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**Rural Common Property
Resources:
A Growing Crisis**

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This Gatekeeper Series is produced by the International Institute for Environment and Development to highlight key topics in the field of sustainable agriculture. Each paper reviews a selected issue of contemporary importance and draws preliminary conclusions of relevance to development activities. References are provided to important sources and background material.

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RURAL COMMON PROPERTY RESOURCES: A GROWING CRISIS

N.S. Jodha

Common property resources (CPRs) are in decline throughout the developing world. Unlike in high-income countries, CPRs continue to be a significant component of the land resource base of very many rural communities. But they are threatened by neglect, over-exploitation, under-investment and expropriation.

CPRs are among the most neglected areas in development planning. To all but the poorest they are almost invisible. This paper, by focussing on CPRs in India, documents micro-level evidence on the contribution of CPRs to poor people's livelihoods, their steep declines in area and production over the last 40 years, the collapse of traditional management systems, and the consequent pauperisation of the poor. In conclusion, I will suggest courses for immediate action to offset some of these alarming trends.

CPRs in India

Common property resources (CPRs) can be broadly defined as those resources in which a group of people have co-equal use rights. Membership in the group of co-owners is typically conferred by membership in some other group, generally a group whose central purpose is not the use or administration of the resource, such as a village or tribe. In India, these resources include community pastures, community forests, wastelands, common dumping and threshing grounds, watershed drainages, village ponds, rivers, rivulets, their banks and beds. Even when the legal ownership of some of these resources rest with another agency, such as wastelands belonging to the Revenue department of the state, in a de facto sense they belong to the village communities and continue to be a significant component of the land resource base of rural communities. And these resources contribute to the production and consumption needs of rural communities in some critical ways.

The evidence presented in this paper is based on the field studies of CPRs conducted during 1982-1985, when I worked at ICRISAT¹. The village and farm level data collected over a period of four years relate to 82 villages from 21 districts, scattered in seven major states in the dry tropical zone of India (Figure 1). The method included regular monitoring structured surveys, physical verification/measurement, recording of oral history, and participant observations by (background and age-wise heterogeneous) teams of formal and informal cooperators in each district. The above information was supplemented by detailed longitudinal data available from ICRISAT's village level studies (Singh et al., 1985) conducted in ten villages of five districts which were also covered by the CPR studies.

1. International Crops Research Institute for the Semi-Arid Tropics



Figure 1. Districts and Number of Villages Covered by the Study on Common Property Resources in Dry Regions of India

Benefits of CPRs

Although CPRs contribute to people's employment, income generation and asset accumulation, they are seldom recognised and recorded, especially in the case of long-term social and ecological processes characterising dry areas. This invisibility is remarkable, considering their contribution to the village economies in dry regions of India. They provide:

1. physical products, such as food and fibre items; fodder, fuel and timber; water; manure, silt and space;
2. income and employment opportunities, such as off season activities; drought period sustenance; additional crop activities; additional animals; petty trading and handicrafts;
3. larger social and ecological gains, such as resource conservation, drainage and/or recharge of water; sustenance of poor households; sustainability of farming systems; renewable resource supply; and better micro-climates and micro-environments.

Quantifying Benefits

Although CPRs contribute considerably to users, not all sections of the rural community are equally attracted by these opportunities. The rural poor with limited alternative means of income, depend more on the low pay-off options offered by CPRs. The rural rich, that is large farmers, depend very little on CPRs (Table 1). The proportion of poor households

State	Household Category	CPR contribution to			
		Income (%)	Fuel Supplies (%)	Animal Grazing (%)	Days of Employment per Household
Andhra Pradesh	Poor	17	84	-	139
	Wealthy	1	13	-	35
Gujarat	Poor	18	66	82	196
	Wealthy	1	8	14	80
Karnataka	Poor	20	-	83	185
	Wealthy	3	-	29	34
Madhya Pradesh	Poor	22	74	79	183
	Wealthy	2	32	34	52
Maharashtra	Poor	14	75	69	128
	Wealthy	1	12	27	43
Rajasthan	Poor	23	71	84	165
	Wealthy	2	23	38	61
Tamil Nadu	Poor	22	-	-	137
	Wealthy	2	-	-	31

depending on fuel, fodder and food items from CPRs ranged between 84 and 100% in different villages.

In general, the rural poor obtain the bulk of their fuel supplies and fodder from CPRs. CPR products collection is an important source of employment and income, especially during the periods when other opportunities are almost non-existent. Furthermore, CPR income, despite being likely to be under-estimated, accounts for 14 to 23% of household income from all other sources in the study villages.

CPRs complement private farming too. They provide crop inputs, sustain animals and are especially important in drought years. For small and marginal farm households, some 31 to 42% of the total farm inputs are contributed by cash or kind inflows from CPRs. A still greater dependence of private-resource-based crop-farming on CPRs is revealed by the extent of support it receives for sustenance of farm animals. Animals provide draught-power, manures, and income when sold, and these functions would all decline without CPR availability. Relying solely on private land would imply a reduction in available draught-power by 68-76% and farmyard manure by 35-43%. And in drought years these all increase: some 42-57% of total sustenance income is contributed by CPRs in drought years compared with just 14-22% in non-drought years.

Quite clearly there are implications for dryland farming. Due to the short wet period (planting period) and the quantity of manure required for the land, dryland farmers keep more animals than could be maintained or fully utilised by their narrow production base consisting of small holdings and the short cropping season. The implied high overhead cost of private crop-farming is met through CPRs as a source of fodder and forage. CPRs also help fill in the resource and product gaps faced by private resource based farming. The pressure on CPRs is greater when the productivity of private property resource (PPR) based farming (as during the drought years) is low. PPR based farming in the dryland context could thus be strengthened through revitalisation of CPRs.

Depletion of CPRs

Despite their valuable contributions to the rural economy, CPRs are among the most neglected areas in development planning. The formal invisibility or non-recognition of their contributions has led to the disregard of CPRs by both welfare and production programmes. The consequence is their depletion both in terms of area and of productivity. This in turn induces further falls in their payoffs, to be followed by further neglect and degradation.

Decline in Areas

In all of the 82 villages covered by this study the areas of CPRs have declined since 1950-52, the time of comprehensive land reforms in India (Table 2). CPR area declined by at least 30%, and in some cases by more than 50%. Coupled with this is the dramatic increase in population pressure on CPRs. Most villages have seen at least a three fold increase in the number of people per hectare of CPR land.

Table 2 Decline in area of CPRs and increase in population pressure upon them

State	Average Area of CPRs per Village (ha)	Decline Since 1950-52 (%)	Persons per hectare of CPR	
			1951	1981
Andhra Pradesh	827	42	4.8	13.4
Gujarat	589	44	8.2	23.8
Karnataka	1165	40	4.6	11.7
Madhya Pradesh	1435	41	1.4	4.7
Maharashtra	918	31	4.0	8.8
Rajasthan	1849	55	1.3	5.0
Tamil Nadu	412	50	10.1	28.6

These types of changes have also been documented for several other parts of India (Iyengar, 1988; Blaikie et al., 1985; Brara, 1987; Chopra et al., 1990).

Physical Degradation of CPRs

The major indicator of physical degradation is the drastic decline in the number of products that villagers gather from the commons. Species diversity has declined, and species mix has changed. Those plants that remain are less likely to support productive animals, such as lactating cattle or working bullocks. The number of trees and shrubs have also fallen. The result is that people must spend more time in walking greater distances to collect the same quantity of products.

Collapse of Traditional Management

The physical degradation of CPRs is a product of both over-exploitation and poor upkeep. The reduction in area and the absence of usage regulations have encouraged over-exploitation of CPRs. The inability to enforce obligations of CPR - in terms of grazing tax or compulsory labour input for trenching, fencing etc - has led to their poor upkeep. These failures have resulted from the slackening, abolition, or complete collapse of the traditional formal or informal management practices for CPRs (Jodha, 1985a; Brara, 1987; Chambers et al., 1989; Roy Burman, 1986; Singh et al., 1985; Stewart, 1989). As Table 3 (overleaf) shows, compared with the early 1950s, only 10% of villages still regulate grazing or provide watchmen; none levy grazing taxes or have penalties for violation of regulations; and only 16% still have user obligations for maintenance and repair.

Table 3 Changes in management of CPRs in dry regions of India

State	Formal/Informal Regulations on CPRs ¹ (No. of Villages)		Formal/Informal Taxes & Levies on CPR use ² (No. of Villages)		Users Obligation Towards Upkeep of CPRs ³ (No. of Villages)	
	1950s	1980s	1950s	1980s	1950s	1980s
Andhra Pradesh	10	0	7	0	8	0
Gujarat	15	2	8	0	11	2
Karnataka	12	2	9	0	12	3
Madhya Pradesh	14	2	10	0	14	3
Maharashtra	11	1	6	0	10	1
Rajasthan	11	1	11	0	11	2
Tamil Nadu	7	0	4	0	7	1
Total	80	8	55	0	73	12

¹ Regulations include regulated and rotational grazing, seasonal restrictions on the use of CPRs, provision of watchmen.

² Taxes, levies and penalties for violation of regulations.

³ Measures such as contribution toward desilting of watering points, fencing, trenching, protection of CPRs.

CPRs and Pauperisation

Loss of CPRs has resulted in an acceleration of the pauperisation process. The functions of CPRs are threatened, their contributions to poor people's livelihoods have fallen. The implications for resource and social sustainability are serious. First, in the larger social and ecological contexts, the transfer of sub-marginal CPR lands to crop cultivation, through their privatisation, implies a step towards long-term unsustainability of land-based activities in dry regions (Jodha, 1988a, 1989b and 1990). Second, the reduced products and income generation options, following degradation of CPRs, imply increased scarcity, and stress for those who depend on CPRs. The longer time and distance involved in collection of the same or lesser quantities of CPR products, and the reduced effective period (months) of sustained grazing offered by CPRs today, as compared to the past, are just two of the several examples of this phenomenon. Third, despite the increasingly inferior options available from CPRs, the rural poor continue to depend on them because the opportunity cost of their labour to harness the inferior options is still lower. Hence, the progressive decline in the value of CPR products, accompanied by equally increasing number of people relying on them for sustenance, is a more definite indicator of increasing poverty.

The whole process remains invisible. But meanwhile the community silently eats away its permanent asset. Since the poor are sustained by CPRs without any direct and visible

burden on the public exchequer, not many would realise that the process may prove costlier than any alternative means to help the poor.

Public Interventions in CPRs

Public sector policies and programmes have long influenced CPRs and the people who rely on them.

Privatization and the Poor

Large scale privatisation of CPRs had caused a decline in their extent in all the regions studied. This change is closely associated with land distribution policies of the governments. Practically all the programmes designed to provide land to specific beneficiaries, mainly landless people, have resulted in the curtailment of the CPRs. But the privatisation of CPRs in the name of helping the poor has, in fact, brought more land to the already better off households. More poor households have received land, but this was barely more than one hectare per household. The corresponding area received by more wealthy households ranged between 2 and 3 hectares. And many of the poor could not keep their land. In all but one area they were dispossessed of 23 to 45% of the land allocated, largely because of lack of resources to develop and use the land, and the quality of the land being too poor to sustain annual cropping (Jodha, 1986). Thus the government's policies to help the rural poor through land distribution did not work as intended.

Most of this newly privatised land was transferred to annual cropping. Yet yield performance was much worse than the traditionally cropped plots in some villages. In 1983 and 1984, despite four times the capital investment per hectare, pearl millet on these newly privatised plots yielded barely 40% of that on the traditionally cropped land - just 185 kg/ha compared with 472 kg/ha.

CPR Productivity

Public policies for raising CPR productivity have both lacked an appropriate focus on CPRs and have over-focused on production technologies (Gupta, 1987; Shankarnarayan and Kalla, 1985; Jodha, 1988b). With a strong science and technology input, they have favoured technologies rather than community involvement and a user-perspective. Long inventories of technically well-assessed species of trees and grasses, methods for reseeding rangeland and reforesting wastelands, plant establishment and thinning techniques, and silvicultural recommendations for community lands are common. However, there is too little institutional sensitivity in these measures to raise the productivity of the CPRs involved. Even worse, in several cases the community lands are alienated from the people, and transferred to pilot projects, in order to establish and demonstrate the viability of technological measures (Chambers et al., 1989). A further consequence of productivity-raising efforts initiated without sufficient concern for the user-perspective is virtual conversion of CPR lands into commercial production fields, as witnessed in a number of social forestry projects (Chambers et al., 1989; Stewart, 1989; Gupta, 1987). In the process,

most of the functions of CPRs are sacrificed. Furthermore, the state often attempts to grab resources from the more productive CPRs. Directly or through contractors, the state acquires the monopoly of collection or marketing of CPR products from these resources (Jodha, 1985b; Chambers et al., 1989). This deprives the village communities or specific groups from having fuller benefit of high-productivity CPRs. The villagers' protests in some cases end up in prolonged litigation (Brara, 1987; Iyengar, 1988; Kaul, 1987).

Management Systems Decline

As I have already described, the traditional management systems for CPRs have practically disappeared. This is a side-effect of certain institutional reforms, such as the introduction of land reforms and new panchayat systems (elected village councils). The former led to abolition of a number of levies and taxes on CPR users, and the latter undermined the traditional informal authority of village elders and replaced the formal authority of feudal landlords in some areas. However, despite their legal powers, the village panchayats are generally unable to enforce any regulation about CPRs. The dependence of panchayats on community votes, compelling them to avoid unpopular steps like enforcing CPR-user obligations, and their domination by the influential with little interest in CPRs, make these new institutions ineffective (Jodha, 1985a; Gupta, 1987; Stewart, 1989). However, the panchayats rarely miss any opportunity to seek government grants in the name of CPRs. The default on the part of the panchayats has thus converted CPRs into open access resources with the consequent tragedy. The exceptions are the cases where village elders still have informal authority (Brara, 1987).

Adapting to Change

The extent and type of private gains extracted from the rapidly declining CPRs are very much related to the capacities and needs of individual families, and so the ways that different groups have adapted to change vary. In particular, there are differences in the responses of the rural rich and the rural poor towards the changing situation of CPRs, although some responses may be common to both.

Adaptation by the Rural Rich

The rural rich have withdrawn from CPR use, and thus have invested less and become more indifferent to CPRs. They have:

- withdrawn as users of CPR products, as their opportunity cost of labour for collecting and using CPR products is higher than the value of the CPR products (Jodha, 1986);
- increased their reliance on alternative options (Jodha, 1986, 1988b; Stewart, 1989), including own supplies of biomass, and substitution of renewable CPR products by non-renewable and/or external products - stone fencing for thorn fencing, or rubber tyres for wooden tyres for bullock carts, iron tools for locally made wooden ones;

- squeezed CPRs as assets, as reflected through the tendency to grab CPR lands, preventing others from using their private land during off-season (i.e. seasonal CPRs), and enriched their own soil by mining and taking silt and top soil from CPR lands to private fields (Jodha, 1986, 1988b; Iyengar, 1988; Brara, 1987);
- grown indifferent to the management of CPRs despite their influence and ability to use legal-cum-administrative superstructure and public funds (grants/subsidies) available for rehabilitation of CPRs (Jodha, 1989a; Chambers et al., 1989; Stewart, 1989).

Adaptation by the Rural Poor

The poor have also attempted some of these measures. But their adaptation has been characterised by growing poverty, reliance on CPRs and desperation. They have:

- continued to utilise CPRs as an important source of sustenance;
- readily accepted increasingly inferior options offered by CPRs - they have no alternatives;
- increasingly resorted to measures manifesting a high degree of desperation, such as increased frequency of lopping and premature harvest (collection) of CPR products, so reducing seed formation and regeneration possibilities; removal of plant bush roots (the very basis of CPR products); use of hitherto discarded (inferior) products with negative side-effects on the health of users; and overcrowding and over-exploitation of CPRs (Jodha, 1985b, 1988b; Brara, 1987).

The consequence of these trends will be further degradation of the CPRs and the rapid decline of whatever cushion the poor have through the CPRs.

Whither CPRs?

The evidence does not suggest bright prospects for CPRs in the dry regions of India. There are institutional constraints preventing the offsetting of these damaging and serious trends. Generally, the physical and legal-cum-administrative interventions dealing with CPRs are insensitive to the CPR-perspective. The response of rural people to the changing CPR situation is dominated by a tendency to grab CPR areas and over-exploit their production potential. Neither are there users' lobbies nor noise-making media to plead for CPRs.

Nonetheless, those villages where the decline in CPRs has been less serious appear to have some similar characteristics. These begin to point the way for future action. In particular, they had:

- fewer occupational changes, that is shift from handicrafts, caste services, etc. to cultivation, implying less increase in the demand for conversion of CPR lands into private croplands;

- less commercialisation, implying less erosion of social sanctions and informal arrangements protecting CPRs;
- less factionalism in the village, implying greater degree of social cohesion, conducive to the protection of CPRs;
- lower socio-economic differentiation ensuring equity of access and benefits from CPRs, equal stake in the maintenance of CPRs and less extent of CPR-grabbing;
- less dependence on State patronage for resource transfers to village, implying less opportunity for interference in village affairs from above, including privatisation of CPRs as part of populist programmes.

Future Prospects

The future prospects of CPRs are closely linked to an appreciation of their contributions, and changes in the public approach to strengthen them. Some areas requiring immediate attention are as follows:

1. *Positive CPR Policies*: Positive policies restricting the further decline of CPR areas should be the major component of CPR development. Promotion of user groups could be a solution to this.
2. *Investment Needs*: For sustained and effective contribution of CPRs, increases in their productivity is essential. This requires rapid regeneration, through protection and regulated use, and provision of substantial investments into CPRs.
3. *Technology Focus*: The rehabilitation of CPRs as productive social assets needs a new technological focus in terms of species, inputs, and technical methods of resource management. Besides productivity we must emphasise the diversity and usefulness of products.
4. *Management and Regulation*: The rehabilitation of CPRs is less of an investment-cum-technological problem and more of a resource management problem. This cannot happen unless the CPRs are reconverted from 'open access resources' to 'common property resources'. In operational terms this would mean the re-establishment of usage regulations and user obligations towards CPRs.
5. *User Groups*: The institutional arrangement to fulfil such requirements can take the form of CPR-user groups. There are no unique models to pattern such groupings in dry areas. However, some key features of prospective CPR-user groups could be stated:
 - equity of access and benefits from the CPR for all members;
 - use groups should have legal sanction, but remain outside the control of formal village institutions;
 - depending on the type of CPR, membership of the group may comprise the whole village, community or specific occupational groupings;

- a precondition for group membership should include a binding commitment to user obligations and usage regulations;
- to ensure stability of user groups, flexibility in exit and entry of members should be allowed, with no right to break up the group.

Clearly, the pattern of user group will depend upon the type of CPR and village specific conditions, and so, apart from the incorporation of these broad features, no uniform or static pattern is likely to emerge.

In the context of some dominant features of the current situation, these suggestions may sound Utopian. The two relevant features which have emerged as by-products of the recent development history of India, and which may obstruct the growth of user groups are: the ever-increasing tendency of the state to expropriate the initiative and activities which belong to people, and the increased internal differentiation of rural communities and its impact on the operation of village-level initiatives. However, despite such potential obstructions, the success of recent initiatives in the management of community resources by user groups and NGOs do inspire considerable hope for the resources and for the poor who rely upon them.

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