



Sustaining Natural Resources Through Community Management: A Framework for Action

Community management of natural resources can be promoted by providing an incentive environment to help ensure the flow of benefits to communities through the establishment of regulated access and rational management of common property natural resources. Clarification of the rights and responsibilities of community groups and measures to improve market effectiveness provide a necessary foundation for this incentive environment. In addition, measures to promote economic rationality for resource use and the provision of tangible incentives are needed to help motivate community groups. Accordingly, state agencies should help ensure efficient support services and a facilitating atmosphere and that all the necessary elements of the policy framework are integrated to create a favorable incentive environment for community management.

Emerging empirical evidence indicates an immense potential for collective regulation in preventing environmental degradation and managing natural resources sustainably. The community management approach holds a special promise for areas where the pressure on resources has gradually become excessive and unregulated open access use is hastening degradation. The critical consideration is to determine what policy measures can motivate local communities to institute effective regulation over the access and use of resources. Ideally, development approaches and policy options should encourage the interest of community user groups in adopting the collective and rational management of natural resources.

The fundamental premise of collective action is that benefits should accrue to all members of a group committed to collective action rather than to individuals trying to maximize their own benefits at the cost of other members. Recognition of the exclusive rights of community user groups over the local resources is the first necessary step to ensure that the benefits from rational management will flow to the community members.

This will help motivate community groups to establish regulated access to ensure that the supply of products is governed by the sustainable productive capacity of the resource. Market demand should then be reflected in reasonable prices providing stimulus for increasing production. The higher the scarcity, the higher will be this stimulus.

In addition to policy measures that enable collective regulation and improve market effectiveness, measures to promote economic rationality for natural resource use through mechanisms such as user fees are desirable to encourage efficient use. Additional incentives may be required to change behavior from present patterns of use—especially where resource conservation or management demands restrictions on extraction. Community groups will also require efficient support services to make improved technology available and improve their capacity for resource management and establishing regulation. These broad issues form the essential components of an enabling framework for community management of natural resources (box 1).

This note was prepared by Nihal C. Jain, Deputy Conservator of Forests, Udaipur, Rajasthan, India. The author gratefully acknowledges the assistance provided for this work by Colin Rees (Division Chief, Land, Water, and Natural Habitats Division), John Dixon (Unit Chief, Indicators and Environmental Valuation Unit), and the support of David Cassells (Forest Resources Specialist, Land, Water, and Natural Habitats Division) all of the World Bank. Copies are available from the Land, Water, and Natural Habitats Division, Environment Department, The World Bank, Washington, D.C. 20433, Fax (202) 477-0568.

Dissemination Notes represent the views of their authors and are not official publications of the World Bank.

Box 1
Enabling Framework for Action

1. Enabling collective regulation
2. Improving market effectiveness
3. Promoting economic rationality
4. Providing incentives for positive action
5. Ensuring efficient support services

Enabling Collective Regulation

Several successful examples indicate the great potential for community user groups in establishing effective control and regulation over the use of natural resources and ensuring sustainability. Because acceptability of community regulation is greatly facilitated by effective social relations, the user groups should be predicated on social-territorial relationships rather than geographical, administrative or political units. The variety of mechanisms adopted by community groups in different sociocultural circumstances indicate that the groups should have the maximum possible autonomy in deciding appropriate mechanisms for the control and regulation of resource use and management. The rights of the community groups should include legal access to resources, usufructs and benefits from management and the choice of deciding appropriate management strategies within the agreed framework.

The rights of community groups should always be linked with responsibilities for desirable management outcomes or, in other words, a promise for "good husbandry." The most important responsibility of the community groups is to convert "free-riding" into "regulated access" which includes protecting the resource from illicit use. Assuring an equitable distribution of benefits among the members, ensuring recovery of the degraded resources and accepting responsibility for the sustainable management of the resources in the future should also be included in the responsibilities. Non-conversion of land for other purposes, particularly encroachment by individuals and promises to eliminate destructive use of the resources in any manner (for example, undesirable induced fire) could be a part of the conditions for "good husbandry."

The most important role of the state lies in providing legal recognition to the rights of the local groups, including the rights to exclude

external users. Nevertheless, it should be ensured that social-territorial groups control conflicts with other neighboring or traditional distant users. Mutual relationships and traditional use patterns should be given adequate consideration in deciding exclusive rights. Another important role for the state lies in monitoring community control of resource extraction and management according to accepted regulations. Building the capacity of community groups through pluralistic extension approaches and providing greater autonomy and legal recognition to adjudicate differences within groups helps in strengthening community regulation. However, for resolving conflicts among the community groups, a greater role has to be played by the state and/or other external agencies whose legitimacy and impartiality is recognized by the community groups.

Improving Market Effectiveness

The market could be said to be effective where all the actors are fully informed of the various processes and their associated costs as the produce goes from the producer to the final consumer and the forces of demand and supply are fully operational. Once the control and regulation over resource extraction is established, an effective market would stimulate measures for maximizing production by communities as well as private entrepreneurs. Nevertheless, markets for most of the natural resource products are commonly highly distorted or exploitative, providing minimal share of the market profit to the producers. This is largely due to lack of appropriate marketing information, infrastructure, marketing capabilities, marketing research and other regulatory measures. Since the rural producers are generally the least informed about the marketing practices, a marketing information system geared to the needs of the local communities has immense potential in motivating the rural producers.

Market failures also result from the lack of clarity of rights and responsibilities, unwanted regulations and restrictions, incentive or disincentive measures biased towards certain actors and other inappropriate policy and administrative measures. Excessively high subsidies provided to industries and concessionaires ultimately affect the rural producers. Monopolized purchasing rights for

many of the products have also resulted in noncompetitive prices.

Caution is also required in depending too much on market regulations because of the impact of policies in several other sectors on the prices of natural resource products. The impact of technological changes, the long gestation periods for many of the natural resource products, unpredictable weather and the seasonal nature of production also make it difficult to get timely response to demand and supply forces. Careful consideration of all the external factors should help in deciding appropriate policy measures to avoid the adverse impacts of market forces.

Promoting Economic Rationality

One of the most important reasons of excessive exploitation of common property natural resources is the absence of assuming of costs other than the cost of labor and transport. Introducing some form of cost or user charges will promote economic rationality in use. In response to autonomy and user rights granted to local communities in return for the assurance of protection responsibilities, many of the local user groups have started internalizing the cost of protection and some other management activities (box 2). The mechanisms include patrolling through rotational watch by community members, contributions in kind or cash, user charges and penalty systems.

The mechanism of user fees has several potential advantages such as encouraging conservative use of resources, correcting market imbalances by its effect on product prices and increasing the commercial viability of production on the otherwise fully or partially unused lands. The destruction of natural resources under open access commonly advances with the growth of urban demand centers. Frequently, the areas in the vicinity do not remain commercially viable because of availability of produce from common and state property resources from even farther areas at much lower prices. Introduction of appropriate user charges helps to correct this situation.

The institution of user fee mechanisms has several practical problems, particularly for widely dispersed natural resources accessed by a large population. Collection of charges from the rural poor having high dependency on local resources may appear to be a very harsh measure. However,

collection of such user fees by communities for redistribution among themselves for individual or community use may offset this limitation. To avoid administrative problems and make the user fee system relevant in the local context, the responsibility should be devolved to local communities for deciding the amounts of user fees, mechanisms of collection and forms of such fees and the use of the collected amounts for community use or redistribution among the members of the community. User fees could also be paid as part of the produce, not all the products and uses may be included under the user fee net.

Providing Incentives for Positive Action

A favorable policy environment provides the foundation for stimulating sustainable management of natural resources. However, additional incentives may be required for changing behavior from present patterns of destructive use. This is specially important for degraded areas, where there may be very little to exploit during the process of recovery and for conservation areas, where exploitation needs to be severely restricted. In extremely degraded areas, restrictions on extraction often make it difficult even to meet people's basic minimum needs. In such cases, subsidized external supplies, providing alternative employment opportunities and supplementation by artificial regeneration measures may be used as effective incentives during the early phases of resource recovery. Matching grants linked to performance, could also be an effective means of providing incentives.

In conservation areas where exploitation needs to be substantially restricted, the role of additional incentives is even more crucial. The most commonly used incentive strategies include providing benefits from ecotourism, creating employment opportunities in conservation area management activities or providing other social services. However, often such benefits are available only for a short period and the distribution of benefits is also uneven.

One of the options to ensure sustained benefits to local communities from the conservation of resources could be by providing payment for conservation services and reducing the role of the development agencies to monitoring and setting appropriate standards. The funds for such payments could come from

Box 2

Local Initiatives for Inducing Cost to Resource Use

With the devolution of responsibility to community groups by development agencies or acquisition of self-initiated responsibility by community user groups in recent years, many user groups have instituted a variety of mechanisms which involve sharing of some of the costs of using and managing the resources.

- In eastern India, thousands of self-initiated local community groups have started user fee and penalty systems, including contribution in kind or labor. For detailed information see M. Poffenberger (1996) "Grassroots Forest Protection: Eastern Indian Experiences." *Research Network Report Number 7 of Asia Forest Network*, March 1996.
- In Harda a division in central India, nearly 100 participating local committees collected Rs.1.7 million in just three years through user fees, fines, and other charges. See the details of the Harda case in S. Singh, 1996. "India." In: Ernst Lutz and Julian Caldecott, eds. *Decentralization and Biodiversity Conservation*.
- Extraction of produce from the rehabilitated microwatershed areas in southern Uttarpradesh in India is regulated by local communities using a fee system. Some of these communities have also used measures to auction the produce for full cost internalization. The community groups operate a micro-credit system from built up community funds. See C.R. Hazra, D.P. Singh, and R.N. Kaul, 1996. *Greening of Common Lands in Jhansi through Village Resource Development: A Case Study*. Society for Promotion of Wastelands Development, New Delhi.
- In Nepal, user fees, membership fees, contribution in kind or labor and system of fines have long been existent and these mechanisms are becoming popular again with the handing over of responsibility to user groups. A recent review provides evidence of several mechanisms. See D.R. Dahal, 1994. *A Review of Forest User Groups: Case Studies from Eastern Nepal*. International Center for Integrated Mountain Development, Kathmandu, Nepal.
- In Thailand, user fees and fines are administered by many local community groups to regulate extraction by members. See M. Poffenberger and B. Mcgean, 1993. "Community Allies: Forest Co-management in Thailand." *Research Network Report No. 2*. Southeast Asia Sustainable Forest Management Network, Center for Southeast Asia Studies, University of California, Berkeley.

the income derived from the park management through a well-managed ecotourism program. It could also be from a tax levied on the dependent tourist industry or on polluting industries to compensate for the greenhouse gas emissions. Costa Rica provides an excellent example of having set up a special fund for this purpose built from a surcharge levied on fossil fuel.

Ensuring Efficient Support Services

State agencies will have to help protect the rights of local groups and ultimately to establish effective regulation. Quality research and technological improvements may also assist in promoting suitable measures for improving production. Extension services are important for disseminating technological information for better management and improving production. These services are equally important for generating awareness about new policy and incentive measures, the rights and responsibilities

of the communities and market related information. Community management of resources is essentially a group process and therefore extension approaches need to be centered around the groups rather than being individually oriented.

Capacity building is a gradual process and persistent and intensive efforts are necessary. The state agencies will have to play a greater role in the beginning by providing and improving support services. Involvement of nongovernmental organizations would be helpful in this process. Gradually greater involvement of private agencies should be ensured particularly when, in response to clear recognition of rights and responsibilities, communities intensify their efforts for increasing production and their demand for technological and managerial assistance increases. Support for building the capacity of private and nongovernment service providers may also be necessary.

