



# The Common Property Resource Digest

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## *A Note from the Editor*

Issues 26 and 27 of the *Digest* emphasized continuity. The objective was to publish and distribute the newsletter and make sure that readers knew that it still existed. This issue does more of the same, but we would like to take the opportunity to propose ways to make the *Digest* more active and informative. We begin with four ideas.

First, the *Digest* should provide information about what people are doing in the field. In this issue we describe some of the activities of the Winrock/ICRISAT Natural Resource Economics Program, which is responsible for producing the *Digest*. We urge readers to send us similar information about other programs and projects. You do not have to be a member to IASCP to submit material, and there is no charge for entries. We can summarize material that you send us, but if you submit your own summary you are more likely to be happy with what we print.

Second, we would like to make the *Digest* a forum for expressing opinions in an informal setting. We make a beginning in this direction with some observations on common property resource management research and practice in India. Again, please send us your opinions. All points of view are welcome on any topic related to CPR management. Submissions should be anywhere from a few paragraphs up to 1000 words, and as formal or informal as you like.

Third, we would like to devote special sections of upcoming issues to particular resources, parts of the world, and management questions. This issue contains a section on CPR management issues in South Asia.

Some readers are likely to be frustrated with this issue of the *Digest* because it focuses on the commons almost entirely in the context of marginalized peoples and/or resources. Although this is the predominant experience in South Asia, it is not the only CPR situation there or anywhere else. The IASCP does not wish to be identified *only* with marginal resources, and many of its members may have very different interests.

We need more material with an international scope. In Issue 26, the first one published at ICRISAT, we promised to retain an international focus despite the move to India. We quickly found, however, that most of the material that we can obtain easily is from India. We can only deliver on our pledge to give equal time to the rest of the world if readers send us more material.

Finally, we invite your suggestions for other improvements to the *Digest*. What type of material would you like to see? How should it be presented? We need your ideas to make sure that the *Digest* remains something that people actually want to read.

## *IASCP News*

New Office Bearers:

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*Fifth Annual Common Property  
Conference*

*24-28 May 1995, Bodo, Norway*

**Initial Call for Sessions, Papers, and Posters  
Conference Theme: "Reinventing the  
Commons"**

We invite proposals for session themes,  
scholarly papers and posters for the  
conference.

Participants from all disciplines are invited to  
address questions related to the commons. We  
encourage theoretical and empirical  
explorations of all aspects of common property  
rights regimes. Some of the themes central to  
the conference will be the role of knowledge  
and institutional innovations related to  
common property resources and the challenges  
of sustaining biological and cultural diversity.

The deadline for proposals of session  
organizers and themes is 15 March 1994, for  
individual papers and for posters 1 July 1994.  
Early review and notification may be possible  
for proposals received before the deadline.

The International Arctic Social Science  
Association will hold its 1995 conference from  
28 May to 4 June in Rovaniemi, Finland and  
Kautokeino, Norway. These two world  
conferences are thus placed back to back. We  
therefore encourage participation in both  
conferences. If there is sufficient interest, the  
organizers will consider the possibility of  
direct travel connection between Bodo and  
Rovaniemi. Further details on registration and

travel will be included in the next issue of the  
*Digest*.

Requests for further information and proposals  
for sessions should be sent to one of the  
members of the program committee:

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*Two New Associations*

**Farm and Community Tree  
Association**

Winrock International and the Nitrogen Tree  
Fixing Association (NFTA) are synthesizing  
their forestry programs. The combined Farm

and Community Forestry Program will build  
on the unique strengths of each organization to  
more effectively help resource-poor families  
worldwide improve their livelihoods,  
rehabilitate soil and water resources, and  
protect rare and endangered habitats in regions  
where tree are a natural and important part of  
sustainable land use.

Winrock and NFTA combined have 30 years  
experience assisting farmers and villagers  
plant, manage, and utilize trees on a  
sustainable basis. NFTA is a worldwide  
network of 1,600 associates who work in  
community-based rural development efforts,  
extension and resource management agencies,  
and applied research units dedicated to  
helping farmers and rural people and  
encouraging sustainable use of trees in their  
work at the farm and community levels.  
Winrock works with universities, government  
departments and NGOs to improve resource  
management, expand forestry research and  
promote policies and programs that encourage  
sustainable forestry and environmental  
management.

The Farm and Community Tree Association  
(FCTA) will include professionals concerned  
with helping rural people find long-term  
solutions to their own resource problems. The  
association will provide work in partnership  
with local rural development organizations  
worldwide to help farmers and other rural  
people use trees to create jobs and reduce rural  
poverty, to rehabilitate degraded landscapes  
and to protect the environment, especially  
endangered soil, watershed and biological  
resources. The association's membership will  
be expanded to about 3,500. Members will  
gain access to the most up-to-date research and  
technologies available to encourage sustainable  
management and utilization of trees.

*For more information contact: Winrock  
International Institute for Agricultural  
Development, Petit Jean Mountain, Arkansas  
72110, USA.*

## Forest Stewardship Council

A diverse group of environmental organizations, concerned people from forest industries, representatives from community forestry and forest products certification agencies have formed the Forest Stewardship Council (FSC).

The FSC's mission is to promote management of the world's forests that is environmentally appropriate, socially beneficial and economically viable.

The FSC aims to set a worldwide standard for good forest management by promoting widely recognized principles of forestry. The FSC will spearhead the application of these principles through an accreditation program for claims that products come from a well managed forest. The FSC will accredit certification programs for products harvested from forests worldwide.

Consumers are increasingly demanding that their purchases of forest products must not contribute to forest destruction but rather help promote sustainable forest management. In response, certification programs have proliferated. The FSC accreditation program will help consumers evaluate these claims. The principles of good forest management will also be promoted through an education program targeted at the general public.

*For more information contact: Jamison Ervin, RRI  
Box 188, Richmond, VT 05477, USA. Tel 802-434-3101 Fax 802-434-3171.*

***New Organizational Alliances? Spread  
the word with the Digest.***

## Publications

### World Salmon and Shrimp Aquaculture Study

The National Marine Fisheries Service (NMFS) Office of International Affairs has been monitoring the development of salmon and shrimp culture industries throughout the world since 1980. NMFS has prepared periodic assessments designed to provide information to salmon and shrimp fishermen to enable them to evaluate the impact of developments in other regions on their activities. The most recent study, conducted during the period 1990-92, includes an overview of the salmon and shrimp culture industries in each of the primary producing countries. It also provides information on countries that are not yet harvesting large quantities but have the potential to do so. The reports include information on species, areas developed, companies and farms, hatcheries, culture methods, research, harvests, exports, investment and environmental factors.

*Available from National Technical Information  
Service, U.S. Department of Commerce, 5285 Port  
Royal Road, Springfield, VA  
22161, U.S.A.*

### Communal Grazing in Africa

A workshop on Institutional Dynamics in Communal Grazing Regimes in Southern Africa was held at the Center for Applied Social Sciences, Harare, Zimbabwe in December 1990. The proceedings have been published as a book.

The workshop brought together representatives of government departments, NGOs and academic institutions to share their experiences. The papers included in the proceedings cover issues ranging from institutional dynamics of communal grazing management in Zimbabwe, Botswana and Lesotho; grazing management in the context of resettlement schemes in Zimbabwe; and

theoretical issues. One paper discusses the process of formation of grazing associations and the creation of a sense of ownership.

A general theme of most of the papers is that improved range management programs cannot be successful without incorporating existing knowledge, attitudes and institutions. Program design must provide for active participation of local communities.

In contrast, one of the papers argues out that local communities are "riddled with conflict". A case study where planning initiatives undertaken by the state are welcomed by the local residents is used to conclude that in certain situations top down planning may be viable.

*B. Cousins, Ed. 1992. Institutional dynamics in communal grazing regimes in southern Africa. Available from Center for Applied Social Sciences, University of Zimbabwe, P.O. Box MP 167, Mount Pleasant, Zimbabwe.*

*New Publications? Use the Digest.*

## Conference Announcements

### Agrarian Questions: The Politics of Farming

*Wageningen Agricultural University  
May 22-24, 1995*

Conference themes include ecological degradation and poverty; patterns of consumption and development; social identities and political consciousness; power and the agricultural process; and the social and technological regulation of agricultural production.

*For more information contact: Agrarian Questions, c/o Conference Office, Costerweg 50, 6701 BH Wageningen, Netherlands, Fax 31 '8370 84449  
Email: meulenbroek@rcl.wau.nl*

## Timber Certification: Implications for Tropical Forest Management

*Yale School of Forestry and Environmental Studies*

*February 5-6, 1994*

The conference participants will analyze the potential, feasibility and ramifications of tropical timber certification for tropical forest management. Papers on the following topics are sought:

- authorship and expectation of certification standards
- political and economic implications for timber trading
- universality and sovereignty in application
- enforcement: trade transparency and chain of custody
- participation of local forest dependent groups

*For more information contact: ISTF Conference Committee, Yale School of Forestry and Environmental Studies, 205 Prospect Street, New Haven CT 06511, U.S.A. Fax 203-432-5942 (attention: Cynthia Caron).*

## University for Peace Course Announcements

### Trees for Sustainability of Agroecosystems: Biological, Economic and Sociocultural Benefits

*April 18 - May 6, 1994*

This course prepares participants to conduct thorough analysis of the role of trees in the search for sustainable agroecosystems. It includes numerous visits to successful projects in Costa Rica. Numerous opportunities for enhanced land use are explored.

Buffer Zone Management for Protected Areas  
*June 6-24, 1994*

This mobile workshop combines lectures, field visits and practical exercises to explore alternatives for improving and stabilizing land use and socioeconomic welfare in areas adjacent to national parks and similar reserves, and for mitigating external threats to protected areas.

Ecotourism  
*July 4-22, 1994*

This course will analyze the relationship of ecotourism to natural resource conservation and to the development of rural communities. It also presents a number of alternatives for planning and managing ecotourism projects and programs.

Enhancing the Value of Tropical Natural Forests Through Nontimber Products and Services

*August 15 - September 2, 1994*

This course explores a wide range of options to increase the value of tropical forests,

contributing to their protection and sustainable use. Field trips will be taken to a number of projects that promote innovative ways of using tropical forests without destroying them.

Conflict resolution in natural resource management

*September 19 - October 7, 1994*

This course offers appropriate methodologies to resolve conflict situations in development projects. It presents thorough analysis of real cases and proposed solutions.

*For more information on all of these courses contact: Mr. Felipe Matos, Natural Resources Program, University for Peace, Apdo. 138, 6100 Ciudad Colon, Costa Rica.*

*Conferences? Announce them in the Digest.*

## *Special Section: Common Property Resource Management in South Asia*

### *Programs, Projects and Activities Concerning CPR Management*

#### Proposal for Local Management of an Indian National Park

The Van Gujjars, local inhabitants of India's proposed Rajaji National Park, have submitted a proposal to share in the park's management. This is a novel initiative in a country where the

government always manages national parks under the assumption that it must protect the wilderness against the local people.

The Gujjars are acting with joint endorsement of a consortium of non-government organizations led by the Rural Litigation and Entitlement Kendra (RLEK) and the Centre for Science and Environment (CSE). These groups have long sought increased control of natural resources by local citizens, but this is believed to be the first proposal for local participation in managing an Indian national park. The idea

gained strength in part from Zimbabwe's well-known Operation CAMPFIRE, which has turned threatened wildlife into a resource for local communities in order to gain their support in the fight against poachers.

The park's establishment threatened the Gujjars with eviction. They refused to move, however, and went a step further by demanding a say in managing the park. The Gujjars propose to take responsibility for regenerating the forest, protecting the core areas and guarding against poaching and timber smuggling. They will pay higher taxes by giving the government the money they currently spend as bribes. In return, they want a fraction of what the government spends on the park's bureaucracy. They invite the government to set feasible biological goals, which they will achieve within a reasonable stipulated time.

The dense population of poor people surrounding wilderness areas creates imposing challenges for India's forest managers. Indeed, the boundary between wilderness and settled area is often blurred. Keeping villagers out of the forest has always been forest managers' biggest challenge, and it appears to be a losing battle. This effort to realign incentives so that the local populace and the government share the same objectives is most welcome. If it is successful it could prove to be a model for Indian wilderness conservation.

*For more information see Down to Earth, November 30, 1993, or write to the Centre for Science and Environment, F-6 Kailash Colony, New Delhi 110-048, India.*

## MYRADA's Approach to Building Cooperative Management Institutions

MYRADA is an NGO that works on rural development in about 2000 villages in South India. It operates mainly in degraded semi-arid zones, forest areas inhabited mainly by tribals, and other economically depressed locations with limited services and infrastructure. Among its several activities, MYRADA helps build appropriate rural

institutions and management systems. Rural people and government agencies are both active participants in this process. This approach helps to create new village institutions that are legitimate in the eyes of government and give local people better access to government services.

MYRADA builds community institutions by organizing small, functional, homogeneous groups. The defining characteristics of these groups might be location, gender, occupation, social status or income category. They are organized around credit management and other specific programs. The groups set their own membership regulations and objectives, and they act on the basis of consensus. Group members cooperate with each other because they share specific interests.

MYRADA helps these groups through confidence building exercises and managerial and technical training. Vulnerable groups such as women, tribals and the landless receive informal education about their legal rights and ways to improve their socioeconomic situation. Credit management is a critical element of this effort as it helps instill knowledge, skills and opportunities to be more independent. Many groups have impressive records of savings and investment in development activities. MYRADA also has lobbied successfully with several Indian banks to give commercial loans to these informal groups. NABARD, the Indian national agricultural credit bank, recently established a formal credit program for such self-help groups.

MYRADA is actively involved in dryland watershed development. In this case the institution-building context changes from village to watershed, and from organizing people around specific small group objectives to one common purpose. The nature of watershed development is such that no one in the community can be excluded. The complexity of building a consensus among everyone affected is easily seen by considering the different groups involved:

- those who live in the watershed and have land in the watershed

- those who live in the watershed but have land out of the watershed
- those who live out of the watershed but have land in the watershed
- those who live in the watershed but have some land in the watershed and some land out of the watershed.
- those who live out of the watershed and have some land in the watershed and some land outside the watershed.
- the landless.

To devise a feasible approach to community organization for watershed management, MYRADA must reconcile the features of its successful small-group based approach to the large size and heterogeneity of the watershed groups.

The first step is to work in "miniwatersheds" of no more than a few hundred acres. Second, MYRADA helps form small subgroups based on homogeneity of location, socioeconomic conditions or interests. The miniwatershed group serves as an informal apex body for the various subgroups within the miniwatershed. This preserves the participatory and socially functional character of the smaller, homogeneous subgroups while also retaining advantages of scale in planning watershed works and interacting with government agencies, banks, and input suppliers. Subgroups also provide a vehicle for airing complaints and settling disputes among people in the watershed.

*Based on a paper presented by MYRADA staff at the workshop on Farmers' Practices and Soil and Water Conservation Programs, ICRISAT, June 1991.*

*For additional information contact:  
MYRADA, 2 Service Road, Domlur Layout,  
Bangalore 560071.*

## Participatory Forest Management in Bangladesh: The Proshika Experience

Proshika is a Bengali acronym derived from three words: *proshikshan* (training), *shiksha* (development education) and *kaj* (action). This NGO was established in 1976 in order "to create a self-reliant development process among the rural poor by extending support for getting themselves organized, becoming critically conscious of their situation and making collective efforts to improve their socioeconomic condition".

The Proshika approach to afforestation in Bangladesh is based on the conviction that the problems of deforestation are deeply related to both rural poverty and the rural power structure. Economic, political and religious hierarchies are very strong forces in much of South Asian society. Of these, economic power is the most important, because it helps determine access to other sources of power. The poor have limited access to or control over the means of production, and their limited purchasing power makes them unimportant as consumers. The survival strategy of the poor is tied to political hierarchies. Rather than organize together, they choose to align with various factions led by wealthy village elites.

Proshika's social forestry programs are directed towards poverty alleviation. They spread information and awareness, and they promote people's participation in programs that affect them. Tenure rights and institutional issues are addressed to create a positive environment for successful afforestation. The programs being implemented include homestead plantations, strip plantations, nurseries, forest protection, agroforestry and wood lots.

The important lessons from Proshika's social forestry program are:

- different people prefer different species, usually depending on socioeconomic status
- women play a critical role in homestead cultivation and choice of species

- collective participation is necessary to allocate usufruct rights among people
- seedlings should be produced locally depending on local demand
- government and non-government agencies must work together

So far, Proshika has organized about 30,000 groups. More than half the participants are women. Proshika has a staff of about 1,700, nearly two thirds of whom work at the grass roots level covering more than 4000 villages in Bangladesh.

*Based on paper submitted by Dipak Kumar Ghosh for the Regional Seminar on Forestry for Sustainable Development, organized by the Economic Development Institute in Kandy, Sri Lanka, October 1993.*

*For more information contact:  
Proshika Manobik Unnayan Kendra  
5/2 Iqbal Road, Mohammadpur  
Dhaka-1207, Bangladesh.*

### Building Village Leadership: The Aga Khan Rural Support Programme

Strong leadership can help stimulate and sustain collective action. This fact frustrates many rural managers because it is very difficult to do anything about leadership. Some villages have strong leaders and others have weak ones, and that is that.

The experience of the Aga Khan Rural Support Programme (AKRSP) in Gujarat, India, shows that the quality of village leadership is not necessarily fixed. AKRSP operates through "extension volunteers" in its rural development work. Each village's extension volunteer is responsible for coordinating AKRSP's programs, which cover credit management, soil and water conservation, cooperative irrigation management, and many other activities. The extension volunteer also acts as an intermediary between AKRSP and the village to discuss ideas, problems and aspirations.

The villagers select the extension volunteer, who is usually a young, hard working person not necessarily from a prominent family. One indicator of the extension volunteers' impact is the fact that a disproportionately large number of them have been elected *sarpanch*, or village leader. Characteristically in India the *sarpanch* is a relatively powerful villager who does not need to perform in order to retain his post. The widespread election of extension volunteers, however, has delivered a message: those in power will be held accountable and must perform. Existing *sarpanches* in nearby villages reportedly are becoming more active in efforts to promote village development.

*For more information on AKRSP's work in India contact AKRSP, Choice Premises, Swastic Cross Road Navarangapura, Ahmedabad 380009, Gujarat, India.*

### Winrock/ICRISAT Natural Resource Economics Program

The India Natural Resource Economics Program (INREP) was initiated by Winrock with a grant from the Ford Foundation in 1988. Additional funding subsequently was provided by the Rockefeller Foundation. The objective of INREP is to strengthen the capacity of Indian state agricultural universities to conduct research in natural resource economics that is useful to policy makers and managers.

Many natural resource management problems in India are characterized by a divergence between private incentives and social values. The common property nature of many natural resources is at the heart of this difference. Recognizing and understanding this divergence is one of the main reasons why agricultural universities need a specific emphasis in natural resource economics along with their more traditional work in agricultural economics.

INREP funds research grants, M.Sc. and Ph.D. fellowships, and short workshops as a means of promoting natural resource economics at the state agricultural universities. The three major

participants of the program are Tamil Nadu Agricultural University, Coimbatore; University of Agricultural Sciences, Bangalore; and University of Horticulture and Forestry, Solan, Himachal Pradesh.

Project-funded research at the agricultural universities related to common property includes the response of farm households to declining common lands in the Himalayan foothills of Himachal Pradesh; watershed management and community forestry in Tamil Nadu; tank irrigation management in Karnataka; and non-timber forest product management in Orissa.

Research on common property at ICRISAT is co-sponsored by INREP and ICRISAT. Work is in progress in Rajasthan on the determinants of intravillage cooperation to protect common pastures in a watershed area, and the differences in productivity of common and private pastures. Research in Maharashtra and Andhra Pradesh addresses the impact of privatizing common lands and the ways in which village economies change in response to declining commons. Beginning in January, 1994, a new study funded by GTZ will focus on conflict management between upstream and downstream inhabitants in a dryland watershed.

An important INREP activity is preparing an undergraduate textbook on natural resource economics of India. The book, which will be published in 1994, is an edited volume with contributions from over 30 authors. It will be the first textbook that presents natural resource economics concepts, methods and applications with a focus specifically on India. The book stresses understanding causal relationships to solve natural resource management and policy problems. Many of the applications chapters present cases of common property resource management in India.

In 1994 many of FNREP's current networking activities will be taken over by the Indian Natural Resource and Management (INREM) Foundation, an Indian nonprofit organization that promotes natural resource economics for better policy and management.

*For more information about INREP, contact John Kerr, Socioeconomics and Policy Division, ICRISAT, Patancheru, 502324, Andhra Pradesh, India.*

## *Publications and Conferences*

### **Groundwater Markets and Irrigation Development: Political Economy and Practical Policy**

Groundwater is India's largest source of irrigation, surpassing surface water even though India has one of the world's largest canal networks. In India, this open access resource has been developed almost entirely by over 12 million individual farmers throughout the country who have invested in wells. The state's role has been limited to spreading rural electrification, providing investment credit, and formulating regulatory policies.

Markets for groundwater have spread rapidly in India, but have received little attention from researchers or policymakers. This book synthesizes the results of field studies on the emergence, structure and working of localized markets in different parts of India. It develops a coherent framework to understand the behavioral patterns of water markets and the policies that can influence the way they work.

The author notes at least three effects of water markets that help raise productivity and distribute income more equitably:

- They make wells a divisible resource, providing irrigation to farmers who cannot afford wells and enabling farmers with small plots to invest in wells even if they cannot utilize the entire capacity for their own plot.
- They raise the market value of plots without wells.
- By increasing irrigated area, they provide higher wages and more seasonally balanced employment opportunities for landless people.

The author uses a prisoner's dilemma framework and evidence from the field to show that groundwater overexploitation is the likely equilibrium. He expresses little faith in the prospects for devising institutional arrangements that would in effect transform groundwater management from an open access to a common property regime. He points out that India's small farms and dense population mean that groundwater districts that include a few hundred farmers in California would include a few hundred thousand farmers in India. The organizational costs would be unmanageably high.

The author devotes much attention to the impact of electricity pricing on water market prices and their equity implications. He makes a case for a progressive flat rate electricity charge where the rate per horsepower increases progressively for higher horsepower pumps. Flat rates increase access to irrigation for resource poor farmers by inducing competition among water sellers and thus reducing water prices. This is because under flat rates the marginal cost of pumping water is nearly zero, so pump owners have an incentive to pump and sell more water. The author emphasizes that flat rates, not subsidized pro rata prices, are the best way to transfer irrigation and its benefits to water buyers.

The author acknowledges that his conclusions are at odds with the views normally espoused by economists. This is mainly because he stresses the need to increase equity and reduce administration costs—factors that economists frequently underemphasize. He proposes that through an appropriate flat rate combined with power rationing, power companies can deliver reliable electricity and break even financially.

The arguments presented are quite convincing for canal command areas where groundwater is currently underutilized. The emphasis on equity is a welcome feature. On the other hand, for dry areas where groundwater is overexploited, it is not clear if the equity and administration benefits of flat rate pricing outweigh the likely negative impact on the long term state of aquifers. It remains a matter

for debate whether the combination of flat rates and rationing can yield an outcome that provides 1) high quality power delivery, 2) sufficient water supply to keep water prices low, and 3) adequate restrictions to avoid overexploitation. As the author emphasizes, additional work is needed to devise imaginative policies and institutions to secure this outcome.

The book is filled with detailed information and insights derived from the author's extensive work with farmers, policymakers and managers. His sometimes unconventional conclusions are no doubt derived from his awareness of the need to adapt to political, administrative, cultural and distributional realities.

*Shah, Tushaar. 1993. Groundwater markets and irrigation development: Political economy and practical policy. Oxford University Press, Bombay.*

## Down to Earth: Science and Environment Fortnightly

*Down to Earth* is a magazine published by the Society for Environmental Communications in collaboration with the Centre for Science and Environment, India's best known environmental advocacy group. Among other things, CSE has published three volumes of the *Citizens' Report on the State of India's Environment*, as well as books and videotapes on environmental awareness and action. It also organizes conferences and participates in environmentally oriented rural development projects. (See *Proposal for Local Management of an Indian National Park*, elsewhere in this issue.)

*Down to Earth's* contents include domestic and international environmental news, reviews of books and films, scientific developments related to health and environment, interviews, features of grassroots environmental movements and rural environmental conflicts, and detailed special reports on a wide range of topics. The magazine also features a first rate cartoonist.

Without apology, the magazine takes a decidedly green stance on almost every subject. But with few exceptions, its articles are based on sound analysis seeking practical solutions to difficult problems. It offers useful information for readers everywhere, with particular insight into conflicts arising from mutually exclusive demands for natural resources. A major theme in this regard concerns rural communities who face threats to their traditional sources of livelihood from the increasing demands of industry, infrastructure, and recreation.

*Down to Earth* offers subscriptions throughout the world. For information write to Society for Environmental Communications, F-6 Kailash Colony, New Delhi-110048, India. Email: [cse@gn.apc.org](mailto:cse@gn.apc.org).

## Honey Bee Newsletter on Indigenous Knowledge

The Honey Bee quarterly newsletter, published by the Honey Bee Network, documents innovations produced by farmers, artisans and farm workers, and generates debate about sustainable alternatives based on indigenous knowledge systems among farmers, researchers, political leaders and social activists. It also lobbies for the intellectual property rights of grassroots innovators.

The Honey Bee Network has one of the world's largest databases on indigenous technological innovations. It includes the names and addresses of the innovators. A similar data base on institutional innovations is also being developed.

Honey Bee promotes links between creative and innovative people and communities throughout the world, crossing cultural and language boundaries. The Network extends to sixty countries, and the Honey Bee newsletter is published in five Indian languages as well as English and Bhutanese.

Honey Bee invites contributions from colleagues for possible publication. As far as possible, the contributor should ensure that he

or she shares insights learned from people with the respective innovative individual or community.

The Society for Research and Initiatives for Sustainable Technologies and Institutions (SRISTI) provides support for the Network.

*Contributions for membership can be sent to Honey Bee or SRISTI, c/o Prof. Anil K. Gupta, Indian Institute of Management, Vastrapur, Ahmedabad 380 015. International subscriptions are \$30, \$5 for students.*

## Indigenous Management of Natural Resources in Nepal

This workshop was held in Kathmandu in June, 1992. The proceedings have recently been published as a book. The workshop's main objective was to provide a venue for professionals to share information and interact with each other regarding indigenous management of agriculture and natural resources in Nepal. A second objective was to promote discussion on how knowledge of existing management systems can be incorporated to improve existing policies and legislation regarding natural resource management. The workshop focussed on Nepal, but many of the issues are relevant to other developing countries.

The volume includes 24 papers. Part one contains an overview of the issues. Part two covers indigenous farm management practices related to crops, livestock, soil, agroforestry, risk and insurance. Part three then discusses systems for managing community resources, including irrigation, pastures and forests. The focus is on providing information about the state of indigenous knowledge, but many of the papers also offer recommendations for policies and institutions.

The editors distinguish between indigenous and traditional management systems. Indigenous systems are those generated by internal initiative from within the local community. Such systems are outward

looking and incorporate elements from the outside world. They are dynamic seek improvement. Traditional systems, on the other hand, are those that have continued over a long period of time. They may have been initiated by the community or imposed by external entities. Such systems tend to be stagnant.

*Common characteristics of indigenous management systems:*

Indigenous systems are initiated by rural people in response to natural resource scarcity. They are designed, operated, maintained, expanded and improved by the users themselves. The resources use pattern in indigenous systems is the result of consensus arrived at through a series of negotiations. Factors that influence resource management systems change frequently. These changes are not always advantageous. Resource users continuously examine prospective alternatives and improvements to the existing system. People in indigenous resource management systems are accountable to one another; long term association and mutual dependence is the basis of this accountability.

*Issues and policy implications*

Most natural resources are public property. This means that users must obtain permission to exploit these resources, even though they may have been doing so for many years. In most cases, there is no legal sanction for existing use patterns. Indigenous systems need to be granted legal recognition to help sustain them. Arrangements are needed to redress conflicts between users and the government.

*D. Tamang, G.J. Gill and G.B. Thappa, Eds. 1992. Indigenous Management of Natural Resources in Nepal. Available for \$8 plus postage from Winrock International P.O. Box 1312, Kathmandu, Nepal*

## Agroforestry in South Asia: Problems and Applied Research Perspectives.

The question on the dust jacket is a good one to ask—"What makes this book different from all the other literature written" on the subject? The answer is that, unlike so much of what has been written, the editors do not have a single focus. Rather they delve into one of the least well understood and consequently most glossed over areas of rural development—the process of synthesis. Synthesizing the scientific, technical aspects of agroforestry development with its social aspects and with the organizations that effect these changes is often as important as the technical solutions themselves.

Part one focuses on physical and biological questions of agroforestry, including crop versus woody perennial productivity, the capacity to fix nitrogen, species reproduction and microenvironmental modification. The second part investigates how cultural, economic and theoretical factors influence and can subvert the best technical programs. The chapters here do not cover the subject exhaustively but rather exemplify the problems and possible solutions.

Part three is the logical extension of parts one and two. This focusses on collaborative research networking, a necessity for timely and appropriate research on questions of sustainable agroforestry. It also discusses how organizations can best transfer research findings to the beneficiaries.

Part four presents a number of chapters covering various aspects of applied agroforestry in India. These should serve all of South Asia as indicators of where agroforestry is now and needs to go in the future.

*Bentley, William R., Karen Seckler and P.K. Khosla (editors). 1993. Agroforestry in South Asia: Problems and Applied Research Perspectives. Oxford & IBH Publishing Co. Pvt. Ltd. New Delhi, India.*

## Managing Common Pool Resources: Principles and Case Studies

This book is perhaps the first comprehensive study of CPR management devoted exclusively to India. India has nearly 100 million ha of common pool land and about 30 million ha of common forests; the bulk of its water resources and fisheries are CPRs. Their restoration and management is crucial to the well-being of millions of the rural poor who depend on them for their livelihood.

The book combines both theoretical and empirical approaches to CPR development and management. It is divided into three parts. Part I addresses basic concepts, the role of CPRs, theoretical models for analyzing CPR problems, alternative CPR management systems, instruments of CPR policy, and decision-making tools and techniques. Part II comprises nine case studies of different forms of CPR management from various parts of India. These indicate that success can be achieved under various management systems and that there is no single best system appropriate for all situations and all times. The author argues in favor of an eclectic approach and underlines the need to maintain an appropriate balance between different systems of management. Part III synthesizes the insights gleaned from the review of the literature and analytical lessons and conclusions drawn from the case studies into a coherent and environmentally sound policy for development and management of CPRs.

*Singh, Katar. 1994. Managing Common Pool Resources: Principles and Case Studies. Oxford University Press. New Delhi, India. (Available May, 1994.)*

## Workshop on Water Management: India's Groundwater Challenge

This workshop was held in Ahmedabad in December, 1993. Participants included representatives of government, donor agencies, NGOs, and academia. It was the first time that such a diverse group of people have met to

discuss groundwater management in arid areas of India. The workshop did not address groundwater management issues in canal command areas. Its objectives were to:

- discuss emerging groundwater problems in arid and low rainfall environments from a variety of regional and disciplinary perspectives
- document the range of emerging problems associated with overextraction and pollution
- initiate networking on groundwater issues
- identify key research priorities and immediate policy needs

The overall goal was to initiate a process through which research and field experimentation can lead to the development of appropriate policies for sustainable and equitable groundwater management.

Participants agreed that knowledge about groundwater management is at a much earlier stage than about other natural resources. Policymakers and managers are just beginning to recognize the danger of overdeveloping groundwater. Groundwater presents particular management challenges because of its fugitive nature and the lack of a long management history. Extraction technologies have developed much more rapidly than the social institutions needed to keep them in check.

The key policy reform recommendations are:

- Basic water needs must be protected. Currently there is no effective policy framework for managing competition for water between and within sectors. Competition from agriculture, for example, increasingly threatens availability of drinking water. There is no effective means of limiting water extraction for agriculture.
- Incentive structures for water use need to be restructured to promote efficient use. Current electricity pricing policies, for example, encourage overextraction.

The key areas identified for further research include:

- Appropriate legal frameworks for groundwater property rights
- Indigenous knowledge of groundwater scarcity, management systems and responses to scarcity
- Economic and technical viability of various technologies, policies, and management approaches

The conference summary proceedings will be available by the end of January, 1994. A set of monographs including major papers and areas of discussion will be available by the end of March. A review is in process to identify possibilities for a book.

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## *Speaking Out: The CPR Digest Opinion Section*

### **CPR Research and Management Issues in India**

Common pool land and water resources have always been an important part of the Indian village economy. Historically their products have supplemented those of privately owned resources. The poorest people especially have depended on CPRs for their livelihoods.

CPR degradation in recent years is well documented, as are its various causes. Traditional institutions for managing CPRs collectively are disappearing, and many factors have combined to put pressure on them. Rising population pressure, diversifying village economies, poorly defined property rights over CPRs, concessional extraction privileges for industry, and exposure to regional and global

markets are among the many forces contributing to their decline.

### *Modern Views of Rural People*

Educated people in modern India have a strong sense of responsibility to aid poor people and help develop rural areas. The efforts of numerous government rural development programs and thousands of non-government organizations reflect this sentiment. Often these dedicated efforts and good intentions come with a somewhat paternalistic view of rural people. Educated people commonly refer to the rural poor as "backward." They see solutions to rural problems, whether technological, managerial or institutional, as coming entirely from above.

In the last 10 to 15 years, however, attitudes have changed greatly. Educated urban elites have begun to take rural people more seriously. This is due in large part to better information about them. Widely publicized grassroots movements such as Chipko (hug the trees) awoke people to the notion that rural people have a strong sense of their interests and how to achieve them. Various activist groups played a critical role in publicizing such developments. Researchers focused increasingly on indigenous institutions, technologies and management practices as sources of new solutions.

Many if not most researchers reach the conclusion that solving rural problems requires the active participation of rural people. Sometimes this new faith in villagers' ability to understand and solve their own problems leads to simplistic views about CPR management. Arguments are made to reestablish ancient village institutions with little acknowledgement of the often cruel nature of how these systems functioned. Idealistic calls for cooperation ignore the truth that the rich tell the poor what to do in most of rural India even today.

In addition, many social changes prevent looking backwards in time for explicit blueprints for solving tomorrow's problems. Modern rural economic and social systems are

far different from those of pre-industrial times. Villages are increasingly integrated into the outside world, and state and central governments provide more social services. Rural people are becoming more outward looking as economic opportunity lies in establishing ties to the regional economy. The ultimate economic safety net lies not in the goodwill of village elites, but in government programs and migration to cities and towns. New village management institutions must accommodate these changes.

#### *The Role of Common Property*

Changes in village economies make unclear the appropriate property rights regimes and institutional arrangements for managing the commons. The grazing economy provides a striking example. Degradation of common grazing lands and the abandonment of collective action mechanisms to control grazing are often cited as a CPR management crisis. Indeed, shepherds in the arid state of Rajasthan migrate ever further each year in search of good grazing grounds, and village pastures in much of the country produce practically nothing. The decline of the common lands has made life difficult for many shepherds. Yet in at least one region in the state of Andhra Pradesh the shepherds are the most prosperous of rural people. The rising prices of animal products have enabled them to flourish despite the loss of traditional common grazing lands. Shepherds in some places lease in marginal agricultural land for use as grazing land. Moreover, casual observation reveals that while common grazing lands in Rajasthan are virtual wastelands, privately owned pastures lands are lush and productive.

Appeals to increase the productivity of village common lands are often made on equity grounds. Since the poorest people are most dependent on the commons, CPR management should be promoted to help them. But in most of India even the poorest people have a far better standard of living today than they had in the past. What they have lost to the degraded commons they have gained elsewhere. Where is the urgency to solve the crisis of the commons?

On the other hand, many poor people could become more prosperous if the common lands were regenerated. Perhaps the best way to accomplish this is to mimic the success of private grazing systems. Public pastures could be leased to shepherds, with the rents divided equally among the village hearths. This would skew the proceeds toward the poor, but make everyone better off.

There are additional reasons why learning to manage the commons remains a priority. Efficient management of many resources critical to India's economy and ecology, such as surface irrigation water and groundwater, dryland agricultural watersheds, grazing lands and natural forests, requires some degree of collective action. This is so regardless of whether resources are publicly or privately owned. Nonexclusivity, economies of scale, and externalities variously contribute to the need for collective action to manage these resources.

Other characteristics of these natural resources pose challenges to collective action. Given their wide geographical area and poorly defined boundaries and property rights, it is not surprising that open access degradation seems to be the typical outcome. Much work is needed to understand the conditions that facilitate cooperative management of India's natural resources, but appropriate attempts are being made.

#### *Current Efforts to Promote CPR Management*

Many efforts and experiments are underway in India to devise workable CPR management systems. Some of them show great promise. We need to assess the strengths and weaknesses of the different approaches, and we need to learn from them.

Recent changes in forest management laws provide one example of such efforts. In the last few years most state governments have instituted "joint forest management", whereby villagers are granted usufruct rights to certain classes of forests, and they share both responsibilities and benefits of forest protection with the government. Explicit legal changes

have established villagers' rights, thus meeting one necessary condition for successful CPR management. But the system can only work if the new laws are binding on government agencies as well as villagers, and if equity among different village groups is addressed in advance.

Legal changes in property rights will also be a critical factor in promoting cooperative management of groundwater. Various studies and informal surveys suggest that well owners recognize the degradation of groundwater resources and the potential role of collective action to reverse it. However, they are also keenly aware that whomever is in a position to further exploit groundwater has full legal rights to do so. As a result, attempts to promote cooperative groundwater management are unlikely to make progress until laws are changed. Efforts are being made both to change the laws and devise cooperative management systems. (See *Workshop on Water Management: India's Groundwater Challenge*, elsewhere in this issue.)

New approaches in state government watershed development projects reflect an understanding of the need to identify the distribution of gains and losses among affected people. Special efforts are made to create incentives for everyone to participate. Villagers are encouraged to establish users' committees to facilitate collective decision-making to settle disagreements, protect common lands and carry out watershed development works. These government programs still suffer from target-oriented spending and high subsidies that distort incentives, but their institutional innovations represent tremendous progress.

#### *The Role of External Organizations in New CPR Management Systems*

NGOs are undertaking some of the most creative experimental work in trying to develop institutional mechanisms to support collective action. The approaches of MYRADA, the Aga Khan Rural Support Programme, the Centre for Science and

Environment and the Rural Litigation and Entitlement Kendra are described in more detail elsewhere in this issue of the *Digest*. They are bringing new perspectives to rural development and CPR management that challenge the conventional way of thinking in India and offer great promise. The programs highlighted in this issue are only a small sample of the innovative work going on in India.

The efforts of these NGOs brings up an interesting question: what is the role of outsiders in encouraging collective action among villagers? Why does it not happen by itself?

What do outsiders bring to the table? They are more detached, they often have more managerial and technical skills, they have more funding, more political clout with the government, and sometimes they have charismatic leadership that inspires even if it is not fully understood. These factors may enable outside organizations to perceive solutions that might seem infeasible to local people.

Solving rural development problems, whether related to CPRs or other things, requires a strong sense of local empowerment to identify the problem, understand it, and take action. This sense of empowerment is most often given through some sort of external intervention, such as a new NGO or leader, often with some funding dedicated to solving the problem.

Given the role of external organizations, where does local participation fit in? First, experience in India suggests that if local people do not "own" an approach — if they do not help to develop it — then they will not provide the effort to make it work. This is true for all but the most productive interventions, such as irrigation or green revolution technologies. Second, local involvement in the process of identifying and solving problems adds significantly to indigenous knowledge. It also helps instill confidence in people that they are capable of solving problems. These are critical

factors favoring a participatory approach — participation is not important for its own sake but because it is more likely to yield results.

*Simple or Complex Cooperation: Which is Best?*

Many case studies of village level collective action in India illustrate complex ancient systems that have disappeared in most places, with a few isolated examples where they cling to existence. It is difficult to think of cases of newly emerged, complex institutional arrangements for collective action, other than those sponsored by an external agency or a charismatic leader.

This fact poses an important challenge for researchers and project managers who wish to promote CPR management systems. What can be done to establish replicable collective management systems that do not require a charismatic leader or a first class NGO in every case? Is it even possible?

Maybe complex institutional arrangements for large scale collective action are not the answer. An alternative might be to seek institutional arrangements that require collective action on only a *limited* scale. While examples of complex arrangements are few and far between in India, cases of limited cooperation are widespread. The shepherds who lease in private land manage it in small, informal cooperative grazing groups. Shifting from grazing on public lands to privately leased land has enabled them to operate independently of the rest of the village in small, manageable groups.

Similarly, farmers unanimously reject soil conservation practices that require complex collective action, but limited cooperation among a handful of neighbors is the basis for widely practiced indigenous soil conservation methods. Drains and bunds in the indigenous systems are aligned to farm boundaries, so that only two or at most four farmers need to work together and benefits and costs are distributed equitably.

Cooperation is difficult to achieve in large scale irrigation projects, but wells owned jointly by several users are quite common and work very well. In the Lower Bhawani canal irrigation project in Tamil Nadu state, productivity greatly increased after it was redesigned to sharply reduce the number of people who share water from the same canal outlet. The smaller groups found it easier to cooperate to solve upstream-downstream conflicts.

MYRADA's successful approach to rural cooperatives works through relatively small groups of people with shared interests. (See the feature on MYRADA's work elsewhere in this issue of the *Digest*.)

Judging from these examples, the best way to succeed in stimulating collective action in rural India might be to scale down the problem to simplify cooperation requirements. This is not the same as dividing the commons into small, private parcels, but rather small managerial units within the commons. Sometimes this means physically dividing the commons into smaller pieces, and in others it means clustering users into separate, viable cooperative groups that can negotiate with each other.

Of course this approach is not always feasible, and often it entails tradeoffs. The best technical solution might require complex cooperation, for example, but an acceptable alternative might be require only limited cooperation. Aligning soil conservation bunds on boundaries rather than contours is an example of such a tradeoff. What tradeoffs are acceptable depends on the case. The final judgement must be made on the basis of what works.

There is tremendous scope for experimental research to test different institutional arrangements for CPR management. Many NGOs are well-positioned to try creative approaches. Researchers should team up with them to help devise new approaches and systematically document how resource users respond to different arrangements. Often NGOs do not document their tremendous field

experience very well, whereas often researchers lack good information to analyze and write about. It seems like a natural match that could spark progress in developing replicable approaches to CPR management.

—John M. Kerr and William R. Bentley. Thanks to Anil Gupta and David Feeny for comments. This note represents the authors' personal opinion.

*Readers are encouraged to contribute their own thoughts for publication in the Digest. Speak out! We would like a wide range of material from different parts of the world and different CPR contexts. Contributions should range anywhere from a few paragraphs to about 1000 words. Brief comments on this or other material published in the Digest are also welcome.*

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