resources that are (or could be) held or used collectively by communities in developing or developed countries. I'm privileged to be the current President of IASC, able to build on the foundations of her work and that of hundreds of others who are helping to learn how to craft institutions to govern the commons effectively.

From this vantage point, let me point out two aspects of Prof. Ostrom's work that are noteworthy, especially for a Nobel Laureate in Economics Sciences. The first is that her work is grounded in empirical observations. She draws on theory, but also questions the underlying assumptions and tests them against the actual behavior of people and institutions. She looks for the commonalities—and differences—in the way people relate to different types of resources, in developing countries as well as the US and other industrialized countries, using case studies, structured comparable data collection across sites, and experimental games, both in the lab and in the field.

The second significant aspect of her work is that she transcends disciplines. A political scientist who wins the highest prize in economics, she works with the whole range of social scientists, but also with foresters, ecologists, mathematicians, ... the list goes on. She learns from each discipline, and offers conceptual frameworks (notably the Institutional Analysis and Design, or IAD framework) that help integrate knowledge and insights. And more importantly, the combination of perspectives helps to address important practical problems of resource management and crafting institutions that are sustainable and equitable.

For those who want to learn more, a list of her key publications that are available free online is at www.iasc-commons.org. Over 100 of her online articles are also available in the Digital Library of the Commons at <http://dlc.dlib.indiana.edu/dlc/browse?value=Ostrom%2C+Elinor&type=author>

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Source: <http://iascp.blogspot.com/> This article was posted on October 15, 2009. This blog posting is co-published with the International Food Policy Research Institute www.ifpri.org.

quality of dams and irrigation structures that local people constructed. Made of mud, stone and trees, these primitive irrigation structures required frequent repairs and maintenance which in turn depended on cooperation between head-end and tail-end users. This contrasted with technologically advanced dams constructed by the government with assistance from foreign donors; these durable concrete structures precluded the need for labour inputs and eventually resulted in head-end users misappropriating water.

These studies demonstrated that on the basis on their intimate knowledge of the biophysical resources in the landscape and cooperation, Nepali farmers with much less formal education and resources developed and maintained systems which were more efficient than those developed on the basis of 'modernisation'. There are many other examples of failed modernisation projects and there are also examples of systems which show that user-management is not a universal solution for sustainability. What we need to note however is that the successful ones are largely democratic institutions that have survived the test of time and need to be empowered and not dismantled.

Forest governance

Forests are among South Asia's most critical resources, and the region is characterised by a large number of forest dwelling and forest dependent communities. One of the most controversial issues that has polarised conservation debates in recent times is the governance and ownership of forest land. A number of conservation professionals strongly root for government ownership and strict protection under the protected area network as the only way to conserve the region's remaining forests. Social scientists on the other hand have pointed out the flaws of strict protectionism and call for investments in improving livelihood and governance options for communities living in and around forests.

In a recent study, Ostrom and Nagendra have attempted an evaluation of the effectiveness of protected areas under various management and protection regimes. The authors traced forest change in three diverse landscapes: the Chitwan District of Nepal, the Mahananda Wildlife Sanctuary in West Bengal (India) and the Tadoba-Andhari Tiger Reserve in Maharashtra (India). Their multidisciplinary study employed research methods ranging from analysis of remotely sensed data on a temporal scale (from the air), cross-sectional data pertaining to information on users, governance and ecological variables (from the ground) and experiments on behaviour of volunteers (from the lab). They conclude that a simple protectionist approach that excludes people from protected areas is unlikely to succeed without expensive inputs from the government. Rules that are

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imposed by outsiders or by powerful insiders are likely to result in failure. On the other hand when users are genuinely engaged in decision-making and development of effective institutional and tenurial arrangements, it results in more effective management of forests. Key insights from this study also underline the importance of simple strategies such as providing opportunities for face-to-face communication between stakeholders as a catalyst for increased cooperation. This study also stresses the importance of employing a diversity of methods for understanding dynamic and complex-socio-ecological systems.

Through most of their work, Ostrom and colleagues demonstrate the importance of social capital and knowledge systems, and the importance of identifying these systems. Many of us familiar with the commons are bound to know about traditional resource management and knowledge systems that are successful, though much remains to be done regarding their documentation, validation and formal transfer of power. With respect to Indian forests, these studies have large-scale, on-ground implications for participatory approaches such as Joint Forest Management, and in resolving current impasses including the recent controversy over the Forest Rights Act (2006), i.e. The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006. Similarly, human dominated landscapes that are now receiving recognition from the point of view of reconciliation ecology also will benefit greatly from such explorations. On a broader scale, we can also gain insights into a range of participatory set ups such as the *Panchayati Raj* institutions, rural co-operatives and self-help groups.

As a pioneer of sustainability research Ostrom's work transcends the realm of mere scholarly explorations. Additional to her significant contributions to theory, policy and practice is her role as a role model and mentor whose work is signified by the role of conscience and the adoption of democratic principles.

Further reading

The key publications of Elinor Ostrom selected by the International Association for the Study of Commons are available for free download through links to the Digital Library of the Commons. These can be accessed at: <http://www.indiana.edu/~iascp/LinPubs.html>.

Working for a living: Poverty Alleviation through Employment Generation in the Commons of Andhra Pradesh

Although it is the backbone of rural livelihoods, agriculture in Andhra Pradesh is often in the news for the wrong reasons. A strong dependency on rain fed irrigation and its vagaries has predisposed the region to instability and volatility in farm production. Prolonged agricultural distress has in turn contributed to the migration of people in search of better livelihoods and in some cases, farmer suicides. In such a scenario, national schemes under the National Rural Employment Guarantee Act (NREGA) have the potential to generate wage employment for rural people while at the same time sustaining livelihoods, conserving natural resources and improving local governance systems.

In Andhra Pradesh, the National Rural Employment Guarantee Scheme (NREGS) has been deemed compatible with a number of existing and planned initiatives and in 2009-2010, this scheme was functional in over 21,000 *Gram Panchayats* in the state. Under these initiatives numerous activities including horticulture on fallow lands of the poor, investments on natural resource management (NRM) in rain-fed areas, and restoration of water-bodies have been carried out. Key state-level initiatives that have been identified by the Ministry of Rural Development include the Drought Adaptation Initiative, Community Managed Sustainable Agriculture Initiative, and the Common Property Resource (CPR) Management Project in Chittoor and Anantapur districts with NGO partners. Under the Common Property Resource Management Project, efforts have been on to rejuvenate common lands in these two districts. In collaboration with 24 NGOs, an area of approximately 24000 acres in 44 villages have been covered. While support

for execution is derived from NREGA outlay, the facilitation costs are borne by the NGOs.

Common Lands Development Programme

Significant areas of common lands in Chittoor and Ananthapur districts have been successfully regenerated as a result of long-term NGO initiated projects operational in the region. Following this, the Paryavarana Parirakshana Samithis secured long-term user rights through a provision made for the long-term lease of common lands to tree growers cooperatives. Based on these successful experiences, a consortium of NGOs are attempting a state-level programme that aims to regenerate common lands and enhance livelihoods of communities that are dependent on them. Formally labeled as, 'Community Based Ecological Restoration of Degraded Common Lands', this initiative targets contiguous, sizeable blocks (exceeding 10 ha) of revenue land and/ or *Panchayat* commons in rural areas, such as village porambokes, hill tops, social forestry and grazing lands, stream banks, etc. The current target is to initiate the programme in ten selected districts where there is heavy dependence of communities on common lands. The NGOs undertaking this venture include the Ananta Paryavarana Parirakshana Samithi (APPS), the Foundation for Ecological Security (FES), the Watershed Support Services and Activities Network (WASSAN) and Oxfam. Although the programme is designed to work with independent funding, convergence with the ongoing NREGS will be explored.

The main components of this programme will be to organise and enhance capacities of communities, to establish norms

The National Rural Employment Guarantee Act (NREGA), 2005

The National Rural Employment Guarantee Act (NREGA), 2005 is an intuitively attractive initiative that pledges employment support to any one who contributes to public works. Developed primarily as a tool to aid in the eradication of extreme poverty in villages, NREGA is also increasingly seen as an avenue for ecological restoration and revival. Under its associated implementation programme, the National Rural Employment Generation Scheme (NREGS) aims to provide at least one hundred days of guaranteed wage employment each year to every household whose adult members volunteer to do unskilled manual labour. This legal guarantee has been fixed at a minimum wage of Rs. 100 a day. The Central Government's outlay for this scheme for the financial year 2009-2010 has been Rs. 39,100 crores, which is aimed at employment generation, women's empowerment and livelihood enhancement in rural areas. The NREGA's major objectives include the provision of an employment source and safety-net to rural households, wage security especially to women, and transformative empowerment resulting from the adoption of democratic principles. The improvement of productivity of public and private lands is also a goal of the NREGA. A national legislation with potentially far-reaching consequences, the implementation of the NREGA is dependent on convergence and implementation across sectors. Common lands in rural areas can benefit immensely if the right kind of man power arrangements and inputs are planned.

Key features of the Andhra Pradesh Rural Employment Guarantee Scheme (APREGS)

Notified districts: Adilabad, Karimnagar, Nizamabad, Medak, Mahabubnagar, Ranga Reddy, Khammam, Nalgonda, Warangal, Anantapur, Kadapa, Chittoor and Vizianagaram

Objectives:

- to provide livelihood security to rural households in 13 notified districts by providing not less than 100 days of guaranteed wage employment every year to every household, whose adult members volunteer to do unskilled and manual work
- creation of durable assets and strengthening the livelihood resource base of rural poor

Type of work (in order of priority):

- water conservation and water harvesting
- drought proofing (including afforestation and tree plantation)
- irrigation canals, including micro and minor irrigation work
- provision of irrigation facility to land owned by households belonging to the SC/ST category or to land of beneficiaries of land reforms or the Indira Awas Yojana program
- renovation of traditional water bodies including desilting of tanks
- land development
- flood control and protection works, including drainage in water-logged areas
- rural connectivity to provide all-weather access
- other work, which may be notified by the Central Government in consultation with the State Government

Other important features:

- equal wages will be paid to men and women
- priority shall be given to women in such a way that at least one-third of the total employed are women
- contractors or wage-displacing machinery not to be employed
- the *Gram Panchayat* shall be the primary planning and implementation authority

and governance mechanisms, and to establish rules for provisioning and benefit sharing. Program modalities would involve identifying appropriate parcels of contiguous common lands and entering them in the Prohibitory Order Book (POB) to guarantee legal protection and usufruct rights. The collective will work with communities towards identifying and planning appropriate development measures that are suitable to particular systems in terms of livelihood as well as ecological security. Developing formal mechanisms to facilitate usufruct rights over land that has

been regenerated will also be attempted at a larger scale. As the customary rights of people residing in some of these regions are not yet clear, identification of these rights would be a priority. The participatory process would also include MoUs with *Gram Panchayats* (under which most of these lands fall), and formation of Common Lands Development Cooperatives comprising households with customary rights. It is envisaged that these Cooperatives will formally request for these lands to be opened up for their listed purposes. A list of key indicators for assessing the sustainability of this initiative is also being developed.

For the common lands programmes the gestation periods have been estimated to be around 6 years, during which time it is expected that project sites will have sufficient regenerated biomass to allow planned use. The 6 year period is also divided into 4 phases: an institutional development phase (1 ½ to 2 years), an intensive natural resource development phase (up to 1 year), an intensive livelihoods development phase (2 years) and a consolidation phase (2 years).

Initiatives such as the NREGS present both opportunities and challenges. In Andhra Pradesh, a large number of water conservation projects were taken up with positive impacts. Recent evaluations report that the state of Andhra Pradesh, which has large numbers of casual labourers, solicited a poor overall response. During the monsoon which was the peak period of job scarcity, the scheme was stopped resulting in loss of work opportunities and adversely affecting public works such as desiltation.





Amritya

An Example of Sustaining Groundwater

Water is a critical resource for sustenance and is among the most extensive common property resources. Yet, it is a poorly known resource and even in areas of water scarcity and drought, enough is not done to use water judiciously.

To add to the problem, there is a lack of equity in the consumption of water resources by different sections of the society, in almost any given area. Escalating demand and dwindling supplies are typical of many regions of India, including those areas which have been previously thought to be immune to drought. Examples of such sites include Cheerapunji (one of the world's highest rainfall sites) and many locations in the Himalaya. Even sites that were previously reliant on rain water or flood waters, are now turning to source water from productive aquifers found underground. A recent study of remotely sensed data from the U.S. National Aeronautics and Space Administration (NASA) published in the journal *Nature* reports extensive groundwater depletion in northern India. In the states of Rajasthan, Punjab, Haryana and Delhi, human use (and not climatic uncertainty) is causing dramatic declines of a foot a year, with the potential to trigger massive socio-economic stresses.

The context

Conflicts over groundwater abound in many parts of the country. In India, this is especially true in arid and semi-arid landscapes that dominate a large part of the geographical area. Uncertainty in rainfall and droughts are commonplace and these threats are further compounded by a combination of unsustainable consumption systems. In spite of frequent droughts, states often consider them as transient phenomena and adopt short term management measures to get by. For traditional farm-based livelihoods, the availability of groundwater is a critical for survival. In the state of Rajasthan, diesel and electrified wells and tube wells are creating an unsustainable situation. To put the issue in context, unlike in the neighbouring states of Punjab and Haryana where agriculture is a largely commercial venture and water reserves are healthier, Rajasthan's agriculture is more subsistence-based. Attempts to improve agricultural productivity to a commercial level is likely to put further stress on already dwindling resources in a fragile environment.

Of particular interest are traditional groundwater irrigation systems that have evolved in the face of groundwater crises. Ethnographic research in places like the Aravalli Hills in Rajasthan reveal the existence of indigenous water management systems which survive despite large-scale government sponsored irrigation systems. These are coherent systems that impound surface runoff in order to recharge aquifers and improve groundwater storage and retrieval through shaft wells and lift technologies. In other places in Rajasthan, new systems have evolved in the face of change. We focus on one such system which has developed as a response to water scarcity in recent years.

An introduction to the problem

In this article we highlight the case of a village in Rajasthan where local decision-makers are adapting to change based on limited resources and knowledge. The notable aspect of this situation is that their decisions are not singularly in favour of improving yields or incomes, rather the sustainability and maintenance of resources is foremost.

Amritya and surrounding villages situated in Bhilwara District falls within the semi-arid to humid tract of southeastern Rajasthan. Livelihoods here are dependent on agriculture and animal husbandry. Dominant rabi crops include wheat, black bean, green lentil and mustard whereas maize, sesame and groundnut are sown as kharif crops; a small amount of opium is also cultivated. Farmers in nearby villages have also taken to growing oranges which require a large amount of water. Although, a small component of land use in the area, agriculture along with a period of poor rainfall was responsible for a drop in the water table by 40 to 60 feet within a period of ten years. Almost all of Amritya's open wells had to be deepened. However, various attempts

at sinking tube wells were resisted as villagers were able to intuitively associate the depletion of the water table with this operation. During the decade when these events were being played out the villagers organised themselves under the 'Amritya Jal Grahana Vikas Samiti', aligned themselves with an NGO (the Foundation for Ecological Security) and also became a part of a regional initiative called the 'Paryavaran Premi Samaj' or the 'Mangalgarh Federation'.

The solution

Working together, they were able to restrict the establishment of bore wells except in cases where drinking water had to be mined. In the course of their decision-making they employed various strategies including mediations within the community to dissuade villagers from sinking bore wells, garnering political support, different types of dialogues and resistance strategies with neighbouring villages and petitions to government authorities to regulate water use and restrict water mining.

These mediations have resulted in increased life spans for open wells in the area. Bore wells are expensive (estimated average costs for establishing a bore well in the area amounts to Rs. 90,000), and are operational for shorter periods of time (approx. 5yrs before additional costs are incurred).

In the eyes of the villagers, the adoption of bore wells to improve water availability signified an irreversible externality. In order to keep their returns stable and pay off loans, a farmer who establishes a bore well is often forced to go in for additional wells resulting in an unviable situation when contrasted with open wells.

Problems and prospects

There have been a number of concerns relating to institutions, markets and government policy across several sectors. Organisations such as NABARD had regulations which aimed to protect critical zones, and they refused to provide loans for bore wells in certain unviable areas.

However, farmers who had private funds managed to get around this problem and establish wells whereas poor farmers facing severe water shortage were unable to get credit. The reduction of drilling costs and improvement in technology by private agencies as well as the availability of electricity and irrigation equipment at subsidised rates from the government were indirect factors that encouraged the adoption of more intensive agriculture by some farmers. These and other incentives encouraged farmers to align their cropping patterns to make full use of these schemes. Although this resulted in short-term increase in profits, the costs to sustainability were significant.

When the interests of community groups are aligned with sustainability, the prospects for including them in higher level planning and institution building are better. In the case of groundwater in the region, the already existing 1992 Model Bill to Regulate and Control the Development of Groundwater may provide frameworks for establishing inclusive institutions. However, the development of large-scale policy instruments also need to be better thought out considering the implications that are beyond the scope of local level governance and biophysical boundaries. Those who work on different aspects related to resilience of social-ecological systems consider groundwater as one of the areas critical to the resilience of the system. There is also a call for the incorporation of a panarchical framework (as opposed to hierarchical) and the call for cross-scale mediation and the need for more players to be involved in the adaptive management process.

Further reading

This synopsis of the case-study is based on a paper by Atanu De, titled, 'Mediation in Adaptive Management of Water Resources: Resistance to Borewells at the Grassroots and Implications for Groundwater Policy Action', Working Paper 16, Foundation for Ecological Security, 2005. This paper can be accessed at: <http://fes.org.in/includeAll.php?pId=M10xNy00>





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Sustaining Commons: Sustaining Our Future

13th Biennial Conference of the
International Association for the Study of the Commons
Hyderabad, 10 - 14 January 2011
Hosted by FOUNDATION FOR ECOLOGICAL SECURITY
Chaired by: Mr. Nitin Desai | Co-Chair: Jagdeesh Puppala

Held in South Asia for the first time and hosted by Foundation For Ecological Security, the 13th Biennial Conference of the International Association for the Study of the Commons (IASC2011) is not only a platform for furthering scholarship and debates centered around Commons, but also a space where practitioners, policy makers and researchers from across the world enrich the collective understanding on common property resources and identify areas and measures to inform policy and programmatic action as well as guide future research. IASC 2011 will explore ways to sustain common property resources and Commons for the coming generations in the wake of ever increasing threats of privatization of collective assets and an increasing trend of atomization of rural and urban societies. The Conference will take a critical look at the interface between human and natural resources in general and Commons in particular, to build the understanding on the elements and interconnectedness that sustain life, collective action and our future. It will contribute rich lessons and principles for managing local, complex, as well as global Commons such as international arrangements to respond to climate change.

The Conference will deal with physical common resources such as Forests, Grazing Resources, Protected Areas, Water Resources, Fisheries, Coastal Commons, Lagoon Commons, Irrigation Systems, Livestock and Commons and New Commons such as Information Commons, Cultural Commons, Genetic Resources, Patents, Climate, etc.

The above subjects will be captured under the following sub-themes:

- The Commons, Poverty and Social Exclusion
- Governance of the Commons: Decentralization, 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 (the New Global Commons – Digital Commons, Genetic Commons, Patents, Music, Literature etc)

Call For Participation papers | panels | posters | videos

The Conference will provide opportunities for academics, researchers and practitioners to exchange ideas, knowledge and experience. We invite anyone interested or working on the issues relating to Commons to participate in the Conference. We encourage scholars and practitioners to submit abstracts for panels, individual papers, posters, videos. The panels, papers, poster and video abstracts should be submitted to the Conference Committee through the online submission process. Multiple forms of participation are envisaged at this global meeting. These include:

- Paper presentations: Author(s) of a single paper should submit an abstract for their single paper to a specific Conference sub-theme. The Program Committee will group each single paper submission with 2 to 3 other single paper submissions on a similar sub-theme/topic to schedule concurrent panel sessions of 3 to 4 paper presentations total. (Note: Single papers authored by one or more persons are suitable for submission.)

- Thematic panels: Sponsoring organisations and other academic/research bodies are encouraged to organise and deliver focused policy/practitioner workshops. Thematic panels may also be established by a group of authors to examine a particular issue within a sector, such as forestry or fishing.

- Poster presentations: Poster sessions will be organised and slotted specific times in order to make the sessions more interactive and attractive both to those presenting and their potential audience. Other than presenting papers, practitioners would be encouraged to highlight their work through poster presentations.

- Video presentations: Special sessions will be organized for screening video, film, and other forms of presentation. Sharing the status of Commons, the issues faced, attempts at governing such resources, etc. could be shared through this new format of presentation.

Website: <http://iasc2011.fes.org.in/>
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