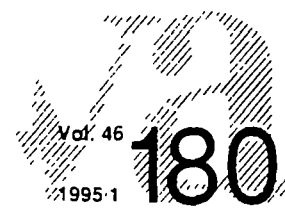
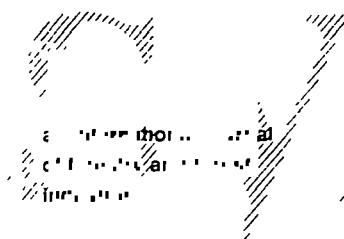




Food and Agriculture
Organization
of the United Nations



1995-1

Editor: Stephen A. Dembner
Language Editor: Rachel Tucker
Layout Editor: Manna Criscuolo
Editorial Advisory Board
Forestry Department:
M.R. de Montalembert (Chairman),
M. Chipeta, S.A. Dembner, R. Heinrich,
M. Hoskins, M. Morell, M.K. Muthoo,
C. Palmberg-Lerche, H. Robbel, E.H. Sene
Publications Division: K. Richmond
(Editorial Branch)

Unasviva is published quarterly in English, French and Spanish editions. Subscription price: one year US\$26.00, payable to the Distribution and Sales Section, FAO, Viale delle Terme di Caracalla, 00100 Rome, Italy, or to any of the FAO sales agents listed on the inside back cover.

Material not copyrighted may be reprinted in the credit to *Unasviva*, FAO.

Articles express the views of their authors, not necessarily those of FAO.

Designations employed and presentation of material do not imply expression of any opinion on the part of FAO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

The FAO publications reviewed in *Unasviva* may be ordered from any of the FAO sales agents listed on the inside back cover. The Distribution and Sales Section, FAO, Viale delle Terme di Caracalla, 00100 Rome, Italy, will process orders from countries where there are no sales agents.

Credits: T.A. White (cover photo), E. Ostrom (page 3), R. Leon (5), E. Ostrom (7), R. Shrestha (8, 9), E. Ostrom (11), J. Anderson (16, 18, 19, 20), M. Sarin (30, 31, 32, 33, 34), R. Brouwer (37, 38, 39, 41), S. Josiah (50, 51, 53, 54, 55), T.A. White (56), Magnifica Comunità di Val di Fiemme (59, 62-top); Regole d'Ampezzo (62-bottom), J. Konopka (67)

Contents

Editorial	2
<i>M. McKean and E. Ostrom</i> Common property regimes in the forest: just a relic from the past?	3
<i>J.T. Thomson and C. Coulibaly</i> Common property forest management systems in Mali: resistance and vitality under pressure	16
<i>N.S. Jodha</i> Common property resources and the dynamics of rural poverty in India's dry regions	23
<i>M. Sarin</i> Joint forest management in India: achievements and unaddressed challenges	30
<i>R. Brouwer</i> Baldios and common property resource management in Portugal	37
<i>J.W. Bruce, S. Rudrappa and L. Zongmin</i> Experimenting with approaches to common property forestry in China	44
<i>T.A. White and C.F. Runge</i> Cooperative watershed management in Haiti: common property and collective action	50
<i>M. Merlo</i> Common property forest management in northern Italy: a historical and socio-economic profile	58
<i>Compiled by S.A. Dembner</i> UNCED follow-up in forestry and the role of FAO	64
World of forestry	67
Books	69
Letters	72

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

N.S. Jodha

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

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

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 systems 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 histori-

cal 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,

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
Physical products						
Food, fibres	x		x	x		
Fodder, fuel, timber etc	x	x	x		x	x
Water				x	x	
Manure, silt, space	x	x	x			x
Income and employment benefits						
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
Broader social and ecological benefits						
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/riverlet, E = watershed drainage/river banks, F = river/tank beds

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.

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; Shankarmayan 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 (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

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

States ¹	Household categories (%)	Common property resources' contribution per household				
		Fuel supplies (%)	Animal grazing ²	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 (2,4)	Poor	71	84	165	770	23
	Others	23	38	61	413	2
Tamil Nadu (1,2)	Poor	-	-	137	738	22
	Others	-	-	31	164	2

¹ In parentheses is the number of districts and villages included for each state

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

³ 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 ¹	Number of study villages	Area of common land, 1982-84 (ha)	Common land as proportion of total village area		Decline in area of common land since 1950-52 (%)	Persons per 10 ha of common land	
			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	1 165	12	20	40	46	117
Madhya Pradesh (3)	14	1 435	24	41	41	14	47
Maharashtra (3)	13	918	15	22	31	40	88
Rajasthan (3)	11	1 849	16	36	55	13	50
Tamil Nadu (2)	7	412	10	21	50	101	286

¹ In parentheses is the number of districts for each state

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 4 Indicators of physical degradation of common property resources

Indicators of changed status and context for comparison	States ¹						
	Andhra Pradesh (3)	Gujarat (4)	Karnataka (2)	Madhya Pradesh (3)	Maharashtra (3)	Rajasthan (4)	Tamil Nadu (2)
No. of common property products collected							
In the past	32	35	40	46	30	27	29
At present	9	11	19	22	10	13	8
No. of trees and shrubs per ha in*							
Protected common land ²	476	684	662	882	454	517	398
Unprotected common land	195	103	202	215	77	96	83
No. of watering points (ponds) in grazing common land							
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/goats³	48	112	95	-	52	175	64

¹ In parentheses is the number of villages included for each state

² 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

³ 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 grazed here

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

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

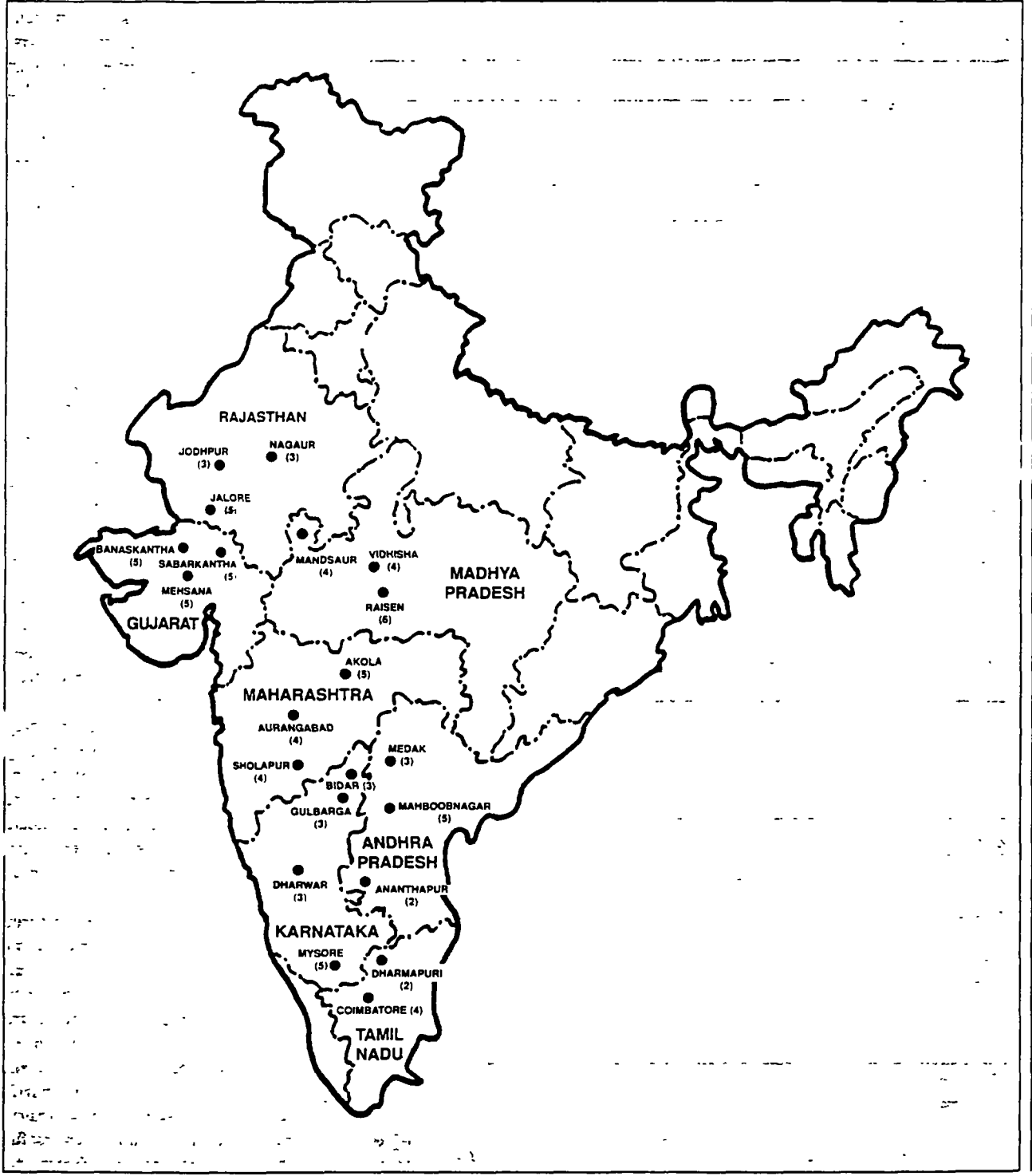


TABLE 5 Indications of changes in common property resource management in dry regions of India

States ¹	No of villages pursuing the following measures					
	Formal/informal regulation of common resource use ²		Formal/informal taxes/levies on common resource use ⁴		Users' formal/informal obligation towards upkeep of common property resources ³	
	In the past ¹	At present ¹	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
Total (%)	100	11	100	-	100	16

¹ In parentheses is the number of villages included for each state

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

³ "Past" stands for period prior to the 1950s "present" stands for the early 1980s

⁴ Measures such as grazing taxes, levies and penalties for violation of regulations regarding the use of common property resources

⁵ 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) States ¹	(B) Total area redistributed (ha)	(C) No of households receiving land	(D) Share of poor in (B) (%)	(E) Proportion of poor in (C) (%)	Land received per household by		Average area per household after receiving new land	
					Poor	Others	Poor	Others
Andhra Pradesh (6)	493	401	50	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

¹ In parentheses is the number of villages included for each state

² "Poor" includes agricultural labour and small farm (<2 ha of dry land equivalent) households

as well (Jodha, 1991). These disruptions may further reduce the efficacy of farmers' traditional adaptation strategies against environmental stress in dry regions (Jodha, 1990b).

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. ♦



Bibliography

- Agrawal, A. & Narain, S. 1990 *Towards green villages*. New Delhi, Centre for Science and Environment
- Arnold, J.E.M. & Stewart, W.C. 1990 *Common property resource management in India* London, Oxford Forestry Institute.
- Blaikie, P.M., Harriss, J.C. & Pain, A.N. 1985. *The management and use of common property resources in Tamil Nadu* London, Overseas Development Administration.
- Bromley, D.W. & Cernea, M.M. 1989 *The management of common property natural resources: some conceptual and operational fallacies* Washington, DC, World Bank
- Campbell, G. & Denholm, J. 1992. *Inspirations in community forestry* Report of a seminar on Himalayan community forestry Kathmandu, ICIMOD.
- Chambers, R., Saxena, N.C. & Shah, T. 1989. *To the hana's of the poor water and trees*. New Delhi-Oxford, IBH Publishing.
- Chen, M. 1988. *Size, status and use of common property resources a case study of Dhevholera village in Ahmedabad district, Gujarat*. Paper presented at a seminar on women and agriculture. Trivandrum, Kerala, India, Centre for Development Studies.
- Chopra, K., Kadekodi, G.K. & Murty, M.N. 1990. *Participatory development people and common property resources* New Delhi, Sage Publications
- Gupta, A.K. 1987. Why poor people do not cooperate. A study of traditional forms of cooperation with implications for modern organization In G.C. Wanger, ed *Politics and practices of social research* London, Allen and Unwin.
- Harriss, B., Guhan, S. & Cassen, R.H., eds. 1992. *Poverty in India research and policy* Bombay, Oxford University Press.
- Iyengar, S. 1988. *Common property land resources in Gujarat some findings about their size, status and use* Gota, Ahmedabad, India, Gujarat Institute of Area Planning
- Jodha, N.S. 1985a Market forces and erosion of common property resources. In *Agriculture markets in the semi-arid tropics proceedings of an international workshop*. 24-28 October 1985 Bangalore, India, ICRISAT
- Jodha, N.S. 1985b Population growth and the decline of common property resources in Rajasthan. *India Pop Dev Rev*, 11(2).
- Jodha, N.S. 1986. Common property resources and rural poor in dry regions of India. *Econ Polit Wkly*, 21(27).
- Jodha, N.S. 1990a. Depletion of common property resources in India. micro-level evidence. In G. McNicoll & M. Cain, eds. *Rural development and population institutions and policy* New York, Oxford University Press
- Jodha, N.S. 1990b. *Drought management, the farmer's strategies and their policy implications* Dryland Network Programme. London, IIED.
- Jodha, N.S. 1990c. *Rural common property resources contributions and crisis* Foundation Day Lecture. New Delhi, Society for Promotion of Wasteland Development.
- Jodha, N.S. 1991. Sustainable agriculture in fragile resource zones: technological imperatives. *Econ Polit. Wkly*, 26(13).
- Jodha, N.S. 1992. *Rural common property resources the missing dimension of development strategies* Washington, DC, World Bank.
- Jodha, N.S. 1993 *Indicators of unsustainability* Kathmandu, Nepal, ICIMOD
- Magrath, W.B. 1986 *The challenge of the commons non-exclusive resources and economic development-theoretical issues* Washington, DC, WRI
- Mishra, P.R. & Sarin, M. 1987 Sukhomajri-Nada a new model of eco-development *Business India*. 16-29 November
- Ostrom, E. 1988 Institutional arrangements and the commons dilemma In E. Ostrom, D. Feeny & H. Picht, eds *Rethinking institutional analysis and development* San Francisco, Calif., Institute for Contemporary Studies Press, International Centre for Economic Growth.
- Oza, A. 1989 Availability of CPR lands at micro-level case studies of Junagadh programme area of AKRSP (India) In *Status of common property land resources in Gujarat and problem of their development* Gota, Ahmedabad, India, Gujarat Institute of Area Planning
- Shah, T. 1987. *Profile of collective action on common property: community fodder farm in Kheda district* Anand, Gujarat, India, Institute of Rural Management.
- Shankarnaryan, K.A. & Kalla, J.C. 1985 *Management systems for natural vegetation* Jodhpur, Rajasthan, Central Arid Zone Research Institute.
- Walker, T.S. & Ryan, J.G. 1990 *Village and household economies in India's semi-arid tropics* Baltimore, The Johns Hopkins University Press. ♦