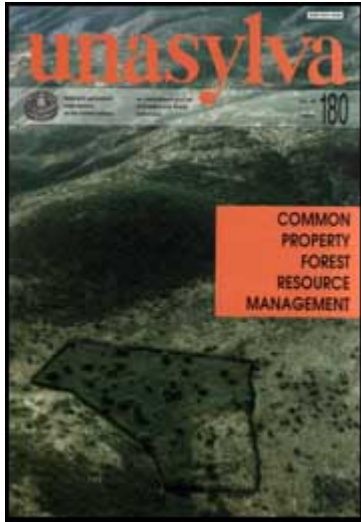


# Unasyuva - No. 180 - Common property forest resource management



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# Common property resources and dynamics of rural poverty in India's dry regions

**N.S. Jodha**

**N.S. Jodha** is Head of the Mountain Fanning Systems Division at the International Centre for Integrated Mountain Development (ICIMOD), Kathmandu, Nepal. He is currently based in Washington, DC, with the World Bank.

*This article considers common property resources in dry regions of India. It is based on a study covering 80 villages in 20 districts of six states (for methodological details see Jodha, 1986; 1990a; 1990c, 1992).*

Despite a rapid decline in their area and productivity, common property resources constitute an important component of community assets in the dry areas of India (Bromley and Cernea, 1989; Magrath, 1986; Ostrom, 1988) and are one of the community's responses to the scarcities and stresses created by agroclimatic conditions. They are sources of a range of physical products, offer employment and income generation opportunities and provide broader social and ecological benefits (see Table 1).

This article first presents village-level evidence regarding the dependence of poor households on common property resources, a second section comments on their decline and the causal factors, while the final section examines public interventions involving the rural poor and common property resources.

## Dependence of the poor on common property resources

Notwithstanding monitoring and measurement complexities, some of the benefits derived from common property resources in the dry regions of India have been quantified in previous studies (Jodha, 1986). Table 2 highlights these benefits. Common property resources have been degraded and their productivity is much lower today than in the past. Consequently, the rural rich (large farmers, indicated by the "others" category in Table 2), depend very little on them. It is not worth while for them to collect and use meagre quantities of products from these resources. On the other hand, the rural poor (small farmers and landless labourers) with limited alternatives increasingly depend on low pay-off options offered by such resources. In the villages of Jodha's study, 84 to 100 percent of the rural poor depended on common property resources for fuel, fodder and food; the corresponding proportion of rich farmers did not exceed 20 percent (except in very dry villages of Rajasthan); and intermediate categories of farm households (not shown in Table 2) depended on these resources more than the rich (Jodha, 1986).

The heavy dependence of the rural poor links these resources to the dynamics of poverty and to development interventions centred on the poor. Therefore, any change in the status and productivity of common property resources directly influences the economy of the rural poor.

## Depletion of common property resources

Table 3 shows that, since the early 1950s when land reforms were introduced in most parts of the country, the area of common property resources has declined by 31 to 55 percent in the study villages. Other studies also corroborate this observation (Iyengar, 1988; Blaikie, Harriss and Pain, 1985; Oza, 1989; Chopra, Kadekodi and Murty, 1990; Chen, 1988; Arnold and Stewart, 1990). The pressure on the remaining common property resources has rapidly increased as a combined result of the reduced area in these resources and population growth. For instance, the average number of persons per 10 hectares of common property resources ranged from 13 to 101 in 1951; by 1982, the same measure had increased to 47 238, depending on the sample village.

The immediate consequence of increased pressure on such resources is their overexploitation and degradation (Table 4). Their physical degradation is strongly felt and observed, but its quantification is difficult owing to a lack of benchmark data. Nevertheless, case histories and close monitoring do provide the basic details. Declines in the number of products available and their yields are the main indicators of physical depletion. For instance, the number of different common property products collected by villagers ranged from 27 to 46 before 1952. At present, this statistic only ranges from 8 to 22. The decline in the number of products also suggests reduced biodiversity in common property resources.

As well as overcrowding, another important cause of the degradation is a slackening of traditional management. State interventions have been ineffective in substituting formal for the previous informal social sanctions and customary arrangements for protecting, upgrading and regulating the use of common property. As a result, many have become open access resources, with everyone using them without any reciprocal obligation to maintain them. Table 5 shows that, at present, nearly 90 percent of villages fail to enforce historical regulations, both formal and informal.

The reduction in land area, poor maintenance and the decline in carrying capacity lead to reduced supplies of products for those who depend on common property resources. Seen in relation to earlier evidence of the rural poor's heavy dependence on these resources, their decline represents a definite step towards further pauperization of the poor. This is a classic case of the vicious circle of poverty and resource degradation reinforcing each other.

## Public interventions aimed at common property resources and the rural poor

Since the initiation of economic planning in the 1950s, the state has undertaken measures designed to help the poor. The major thrusts of public policies involving the rural poor and common property can be grouped under the following categories: asset redistribution; productivity increases (including forest areas); formal management systems; and biomass production projects. Consideration of the role of common property resources in each is worth while.

### Asset (land) redistribution

Redistribution to the landless and to small landowners was the key element of the land reforms introduced in the early 1950s in India. Having failed to acquire surplus land from large farmers

and absentee landlords through effective land ceiling laws, the state governments found it easier to redistribute common lands. While most are fragile, submarginal and best suited to natural vegetation, their division into individual private holdings immediately brought them under the plough. Therefore, one consequence of common property division was low and unstable crop yields. Grain yields from former common lands have been one-fourth to one-half of the yields obtained on traditionally cropped lands, not enough to compensate for the loss of biomass produced on these lands in the past (Jodha, 1992).

A second and more serious aspect of the individual privatization of common property resources is the huge gap between the intention (land for the landless and the poor) and the reality of land distribution. Notwithstanding efforts to the contrary, a large proportion of the former common land went to the non-poor, and non-poor families tended to receive larger parcels of land. Furthermore, since the newly received land was too poor, unproductive and difficult to develop without complementary resources that were unavailable to the rural poor, 23 to 45 percent of the poor households were dispossessed of their new lands (Jodha, 1986). In sum, it is doubtful whether the collective loss of the rural poor as former major users of common property resources was balanced by their individual gains as individual owners of former common land.

**TABLE 1. Contribution of common property resources to village economies in dry regions of India**

Contributions	Common property resources					
	A	B	C	D	E	F
<b>Physical products</b>						
Food, fibres	x		x	x		
Fodder, fuel, timber, etc.	x	x	x		x	x
Water				x	x	
Manure, silt, space	x	x	x			x
<b>Income and employment benefits</b>						
Off-season activities	x				x	x
Drought period sustenance	x	x				x
Additional crop activities			x	x		x
Additional animals	x	x				
Petty trading and handicrafts	x					x
<b>Broader social and ecological benefits</b>						
Resource conservation	x	x				
Drainage and recharge of groundwater			x	x	x	
Sustainability of farming systems	x	x	x		x	x
Renewable resource supply	x	x	x			
Better microclimate and environment	x	x		x	x	

A = community forest; B = pasture/wasteland; C = pond/tank; D = river/rivulet; E watershed drainage/river banks; F = river/tank beds.

### **Increasing forest productivity**

Alarmed by the physical degradation and falling productivity of village forests, community pastures, etc., the government took a number of measures designed to raise their productivity. However, community resources were treated merely as physical resources located in the villages, and public interventions did not involve the local people or solicit their perspectives. Public initiatives focused on techniques rather than users' needs. Most involved limited numbers of species, at times exotic ones, which failed to meet the mixed biomass needs of the people. Furthermore, many programmes placed restrictions on local people's access to their own common resources. For example, pilot projects focused on demonstrating potential technologies under ideal situations (i.e. without users). Without local participation, successful implementation of these programmes was difficult. They were (and continue to be) sustained by state grants in selected pilot project areas but most efforts to upgrade common property productivity have proved irrelevant and ineffective (Gupta, 1987; Shankarnaryan and Kalla, 1985).

### Formal management systems

The feudal system in India was abolished with the introduction of land reforms in the early 1950s, and the elected Village Panchayats Councils (which replaced the traditional informal arrangements) were given responsibility to administer and implement development and welfare activities at the village level. The management of common property resources also became their responsibility. Despite all legal provisions, however, the Panchayats generally failed to undertake measures for managing these resources; rather, they often confined their roles to securing government grants in the name of common property but using them elsewhere (Jodha, 1990c).

Consequently, traditional management practices were discontinued in most villages. The state's usurpation of community mandates and initiatives through a variety of legal, administrative and fiscal measures further marginalized the role of communities in managing their

**TABLE 2. Extent of households' dependence on common property resources in dry regions of India**

States <sup>1</sup>	Household categories(%)	Common property resources, contribution per household				
		Fuel supplies <sup>2</sup> (%)	Animal grazing <sup>3</sup>	Employment days (no.)	Annual income (rupees)	Income as proportion of total income (%)
Andhra Pradesh (1,2)	Poor	84	-	139	534	17
	Others	13	-	35	62	1
Gujarat (2,4)	Poor	66	82	196	774	18
	Others	8	14	80	185	1
Karnataka (1,2)	Poor	-	83	185	649	20
	Others	-	29	34	170	3
Madhya Pradesh (2,4)	Poor	74	79	183	733	22
	Others	32	34	52	386	2
Maharashtra (3,6)	Poor	75	69	128	557	14
	Others	12	27	43	177	1
Rajasthan	Poor	71	84	165	770	23

(2,4)	Others	23	38	61	413	2
Tamil Nadu (1,2)	Poor	-	-	137	738	22
	Others	-	-	31	164	2

<sup>1</sup>In parentheses is the number of districts and villages included for each state.

<sup>2</sup>Fuel gathered from common property resources as a proportion of total fuel used during three seasons covering the whole year.

<sup>3</sup>Animal unit grazing days on common property as a proportion of total animal unit grazing days.

**TABLE 3. Extent and decline in area of common property land in dry regions of India**

States	Number of study villages	Area of common land, 1982-84	Common land as proportion of total village area		Decline in area of common land since 1950-52 (%)	Persons per 10 in area of common land 1950-52	
			1982-84 (%)	1950-52 (%)		1951 (no.)	1982 (no.)
Andhra Pradesh (3)	10	827	11	18	42	48	134
Gujarat (3)	15	589	11	19	44	82	238
Karnataka (4)	12	1165	12	20	40	46	117
Madhya Pradesh (3)	14	1435	24	41	41	14	47
Maharashtra (3)	13	918	15	22	31	40	88
Rajasthan (3)	11	1849	16	36	55	13	50
Tamil Nadu (2)	7	412	10	21	50	101	186

<sup>1</sup>In parentheses is the number of districts for each state.



**TABLE 4. Indicators of physical degradation of common property resources**

Indicators of changed status and context for comparison	States						
	Andhra Pradesh (3)	Gujarat (4)	Karnataka (2)	Madhya Pradesh (3)	Maharashtra(3)	Rajasthan (4)	Tamil Nadu (2)
<b>No. of common property products collected</b>							
In the past	32	35	40	46	30	27	29
At present	9	11	19	22	10	13	8
<b>No. of tress and shrubs per ha in</b>							
Protected common land <sup>2</sup>	476	684	662	882	454	517	398
Unprotected common land	195	103	202	215	77	96	83
<b>No. of watering points (ponds) in grazing common land</b>							
In the past	17	29	20	16	9	48	14
At present	4	13	4	3	4	11	3
No. of common property plots where rich vegetation, indicated by its nomenclature, is no longer available		-	12	3	6	4	15
Ha of common land used for cattle grazing in the past, currently grazed mainly by sheep/goats <sup>3</sup>	48	112	95	-	52	175	64

<sup>1</sup>In parentheses is the number of villages included for each slate.

<sup>2</sup>Protected common property resources are the areas (called "oran", etc.) where, for religious reasons, live trees and shrubs are not cut. These plots (numbering between two and four in different areas) were compared with bordering plots of common property that were not protected by religious or other sanctions.

<sup>3</sup>Area covered by specific plots that were traditionally used for grazing high-productivity animals (e.g. cattle in milk, working bullocks or horses of feudal landlords). Because of common resource depletion, these animals are no longer common resources. More recently, a few initiatives supported by NGOs are attempting to restore community control over local resources (Oza, 1989; Shah, 1987).

### **Biomass production projects**

Alarmed by the emerging biomass crisis, pressured by environmental lobbies, induced by donor recommendations and encouraged by the achievements of small-scale and scattered NGO-supported initiatives as well as workable scientific recommendations, the government has recently initiated a number of welfare, production and resource development projects to

enhance biomass availability for village communities. Social and community forestry projects and integrated watershed management projects are examples.

However, with few exceptions, most of these efforts continue to share the features of past interventions; most still operate in the project mode, are sustained by state subsidies and are managed by state administrative or technical agencies. Furthermore, most of them remain technique-oriented and lack a sufficient degree of people's participation. The very scale of the problem is a big constraint, while the inadequate understanding of the common property dimension of these resources is another problem.

## Conclusions

The result of these different state programmes is that the rural poor in most areas continue to depend on rapidly shrinking common property resources. An invisible process of pauperization (Jodha, 1990c) is developing as the costs of production (largely the time of the rural poor) from common resources increase and their outputs decrease. The overall variety and quality of products are declining (Jodha, 1985b; 1992). The decline of the common property resources reflects various dimensions of rural poverty.

The transfer of submarginal common lands to individual private crop cultivation represents a step towards long-term unsustainability in dry areas, as it ensures only a meagre grain output while imposing a huge cost in terms of more ecologically appropriate products (i.e. biomass) which would help sustain diversified farming (Jodha, 1991). The poor suffer the most severe consequences. The reduced range and quality of employment and income options for succeeding generations of those dependent on common resources will widen intergenerational inequity. This is a key element in the unsustainability phenomenon. One manifestation of it can be seen in the premature harvesting and lopping of trees to make up for the reduced availability of plant material (Jodha, 1993). The whole process remains formally invisible, as it is not reflected in the national accounts. The community silently eats away its permanent natural assets and, in the final analysis, the loss of common property resources may prove more costly than alternative measures to help the poor.

The ultimate consequence of common resource degradation may be the permanent disruption or elimination of vital biophysical processes, of nature's regenerative activities (energy and material flows, etc.), inside the common property area and in the surrounding areas as well (Jodha, 1991). These disruptions may further reduce the efficacy of farmers' traditional adaptation strategies against environmental stress in dry regions (Jodha, 1990b).

Districts and number of villages (in parentheses) covered by the study on common property resources in dry regions of India



**TABLE 5. Indications of changes in common property resource management in dry regions of India states**

States <sup>1</sup>	No. of villages pursuing the following measures					
	Formal/informal regulation of common resource use <sup>2</sup>		Formal/informal taxes/levies on common resource use <sup>4</sup>		Users' formal/informal obligation towards upkeep of common property resources <sup>5</sup>	
	In the past <sup>3</sup>	At present <sup>3</sup>	In the past	At present	In the past	At present
Andhra Pradesh (10)	10	none	7	none	8	none
Gujarat(15)	15	2	8	none	11	2
Karnataka (12)	12	2	9	none	12	3
Madhya Pradesh (14)	14	2	10	none	14	3
Maharashtra (13)	11	1	6	none	10	1
Rajasthan (11)	11	1	11	none	11	2
Tamil Nadu (7)	7	none	4	none	7	1
<b>Total (%)</b>	<b>100</b>	<b>11</b>	<b>100</b>		<b>100</b>	<b>16</b>

<sup>1</sup>In parentheses is the number of villages included for each state.

<sup>2</sup>Measures such as regulated/rotational grazing, seasonal restrictions on use of common property resources the provision of watchmen etc

<sup>3</sup>"Past" stands for period prior to the 1950s, present" stands for the early 1980s

<sup>4</sup>Measures such as grazing taxes levies and penalties for violation of regulations regarding the use of common property resources

<sup>5</sup>Obligations such as a contribution towards the desilting of watering points. fencing, trenching protection of common property etc.

**TABLE 6. Distribution of privatized common property lands to different household groups**

(A)	(B)	(C)	(D)	(E)	Land received per household by:		Average area per household after receiving new land	
					Poor	Others	Poor	Others
States <sup>1</sup>	Total area redistributed (ha)	No. of households receiving land	Share of poor <sup>2</sup> in (B) (%)	Proportion of poor in (c) (%)	(ha)			
Andhra Pradesh (6)	493	401	so	74	1.0	2.1	1.6	5.0
Gujarat (8)	287	166	20	45	1.0	2.6	1.8	9.4
Karnataka (9)	362	203	43	65	1.3	3.0	2.2	8.0
Madhya Pradesh (10)	358	204	42	62	1.2	3.2	2.5	9.5
Maharashtra (8)	316	227	38	53	1.1	1.9	2.0	6.2
Rajasthan (7)	655	426	22	36	1.2	3.2	1.9	7.2
Tamil Nadu (7)	447	272	49	66	1.0	1.5	1.9	6.7

<sup>1</sup>In parentheses is the number of villages included for each state.

<sup>2</sup>"Poor" includes agricultural labour and small farm (<2 ha Of dry land equivalent) households.

The situation is disturbing and could become desperate if positive policies are not adopted. This scenario is not inevitable, however, provided the poor are offered alternative options that will reduce their dependency on the common resources and that will regulate the usage, enhance the regeneration and raise the productivity of common property resources. The key elements of such an approach are elaborated elsewhere (Jodha, 1992) but are briefly summarized here:

- Deliberate public action is required to restrict the further curtailment of common property resources: public welfare and development programmes need to be sensitized to common resource issues while general development policies intended to improve resource productivity and environmental stability can be made more successful if they are reoriented with a common property perspective.
- The key objectives for protecting and rehabilitating common property resources are to reduce their mining by users (a result of the degradation poverty cycle) and to introduce technological investments and create economic incentives to conserve such resources while raising their productivity.
- The regulation of common resource use is equally important. This calls for the involvement of user groups and the mobilization of a community strategy that complements state interventions

with the essential participation of local people. Recent experiences of successful participatory natural resource management initiatives can offer useful lessons for replication (Mishra and Sarin, 1987; Chopra, Kadekodi and Murty, 1990; Shah, 1987; Agrawal and Narain, 1990; Campbell and Denholm, 1992). Increasing the visibility of common resources' contributions may help mobilize policy and programme support. The dependence of the poor on common property resources and the vicious circle of poverty and the degradation of such resources are important aspects of the dynamics of rural poverty.

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