

## Common Property News & Notes

### Rockefeller Global Environment Program

*Editors note: We were pleased to read the following announcement several weeks ago, thinking that it might be a source of funding for continued operation of the Network. We immediately submitted an application but were told that the "environment program focuses on support for developing country scholars and policy leaders and on helping them to build their environmental institutions." While we were disappointed that our activities apparently did not fall within the program's guidelines, I know that literally hundreds of Network members are "developing country scholars and policy leaders" and thus do meet these guidelines. Ten million dollars per year promises to be a major source of funding for environment-related work in developing country settings and I urge Network members to contact the Rockefeller Foundation about funding for their activities.*

The Global Environment Program is a new grant-making initiative of the Rockefeller Foundation. Its broad purpose is to promote the skills, attitudes, relationships and institutions necessary for environmentally sound international development. It is motivated by the gravity of two realities: 1) as a matter of human well-being and perhaps survival, the people on our planet must learn anew to manage themselves and their societies in ways that are environmentally sound; and 2) whether humans can live in balance with the natural environment and whether all the countries and cultures of the world can achieve a reasonable and just standard of living are emerging as two aspects of the same issue.

"Much of the eventual agenda of the new program will be shaped in the months and years ahead by cooperative planning and action with other foundations

and organizations, but the program begins with four broad areas of interest for grant and fellowship activity:

- Supporting young environmental scientists, analysts, policymakers, and community leaders who can be architects of future policy in development and the environment;
- Advancing the development of economic analysis that can guide and illuminate the process of environmentally sound development;
- Laying the groundwork for multilateral bargains and accords that will be necessary to address selected environmental issues;
- Seeking innovative ways to help the U.S. public prepare for new environmental realities.

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"Other specifically science-focused grant activities will be carried out through the Foundation's existing divisions in Agricultural Sciences, Health Sciences, and Population Sciences. The Foundation's Arts and Humanities division is also designing a program component to increase understanding of the historical, cultural and ethical dimensions of the linked problems of inequitable development and environmental degradation.

"The Foundation anticipates spending a total of at least \$50 million through the Global Environment Program over the next five years. There is no specific deadline and no special form is required for grant applications. The application, however, should include a description of the project with clearly stated plans and objectives; a comprehensive plan for the total funding of the project during, and where applicable, after the proposed grant period; and a listing of the applicant's qualifications and accomplishments and, if applicable, a description of the institutional setting."

For more details about this new Rockefeller program, contact:

Global Environment Program  
The Rockefeller Foundation  
1133 Avenue of the Americas  
New York, New York, 10036, USA  
Telephone: (212) 869-8500  
Cable: Rockfound New York  
Telex: 224862 Rockfel (RCA)  
Fax: (212) 764-3468

## Network Funding Status

The past two issues of the *Digest* noted the imminent demise of the Network unless further funding was secured. We have not yet received a formal grant from any institution, but the application process is proceeding favorably and we have received unofficial assurances that the Network will not die an untimely death after such a strong beginning. We appreciate the many letters of support which members forwarded, they have been useful in presenting our case. Ed Lotterman, the *Digest* editor has shifted a greater proportion of his time to other projects in the interim to reduce the drain on a dwindling budget. This issue is limited to twelve pages instead of the more common sixteen as will be the September issue. By then we hope to have funds firmly in hand for another period. Long term plans include negotiation of some type of formal merger of the Network with the New International Association for the Study of Common Property and the possible transfer of *Digest* production to another institution, perhaps in a developing country. We will keep members informed as developments occur.

## The Common Property Research Network

The *Common Property Resource Digest* is the primary communication medium of the Common Property Resource Network. Funded with grants from the Ford Foundation and the Rockefeller Brothers Fund, the CPR Network seeks to disseminate information dealing with common property resources, their management, and policies related to their use. It also seeks to foster communication between professionals who work with common property resources; whether as policymakers, administrators, researchers, or educators. The ultimate goal of the network is to improve the conservation and wise use of these resources, and to improve the wellbeing of those people who depend on common property for their livelihood. Membership in the network is open to any individual or institution having an active professional interest in common property resources. At present, there is no charge for membership.

The *Common Property Resource Digest* is published and the CPR Network is administered by the Center for International Food and Agricultural Policy of the University of Minnesota. Facilities are provided by the Department of Agricultural and Applied Economics. Dr. C. Ford Runge is the project director and Edward D. Lotterman is the network administrator and *Digest* editor.

Functioning of the network depends on active participation by its members. Members are asked to report on their professional activities, as well as publications, conferences, and other items of interest. News items, announcements, publications for review, suggestions, and questions should be sent to the *Digest* editor at the following address:

*Common Property Resource Digest*  
332e C.O.B.  
1994 Buford Avenue  
St. Paul MN 55108 U.S.A.  
Tel: (612) 625-7019  
FAX: (612) 625-6245

# Announcements

(Editor's note: When responding to any position, conference, or other announcement in this section, please inform the concerned institution that you found out about their position or activity in the *Common Property Resource Digest*.)

## Conferences

### International Ag Econ - Call for Papers

The International Association of Agricultural Economists will hold their XXI Conference in Tokyo, Japan, August 22-29, 1991. The theme of the conference is **Sustainable Agricultural Development: The Role of International Cooperation**. Papers are solicited that present the results of new research in the field of agricultural economics. The deadline is December 1, 1990.

The full call for papers can be obtained from:

Bruce Greenshields  
Chair, Contributed Papers Committee  
U.S. Department of Agriculture /ERS  
1301 New York Ave, NW  
Room 1212  
Washington, D.C., 20005-4788, USA  
Telephone: (202) 786-3310  
Telex: 7408534  
Fax: (202) 786-3444

### Sustainable Mountain Agriculture Symposium

The International Centre for Integrated Mountain Development "will be holding an International Symposium on **Strategies for Sustainable Mountain Agriculture** in Kathmandu, Nepal, from September 10-14, 1990. Besides the presentation of ICIMOD's work on agriculture in the Hindu Kush Himalayan Region, the symposium will have papers from experts working in the mountain regions of South America and Africa. Besides researchers, the policy makers and planners associated with mountain areas will attend the Symposium."

The symposium brochure lists five themes to be addressed in different sessions:

- Strategies and Approaches to Agricultural Development in Mountain Areas
- Transformation Processes in Mountain Agriculture: Some Successful Initiatives
- Public Interventions with Mountain Perspective: Some Imperatives
- Farmers Strategies and Responses to Development Interventions: Sustainability Implications

- Some Basic Issues Affecting Mountain Agriculture and Long Term Sustainability

Anyone desiring to participate in the symposium or more information about it should contact:

Dr. N.S. Jodha  
Head, Mountain Farming Systems  
ICIMOD  
G.P.O. Box 3226  
Kathmandu, NEPAL  
Telephone: 525313 (Office) 524608 (Residence)  
Telex: 2439 ICIMOD NP  
Fax: (977-1)5-24509  
Cable: ICIMOD, Nepal

### Estuary Conference

At the initiative of the Nantes-St Nazaire French estuary area authorities, the city of St Nazaire will organize an international conference on 20, 21 and 22 September 1990: on the theme of "The First *Esturiales*".

The major European and international cities built on main estuary areas will be invited at this exhibition.

The conference will thus be the occasion for a deepening of European reflection on the human, ecological and economic problems of estuarine areas with particular emphasis on why human habitation developed when and as it did in such areas. The result of the conference could be to set up a summer university in this field.

Anyone interested in this conference should contact:

Michel Le Duc-Catram  
20, Bd de Sebastopol  
44606, Saint-Nazaire, FRANCE  
Telephone: (1) 42 72 63 13  
Fax: 48 04 50 94

### Regions and Global Warming

The Center for Growth Studies of the Houston Advanced Research Center has announced the 1990 Woodlands Conference, **The Regions and Global Warming: Impacts and Response Strategies**, to be held in The Woodlands, Texas March 3-6, 1991. "The conference will bring together scientists and policy makers from around the world to examine the impacts of global warming in a group of vulnerable regions, and potential policy responses. The conference will also discuss how, in the case of global warming, research and policy can proceed in parallel and in closer communication with each other. Conference participants will meet in small working groups to develop regional policy recommendations for responding to global warming.

These recommendations will be published as a conference report."

For more information contact:

Center for Growth Studies  
Houston Advanced Research Center  
4802 Research Forest Drive  
The Woodlands, Texas 77381, USA  
Telephone: (713) 363-7913  
Fax: (713)363-7914

## Common Property at Duke

The first annual conference of the new International Association for the Study of Common Property has been noted in previous issues of the *Digest* and in materials enclosed with this issue. This announcement is intended to serve as a reminder to those already aware of the conference and as a notice to inform those individuals who read copies passed on from the original recipient. The conference theme is "Designing Sustainability on the Commons" and the meeting will be held September 27-30, 1990. More information can be obtained from the chair of the organizing committee:

Dr. Margaret McKean  
Department of Political Science  
Duke University  
Durham, North Carolina, 27706, USA  
Telephone: (919) 684-3164  
Fax: (919) 684-2855  
BITNET: MCKEAN@DUKE

## Positions

### IRRI

The International Rice Research Institute seeks a Deputy Director General For Research. Responsibilities will include providing leadership in establishing research priorities, directing multidisciplinary research programs and discipline-oriented research divisions as well as enhancing ties with other advanced agricultural research institutes.

Required qualifications include a Phd, extensive research experience, leadership, communication skills, a proven record in research management and administration as well as fluency in English.

Requests for more information or applications consisting of "full documentation including the names and addresses of three referees" should be addressed to:

Dr. Klaus J. Lampe  
IRRI PO Box 933  
1099 Manila, PHILIPPINES  
Telephone: (63)2-818-1926  
Fax: (63)2-818-2087

### ICRAF

The International Council for Research in Agroforestry, Nairobi, Kenya, seeks applications and nominations for the post of Director General. ICRAF is a growing international center which works to strengthen "the capacity of national and regional institutions in developing countries to develop appropriate agroforestry technologies while undertaking pertinent strategic research with its own resources." The Director General will be responsible for the activities of a professional staff of 35 and an annual budget of \$10 million. Specific educational requirements are not specified, but candidates should have proven leadership, a strong record in research, administration and communication. The candidate should be able to take up the position by July 1991. "Applicants are requested to send an updated CV, together with the names and addresses of three referees, to reach the following address by 1 October 1990:"

Dr. George Holmes  
Chairman, ICRAF Search Secretariat  
c/o Dr. H.A. Steppler  
Box 4000, Macdonald College  
21111 Lakeshore Road  
Ste Anne de Bellevue  
Quebec, H9X 1 C0, CANADA

### IFAD

The International Fund for Agricultural Development of the United Nations seeks a Technical Advisor (Environment) to be based at IFAD headquarters in Rome. This person's responsibilities will be to "provide expertise on agriculture systems, natural resources management, land use planning and agro-ecosystem analysis in support of environmentally sustainable rural poverty alleviation . . . ." Required qualifications include "an undergraduate degree in agricultural discipline, preferably agricultural economics, with interdisciplinary postgraduate degree in natural resource management. 10-15 years work experience in agricultural/rural development with at least seven years project experience in the developing world, demonstrated work and/or research focus on ecological/environmental aspects of small-holder agricultural systems in tropical, subtropical and semi-arid areas. Familiarity with international development institutions and agricultural project financing. Full command of English and working knowledge of Arabic, French or Spanish.

Requests for further information or an application consisting of a detailed resume should be sent to:

Personnel Division  
IFAD  
Via del Serafico 107  
00142, Rome, ITALY

## Courses

### University for Peace

The University for Peace, an institution created by the United Nations General Assembly in 1980 and located in Costa Rica, has a mandate to conduct research and education activities which foster the cause of peace. The University conducts a number of short training courses each year. Only two remain this year, one of which will apparently begin as this issue of the Digest is being mailed. However, these or similar courses will be offered again next year and members interested in more information about future offerings or about the general program of the University should contact the director at the address listed. The complete listing for 1990 follows:

"The University for Peace (UPEACE) announces the following scheduled training courses within the Area of Natural Resources and promotion of Peace, programmed during 1990 in Costa Rica:

- Mobile Workshop on Buffer Zone management for Neo-Tropical Protected Areas 10-23 June, 1990
- Agroforestry: Sustainable Land Use for the Humid Tropics. July 23-August 11, 1990.
- Managing Tropical Natural Forest for Non-Timber Forest Products and Environmental Services. October 15-27, 1990.

"The courses will be given in Spanish by highly qualified, recognized instructors. The target participants are persons involved in development, university and technical school professors, conservationists, resource planners and specialists in related fields.

"Funding Agencies potentially interested in sponsoring highly qualified candidates from cooperating institutes in developing countries are also urged to contact the organizers."

For additional information contact:

Dr. Gerardo Budowski  
Director, Natural Resources  
University for Peace  
Apdo 199-1250  
Escazú, COSTA RICA  
Fax: (506) 49-19-29

## Fellowships

### African Dissertation Internship Awards

Doctoral Students from sub-Saharan Africa are invited to apply to the Rockefeller Foundation for dissertation research support. The program enables Ph.D. students enrolled in U.S. and Canadian universities to return to Africa for extensive field research in areas relevant to economic development or poverty alleviation. Priority is given to research topics in the fields of agricultural, health, and life sciences, but other proposals are welcome.

Applicants are responsible for arranging affiliation with an African institution able to provide needed research support, such as laboratory facilities, access to study sites, and technical advice. The candidate's faculty advisor, the host institution in Africa, and the agency with primary responsibility for financing the student's graduate work must all send letters of endorsement.

Deadlines for applications are October 1, 1990 and March 1, 1991. Candidates should start well in advance of the expected field work starting date.

For a full description of the competition and the application requirements, write to:

African Dissertation Internship Awards  
The Rockefeller Foundation  
1133 Avenue of the Americas  
New York, New York, 10036, USA

# CPR Publications

## Institute of Rural Management Publications

There are few areas where common property resources and institutions are more important in people's lives than in India. The Institute of Rural Management (IRMA) in Anand, Gujarat, has a strong focus on natural resource management in its area of interest and an ambitious research and publication program. A number of recent publications deal directly with, or have implications for, common property resource management. Abstracts of five of these publications follow. All can be ordered from the address listed at the end of this section.

### Panchayats in Uttar Pradesh

This paper is based on in-depth case studies of four van (forest) panchayats in Uttar Pradesh (UP) hills. Van panchayats in UP hills were born out of the conflicts and compromises that followed the settlements and reservations of forests in the hills by the turn of the last century. The van panchayat rules were enacted in 1931 and subsequently revised in 1972 and 1976. According to the rules, one-third of all inhabitants of a village can resolve to form a van panchayat. Till the end of 1985, a total of 4058 van panchayats had been formed occupying approximately 15 per cent of the total forest land in the hills. The panchayat is responsible for internal management and grazing, collection of fuelwood, fodder, timber and protection. Van panchayat committees are authorized to levy fines in case of misuse of forest resources and collect fees from users of forest resources. Most van panchayats hire watchmen and pay them either in kind or cash. This simple structure at the village level is subject to the administrative and technical control of the Revenue and Forest Departments which take only peripheral interest in van panchayats and do not coordinate their activities. Van panchayats also do not have autonomy in utilization of surplus revenue generated by them. Gradually, van panchayats are also losing, due to changes in rules, their ability to impose and collect fines. The new rules stipulate that a panchayat can compound an offence only with the agreement of the offender. In spite of these problems, most van panchayats could protect their forests. The key elements that have helped people's participation in group action and communal management of forests include strong need for forest-based resources, relatively small and homogeneous groups, presence of the van panchayat committee as an arbitrator and provision in the van panchayat rules and regulations for penal action against those who violate the rules.

"Van panchayats could be used to rehabilitate degraded forests, both civil and reserved, in the hill

areas of Uttar Pradesh provided a pragmatic approach is adopted and the van panchayats are encouraged to participate in every stage of planing and execution. However, it is hard to gauge as to what extent this model can be applied in the plains of the country, particularly in social forestry programmes. The heterogeneity of the caste system and wide variations in social and economic power structure within a village in the plains may require some modifications in the model to make it effective".

Ballabh, Vishwa & Katar Singh *Van (Forest) Panchayats in Uttar Pradesh Hills: A Critical Analysis*. Research Paper #2, Anand, Institute of Rural Management, 1988. 25 pp. + annexes and tables.

### Groundwater Efficiency and Equity

This paper reviews current knowledge and understanding about the nature, working and social impacts of groundwater markets in India with a view to assessing their potential to improve the access of the poor to groundwater. Water markets are pervasive and are found to operate, with differing degrees of refinement, in most areas where lift irrigation is important. In many regions of India, selling of water accounts for nearly half - but sometimes more - of the pumpage of private energised wells and tubewells; the total area irrigated through such water markets is likely to be large relative to the total irrigated area in the country. Large regional variations in the terms of water sale are explained mainly by the differences in: a) the degrees of development of water markets; b) the monopoly power enjoyed by well owners; and c) electricity pricing policies. Regardless of the groundwater potential, water markets have become active and developed rapidly in areas advanced in the use of irrigated farming technologies.

"Groundwater markets have far reaching social effects. Some 5-7 million well owning rural families in India are likely to be involved as water sellers; some 15-25 million or more may well be water buyers. There is substantial skewness in private ownership of energised wells; as a result, water buyers are normally resource-poor families. These numbers will no doubt increase as the remaining two-thirds of the unutilised groundwater potential in the country gets developed over the next 20 years or so. While equitable water markets open up for the resource poor access to irrigation, under certain circumstances, the well owners can skim the irrigation surplus through high water price. Since these markets are natural oligopolies, increasing the degree of competition is difficult and costly. However, flat, horsepower-linked power pricing policy offers a great opportunity to inspire competitive behavior amongst oligopolistic water sellers and secure major gains for the buyers.

In Gujarat, for instance, a switch from pro-rata to a flat power tariff in June 1987 resulted in 25-60 per cent declines in water prices in different parts and would save some 2 million water buyers over Rs 100 crore (million) every year in irrigation costs.

"Policy implications are: (a) overall productivity and equity gains resulting from flat power tariffs most likely exceed social costs of distortions they cause; (b) substantial increases in flat tariffs accompanied by improvements in the quality and amount of power supplied for lift irrigation may be the best way of strengthening water markets in the eastern states where they can do most good; (c) credit and subsidy support to private investments in underground piped water conveyance systems may generate large multiplier effects in terms of efficiency in water and power use as also of making water markets more competitive; (d) groundwater markets can play a powerful role in promoting conjunctive use of surface and groundwater in canal commands under a highly refined management regime; and (e) recognition of the social role of water markets necessitates a major revision in existing policies towards and the expectations from state tubewell programmes."

Shah, Tushaar, *Efficiency and Equity Impacts of Groundwater Markets: A Review of Issues, Evidence and Policies*. Research Paper #8, Anand, Institute of Rural Management Anand, 1989. 37 pp.

## Managing Dry Land Watershed Development

"This paper describes and analyses the processes of planning and management of the dry-land watershed development programme (WDP) in the Karnataka State of the Indian Union and draws lessons that might be useful to other governmental and non-governmental agencies engaged or interested in watershed development and management. The paper is based on a comprehensive review of Karnataka's WDP and case studies of three purposively selected sub-watershed projects in Karnataka. The Karnataka's WDP is generally considered successful and hence worth emulating.

"The study revealed that the Government of Karnataka (GOK) did a reasonably good job of identification and transfer of new watershed development technologies, programme planning and project formulation, project financing, and organization and administration. Karnataka's experience demonstrated that the watershed approach to development of dry-land agriculture is technically, organizationally, financially, politically and socially feasible to adopt on a large scale.

"The major determinants of success of the Karnataka's WDP were identified to be the political will at the state and sub-state levels, strong GOK support, availability of profitable new technologies, appropriate organization structure and adequate financial

resources. It is argued in the paper that wherever these factors are present or can be created and fostered, there are high chances of successful replication of the Karnataka's model which is essentially a scientific method of identifying and resolving various problems in watershed planning and management.

"The major lacunae of the Karnataka model identified in the study include inadequate people's participation, lack of satisfactory arrangements for equitable distribution of benefits from community and government-owned resources developed under the programme, and lack of necessary linkages with other rural development programmes. In spite of these drawbacks, the Karnataka model is commended for replication in other dry farming areas of India."

Singh, Katar *Managing Dry-Land Watershed Development Programmes: Lessons of Karnataka Experience*. Research Paper # 1, Anand, Institute of Rural Management, 1988. 35 pp.

## Community Fodder Farms in Gujarat

"This paper presents four case studies of local collective efforts to improve the management of the *gauchars* (village commons) by establishing community fodder farms. All the four case studies are of villages in the Kheda district of Gujarat. Two of these analyze efforts which succeeded and the benefits that flow from them to the village community; these also speculate about the factors that induced success. The other two case studies concentrate on two other villages where community fodder farms failed and consider various reasons for failure." "The two successful ones have some things in common. They were well managed and resulted in manifold increases in the biomass output per acre. They altered the relationship between the resource and the user by introducing a pay-to-use system thereby eliminating common property externality that affected the rest of the *gauchars*. Both are economically viable even while selling green fodder at subsidized prices. In contrast, the cases of failure had little in common: one failed due to lack of effective demand and initiative from the community; the other failed primarily due to a corrupt leader.

"The paper then speculates about the role of economic viability, effective management and leadership in collective action. It is suggested that the pay-to-use system creates conditions that mimic a market system and reduce the cost of exclusion. also offered is a tentative hypothesis on the role of leadership in collective action."

Shah, Tushaar, *Collective Action on Village Commons: Community Fodder Farms in Kheda District, Gujarat*. Case Study #5, Anand, Institute of Rural Management Anand, 1989. 31 pp.

## Afforestation of Village Common Lands:

This paper presents an overview of the village woodlot (VW) component of the Community Forestry Project (CFP) of the Forest Department (FD) of the Government of Gujarat and the findings of a case study of a VW in Ahmedabad district of the State. The overview revealed that the VW scheme was planned and administered well by the FD. The case study showed that the Aslali VW scheme was technically and administratively feasible and financially viable. The benefit-cost ratio at the ten percent discount rate ranged from 2.22 to 2.69 and the financial internal rate of return (IRR) from 39 to 43 percent. The village panchayat (VP) received a substantial amount of income, over Rs. 78,000, from the woodlot and used the money to augment the supply of drinking water in the village and for replantation of the harvested area. The villagers benefited from the fuelwood, *datoons*, and grass either collected free of cost from the VW or bought at a highly subsidized price. The study demonstrated that afforestation of village *gauchars* which are often degraded and produce nothing can bring about substantial benefits to the village community and that government intervention in managing of village common lands can avert "the tragedy of the commons".

"The study pointed to the need for involving villagers in the scheme right from the beginning, for making definite arrangements for distribution of benefits from the plantations among the villagers equitably, for educating and training them in the techniques of raising trees and managing the woodlots, and for motivating the VPs to take over the management of the woodlots established by the FD and to take up new plantations on their own. A scheme of afforestation of village common lands which takes into account the lessons of Aslali experience could go a long way in strengthening the financial position of VPs and putting the degraded common lands to more productive and ecologically sound use."

Singh, Katar & Vishwa Ballabh, *Afforestation of Village Common Lands: A Case Study of Aslali Village Woodlot in Gujarat. Case Study #4*, Anand, Institute of Rural Management Anand, 1989. 28 pp.

IRMA can furnish a list of all publications available from them. Those listed above are available on request from:

Publications Officer  
Institute of Rural Management  
Post Box 60  
Anand 388 001, INDIA  
Telephone: 23120  
Cable: GRAM IRMA  
Telex: 0172/262 IRMA IN

## Forestry For Sustainable Development:

The Forestry for Sustainable Development (FSD) Project, which is headquartered at the University of Minnesota, but also involves researchers from the University of Arizona, Oxford University, Yale and the InterAmerican Development Bank has been described in a previous issue of the Digest. The project has issued five working papers to date. The first of these papers, subtitled "Concepts and a Framework for Action" may be an interesting and useful document for many network members interested in social forestry and sustainability. The Executive Summary follows:

"Sustainable development is defined here as development involving changes in the production and/or distribution of desired goods and services which result, for a given target population, in an increase in welfare that can be sustained over time. The emphasis is on production with environmental protection in order to improve the well-being of people in a target population. Sustainability must refer not only to maintaining and/or improving environmental quality and the productive capacity of ecosystems, but also to maintaining and/or improving the well-being of people and enhancing their capacity to utilize available resources effectively and efficiently over the long run to meet the needs of present and future generations.

"The FFSD Program has developed a framework for action that includes:

- 1) the need to change the operational focus of development practitioners to:
  - a) focus on avoiding nonsustainable development as a workable, operational objective;
  - b) develop indicators of potential nonsustainable development, considering the context within which these indicators will be used;
  - c) build more flexibility into projects to deal with uncertainty; and
  - d) focus on sustaining project benefits rather than the development project itself.
- 2) expanding the traditional project paradigm that is used in most development agencies by:
  - a) internalizing key project externalities;
  - b) providing for continuity of project benefits beyond the formal life of the project;
  - c) planning for the diffusion of positive project ideas and impacts beyond the project boundaries; and
  - d) considering the distribution of project costs and benefits among various groups of people over time.

"Although the above general principles for dealing with sustainability issues are known among development professionals, this knowledge often is not applied in practice. Two obstacles appear to stand in the way of application:

- 1) Appropriate information required for specific applications is lacking; and
- 2) Institutional bottlenecks exist that inhibit or prevent implementation of sustainability principles.

"To provide more appropriate information to development planners and managers:

- Additional research and development work is needed to improve understanding of the various physical, biological, social, and economic linkages involved in human manipulation of the environment.
- Available information intended for practitioners must be put into a more understandable and useful form, and be made readily available to them where and when they need it.
- Decision makers must be provided with an expanded set of value weights for decision making that includes more thorough consideration of noneconomic and local, indigenous economic value dimensions, and that expresses environmental impacts in terms of their economic and social values, as reflected in their direct and indirect impacts on humans.

"To overcome institutional bottlenecks that inhibit application of sustainability principles in development agencies, personnel need to be provided with:

- The means to overcome the bottlenecks, through provision of education and training, resources, and authority or power to act; and
- Appropriate economic, social, and political incentives to overcome institutional bottlenecks."

Gregersen, Hans M. & Allen L Lundgren, *Forestry For Sustainable Development: Concepts and A Framework For Action*, Working Paper 1, Forestry For Sustainable Development Project, March 1990 pp.17

The FSD Project has also published four other working papers:

2. *Linking Monitoring and Assessment to Sustainable Development* by Hans M. Gregersen and Allen L Lundgren
3. *The Role of Watershed Development in Sustainable Development* by The Working Group on Watershed Management and Development
4. *Improving Water Quality Monitoring for Decision Making: A Plan of Action and Proposal for Implementation* by James Perry, Hans Gregersen, Allen Lundgren, Nels H. Troelstrup Jr. & Charlie Blinn
5. *Agriculture and Forestry In the Context of Sustainable Development* by Dietmar Rose

Single copies of these working papers are available at no charge from:

Forestry for Sustainable Development Program  
Allen L Lundgren, Director  
Department of Forest Resources  
University of Minnesota  
115 Green Hall  
1530 North Cleveland Avenue  
St. Paul, Minnesota, 55108, USA  
Telephone: (612) 624-1277

## Common Heritage of Mankind

Dr. Guzeppi Schembri, a Maltese diplomat and international lawyer has published an interesting essay entitled *The Common Heritage of Mankind: Towards Definition and Initiative*. Schembri notes with alarm that there may be a scramble for nations to extend their sovereignty over hitherto unowned resources and argues that the "only solution is the recognition with all its consequences of the principle of the Common Heritage of Mankind, which means that all nature, due to its *res nullius* character, is a *res omnius communis*." The essay is devoted into four sections, "Philosophy", "Property", "Definition" and "*Jus Cogens*." In his conclusion, the author argues "The Common Heritage of Mankind as a *jus cogens* norm is a further radical limitation since such a concept is in fact subjecting the state's freedom not only to the international community's interest, but to Mankind's interest, mankind considered as a species-in-progress." The author invites comment and reaction.

Schembri, Guzeppi, *The Common Heritage of Mankind: Towards Definition and Initiative*. Marsa (Malta), Publishers Enterprises Group, 1988. pp. 8.

Available from the author:

Dr. Guzeppi Schembri  
Casa Beethoven  
Triq 1- Ursuluni  
Gwardamanga, MALTA

## Enclosures, Common Rights and Women

As more women have joined the ranks of economic historians, we have seen many useful reexaminations of accepted wisdom from the point of view of a different gender. Jane Humphries, a member of the Faculty of Economics and Politics at Cambridge University "argues against the mainstream view that eighteenth-century common rights were of little significance to working people. Markets in common rights and in their products provide an index of value, and when neither common rights nor derived products were bought and sold, values are imputed from the market prices of similar goods. Since women and children were the primary exploiters of common rights, their loss led to changes in women's economic position within the family and more generally to increased dependence of whole families on wages and wage earners." Dr. Humphries article is, in part, a refutation of J.D. Chambers seminal article "Enclosure and the Labour Supply in the Industrial Revolution." published in the *Economic History Review* in 1953. Network members who may not be particularly interested in whether or why proletarianization occurred are still likely to be interested in Humphries' detailed observations on the relationship of women to common property in the seventeenth and eighteenth centuries. Many members working in developing country contexts would be able to make similar arguments today

She concludes: "I have emphasized the specific implications for women of the loss of certain rural resources. I have shown hitherto despised activities and denigrated resources to have had historical significance. In the light of the experience of wives and mothers, historians should revise their view of the value of the commons, and, incidentally, the role of enclosures in the genesis of wage labor."

Humphries, Jane, "Enclosures, Common Rights, and Women: The Proletarianization of Families in the Late Eighteenth and Early Nineteenth Centuries" in *The Journal of Economic History*, Vol L, No. 1 (Mar 1990)

## Buffalo Commons

In a much less academic vein, the *New York Times Magazine* of June 24 featured Frank and Deborah Popper's proposal to turn 139,000 square miles of land (approximately the land area of the two Germanys) in ten western states of the United States into a national park or wildlife preserve called the "Buffalo Commons". The Poppers are respectively professors of Urban Studies and Geography at Rutgers University. They argue that this area is economically depressed, has experienced population decline for years and would serve its best purpose if it were returned to livestock grazing.

The article, which contains an oblique reference to the Network, may not convince many western Nebraska farmers to offer their land, but given the wide circulation of the *Times*, will introduce many members of the general public to the terms "commons" and "common property". The political difficulties of establishing such a reserve in the United States should be instructive to those persons who believe that countries such as Brazil or Indonesia could set up analogous tropical forest preserves at the snap of a finger.

Matthews, Anne, "The Poppers and the Plains", *The New York Times Magazine*, June 24, 1990.

## Fisheries, Prisoner's Dilemmas and Cooperation

Network members Fikret Berkes and Aykut Kence examine conditions necessary for the evolution of cooperation in fisheries in a recent article in the Turkish *METU Journal of Pure and Applied Sciences*. The abstract follows:

"Recent studies using a Prisoner's Dilemma framework have led to a theory of cooperation based on repeated encounters and the development of reciprocity. The theory is applicable to a diversity of disciplines and has implications for the use of common property resources such as fisheries, i.e. what are the conditions under which the users of a fishery resource will cooperate to avoid, what some will consider, the inevitable "tragedy of the commons"? The Prisoner's Dilemma approach helps formalize some of the recent

theoretical developments on conditions of successful common property resource use. In particular, it offers insights regarding the importance of probability of encounter among users, development of reciprocal relations among them, the number of users in an area and the degree of crowding, heterogeneity of user-groups, the importance of local residency, and the supply-demand characteristics of the resource."

Their conclusions include the following. "In terms of policy implications, the Prisoner's Dilemma model provides a number of insights into the limitations of the "tragedy of the commons" model, arguably the dominant mental model in the management of fisheries in the industrialized world. The overexploitation of fish stocks is largely the result of the open-access condition of the resource. Fishermen tend to deplete the resource by unrestrained harvesting since what they leave behind may be taken by others. If, however, the open access condition is removed, the payoff schedules in the Prisoner's Dilemma change completely."

After quoting Axelrod's assertion that "No central authority is needed: cooperation based on reciprocity can be entirely self-policing" Berkes and Kence continue: "This statement does not mean that the role of central authority and government fishery regulations are completely rejected." and "This emphasizes the importance of managers working with, rather than against, users - the co-management approach. A word of caution on government regulation, given the emphasis on stability, is that drastic changes of rules is likely to destabilize existing cooperation. For cooperation to develop and persist, durable rules are necessary, whether arrived at by the users themselves or instituted by central authority."

Berkes, Fikret and Aykut Kence "Fisheries and the Prisoner's Dilemma Game: Conditions for the Evolution of Cooperation Among Users of Common Property Resources" in *Metu Journal of Pure and Applied Sciences*, Vol 29, No. 2, pp. 209-227. (Ankara University Printing House, 1990)

Anyone encountering difficulty in securing this journal should contact:

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## Benefits of the Commons

In writing for the Network it is generally safe to assume that readers are aware of distinctions between open-access situations and those where common property rights are well defined. This is not true in the wider academic community however. Four network members performed a valuable service by writing a succinct article which was published last year in *Nature*.

The brief synopsis at the head of the article states: "Conventional wisdom holds that resources held in common will invariably be overexploited - the 'tragedy of the commons'. A number of examples show that this is not necessarily so." In their article, Fikret Berkes, David Feeny, Bonnie McCay and James Acheson begin by reviewing the "conventional wisdom" about common property. They then note that such resources have two key characteristics; difficult exclusion and subtractability. Four possible property rights regimes are laid out; open access, private property, communal property and state property, though the authors note that in practice most resources are held in some combination of these regimes. They then sketch the cases of wildlife hunting in the James Bay area of Canada, lobster fishing in Maine, trawl fishing in the New York Bight and forests in Thailand. They then return to Hardin's model, previously sketched in the introduction, and relate it to their cases. A few extracts are illustrative.

"Recognition that users have the potential and, under some conditions, the motives and means to act collectively opens up other policy alternatives and provides questions about why some communal management systems fail and others succeed. The success or failure of common-property resource management has to do with the exclusion and regulation of joint use."

"In general, we propose that successful approaches to the commons dilemma are found in complementary and compatible relationships between the resource, the technology for its exploitation, the property-rights regime and the larger set of institutional arrangements. We also propose that combinations of property-rights may in many cases work better than any single regime. The success of local-level management, for example, often depends on its legitimization by central government"

They conclude: "In sum, sustainable common-property resource management is not intrinsically associated with any particular property-rights regime. Successes and failures are found in private, state and communal-property systems. Recent research highlights the potential viability and relevance of communal-property regimes, nested systems and co-management. Studies after that of Hardin have shown the dangers of trying to explain resource use in complex socio-economic systems with simple deterministic models."

The article has been reprinted in Spanish in the Ecuadorian journal *Hombre y Ambiente*.

Berkes, F., D. Feeny, B.J. McCay, & J.M. Acheson "The Benefits of the Commons" in *Nature*, Vol 340 (13 July 1989), pp. 91-93.

Berkes, F., D. Feeny, B.J. McCay, & J.M. Acheson "Las Ventajas de los Recursos Comunitarios" in *Hombre y Ambiente: El Punto de Vista Indigena*, No. 11, pp. 111-123.

## Nature of Common Pool Resource Problems

A paper published in *Rationality and Society* by Roy Gardner, Elinor Ostrom and James Walker, from the Workshop in Political Theory and Policy Analysis at Indiana University, "presents a conceptual framework for theoretical and empirical analysis of the multiplicity of behavioral problems encountered in common-pool resources (CPRs). This framework is used to specify more clearly the strategic content of CPR dilemmas and to show their interaction. The framework shows how the general theoretical constructs of (e.g., Prisoner's Dilemma and coordination games) apply to these behavioral dilemmas. Finally, results from a case study and a set of laboratory experiments demonstrate the applicability of this framework in designing and conducting empirical research on CPRs."

A few short extracts from the summary give a fuller idea of the contents. "Evidence from both field and experimental settings supported the hypothesis that without rules to limit appropriation from a CPR, rent dissipation occurs. We did not find clear evidence for complete rent dissipation, nor was the prediction derived from a Nash equilibrium fully satisfactory. What is clear is the absence of limits led to rent dissipation." What is also clear... is that forms of communication and local rules frequently prevent or substantially reduce rent dissipation."

"Many factors affect the severity of the problem facing appropriators and the likelihood that the appropriators can evolve or learn new strategies or design new rules. There are five broad clusters of variables that are useful in organizing analyses of CPRs:

1. The resource and resource units - the size and boundedness of the resource, the availability of reliable and valid information about resource conditions and yield, the ease of measuring withdrawal rates, whether resource units are stationary or fugitive, and the variability of resource units over time.
2. production technologies and market structure - The appropriative power of the technologies used and the cost involved in using the different technologies, the availability of markets for inputs and outputs, the stability of external markets, and the competitive structure of external markets.
3. Operational rules - What rules are actually used by appropriators to specify who has access; what actions must, may, or may not be affected; what information must, may, or may not be exchanged; and what positive or negative sanctions may be attached to actions or outcomes.
4. Collective and Constitutional choice mechanisms - The procedures that could be used to change the operational rules.

5. The structure of the operational action situation facing appropriators - the number of appropriators; the number and type of legal positions that appropriators can possess; the dependence of appropriators on the resource; the degree of homogeneity in terms of assets, technology, information, skills, culture, and values; the actions that appropriators can take; the information that is available to the appropriators; and the payoffs that appropriators can receive ..."

Members who do not have access to *Rationality and Society* can request a copy from Dr. Ostrom at the Workshop address given below.

Gardner, Roy, Elinor Ostrom & James Walker, "The Nature of Common-Pool Resources" in *Rationality and Society*, Vol 2, No. 3, July 1990, pp. 335-358.

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### Property Rights and Network Order: Irrigation in the Himalayas

Walter Coward examines relationships between the historical definition of property rights in irrigation in a colonial setting and current operation of irrigation systems in the Western Himalayas in a recent article in *Human Organization*. The abstract follows:

"In the middle of the 19th century, as part of their governance of the Punjab region, the British surveyed existing property rights in the Kangra District (now an administrative unit in Himachal Pradesh). The British included in this survey the recording of irrigation rights. This research explores the relationships between these British-recorded irrigation rights and the contemporary organization and operations of a local irrigation network (kuhl). Also explored are two examples of involvement by the state irrigation agency in attempts to improve these local irrigation systems. The research concludes that the irrigation rights documented in the British era provide much of the social glue required for operating and sustaining these small hydraulic works. The irrigation agency's attention to these important irrigation rights influences its success in providing assistance to the traditional kuhls."

Coward's case study complements several of the papers noted immediately above and seems to bear out specific assertions made by their authors. His conclusion that "The reproduction of social coherence in these systems is dependent ultimately on property

rights legitimized by the state ..." is consistent with Berkes and Kence's finding that "durable rules are necessary whether arrived at by the users themselves or *instituted by central authority*" and Berkes, et. al.'s statement that "*success of local-level management, for example, often depends on its legitimization by central government.*" (Editor's emphasis)

Coward's concluding statement bears quoting at length. "(I)n many local irrigation systems the activities of the water users in creating, or maintaining, the irrigation facilities establishes among them property relationships which become one important basis for their collective action in utilizing and sustaining these facilities. From this property proposition one can derive policy implications important for state actions regarding irrigation development." The author is very circumspect, the implications of his and similar studies may be much broader and more general than the specific resource studied in given cases.

Coward Jr., E. Walter, "Property rights and network Order: The Case of Irrigation Works in the Western Himalayas" in *Human Organization*, Vol 49, No. 1, 1990, pp. 78-88.

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