

Decentralising Governance of Natural Resources in India: A review

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SUMMARY

This paper provides a broad overview of the past and ongoing efforts at decentralising the governance of natural resources (DGNR) in India. The focus is on 'governance', which includes both day-to-day management as well as broader decision-making regarding resource ownership, access and use, and associated legal, administrative and fiscal arrangements. We assume that more decentralisation than what prevails today is better, but emphasise the need for multi-layered governance as well.

The post-independence efforts at DGNR can be broadly categorised into 3 groups. State-initiated partnerships include joint forest management, participatory canal and irrigation tank management, and participatory watershed development programmes. In parallel, there are state-initiated efforts at full devolution of governance, viz, the setting up of Panchayati Raj institutions in general and the special efforts in tribal areas. The third category is community- and NGO-initiated efforts, with or without state recognition.

The motivations for and the design and implementation of these programmes vary significantly. In particular, decentralised governance is not the goal of partnership programmes. However, the experience shows that these programmes fail to meet even their limited objectives (let alone the rhetoric of community participation and empowerment that they adopt) in a sustained and equitable manner precisely because of lop-sided institutional design and inadequate devolution of powers. The community-initiated efforts show that when the state has limited its role to that of legal support and laying down the ground rules for sustainable use, resource management is much more effective. Unfortunately, even historically state-recognised community management systems are falling prey to the bureaucratic push for increased state control through the so-called partnership programmes. And the devolution efforts have essentially not taken off the ground.

Our review provides insights into several ongoing debates about the shape of DGNR. It shows that successful decentralisation does not mean complete handing over of resource ownership but a judicious structuring of relatively autonomous local organisations within transparent and reasonable regulatory processes. It also suggests that because governance issues include questions of resource access and allocation across diverse users, the local organisation should be a broad-based democratic one, not confined to particular user groups. At the same time, to prevent elite capture, the direct economic benefits from resource utilisation need to be kept out of the local organisation's purview. On the question of top-down versus bottom-up implementation of DGNR, our review suggests the need for a graduated, enabling approach with focused implementation in a few areas. At the same time, it warns against throwing money at DGNR—the changes required are primarily in rights, responsibilities and mindsets, and the role of funding has to be kept secondary.

Mainstreaming DGNR into national democratic processes in India faces several challenges from within and without. Internally, political and bureaucratic support is sorely lacking. Externally, the economic environment and development policies being pursued militate against both decentralised governance and sustainable natural resource use. And the deeply embedded hierarchical social structures in most parts of India continue to pose a formidable challenge to decentralised democracy. Efforts will be required on many fronts and levels to make significant progress on decentralising NR governance in the country.

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LIST OF ABBREVIATIONS

AP	:	Andhra Pradesh (a state in southern India)
DfID	:	Department for International Development (U.K.)
DGNR	:	Decentralised Governance of Natural Resources
DRDA	:	District Rural Development Agency
FD	:	Forest Department
FDA	:	Forest Development Agency
FPC	:	Forest Protection Committees (committees formed under JFM)
FPG	:	Forest Protection Group (here refers to self-initiated groups)
GP	:	Gram Panchayat (smallest unit of local self-governance)
ID	:	Irrigation Department
JBIC	:	Japanese Bank for International Cooperation
JFM/JFPM	:	Joint Forest Management / Joint Forest Planning & Management
LO	:	Local Organisation (here: smallest unit of decentralised governance)
MFP	:	Minor Forest Produce
MLA	:	Member of Legislative Assembly
MoEF	:	Ministry of Environment & Forests (Government of India)
MP	:	Member of Parliament
NGO	:	Non-governmental organisation
NTFP	:	Non-Timber Forest Produce
PESA	:	Panchayats (Extension to Scheduled Areas) Act
PIM	:	Participatory Irrigation Management
PR	:	Panchayati Raj (3-tier local self-governance system below state-level)
PRI	:	Panchayati Raj Institutions
RD	:	Revenue Department
RF	:	Reserve Forest
SC	:	Scheduled Caste
SHG	:	Self-Help Group (usually micro-credit group)
ST	:	Scheduled Tribe
TUG	:	Tank Users Group
UG	:	User Group (in watershed development)
UP	:	Uttar Pradesh (a state in northern India)
VC	:	Village Council (Mizoram)
VP	:	Van Panchayat
WC	:	Watershed Committee
WD	:	Watershed Development
WDT	:	Watershed Development Team
WUA	:	Water Users Association (for canals or minor irrigation tanks)

1. Basic data on the country

1.1 Demographics

- Population of India was 1.03 billion in March 2001 (Census of India, 2001) and approximately 1.05 billion by July 2003 (World Factbook, 2003).
- The decadal growth rate for 1991-2001 was 21.3% (Census of India, 2001).
- Life expectancy at birth in 2001 was 63.3 years.

1.2 Eco-climatic conditions

- The country is conventionally divided into 15 agro-climatic zones. Of these, almost 45% can be considered as falling in the arid, semi-arid and dry sub-humid category (based on Pal, 1998).

1.3 Landuse and livelihoods

- Total land area of the country is 3,287,590 sq km (World Factbook, 2003).
- The predominant land use is agriculture (60%, source: Agricultural Statistics At a Glance, 2003), followed by forests (19%, source: State of Forest Report, 1999).
- 64% of the country's population is dependent upon agriculture as its source of livelihood (Sources: Agricultural Statistics At a Glance, 2003). Other important livelihoods directly dependent on natural resources include animal husbandry and fishing.

1.4 Economic development

- As per official sources, 26% of the population is below the poverty line in 2003 (Planning Commission, Government of India, 1999-2000). Other estimates of poverty are higher.
- Per capita GDP in 2001 = 2,840 PPP-adjusted \$ (UNDP HDR, 2003)
- Human Development Index rank=127 in the world (UNDP HDR, 2003).

1.5 Main NRM issues

The major natural resource-related issues in India are land degradation, forest loss and degradation, loss of biodiversity and decline of fresh water resources (Source: State of Environment India, 2001).

1.6 Political system

India is a sovereign socialist secular democratic republic, the largest practising democracy in the world. The Constitution is federal in structure, laying down the division of power between the Centre and the 28 states and 7 Union territories, and recently further down to a 3-tier *Panchayati Raj* (PR) system at the sub-state level. There is universal adult suffrage and elections are held normally once in 5 years. The central and state governments have bicameral legislatures, with direct election of representatives to the lower houses and indirect elections and nominations for the upper house. Elections are conducted along party lines in all tiers of government. The President, elected indirectly by the national and State legislatures, is the head of State. The Prime Minister is the head of Government (Sources: Census 2001, Government of India; Constitution of India, (<http://164.100.10.12/coiweb/coifiles/preamble.htm>))

2. Approaches to and experiences in DGNR

2.1 Purpose and scope

This paper provides a broad overview of the past and ongoing efforts at decentralising the governance of natural resources in India. The goal is to document experiences/best practices and lessons learned so as to help in mainstreaming the concept of decentralised governance of natural resources (DGNR) into national democratic processes.

The focus of this paper is on 'governance', which includes both day-to-day management as well as broader decisions regarding resource ownership, access and use, and the definition and enforcement of responsibilities at different levels of formality, ranging from norms to legislation. Governance thus includes all three levels of rules: 'operational', 'collective choice' and 'constitutional' (see Schlager and Ostrom, 1992). Equally important, it includes the legislative, administrative *and* fiscal aspects of decision-making and implementation.

'Decentralisation' of governance then refers to the process of transferring decision-making powers in *all* these areas to lower, more localised levels. Note, however, that we do not use 'decentralisation' in an absolute sense, but only relative to the conditions prevailing today in a given socio-economic and ecological context.¹ Note also that decentralised governance by no means precludes a role for higher levels of the state. Rather, it refers to a 'more appropriate' allocation of rights and responsibilities across levels.

The starting point of this paper is the premise that more decentralisation of the governance of natural resources is desirable both in itself, as it increases the democratisation of governance, and because it leads to more efficient, sustainable and equitable outcomes. So the broad question is how should it be designed and implemented, and how should such efforts be supported by agencies such as UNDP? We begin by examining experiences from various initiatives or examples across India. We then summarise the learning across these initiatives at the level of design and implementation and look at the larger picture—what are the larger policies/politics that have shaped these initiatives, or brought us to where we are. This helps derive some recommendations for those who want to support the mainstreaming of decentralised governance of natural resources.

In terms of natural resource sectors, this review primarily covers forests, water, and watershed development. Grazing issues are to a small extent subsumed under forest management, but traditional systems of pasture management that exist in certain pockets are not covered here. Within water, we shall mainly discuss irrigation systems. Furthermore, agricultural lands (which are invariably private property) are included only in the context of watershed development, because other aspects of managing agricultural lands requires no collective action, only some state regulation (such as to prevent salinity or polluting runoff).² One sector that is not covered at all is fisheries, where community management has been in existence in several locations for quite some time. Finally, although one thinks of only rural areas as dependent on local natural resources, urban settlements also have to depend on (and hence govern) some of their local natural resources—water being a good example. But urban governance issues have not been covered in this review.

¹ That is, the 'appropriate' extent of decentralisation may differ depending upon the context and will be a subject matter of debate, but we believe that in most cases of decision-making related to natural resources in India, much more decentralisation needs to occur than what exists today.

² Land alienation in tribal areas is covered in the discussion of Panchayati Raj in tribal areas (sec. 2.4.2).

In terms of regional coverage, given the enormous size, diversity and complexity of natural resource use and institutions in India and the limited time available for this review exercise, it has not been possible to cover all regions exhaustively. A major lacuna in this review is the weak coverage of the northeastern region of India, where institutions of natural resource management and governance are distinctly different from the rest of India.

2.2 Framework for analysing experiences

Although some attempts towards decentralised governance were made during the setting up of the country's constitution in 1950, the thrust of the first four decades after independence was clearly on centralised control and management by various arms of the central and state governments.³ The 1990s, however, saw a significant thrust being given to decentralised management of natural resources. Efforts to decentralise the management and governance of natural resources in India have taken different trajectories. One form of decentralisation is 'administrative', through *partnerships* between line departments and user groups set up around a particular resource. Such initiatives are to be found in forest management, canal irrigation, tank irrigation and watershed development. They operate under various labels, such as 'joint management', 'co-management' or 'participatory development'. The alternative form of decentralisation is 'political' or broad-based *devolution* of all developmental and natural resource-related governance. This was attempted through the Panchayati Raj system (a three-tier system of self-governance) that was introduced after the 73rd amendment to the constitution was passed in 1992. A third form of decentralisation initiatives is a 'bottom-up' one, wherein several community-level and civil society actors have set up systems of community management of natural resources at the village-level on their own. In pockets of the country, there are also some traditional systems, such as cascades of irrigation tanks. In short, the approaches to decentralised governance of natural resources (DGNR) in India may be categorised into three types:

- State-initiated partnerships, including Joint Forest Management (JFM), Participatory (canal) Irrigation Management (PIM), participatory tank irrigation management, and participatory watershed development (WD).
- State-initiated devolution (essentially under Panchayati Raj).
- Civil society-initiated approaches, which include traditional resource management systems, fresh efforts initiated by local communities, and efforts initiated by non-governmental organisations (NGOs).⁴

Given that this review is aimed at supporting the mainstreaming of decentralised governance into national democratic processes, the review will focus mainly on the first two categories, i.e., state-initiated partnerships and state-initiated devolution efforts. The examples in the last category are usually localised ones and in most cases, precisely because they lack state recognition, do not address governance issues to a great extent. There are a few examples of state-recognised community management systems that have stronger governance features; these are covered in our review. We end with brief descriptions of 3 interesting case studies.

We initially describe each initiative in brief, outlining the basic concept, its period of origin and its current location/spread. We then outline the normative concerns or motivations (stated and actual) underpinning that initiative. These may include cost-reduction, preventing environmental degradation, increasing equity and/or deepening democracy. The 'outcomes'

³ A few states experimented with setting up a 3rd tier, but these experiments were limited and impermanent.

⁴ Note that NGOs are also heavily involved in most of the state-initiated partnership programmes.

or achievements of the initiative are then assessed in terms of these objectives. Given the focus of this review, we pay special attention to the extent to which democratic decentralisation has been achieved, even if it is not the stated objective of the initiative. To understand why outcomes may fall short of stated objectives, we analyse the institutional design in detail, keeping in mind the role played by the quality of implementation and the socio-ecological context in constraining or facilitating the initiative. The politics of decentralisation will be examined at the end across all initiatives.

In analysing the institutional design of the initiatives, the literature suggests that several factors have to be taken into consideration (see Arnold and Stewart, 1991; Ostrom, 1990; McKean, 1998; Ostrom and Gardner, 1993; Ostrom, 1995;1998; Schlager and Ostrom, 1992; Lélé, 1999; Srinidhi and Lélé, 2001; Lélé, 2004):

1. Nature of local organisation: Is it an arm of government (like Gram Panchayat), or a separate but representative body (all are members by virtue of location), or limited membership (like a user group or co-operative society)?
2. Scale of local organisation: Physical and social size of the local organisation, whether boundaries of control match with boundaries of ecosystem processes, use and users.
3. Nature and extent of rights and responsibility devolved to the local organisation, viz., which resources, whether sale is permitted, what policing rights are given, whether resource conversion is permitted, whether full marketing rights are conferred, what responsibilities are given, and how much autonomy is given in day-to-day management.
4. Security and clarity of tenure, viz., is the control over the resource granted under a law (more secure) or by executive order (less secure); are there conflicts with other existing laws?
5. Nature of nesting or role of higher-level bodies: which body, what powers? What is the accountability of higher bodies to lower level ones, or level of transparency in their functioning?
6. Internal rules of local organization to ensure efficiency, equity and sustainability—how access to resources is allocated across members, returns from resources are shared, what kinds of constraints on resource use are imposed, fair returns to those who actually participate are ensured.
7. Democratic functioning, downward accountability, and representation: How is it formed (in theory and in practice), what is the role for the general body, what provisions for ensuring participation of women and other marginal sections in general body, and representations for these sections in the decision-making committee/body?
8. What are the conflict resolution mechanisms—between local and higher body, as well as between neighbouring local bodies. Can the local body take recourse to the judicial system?
9. What kind of fiscal arrangements have been made to support the local organisation's efforts? Are resources raised locally, granted from above, or raised from aid agencies and channelled through particular project structures?
10. What kind of capacity-building (awareness building about people's rights and responsibilities, training of members, etc.) has been attempted?
11. What is the role of NGOs in this process?
12. What kind of lateral linkages—e.g., does the LO federate with other similar bodies in the region? Does it link up with self-help groups or with banks or marketing agencies?

Assessing the quality of implementation of a programme independently of the design is often rather difficult, because implementational lacunae often show up in form of deviations from the design in the field. So we report the 'theoretical provisions' together with their 'in practice manifestations' in the form of a table covering all the above aspects.

The socio-ecological context shapes the level and nature of local interest in natural resources and the type, magnitude and distribution of the benefits generated by the ecosystem for communities and its resilience or responsiveness to intervention. We discuss this briefly in each case and then again at the end across all initiatives.

2.3 State-initiated partnership approaches

2.3.1 Joint forest management⁵

Joint forest management (generally termed JFM) is a strategy under which the Forest Department and the village community enter into an agreement to jointly protect and manage forest lands adjoining villages and to share responsibilities and benefits. The village community is represented through an institution specifically formed for the purpose, which may be called Forest Protection Committee (FPC) or some similar term. The idea of JFM originated through experiments in Bengal in the early 1970s where forest officials offered to share part of the produce of the forest plantations that were not growing because of heavy extraction pressure from local villagers.⁶ This joint management concept spread rapidly in southwest Bengal in the 1980s, and also attracted enormous attention amongst scholars and funding agencies (especially the Ford Foundation) as a working example of people's participation in forest management. The major fillip came through a circular sent by the central government to all state governments in June, 1990 asking them to initiate processes for involving people in the management of degraded forest lands (Gol, 1990). By 2002, 27 state governments had passed resolutions/orders for enabling JFM and the Ministry of Environment & Forests reports that more than 14 million hectares of land has been brought under JFM through more than 63,000 FPCs (Anonymous, 2002), which amounts to more than half of the area of open forests in the country. The bulk of this expansion has come about through projects funded by bilateral or multi-lateral agencies such as DfID, JBIC and the World Bank.⁷ Most of the programmatic decisions are taken at the state level, with donor funding going directly to states. The central government has issued guidelines suggesting ways of strengthening the programme (Gol, 2000a;2002).

In line with the origin of JFM, the main motivation amongst state agencies (MoEF or Forest Departments) in adopting the concept is not the decentralisation of resource governance or bringing about people's participation for its own sake. JFM has always been seen as an 'instrument' for addressing the problem of continued forest degradation, as a cost-effective mechanism for reforesting degraded lands and sustaining regenerated forests. Thus, even the landmark 1990 circular talks only about involving people in regenerating *degraded* forest lands, not in managing and governing all forest lands or all common lands.⁸ Another source of 'motivation' has been the pressure exerted by donor and lending agencies such as the British DfID and the World Bank, who adopted the rhetoric of people's participation and believed that JFM provided the means for achieving it.

The overall structure and implementation of JFM is summarised in the table below. This is based on a wide variety of sources. We exclude the case of Orissa from this discussion,

⁵ This section is based on a large number of sources (Deb and Malhotra, 1993; Sarin, 1995; Correa, 1996; Saxena *et al.*, 1997; Corbridge and Jewitt, 1997; Lélé, 1998;1999; Jeffery and Sundar, 1999; Kumar *et al.*, 1999; Ravindranath *et al.*, 2000; Sundar *et al.*, 2001; Lélé *et al.*, 2003; Sarin *et al.*, 2003).

⁶ This is known as the "Arabari experiment" from the village of Arabari in Midnapore district of Bengal.

⁷ According to one list provided by RUPFOR (www.rupfor.org), the total foreign assistance for forestry projects received by India since 1990 is Rs.4,227 crores or about US\$1 billion. The World Bank alone has lent US\$460 million over the period 1992-2000 for such projects (Kumar *et al.*, 1999).

⁸ In parallel, MoEF had tried to formulate guidelines for participatory wasteland development. But the draft guidelines that emerged from various consultations (Ravindranath and Gadgil, 1990) were probably too comprehensive (covering all natural resources) and were quietly shelved.

because JFM in Orissa is largely built on self-initiated community forestry, which we shall discuss separately.

Table 1 Design and implementation of JFM programmes

Factor	Situation in JFM programme
1. Nature of LO	FPC is supposed to be forest users' group; in practice anybody in village can become member.
2. Scale & Scope of LO and its control	Size of general body varies enormously, generally too large (hamlet-wise groups not systematically formed); nomadic communities get left out. Originally, JFM was supposed to cover only degraded forest lands. Subsequently, better forests have been brought under its purview in many cases, but in practice this has hardly been implemented (MP being an exception). Non-forest common lands are also within the theoretical scope in many states, but often left out in practice (or only brought in if they have already been planted up). In general, which part of the forest is granted to the villagers is left to the discretion of the FD.
3. Nature and extent of rights & responsibilities devolved	In theory, full rights to extracting fuelwood, fodder and non-timber forest products (NTFPs) for self-consumption, and large share of economic returns from sale of NTFPs, and 25%-50% share in returns from timber (from regenerated trees only); in practice, NTFP situation has not changed, since many NTFPs are 'nationalised' or contracted out; timber harvest permission often not granted; policing rights are ambiguous, protection responsibilities vary, little autonomy in day-to-day decision-making in most states, because the key office-bearer (secretary of the Managing Committee) is FD official.
4. Security and clarity of tenure	JFM is not available on demand by villagers; programme is implemented through an executive order, and lands are granted to FPCs through an MoU that has no legal validity and a duration of only 5 years. None of the states have provided statutory support, so the assignment of rights is at the mercy of the FD and not justiciable in the courts. JFM is based on assumption that all 'degraded forest lands' are completely controlled by the FD and theirs to give to the FPCs. It does not grapple with the enormous complexity of legal and customary rights in these lands, and the overlapping and conflicting mandates of various Acts, such as Indian Forest Act 1927, Forest Conservation Act 1980 and a very large number of historical state-specific laws and regulations. ⁹
5. Role of higher-level bodies	State FDs retain most control, ranging from recognition of FPC, land to be granted, apprehending trespassers, permissions regarding harvest, silvicultural choices available, day-to-day operations, funds management, etc. Central MoEF acts in advisory capacity. In practice, funding agencies wield significant influence. Higher-level bodies are not accountable to lower-level bodies (LOs), neither in theory nor in practice.
6. Internal rules to ensure efficiency, equity and sustainability of resource use	Sustainable and productive use of forests is supposed to be ensured by making FPC's plans and operations subject to FD approval. In practice, FDs decisions are non-transparent and arbitrary or favouring other interests. For equity, there are provisions on paper to ensure that the subsistence needs of all are met before profit-making activities are taken up. But in practice, these provisions are not enforced. And there is no in-built provision for restricting the flow of benefits to those who contribute or in proportion to contribution made. This makes the arrangement highly susceptible to capture by local elite, who take a share in the 'profits' rather than maximising the returns to the labours of those who actually plant, protect, harvest and sell the produce.
7. Democratic functioning and representation	FPC is supposed to be accountable to the general body and significant role for marginalised communities through reservation of certain number of seats in the Managing Committee; in practice, FPCs are often either dysfunctional or captured by the elite or representing only a small fraction of the village population. Voice

⁹ See, e.g., Lélé and Srinidhi (1998), Srinidhi and Lélé (2001), Upadhyay (2002).

Factor	Situation in JFM programme
in LO	gained by marginal communities varies, being generally low in mixed communities.
8. Conflict resolution mechanisms	FD is only authority to resolve disputes with neighbouring villages or internal conflicts; disputes with FD cannot be taken to court.
9. Fiscal arrangements and financial support	FPC gets funds from sales of forest produce, through grants from FD, or through subsidies received for initial operations such as planting and protection. Significant portions of the profits from sale of forest produce are required to be invested into village development activities and forest development activities. In practice, JFM programmes have been heavily sponsored by external aid or lending agencies.
10. Capacity-building of LO, community and higher authorities	Most JFM programmes have a capacity-building component; the quality of its implementation generally leaves much to be desired. Some implementing agencies (especially NGOs) have formed self-help groups in the villages before initiating JFM, so as to increase the capacity of marginal groups to mobilise themselves. Efforts to build the capacity of forest officers to implement JFM have also been built into the various JFM projects, but their quality varies and outcomes have been limited.
11. Role for NGOs	Most JFM orders provide space for NGOs to act as facilitators. In practice, FDs have often restricted this space, or selectively allowed certain NGOs while keeping out others.
12. Lateral linkages	FPC federations exist in some states, but have limited say/role. Recently, Forest Development Agencies have been constituted in the form of FPC federations, but these FDAs are fully controlled by FD officials.

Claims of huge area covered and thousands of committees formed notwithstanding, the overall picture regarding JFM in India today is rather mixed, and in terms of its 'jointness' or participatory aspect, rather grim. By and large, the focus has been on the creation of small monocultural plantations for the sake of profits rather than the overall regeneration and protection of natural forests for meeting of the overall biomass and livelihood needs of the poorest. FDs see JFM as at best a cheaper way of achieving their conventional objectives of increasing tree cover, increasing revenues and (implicitly) retaining control, or worse, as a banner under which to obtain donor funds. Participatory processes have been regularly bypassed, or carelessly followed. And the programme comes to a standstill when the 'project' period is over.

Where participation seems to be occurring, it is often because the villagers feel it is better to participate within the narrow framework than not participate at all.¹⁰ More often, it is because the local elite find their interests aligned with the narrow scope of JFM activities, often resulting in perverse outcomes for women or other marginalised communities in terms of loss of access to forests for meeting livelihood needs such as firewood or grazing (see, e.g., Sarin, 1995; Lélé *et al.*, 2003).¹¹

¹⁰ "Villagers often 'choose' to accept whatever species the FDs offer or whatever they feel is commercially valuable, rather than what they may 'need' in subsistence terms. [Even] in MP [where] micro-planning is being conducted in a more systematic manner ...the FD retains control over silvicultural prescriptions" (Sundar *et al.*, 2001 p.150)

¹¹ The major conflict in Dewas, M.P. in 2001 resulted from collusion between non-tribal village elite, FD and other state agencies in the name of JFM that led to loss of livelihoods for poor forest-dependent tribal households (PUDR, 2001).

Only in some pockets have the planning and implementation processes been reasonably 'joint' and inclusive, the areas regenerated substantial, and the improvements in meeting subsistence and livelihood needs significant. These pockets include much of southwestern West Bengal and some pockets of Gujarat, Madhya Pradesh and Andhra Pradesh. Again, in the latter two states, the cost-effectiveness and sustainability of these improvements is seriously in question, considering the huge resources that have been invested (Kumar *et al.*, 1999). In the last three states, many problems are being now encountered in realising economic returns from forests that have been regenerated.

The primary reasons for poor performance of JFM can be traced to the quality of implementation and the policy framework of the programme itself. The framework is fundamentally flawed as there is limited coverage of common lands, limited increases in product rights, lack of autonomy in day-to-day operations, lack of transparency and accountability of the FD, insecurity of tenure, and the focus is on profit-making rather than maximising returns to labour. The implementation compounds these problems by being funding driven rather than demand-driven approach, being focused on planting trees rather than on regenerating forests and meeting overall biomass needs, and not focusing adequately on altering attitudes of FD officials.¹²

Interacting with the policy framework are socio-ecological factors. Under the current framework, better performance (as defined by the narrow set of objectives) occurs in the central Indian forest belt with tribal populations. These forests consist of dry deciduous sal and teak forests that are rich in NTFPs and quick to regenerate, so that the potential benefits are high and they can become available rather quickly. And the tribal communities are forest-dependent and relatively homogeneous in social terms. The current design of JFM is inadequate to deal with situations of high socio-economic differentiation, multiple-stakeholders (such as pastoral communities), complex pre-existing rights, and changing dependence due to changes in the agrarian economy.

2.3.2 Participatory canal irrigation management

Farmer participation in canal irrigation management is being talked about in official circles at least since the 6th Five Year Plan. The Command Area Development programme has been issuing guidelines and exhortations since 1985 to the states to take this up on at least a pilot basis (CAD, 1985). The National Water Policy 1987 also mentioned this, as did the Committee on Pricing of Irrigation Water in 1992. The late 1980s and early 1990s saw several experiments in PIM being set up, especially with Ford Foundation support, in Maharashtra and Gujarat (Mollinga, 2002). The official efforts gained momentum after the Planning Commission set up a Working Group for the Ninth Five Year Plan (see Raju *et al.*, 2000). Currently, several states are experimenting with or implementing PIM. Leading these is Andhra Pradesh, which has gone in for large-scale simultaneous creation of thousands of Water Users Associations (WUAs) with financial support from the World Bank. By 1999, Andhra Pradesh had almost 2000 WUAs set up on canal irrigation systems (Peter, 2000). Maharashtra and Gujarat have experimented with PIM and have a few hundred functioning WUAs in place,¹³ although the programme here appears to have stagnated and is also moving rather slowly in Karnataka (Mollinga, 2002). Tamil Nadu and Kerala began around the same time but have achieved little on the ground, while Bihar and Haryana are not really considering serious devolution but just limited improvements in the management of irrigation systems.

¹² Most donor-funded projects have made provisions for training of officers, which have ended up as expensive junkets to universities abroad or the subsidisation of mediocre forest training and research institutes locally.

¹³ The total number of canal WUAs in Maharashtra is reported to be 2000-odd, but only about 500 are functional (SOPPECOM, 2004). The Maharashtra government is seeking major funds from the World Bank to make a big push on PIM.

The move towards PIM is largely driven by three ‘crises’ (Mollinga, 2000): a financial crisis (Irrigation Departments (IDs) not being able to recover water charges and hence not being financially viable), a technical crisis (irrigation systems are in disrepair) and crisis of legitimacy (as faith in the irrigation system’s ability to deliver has eroded). Secondary reasons or motivations include concerns for equitable access to water between head-enders and tail-enders, for efficient use of available water, about environmental impacts of excess application of water and poor drainage (Mollinga, 2000) and for democratic decentralisation for its own sake.¹⁴ Further impetus has come from donor agencies, such as World Bank, who have pushed for decentralisation of some kind, mainly again in the name of efficiency/cost reduction.

The design and implementation quality of PIM in India is summarised in Table 2. It shows that the approach has been one of transferring mostly administrative responsibilities of collecting user charges and maintenance of canals to user groups of farmers, with limited democratisation and transparency in the overall system and a huge financial input. Overall, the outcomes of this approach have been mixed. The AP programme, being the most ambitious and top-down (with PIM being legislated into existence and rapidly implemented), there are serious debates about the quality of outcomes in terms of the stated objectives. In spite of many disagreements amongst analysts,¹⁵ it seems clear that the gains, if achieved, are limited to improved recovery of water charges, improved maintenance of the canals (though often at a huge public cost), increases in efficiency of water use where volumetric supply is actually implemented, scattered improvements in the distribution between head-enders and tail-enders, and some changes in the attitudes of the ID bureaucracy. At the best of times, the WUAs remain dependent for finances and even existence on and the state government, and hydrologically dependent upon inflows from projects over which they have no control. Moreover, there has been limited progress in terms of democratising decision-making about water resources—WUAs end up being controlled by local elite, with little voice for small and marginal farmers, and none for those whose lands are not in the command area. And the heavy injection of funds has created room for much mismanagement of funds, defeating the original purpose of the reforms.

Table 2 Design and implementation of PIM of canals

Factor	Situation in canal PIM
1. Nature of LO	Water Users Association (WUA)—user group with membership strictly limited to those whose lands are irrigated by that particular structure.
2. Scale & Scope of LO and its control	Basic unit is the ‘minor’ in the canal network. Area irrigated varies from 500 to 8000 acres (Raju <i>et al.</i> , 2000). Number of farmers in a WUA varies enormously, from few hundreds in Gujarat & Maharashtra to 500-3000 in AP (Parthasarathy, 2002). Membership is always restricted to those who own land in the canal’s command area.
3. Nature and extent of rights & responsibilities devolved	Rights & responsibilities pertain to carrying out operation & maintenance, recovering water charges from members, and distributing water that is received. Higher level decisions were to be taken in consultation with higher-level (distributary- & project-level) committees, but in practice have usually been taken by the ID as before. Sale of water is not permitted. Water use planning role is not transferred to LO.
4. Security and clarity of tenure	AP Act is the only case where WUAs are on a secure and relatively autonomous footing, but crucial provisions favour state control, such as ability to decide on timing of elections. In other states, WUAs may be registered under Co-operatives

¹⁴ Note that a concern for equitable and sustainable management of all village-level resources for all villagers has not been gained much currency in the irrigation context.

¹⁵ E.g., different papers in Hooja *et al.* (2002) directly contradict each other in their findings.

Factor	Situation in canal PIM
	Societies or Societies Acts (and hence get legal standing) but the control granted to them over the water and the canals comes from Government Orders, which makes the arrangement highly insecure. The GOs also result in contradictions with the existing Irrigation Acts (Raju, 1995). Maharashtra has recently issued an ordinance (i.e., temporary legislation, GoM, 2004) that is yet to take effect on the ground.
5. Role of higher-level bodies	<p>In AP, WUAs are nested in Distributary Committees (DCs), which in turn are supposed nested under a Project Committee (PC) for each irrigation project and an Apex Committee for the entire state. In practice, till 2001, PCs and Apex Committee had not been formed (Pangare, 2002).</p> <p>In all states, ID still owns and controls the reservoirs and the main canals. ID also grants funds, decides how much water to supply, etc. In exceptional cases, WUA involvement has led to modification of water release policies for certain dams.</p> <p>Central government has limited role by definition. In practice, funding agencies wield significant influence.</p> <p>There is some accountability of ID to LOs through the contract signed between them; in practice, enforceability of this contract and transparency in other decisions has been limited.</p>
6. Internal rules to ensure efficiency, equity & sustainability	<p>Water charges are supposed to be on volumetric basis. Equitable distribution of water between head-enders and tail-enders is expected, but there seem to be limited regulations to ensure this. No explicit provisions for ensuring sustainability.</p> <p>In practice, volumetric pricing appears to be largely absent in AP, but has been successfully implemented in several WUAs in Maharashtra and Gujarat.¹⁶ Conjunctive use (of groundwater obtained from seepage) is almost never charged. Some cases of more equitable water distribution (by changing rotation sequence in favour of tail-enders) are reported.¹⁷</p>
7. Democratic functioning, downward accountability, and representation	<p>Democratic election of office-bearers in WUA. AP law also has provision for recall of Presidents. No special provision for women in AP; special provision in Gujarat is not implemented in practice. No programme gives role for landless or non-command area landholders.</p> <p>In practice, in AP, participation levels and even awareness levels are low (Parthasarathy, 2002) and elite capture of WUAs is common (Jairath, 2002; Reddy, 2002). However, some instances of use of the recall provisions are observed. Democratic functioning received a significant setback due to the delays in elections to the WUAs.</p>
8. Conflict resolution	Conflict resolution role is still played by Irrigation Department. No recourse to courts, or to independent bodies.
9. Fiscal arrangements and financial support	WUAs can retain some portion of water charges they collect for meeting O&M expenses (in AP, 50% goes to WUA+DC+PC). WUAs are also given grants on a per hectare irrigated basis for initial rehabilitation and O&M. Farmers are also supposed to contribute some fraction of the initial renovation costs. In practice, the WUAs, especially in AP, are entirely dependent on grants from government (which in turn is using World Bank funds, a situation that is not sustainable for long). These liberal funds have often been misused (R.K.Patil, SOPPECOM, Pune, pers.comm.).
10. Capacity-building of LO, community and	Varies—major efforts were taken up in Andhra Pradesh by the government and in Maharashtra and Gujarat largely by NGOs and farmers groups themselves. In practice, the efforts in AP have not penetrated in the villages, mostly reached the

¹⁶ Even Venkateswarlu (2002), who has otherwise given a favourable assessment of AP PIM, has mentioned this. In Maharashtra, the lack of progress on PIM seems to stem from opposition of big farmers in older irrigation projects who have benefitted from the block system of irrigation (R.K.Patil, SOPPECOM, Pune, pers.comm.).

¹⁷ See Rajagopal *et al.* (2001) for details.

Factor	Situation in canal PIM
higher authorities	bureaucracy.
11. Role for NGOs	NGOs were given and have played a significant role in Maharashtra and Gujarat, but not in Andhra Pradesh.
12. Lateral linkages	WUAs are not linked to SHGs or to financial institutions or even to agricultural extension agencies.

On the other hand, Maharashtra and Gujarat saw a set of pilot efforts of better quality in terms of achieving volumetric supply, somewhat equitable distribution, and improved maintenance without imposing a huge financial cost, partly due to significant involvement of NGOs. But, or perhaps precisely because the pilot efforts show significant changes occurring, there are now political pressures from various interest groups (such as powerful head-end farmers or ID bureaucracy) to prevent PIM expansion.

The mixed performance in terms of stated objectives is related to a number of factors. At the outset, the institutional design of PIM reflects a narrow focus on transferring selected functions so as to increase financial and technical efficiency (through better recovery of water charges and canal maintenance) rather than on democratic decentralisation, or even on enhancing water use efficiency and environmental sustainability.¹⁸ In AP, this has been coupled with too rapid and top-down implementation, excessive use of external funds, inadequate community mobilisation and awareness-building, and inadequate safeguards against misuse of funds. In other states, bureaucratic foot-dragging and also local resistance from vested interests continues to hamper the possibility of even creating a robust enabling framework, although some steps have begun in Maharashtra (albeit largely within the narrow framework of management transfer). The socio-ecological context may be somewhat less influential than (say) in the case of JFM, because canal irrigation is something that farmers generally want. The more nuanced effects have not become that obvious in the limited duration of widespread implementation.

2.3.3 Participatory tank irrigation management

Small (approximately village-scale) irrigation tanks¹⁹ with command areas ranging between 10 and 1000 hectares are an important form of decentralised water management in many of the dry parts of India, especially the three southern states of Andhra Pradesh, Tamil Nadu and Karnataka but also other states such as Rajasthan and Bihar (see Sengupta, 1991; Vaidyanathan, 2001; Shah and Raju, 1998). There are more than 50,000 tanks in India of command area more than 40ha, most of which are several centuries old (since most tank building activity took place prior to British rule). The older tanks had evolved institutions of community-based management (which includes water release practices and tank and channel maintenance), although there is significant debate as to the productive and distributive impacts of these technologies and the associated institutions (see Shah, 2003, Social designs). British interventions and post-British policies led to tank management generally becoming the responsibility of the state in most tanks.

The movement against big dams that began in the 1980s led to attention of academics, activists and eventually policy-makers and donors being refocused on these smaller and

¹⁸ As SOPPECOM (2004) puts it, this reflects the fact that motivation for PIM is coming from a 'transfer' viewpoint rather than from a 'restructuring' viewpoint.

¹⁹ The term 'tank', although now well-accepted in the Indian literature, is somewhat misleading for others. These structures are really reservoirs created with small dams built across streams.

traditional irrigation systems. Since the 1990s, efforts have begun in some states to transfer the control and management of these tanks back to the village communities. Although initial efforts began in Tamil Nadu, a major push came from Andhra Pradesh in 1997 with the formation of Water Users Associations for almost 8,200 of its ~12,300 minor irrigation tanks as a part of the World Bank-supported Andhra Pradesh Economic Restructuring Project. Since 2000, Karnataka state has also begun a programme (again with a World Bank loan) to rehabilitate and re-initiate community management for its minor irrigation tanks (JSYS, 2002); by end of 2004 this programme had covered a few hundred of the estimated 38,000 tanks in the state.²⁰

The primary concern of these programmes is rehabilitation of these tanks, i.e., restoring their storage potential that has declined due to siltation and irrigation potential that has declined due to non-maintenance of the irrigation channels. It is believed that handing over the responsibilities of water distribution and tank maintenance to the village communities (after an initial state-funded rehabilitation effort) will ensure productive use of the tanks in the long run. As with other programmes, empowering village communities to manage their resources seems to be a secondary, though explicit, objective.

Since only two programmes (AP and Karnataka) are active, and since the general approach is the same as that followed by these states for PIM of canals, we shall not give a full-fledged table but summarise the key features of design and implementation. The Tank User Associations (TUGs, or WUAs in AP) are user groups generally limited to those who own land in the tank command.²¹ In Karnataka, there has been an attempt to give some representation to other stakeholders, but it is not clear how far this has succeeded. Sizes of TUGs vary enormously. AP grants some security of tenure as it has formed the TUGs under an Act, whereas there is less security in Karnataka. The main role of the TUG is to participate in planning the tank rehabilitation process, and then take over operation and maintenance. In AP, much of this has become reduced to TUG presidents taking contracts for rehabilitation. But the projected cost of full rehabilitation appears to be very high due to heavy siltation of these tanks, and the resources available for such rehabilitation, even under World Bank funded projects, seem inadequate (Raju, 2001).

The level of autonomy granted to the TUGs is somewhat higher than the canal WUAs, because the tank resource is physically much more localised (unlike the water that comes to the WUA from an external, larger irrigation system). But on the other hand the local response to TUGs seems to have been less enthusiastic than that to canal WUAs, perhaps because dependence on tank water has been declining over time with coming of borewells and the changes in cropping patterns. Several tens of tanks in AP have been converted into 'percolation tanks' to recharge groundwater (Reddy *et al.*, 1994). Thus, there appears to be a mismatch between the assumptions behind the Tank PIM programmes and the socio-economic realities on the ground. It should also be noted that traditional tank management institutions and practices have often been highly iniquitous and not concerned about water use efficiency, so it is possible that the same arrangements may be recreated, if at all. The outcomes of the tank PIM programmes are as yet unclear, but the similarity with the canal PIM programmes in terms of design and the socio-ecological context suggest that outcomes may be even more ambiguous. As Shah and Raju (2001) point out, tanks are often multi-functional systems, providing not just surface irrigation but also groundwater recharge, flood

²⁰ An earlier set of projects supported by the World Bank (in Karnataka) and the European Commission (in Tamil Nadu, Pondicherry and Orissa) focused on the physical rehabilitation of such tanks but not on changing management or institutional governance systems.

²¹ In theory, the Karnataka tank rehabilitation project offers 4 institutional options to the villagers, including handing over tanks to the Gram Panchayat. But in practice, in 95% of the cases, villagers have opted to form TUGs (R.Doraiswamy, PRAGATHI, *pers.comm.*). An effort is being made to integrate these TUGs back into the Panchayati Raj system through a new Tank Panchayat Act, which is still in draft stage (M.K.Ramesh, National Law School of India University, *pers.comm.*).

control and soil erosion control, water for domestic use, fishing and even cultivation opportunities in the tank-bed. These are multi-stakeholder systems whose management must also cover the catchment area, groundwater, soil and other biophysical elements. They may thus be better seen as part of an integrated watershed development or land-and-water management system than in an isolated irrigation system, and institutional arrangements rooted in this perspective will need to be evolved.

2.3.4 Participatory watershed development²²

Of all the government initiated natural resource management programmes, watershed development is perhaps the most extensive and heavily invested. What began as a set of diverse and isolated experiments in Sukhomajri, Ralegaon Siddi and the Operations Research Project of the Indian Council for Agricultural Research got institutionalised initially in the form of the National Watershed Development Programme for Rainfed Areas in 1990. Following the Hanumantha Rao Committee's review in 1994 and the formulation of Common Guidelines (Gol, 1994), the period 1995-2001 saw the implementation of the first generation projects under these guidelines on a very wide scale. The guidelines for programmes supported by the Ministry of Rural Development were revised in 2001 (Gol, 2001) and again in 2003 (Hariyali Guidelines). The Ministry of Agriculture's programmes operate under the WARASA guidelines (Gol, 2000b).

The country has made massive investments in this approach. By the end of the 8th five-year Plan an area of 4.23 million ha in about 2554 watersheds had been treated and developed at an expenditure of Rs. 968 crores. In the 9th Plan period, an outlay of Rs. 1,020 crores was provided to treat 2.25 million ha. Overall, including funds from bilateral, multi-lateral and private foreign donors as well as national funds, it is estimated that Rs.2,400 crores (about 500 million US\$) have been spent annually since the mid-1990s on watershed development in the country (Farrington *et al.*, 1999). Even more ambitious plans have been made for the future—the government has set a target of treating 63 million hectares with Rs.76,000 crores over the next 25 years.

The motivation behind and hence form of watershed development (WD) programmes has evolved over time. Originally seen as strictly technical soil and water conservation programmes meant to prevent agricultural land degradation, the concept of WD has now evolved into an integrated strategy for stabilising rural livelihoods in dry and semi-arid regions. Simultaneously, it has been increasingly acknowledged that participation of local communities in WD is crucial to its successful implementation. But for most of the implementing agencies, participation is clearly an instrument for improving implementation quality and ensuring maintenance of assets created. Thus, participation means "persuading communities to accept whatever is being proposed to them". Those who see "participation as a fundamental right of the communities and a means to empower them" are in an extreme minority, mostly from the NGO sector.

Summarising the institutional design and implementation of WD programmes in brief is very difficult, because there is enormous diversity of programmes, formats and implementers. Substantial central funding flows from two different ministries (Rural Development and Agriculture) alongside direct funding by donors of state watershed departments, and significant direct funding to and implementation by NGOs. Recently, NGOs have also started participating in departmentally implemented programmes (e.g., the Sujala programme in Karnataka). Nevertheless, we have attempted to summarise the common features in Table 3.

²² This section draws extensively on Joy *et al.* (2004) and Farrington *et al.* (1999) and the large number of references listed therein.

Table 3 Design and implementation of participatory watershed development

Factor	Situation in watershed development programme
1. Nature of LO	Multiple LOs ²³ : User groups (UGs) around specific resources, self-help credit groups (SHGs) of marginalised communities, Watershed Committee (WC) has representation from UGs, SHGs, general body of micro-watershed and implementing agency's watershed development team (WDT).
2. Scale & Scope of LO and its control	UGs=tens of farmers; SHGs=10-50 members (approx.5-20 SHGs per watershed), WC covers micro-watershed (500-1500 ha) that may have 50-500 or more households.
3. Nature and extent of rights & responsibilities devolved	WCs are supposed to plan, implement treatments and monitor progress. They are empowered to receive and spend money. (In practice, key role in these tasks is played by members of WDT.) WCs do <i>not</i> automatically get rights to forest produce or control over water, even surface water.
4. Security and clarity of tenure	WCs may be registered under Societies Act. Their control over the resources is through GOs, not laws. This creates conflicts with existing laws (especially in common/forest land management). But their role seems to cease after implementation is over, hence long-term security does not seem to matter.
5. Role of higher-level bodies	Many layers of higher organisations, including Project Implementing Agency, District Watershed Development Committees, and State &/or National Level agencies (depending upon specific programme). Multiple line departments may be involved. These agencies essentially control watershed selection, funding levels and procedures, technical choices, and many other parameters. They are not accountable to LOs. Where line departments execute the physical works, mismanagement of funds and poor quality of construction is common. Where NGOs execute these works, quality may be better, but costs are higher. In practice, funding agencies wield significant influence, even setting up specialised implementing agencies (such as KAWAD in Karnataka supported by DfID) to bypass unwieldy departmental procedures.
6. Internal rules to ensure efficiency, equity & sustainability	Making of rules for long-term and equitable resource management is not mandatory in programme guidelines. A few government programmes (such as Adarsh Gaon Yojana in Maharashtra) insisted on such rules (i.e., grazing ban, borewell ban, fuelwood collection ban) prior to implementation of WD. In some of the better NGO-implemented programmes, communities have agreed to regulating use of common lands. Examples of cropping pattern control are very rare (Ralegaon Siddi being one). Examples of rights over recharged water being delinked from land rights are even fewer.
7. Democratic functioning, downward accountability, and representation	Several but varying provisions to ensure representation of women (30% to 50%), SC/STs ('adequate'), artisans, landless, etc. in WC. SHGs are focused on marginal groups. But WCs have few meetings in practice, and general body meetings of the entire population rarely take place. Voice for women and marginal groups in WD programmes is generally low, but higher in NGO-implemented programmes.
8. Conflict resolution	Intra- or inter-watershed conflict resolution carried out by the implementing agency. No recourse to courts is possible.
9. Fiscal arrangements & financial support	Bulk of financial support comes as grants from above. WCs have no fiscal powers. Individual farmers may be required to contribute to interventions that are carried out on their own fields. These funds may come to WC for operation & maintenance.
10. Capacity-	Guidelines provide for 1-month training for WC members, plus additional training

²³ There are enormous variations in labels and acronyms and some substantive variations in the types of organisations set up under different programmes and projects (see Joy *et al.*, 2004 for details). We have tried to capture the essential arrangement and typical labels.

Factor	Situation in watershed development programme
building of LO and community and higher authorities	for higher level officials. All WD projects are supposed to have initial community mobilisation and training phases. In practice, the quality of capacity-building of officials in departmentally implemented programmes is generally poor; it is better in those implemented by experienced NGOs or by specially created implementing agencies.
11. Role for NGOs	All WD projects have room for NGO participation. On the whole, NGOs have been involved to a very great extent, even in departmentally implemented programmes. (Recent Hariyali guidelines may change this situation.)
12. Lateral linkages	Federations of WCs are notional, having little role. Federations of SHGs do get formed, but have little relationship with natural resource management.

Even by their own limited objectives, the majority of the programmes, particularly state-implemented ones, show poor to moderate success. In brief: “productivity gains are often limited and temporary, common lands do not get adequately treated, and revegetation does not take place as expected, gains from recharge of groundwater are rapidly dissipated through increased withdrawal, domestic, livestock and ecosystem water needs often do not get addressed, and may even suffer as a result of increased withdrawal. downstream impacts of intensive upstream water conservation are not being considered, and costs at which the gains are achieved seem to be rather high (SOPPECOM *et al.*, 2004).

There appears to be limited influence of social or biophysical conditions on success. The main role seems to be played by the manner of implementation, both of physical works and of social processes. While the ‘better’ programmes have resulted in significant biophysical improvements, community participation is still largely mechanical. “Bureaucracies have rendered PRA methods meaningless by reducing them to procedures to be routinely followed. Regular village meetings conducted with a few participants are now labelled as participatory...even [participatorily prepared] plans are not automatically approved, but subject to lengthy processes of approvals from several levels in the bureaucracy” (Kolavalli and Kerr, 2002). More cases of serious efforts at community involvement are found in some NGO-implemented programmes and some direct donor-special agency-NGO partnership programmes.

But, in the context of decentralised resource governance, what stands out the most is that the focus of ‘community participation’, even when attempted seriously, is on implementation and maintenance of assets created.²⁴ Long-term *regulation* of natural resource use does not seem to be in the picture. This maybe partly be a mindset problem, but may also be partly explained by the fact that, unlike in the case of JFM or PIM, a significant fraction of the interventions and investments in WD are made on private lands and hence ‘collective action’ may be seen as less critical. Moreover, the common property resource that *is* affected by WD interventions, viz., surface water, is inadvertently converted into a privately accessible resource (groundwater) because most interventions are towards increasing groundwater recharge. Thus, ironically, a programme that truly integrates issues of forest and common land management with agriculture and water resource management pays lesser attention to institutionalising resource management than even the sectoral programmes like JFM and PIM do.

²⁴ In the official guidelines, “encouraging village community for sustained community action for the operation and maintenance of assets created and further development of the potential of the natural resources in the watershed” is the fifth of six objectives (Gol, 2001).

2.4 State-initiated devolution

2.4.1 Panchayati Raj institutions in most states

After several decades of dithering, experimentation and retreat, the 73rd Constitutional Amendment of 1992 institutionalised three tiers of local government at district (usually called *Zilla Parishad*), block (various local names e.g. Taluk Panchayat, Panchayat Samiti, Mandal Praja Parishad) and village levels (*Gram Panchayat*), collectively called *Panchayati Raj Institutions* (PRIs). The Amendment also added to the Constitution the 11th Schedule that enumerates the powers and functions of the PRIs. This Schedule specifies 29 areas over which the PRIs have jurisdiction. In the context of natural resources, the relevant areas listed in the 11th Schedule are agriculture, land improvement (including reforms, consolidation and soil conservation), minor irrigation, water management and watershed development, animal husbandry, fisheries, social forestry, minor forest produce, drinking water, fuel and fodder, non-conventional energy sources, health and sanitation (Gol, 1993). The Amendment cast a constitutional imperative on all the State Governments to come up with appropriate Panchayati Raj Acts detailing the devolution of functions, defining the functionaries and setting up funding arrangements for these 3 tiers. They were also supposed to amend those existing sectoral laws (subject legislations) such as the Irrigation Act, Forest Act, Land Revenue Act, etc. so as to bring the allocation of functions in line with the PR Act.

All states have since passed the necessary PR Acts, and at least two rounds of elections to these bodies have been held since 1993 in most states. So, a system of decentralised governance has been in place in India for a decade now.²⁵ There is some variation from state to state in both the design and the operationalisation of PRIs, especially since the Kerala and West Bengal governments having institutionalised them much earlier. The key (generic) features of the PR system are summarised in Table 4.

Table 4 Design and implementation of Panchayati Raj institutions

Factor	Situation in Panchayati Raj institutions
1. Nature of LO	Gram Panchayat is the primary unit, and it is an elected body representing a given area
2. Scale & Scope of LO and its control	GP size varies from one revenue village to several revenue villages, and geographically may range from 100s to 1000s of hectares. The general body of a GP varies from 5,000 to 20,000 in different states.
3. Nature and extent of rights & responsibilities devolved	As per 11 th Schedule, GPs (or higher Panchayats) were supposed to get control over a number of natural resources. In practice, only drinking water & sanitation responsibilities and in some cases control over small water bodies has been transferred. In general, only responsibility for implementation of developmental programmes has been given. Division of powers between state government and PRIs is often unclear (Mathew, 1995).
4. Security and clarity of tenure	Existence of PRIs is secure by law, but they can always be superseded by the state governments. Control over resources is yet to materialise, as contradictions with other laws and regulations have not been resolved.
5. Role of higher-level bodies	Many functions have been transferred to District or block level, rather than to GP. State and central governments provide funds, administrative support, staff, training etc. through their Panchayati Raj departments. They also devise the guidelines for many programmes that are to be implemented by the PRIs.
6. Internal rules to	No statutory requirement to explicitly pursue these normative concerns. In

²⁵ Note, however, that the states of Nagaland, Mizoram, Meghalaya and parts of Manipur and the Darjeeling area of West Bengal, which already had their own systems of village councils etc., were exempt from the 73rd Amendment (see sec.243M).

Factor	Situation in Panchayati Raj institutions
ensure efficiency, equity & sustainability	practice, there are insufficient cases of panchayat-managed natural resources to form any conclusion.
7. Democratic functioning, downward accountability and representation	Elections are held every 5 years; provision for recall of Panchayat Presidents exists in a few states; Gram Sabha (general body) meetings are supposed to be held regularly (but not so in practice). Significant representation stipulated for women (33% in most states) as well as SC/STs. In practice, PRIs are susceptible to elite capture, although there are many pockets where the entire community has been sufficiently mobilised to ensure reasonably democratic functioning.
8. Conflict resolution	In theory, through the courts. Given the absence of control over natural resources, the question of conflicts does not really arise.
9. Fiscal arrangements & financial support	Virtually all funds come from state governments and central governments, partly 'untied' grants but largely grants that are 'tied' to specific programmes. Local taxation powers are limited in practice to house tax, the collections from which are meagre. Other sources of direct revenue have not been explored, although they could be substantial (Rajaraman <i>et al.</i> , 1996).
10. Capacity-building of LO and community and higher authorities	State governments have undertaken series of training programmes for PRI representatives; not much awareness building at community level. Again, these activities hardly cover natural resource issues, since they have not been transferred to the PRIs. Kerala is an exception in this regard (see Chattopadhyay, 1998).

On the face of it, the motivation behind the 73rd Amendment and the PR Acts that followed it is clear—creating democratic and decentralised levels of government and handing them as many functions and powers as possible. In reality, however, the motivation is limited to decentralising developmental activities rather than enabling democratic self-governance at the sub-state scale. Thus, although all states have passed the required legislation, the details of these laws and their implementation leave much to be desired. Most states have diluted the list of functions to be handed over,²⁶ have often assigned the functions at the higher (district- or block/taluka-level) rather than village level, and moreover have not amended the subject legislations at all, thus undermining the notional powers given to the Panchayats, as the state agencies such as Forest Department, Revenue Department and Irrigation Department continue to exert ownership and control as before.

Not surprisingly, a recent major study covering Andhra Pradesh, Madhya Pradesh and Karnataka concluded that “that the process of de-concentration after the 73rd Constitutional Amendment and its ratification by the respective State Governments has been such that empowerment of PRIs is far from affording them the powers and capacity to carry out even their minimal tasks of local governance. In all states PRIs operate as extensions of government line departments rather than as local governance institutions” (Ramakrishnan *et al.*, 2002).

A few states have tried to implement PR more seriously, such as West Bengal and Kerala. Kerala has decentralised many developmental activities to the Gram Panchayats, and actively took up decentralised development planning activities (Chattopadhyay, 1998), and provided 40% untied funds to the GPs for implementing their own programmes. But interestingly enough, even these two 'progressive' states have not really devolved control

²⁶ For instance, the Karnataka Panchayat Raj Act 1993 does not mention minor forest produce, only vaguely talks of fuel plantations and fodder development and development of social forestry.

over natural resources to the PRIs. For instance, although West Bengal is the pioneer of JFM and PR, it has continued to keep JFM under the control of the FD, establishing only a limited linkage with the Gram Panchayats. The excuse in the case of forest sector may be that Schedule 11 only puts 'minor forest produce' in the domain of the PRIs. But in practice, even this has not been transferred in any state. In the case of minor irrigation tanks, even this excuse does not exist. Yet, as described above, tank rehabilitation, JFM and canal PIM continue to be taken up through user group committees.

An extreme example of the government itself bypassing the spirit and the letter of the 73rd Amendment is the setting up of Forest Development Agencies (FDAs) for channelling of all Tenth Five Year Plan funds for afforestation from the Central government. These FDAs are set up in each district, and are entirely controlled by the FD. The local Conservator of Forests is the President, and a Deputy Conservator level person is the secretary. Presidents of the VFCs constitute the general body (but they cannot elect these office-bearers!). FDAs have modelled on the lines of the District Rural Development Agencies (DRDAs), and constitute a parallel structure for fund flow and planning that completely bypasses the PRIs. Ironically, the DRDA structure itself had come under criticism after the PRIs were set up, as the DRDA was separate from the Zilla Parishad (Baumann, 1998). Clearly, the commitment to genuine Panchayati Raj is missing not only at the state level but also at the centre.

2.4.2 PESA: special case of Scheduled Areas

The Panchayats (Extension to Scheduled Areas) Act, 1996 (hereinafter PESA, also called Central PESA or the Tribal Self Rule Law) is a central Act that attempts to increase the power of the Panchayat Raj institutions, particularly the Gram Sabha (the voters' general body at the village-level), in tribal areas. It seeks to give wide-ranging powers to the Gram Sabha on matters relating to development planning, management of natural resources and adjudication of disputes in accordance with prevalent traditions and customs. The Act is applicable to Schedule Areas, which are those areas of tribal concentration²⁷ that have been declared by the Presidential Order on Scheduled Area under Article 244 of the Indian Constitution. PESA requires the states having Scheduled Areas²⁸ to amend their respective Panchayat Acts and all other legislation to conform to the letter and spirit of PESA within one year. This significant legislation was expected to have far reaching consequences in the social, economic and cultural life of tribal people in Scheduled Areas, and increase their control over their local natural resources.

In the context of natural resources, PESA specifically grants the Gram Sabha control over prospecting of minor minerals, planning and management of water bodies, management of minor forest produce, and alienation of land (including the power to restore land any alienated land of a Scheduled Tribe). These appear to be substantial rights, at least on paper. In practice, however, the benefits of PESA have not materialised at all. In a detailed analysis of the operationalisation of PESA in four states, Upadhyay (2004) shows how the intent of PESA has been stymied by the states through exploitation of loopholes, omissions, reinterpretation, temporising and ambiguity in the rules or orders that they have passed in response to PESA.²⁹

In the context of water resources, there is no statutory definition of what constitutes the 'minor water bodies' mentioned in PESA, and the states have left matters undefined as well.

²⁷ "Tribal" here refers to those communities notified as "Scheduled Tribes" by the President under Article 242 of the Constitution. There are more than 250 distinct tribal communities in India, amounting to about 8% of the total population.

²⁸ These states are Andhra Pradesh, Madhya Pradesh, Chhattisgarh, Jharkhand, Orissa, Gujarat, Rajasthan, Maharashtra and Himachal Pradesh.

²⁹ These findings have been fully substantiated by a set of studies recently commissioned by National Institute of Rural Development, which are as yet in draft form.

They have vaguely vested the powers at multiple levels (village or block or both), using wording such as ‘as may be prescribed [through further orders]’, orders which have not been forthcoming even eight years after the enactment of PESA. Given that the partnership-based programmes mentioned earlier involve setting up committees (user groups) for the management of minor irrigation tanks and other water bodies (such as check dams created through watershed development), there is a clear clash between the power of these committees and the Gram Sabha/Gram Panchayat.

In the case of land acquisition, PESA mandates that there should be consultation before land Acquisition for development projects and before resettling or rehabilitating persons affected by such projects. The term ‘consultation’, as against ‘consent’, immediately dilutes the power of this provision. Further, the states have again left its operationalisation vague by specifying multiple levels at which such consultation should take place or saying ‘as may be prescribed’. In the case land alienation, which is considered to be of enormous significance in the case of tribal areas, the states have again made the procedures subservient to the powers already conferred by other legislation to various authorities, such as the Collector, or other existing laws.

PESA recognises the forests and forest produce are critical components of tribal livelihoods, and it makes a radical provision of granting ‘ownership of minor forest produce (MFP)’ to the Gram Sabha in the Scheduled Area. But again, the provision has been rendered ineffective by the state governments either by leaving ambiguity about which forests the rights are to be exercised in, or making the provision subservient to the JFM rules or other MFP-related rules and legislations, or completely ignoring the provision (as is the case in Madhya Pradesh). Even at the central level, the MoEF has undermined the provisions by excluding bamboo and cane from the definition of “MFP”. Similarly, the contradictions between existing provisions (such as granting of ownership rights to the Girijan Cooperative Corporation in Andhra Pradesh) and PESA have not been ironed out. “The revised JFM guidelines do not even mention PESA indicating the low importance given [by MoEF] to its provisions and their potential bearing on the JFM framework in Schedule V areas.... PESA co-exists with totally contrary legislation such as the Land Acquisition, Wild Life Protection, Forest Conservation and the Indian Forest (1927) Acts with no clarity about which is to prevail over the others” (Sarin *et al.*, 2003). In short, all the provisions of PESA related to natural resource governance are rendered ineffective on the ground due to the foot-dragging or inattention on the part of the state governments.

It should be noted that neither the 73rd Amendment nor PESA are applicable to the states of Mizoram, Nagaland and Meghalaya, nor the hill areas of Manipur. As tribal majority states with strong and distinct traditions of local self-governance, these states have been given special treatment in the Indian Constitution and in subsequent laws relating to governance. Most states in turn are sub-divided into Autonomous District Councils, each of which typically has far more autonomy than the typical Zilla Parishad in other states operating under PR acts. Similarly, the village councils are known to have much more autonomy than Gram Panchayats, even administering justice, often as per customary law. In many cases, the powers of the Autonomous District Councils extend to all non-RF forest lands. But there is enormous variation and confusion as to the extent and location of such non-RF lands, and also variation in the kind of power exercised (Upadhyay and Jain, 2004). In many cases, control vests with local chieftains or clans, not with a democratically elected local council. For instance, in Nagaland, 80% of the forest land is in private hands. (Mizoram is one clear exception to this—see the case study in section 3.1.)

2.5 Civil society-initiated decentralised governance

Whereas state-initiated partnerships and devolution programmes are widespread across the country, examples of community-initiated governance of natural resources are much more limited and scattered. These may be of several different kinds and vary in the extent to which they actually go beyond day-to-day management into governance issues. Isolated efforts by local communities or NGOs, such as the famous Ralegaon Siddi watershed development effort or the Pani Panchayat lift irrigation effort in Maharashtra have not generally translated into major changes in governance, but they have clearly influenced some aspects of watershed development policy and programmes. For instance, the Ralegaon Siddi experiment resulted in the initiation of the *Adarsh Gaon Yojana* (Model Village Scheme) by the Government of Maharashtra, although this programme ended up having limited success, again because it focused too much on initial implementation did not incorporate important elements of long-term resource governance.

Some NGOs have initiated such resource regeneration/rehabilitation and community-based management efforts over a large scale. For instance, the Dhan Foundation (www.dhan.org) has, over the past two decades, carried out rehabilitation of a large number of irrigation tanks in Tamil Nadu and parts of Andhra Pradesh, using external funds but not as a part of any government programme. Their experience suggests that shifting back to community management from systems that were taken over by the state can be a major challenge, and the absence of a clear legal framework presents a significant obstacle to long-term resource management (DHAN Foundation, 2004). Another example of large-scale interventions without government support or recognition is the work of Tarun Bharat Sangh in Rajasthan. This is described in the case study section. Even here, the lack of government recognition and clarification of resource ownership led to significant conflict and tensions.

Where states have supported traditional systems with recognition and even monetary support but limited intervention (or simply neglect), these resource management systems have survived and even flourished. Local irrigation systems in Himachal Pradesh (the *khuls*) that are based on stream-diversion through canals are one such example (see Baker, 1997; Bon, 2000; Baker, forthcoming). Community forestry in Orissa and Kumaon (Uttaranchal) are another example, which we discuss in detail in the case study section.

3. Case studies

In this section, we present case studies of three exceptional examples of natural resource management and governance. One falls in the category of state-initiated devolution in forest and land management, the second is of community-initiated forest management with varying state support, and the third case is of NGO-initiated water and watershed rehabilitation leading to an attempt to set up a river basin-scale governance mechanism.

3.1 Local self-governance in forestry: Village Councils in Mizoram³⁰

The case of village-controlled forests in Mizoram is an exceptional case of highly devolved control over forests. Virtually half the forests in Mizoram are in the category of Village Forest Reserves, constituted under the Mizo District (Forest) act, 1955. These in turn are classified into Village Safety Reserve, Village Supply Reserve or Protected Forest Reserve. The first is meant for protection against fire and protecting the water supply, the second for supplying the household needs of the villagers and the third for special use on limited occasions. The VCs have framed their own norms for ensuring sustainable harvest, and for punishing

³⁰ This case study is draws heavily on Singh (1996).

offenders. It may be noted that, although the provision for constituting Village Forests exists in the Indian Forest Act as well as most State Forest Acts, Mizoram is one of the rare cases where these provisions have actually been extensively used.

Empirical evidence suggests that by and large the VCs have managed the village forests well, ensuring sustainable use while also enabling villagers to meet their needs of not just forest products, but also land for shifting cultivation, other agriculture and house construction. VCs have often extended the areas of the supply and safety reserves, indicating their attention towards meeting the needs of the people sustainably. Forest offences do occur, but appear to be generally under control.

Several contextual factors have contributed to the VCs being generally effective managers of village forests in Mizoram. First, the social context has been highly favourable—relatively homogeneous communities, strong bonds of kinship, common traditions and culture and limited economic differences between households. Second, the ecological context is also favourable. The growth potential of the forests—mostly tropical moist deciduous forest and bamboo forest—is enormous and the pressure of population moderate. A third factor is the relative isolation of these communities from roads, towns and market forces.

Within this context, however, credit must go to the judicious institutional design adopted by the Mizoram government, starting in the 1960s. First of all, the design is motivated by a strong concern for democratic decentralisation, not efficient forest or NR management. Indeed, this concern for democratisation has been so strong that although there is continuity in terms of tenurial boundaries that dates back in some cases to 1872, the traditional chieftain-centric system was completely replaced with a democratically elected VC throughout the state. Second, there is a clear separation of powers between the District Council (which is really the main ‘state’ agency) and the Village Council. The creation of these forests is within the powers of the Executive Committee of the District Council, while their day-to-day management is the responsibility of the Village Council (VC). The VC’s role includes permitting felling of trees in supply reserves, disposal of dead trees, ensuring safety reserves are fully protected, etc. Second, the tenurial boundaries are by and large clear³¹ and the units of governance generally small. Third, the system is adequately integrated across sectors. VCs have statutory control over both forests and shifting cultivation (*jhum*), thus enabling them to regulate a factor that shapes forest condition as much as direct extraction of forest products.

In recent times, however, the contextual factors are changing and also affecting institutional design. Penetration of commercial interests is manifesting itself in policy changes at the state level. A New Land Use Policy allows for privatisation of land (ostensibly to settle shifting cultivators) in contradiction to traditional tenurial arrangements. Such changes are threatening to undermine the autonomy of the VCs and even district councils. Pressures are mounting for the diversion of some of the village forest reserves into private hands; some diversions have already occurred. Poorly maintained land records, especially regarding the notification village forest reserves, has made this easier. Haphazard introduction of JFM with no reference to the existing VC structure has only compounded the confusion. Timely action to resolve these conflicts and confusion and to address the changes in the larger economy will be required.

3.2 Community forestry in Orissa and Kumaon

Whether all the forests of pre-British India had community management has been a matter of some debate. But certainly many pockets did, and while some got destroyed by the British

³¹ Although the official records on the village forests are not in good shape, the villagers know the status and boundaries of their common lands very well, partly because of the historical continuity mentioned earlier.

take-over, a few others either escaped or resisted and eventually even got legitimised. The Van Panchayats of Kumaon (Uttaranchal) fall in the latter category whereas the community-managed forests of Orissa that preceded JFM originated in a tradition that partly escaped and partly was rejuvenated. These two examples of community forestry provide interesting insights into the possibilities of true decentralised resource governance.³²

The estimates of the number of forest protection groups (FPGs) in Orissa vary from 5,000 (Manoj Pattanaik, quoted in Sarin *et al.*, 2003) to 10,000 (Singh and Nayak, 2003). They are probably managing several hundred thousand hectares of forest land, covering perhaps 25% of Orissa total forest area. Some of these emerged 60-70 years ago, but the majority started protection in the late 1970s or early 1980s. The main reason for initiating protection was the acute scarcity of firewood and other forest products felt by a forest-dependent population due to the degradation of their open-access forests, or increasing pressures on their own patch due to degradation of forests of neighbouring villages.³³ The purpose of the formation of FPGs therefore was to ensure regeneration and sustainable use of a much needed resource, in some cases only for subsistence and in other cases also for some income generation (mainly through sale of NTFPs).

There are 6,000-odd Van Panchayats in Uttaranchal, managing about 400,000 ha of forest land covering 13% of Uttaranchal's total forest area (Sarin, 2001 quoting UP Forest Dept).³⁴ They originally emerged after several decades of protest against and vehement resistance to arbitrary British take-over (reservation) of traditional forest use areas led to the formation of a Kumaon Forest Grievances Committee, which recommended the creation of such institutions. The main motivation for people forming Van Panchayats was to regain control over their forest use areas so as to sustainably meet their needs of firewood, fodder, manure, and timber. Over time, some possibilities of income generation from resin tapping and medicinal plant collection (in the more remote areas) have also emerged.

Table 5 Institutional design and functioning of Community Forestry systems

Factor	Situation in Community Forestry institutions	
	Orissa Forest Protection Groups	Kumaon Van Panchayats (VP)
1. Nature of LO	Variable: Council of Elders, youth clubs, FPCs, occasionally women's groups	All residents holding certain historical land rights are members, who elect council of 3-9 persons, who then elect the President
2. Scale & Scope of LO and its control	Ranges from group of households to hamlet, revenue village(s), size 10s-100s ha, initially set up in Protected Forests/ <i>Khesra</i> (Revenue lands) and later Social Forestry woodlots	Ranges from one hamlet to several contiguous villages, and 1ha-2,000ha. Can be carved out of any kind of forest land within the village boundary, and are then formally converted to VP.
3. Nature and extent of rights & responsibilities	Forest protection, extraction of firewood, grazing and leaf litter, sale of firewood, timber for domestic purposes, NTFP rights vary	Forest protection, extraction of firewood, grazing & leaves, <i>plus</i> timber (now curtailed), slates/stones, charging fees for grazing/firewood, power to fine or prosecute offenders; NTFP & resin sale requires FD permission.

³² This section draws upon several sources (Ballabh and Singh, 1988; Somanathan, 1991; Singh and Ballabh, 1991; Sarin, 2001; Sarin *et al.*, 2003; Pattanaik, 2002; Conroy, 2001; Sundar *et al.*, 2001; Sekher, 2004).

³³ Reasons for the degradation are diverse, including felling by FD, encroachment for agriculture, smuggling, diversion for mining, and resettlement of displaced persons from dams, etc. (Sundar *et al.*, 2001, p.79).

³⁴ Sarin also mentions that there are lots of cases of community forestry in Uttaranchal that are not formally registered as Van Panchayats.

Factor	Situation in Community Forestry institutions	
	Orissa Forest Protection Groups	Kumaon Van Panchayats (VP)
4. Security and clarity of tenure	Old ones set up without legal support, but <i>de facto</i> the control (being on non-RF lands) is fairly secure; later ones set up under Village Forest Rules of Orissa Forest Act 1972 are more secure; enormous confusion/uncertainty after advent of JFM; significant ambiguities/disputes about boundaries	Highly secure, as they were formed under Kumaon Panchayat Forest Rules, 1931. Security declined after JFM orders passed. Disputes over boundaries have increased as older survey-settlements got superseded and old records overwritten, lost or inaccessible.
5. Role of higher-level bodies	Initially no role; FD role has increased after many FPGs got formalised under JFM (mostly due to pressure from FD) in the last few years	Originally, VP was answerable only to Revenue Dept (RD). Since 1976 revision of Rules, FD control has increased significantly, and overall red tape and interference in VP affairs has increased dramatically
6. Internal rules to ensure efficiency, equity & sustainability	Often <i>thengapalli</i> (voluntary patrolling) or paid watchman, elaborate rules for extraction and penalties for violation, enforcement through social sanctions (because no legal backing). Equity is often limited, especially in terms of who gets excluded (such as poor headloaders)	Generally well developed & enforced rules/norms regarding firewood collection and grazing, protection, fire control, preventing encroachment, equitable sharing within & across villages (e.g., Singh and Ballabh, 1991)
7. Democratic functioning, downward accountability and representation	Varies: many cases of limited or no democracy (because of traditional decision-making structures), elite capture, others more democratic (where local NGOs or youth clubs have been involved). Women's voice limited.	Democratic within the limited (landowning) and male membership; in some cases women have begun to participate. Post-1976 revisions, more power concentrated in VP president (<i>Sarpanch</i>) hands
8. Conflict resolution	No formal mechanism, but district-level FPG federations have often played a role (Nayak, 2003)	Have recourse to Deputy Commissioner (RD), in recent decades this support has been inadequate
9. Fiscal arrangements & financial support	None, till advent of JFM, under which financial support is being offered. However, several FPGs were formed after Social Forestry plantations were created in the 1980s, or have made use of these plantations as well	Originally, no financial support or taxes. After 1976, VP has to share 60% of its income with government, even remaining VP funds are controlled by Sub-Divisional Magistrate or Deputy Commissioner. Under JFM, funds are being offered, while original VP funds remain inaccessible!
10. NGO involvement	Some FPGs are initiated by local voluntary groups (such as youth clubs) or NGOs. Other larger NGOs have played important role of supporting the FPGs through publicity, advocacy, etc.	Quite limited
11. Lateral linkages	Have formed several federations of their own, and also recently formed a state-level forum	Have formed district-level associations, and recently a state federation (mainly to deal with the conflict with JFM)

The main features of these two systems are outlined in Table 5. There is now a very substantial literature to show that the outcomes of community forestry in both cases have—at least till the advent of JFM in Orissa and the revision of Van Panchayat Rules in Uttaranchal—been generally quite positive. Forest quality in these community-managed forests is generally higher and forest use is fairly sustainable, although the level of internal equity varies significantly in both cases. The reasons for this success are also fairly clear. The socio-ecological conditions favouring the formation, spread and success of these

initiatives include high forest dependence, often relatively homogeneous communities, and strong traditions of community decision-making. Simultaneously, the institutional framework has been either actively conducive (in the case of the Van Panchayats) or passively so (in the case of Orissa, where the historically weak FD did not exert control over the revenue forests and the activities therein). A unique feature of the Van Panchayats (and some of the Orissa FPGs set up under Village Forest Rules) is the simultaneous legal status and tenurial security they enjoy because the land and the institution get simultaneously notified. Equally noteworthy is the fact that the Van Panchayat system is available 'on-demand', i.e., the concerned authority *has* to respond to any request received within a stipulated period, call for objections, notify the boundaries and hold a meeting to elect the council members.

Over the past decade, however, these community forestry systems are coming under increased pressure in ways that either directly undermine their autonomy or seek to co-opt them into arrangements that indirectly do so. E.g., when FPGs get recognised under JFM, a forest official becomes the secretary of the protection committee and the FD gets a 50% share in the income from forests to which it has contributed nothing. Their autonomy also gets eroded in a myriad other ways. It is indeed ironic that this pressure is coming from a programme that was officially meant to make forest management more participatory. Part of the explanation may lie in the genuine ignorance of the policy-makers, including top FD officials about the complex legal and traditional systems operating on the ground and how new policies might affect them. But much of the explanation lies in the FD's desire to increase its control over these autonomous institutions and to extract income out of their forests. Part of the pressure to do this also comes from lending agencies such as the World Bank who blindly set targets for FPC formation or areas planted.

3.3 Water harvesting to NR governance: the TBS attempt³⁵

Tarun Bharat Sangh began working in Alwar district of Rajasthan in 1985. Starting with primary education and health care activities in a few villages, TBS went on to focus on the problem of water scarcity and sought to address it through the revival of traditional water harvesting structures, which include *Johads* (earthen dams on streams), *Anicuts* (stone dam on a river/rivulet) and *Medhbandis* (earthen structures on field edges to prevent water from flowing out). The first Johad was built in Gopalpura village with entirely voluntary labour. Its success prompted the building of many more structures with funds being mobilised from various sources. As of 2004, TBS has built about 3200 Johads and hundreds of other water harvesting structures in about 700 villages. Most of these are located in Alwar district, although a few have been built in each of 14 other districts of Rajasthan. And about 70% of the structures in Alwar district fall within the Ruparel river basin.

In addition to the large spatial coverage, another key feature of TBS's work has been the movement towards an integrated natural resource management programme using water harvesting structures as the entry point. This has manifested itself in two ways—cross-sectoral coverage and inter-village linkages. First, especially in the villages covered in the early stages of TBS's work, the rehabilitation of or creation of new johads was followed by catchment area management, which led to controls on fuelwood removal, prevention of illegal felling, limitation of grazing activities and even attempts to remove encroachments from common grazing lands.³⁶ All these activities are taken up by the *Gram Sabhas* (village bodies or LOs) set up by TBS in each village. In some cases, to facilitate the participation of women, TBS has set up separate women Gram Sabhas. Simultaneously, TBS has attempted to address upstream-downstream issues by setting up an innovative Aravari River

³⁵ This case study is based upon Anonymous (1998), Samantaray (1998), Jamal *et al.* (2002), McCully (2002) and Kumar and Kandpal (2003), plus several booklets published by Tarun Bharat Sangh.

³⁶ In a few cases, the LOs set up by TBS have also gotten involved in social issues such as education of girls.

Parliament consisting of representatives from 70 villages within the Aravari sub-basin. This institution has attempted to regulate water use by suggesting that sugarcane, paddy and chilli (which are all water-intensive commercial crops) should not be cultivated in the basin. It has also tried to prevent the drilling of borewells, the exploitation of fisheries for commercial purposes and the setting up of water-intensive industrial units in the region.

The impacts of TBS's work have been impressive on certain counts. Agricultural productivity has increased, cropped area and number of crops in a year have gone up, drought-induced migration has declined, dramatic increases in milk production have taken place in some villages as animal husbandry has expanded and intensified. Water availability for domestic use has improved significantly, reducing women's work burden. The work of johad construction has generated significant support in most villages, resulting in 1/3rd to half of the construction costs being contributed by villagers in kind through their own labour and materials. Given that johads are seen as a traditional or indigenous technology and are built with limited expert input, people's confidence in their own knowledge and abilities has increased. And although these impacts have been achieved with the help of more than a hundred million rupees of external support, it can be argued that the achievements are highly cost-effective as compared to any similar government programme.

The distribution of these impacts, however, has not been very even. Given the inequitable access to agricultural land to begin with, TBS's inability to delink water rights from land rights, the construction of many johads on private lands and the recharging of groundwater, which is anyway a private-access resource, the impacts have been often inequitable. Similarly, there are many villages in which the work has been more of a token nature, because TBS efforts are spread too thin.

More importantly, the efforts to set up long-term governance systems, both micro- and meso-level, have met with rather limited success. The level of awareness and participation amongst villagers varies significantly, and the number of village Gram Sabhas that operate autonomously and effectively are relatively few. The Aravari River Parliament experiment has not been able to always implement its rules or address internal conflicts. Again, the level of participation in this initiative has been low.

Part of the reason for these difficulties lies in the lack of government recognition, let alone support, for these efforts. Conflicts with the Revenue Department (over construction of structures on common lands), with the Irrigation Department (ostensibly concerned about the technical soundness of the structures) and with the Forest Department (at least initially, when it saw the development work as hampering its own efforts to move villages out of the Sariska National Park) have been very frequent. The incapacity to translate the River Parliament's policies into practice is related to the absence of any supporting legislation for such kind of integrated management. The other reason for these difficulties seems to lie in a too rapid scaling up of TBS operations, possibly driven by easy external funding, without having the organisational capacity to really deliver at that scale. Easy funds also make villagers look upon the NGO as a service provider, even if the NGO wishes to move in the direction of more autonomous governance and development.

4. Conclusions

4.1 Summary of findings

We have presented a broad-brush review of various efforts, programmes or experiences in DGNR in India in three broad categories: state-initiated partnerships, state-initiated devolution and civil society-initiated efforts. In summary, it is useful to compare these

experiences across these categories using our common analytical framework of outcomes being driven by motivation, institutional design and implementation and socio-ecological context.

It is clear that state-initiated partnerships show variable, but generally limited, levels of success in terms of meeting even their own objectives (which are usually rather narrow). While JFM temporarily increases tree cover, sustainability and equity issues remain writ large. Canal PIM may increase recovery of water charges and perhaps maintenance of canals and hence water delivery, not really water use efficiency or equity. Tank PIM may lead to desilting of tanks, but it is not clear that it will ensure equitable distribution of tank water or even prevent future siltation. Watershed development seems partially successful at setting up structures, but the productivity gains may be limited and temporary. In all cases of state-initiated partnerships, the huge financial investments involved raise questions about financial efficiency and sustainability of the programmes. In contrast, the community-initiated efforts have been generally successful in regenerating resources and ensuring sustainable use, albeit with varying degrees of equity.³⁷ Community-initiated efforts with broad objectives of multi-sectoral sustainable and equitable management are very few and isolated. Larger NGO-initiated efforts have been successful in achieving larger increases in livelihoods, but not necessarily in improving equity or sustainability, and often come at a significant cost (though less than that of government efforts). Meanwhile, state-initiated devolution, whether through the generic PRIs or the special ones for Scheduled (tribal) Areas, has not really got off the ground in the field of natural resource governance because the state has not pursued this approach seriously at all. The case from the Mizoram, however, serves to illustrate that the devolution approach can also work if pursued seriously.

Specifically in terms of decentralised democratic governance, we acknowledged at the outset that this was not the goal of the partnership programmes. But all programmes categorically state that people's participation is central to their approach, and most go on to mention 'community/people's empowerment' as an objective. Participation here has to be understood carefully: it does not include acquiescence to a heavily funded programme with an externally determined set of silvicultural, water-use or land-water-treatment options. Participation cannot also be delinked from democratic decision-making, since it is not just about making the community join hands with the government, but also about getting marginal groups to participate in 'community' decision-making processes. On these counts, almost none of the state-initiated partnership programmes are able to systematically engender anywhere close to true people's participation (with the possible exception of some state-supported but NGO-implemented watershed development programmes). Community-initiated programmes are by definition participatory in the first sense. In the second sense, community-initiated programmes show variable performance, but with many examples of broad-based participation. Again, the state-initiated devolution efforts have not resulted in broad-based participation (even in non-NRM issues).

The primary reasons for the differences in outcomes lie in their institutional design-cum-implementation.³⁸ State-initiated partnership programmes transfer *limited rights* (e.g., excluding nationalised MFPs from JFM) to arbitrarily limited resources (only degraded forests, or only surface irrigation, or maybe only check dam water) to user groups that cannot be remotely called autonomous. These groups generally have insecure tenure on the resource, which is further confounded by complexities of pre-existing rights and overlapping legislation. Only insisting on some representation for marginal communities (if at all) cannot

³⁷ Admittedly, there is a selection bias here, since there may be many cases where community initiatives failed or never took off because conditions were not favourable, whereas the state-initiated programmes were more broadly implemented.

³⁸ To be more precise, the influence of socio-ecological context on outcomes cannot be seen unless the design and implementation ensure that an adequate *autonomous space* and *incentives* have been provided for communities to potentially participate in resource management.

prevent elite capture. Independent conflict-resolution mechanisms are absent. The user groups are more accountable to the funders and implementers than to the larger village community. This relates to the emphasis on heavy funding, which is neither sustainable in the long run nor conducive to proper (honest) governance in the short-run. In fact, the dependence on large funds often creates pressures to set unrealistic targets and then bypass participatory processes in order to meet them. It also biases resource use away from subsistence to commercial objectives.

The design of watershed programmes is perhaps least conducive to resource governance, given the focus on implementation rather than long-term regulation of resource use.³⁹ But the same is true in practice of PIM. The starting point for JFM is regulating forest resource use, but the narrow set of what is possible and where, along with even narrower implementation, results in little space for any creative governance. All the programmes suffer from absence of democratisation at the higher levels: the higher levels or authorities are always line departments (or special implementation agencies) with enormous discretionary powers and no downward accountability.

In the case of devolution programmes, the design failures lie in the manner in which states have operationalised the 73rd Amendment and PESA in their state PR Acts and their refusal to modify other acts to bring them in consonance with this devolved approach. The Mizoram example shows that there is nothing really inherently complicated in doing this, but it must be recognised that Mizoram (and other states in the Northeast) enjoy generally greater autonomy from central legislation, which gives them the freedom to put in cross-sectoral devolution. In the other states, effective devolution of control over natural resources would require not just concurrence from the Centre but also active modification of overarching laws such as the Forest Conservation Act (and now acquiescence from the judiciary, given its sweeping interpretation of this act).

The community-initiated efforts are of course not flawless in their design. In particular, inter-group conflict resolution is a major issue. But this in turn points to the need for adequate recognition and legal support from higher forms of the state. The contrast between the original Van Panchayat system and the Orissa FPGs is clearly demonstrates this. The increasing cases of litigation and conflict in the Van Panchayats over time (especially after the 1976 modifications to the Rules) also shows how inadequate or misguided state support and bureaucratic meddling can spoil a well-designed system.

Behind the problems of design-cum-implementation lie problems of motivation. Given the narrow objectives behind the initiation of most partnership programmes, it is but natural that the design would not incorporate adequate devolution and implementation would be half-half-hearted. This strengthens the argument for making **devolution per se** a goal of decentralised natural resource management initiatives. Similarly, both state-initiated programmes or NGO-initiated programmes that focus more on 'developmental' or 'productivity' aspects, such as watershed-development, end up focusing on resource rehabilitation and augmentation, and forget to emphasise the issue of **long-term sustainable and equitable resource governance**. The TBS case illustrates the practical challenge involved in building such institutions, even when the vision is present. It also illustrates the dangers in rapid scaling up when funds are plentiful but implementation capacity is limited.

³⁹ The recent shift under the Hariyali Guidelines 2003 to Gram Panchayats as the local organisation for watershed development may in theory rectify this problem somewhat, but only if GPs are given the legislative mandate to control/regulate natural resource use.

This comparative analysis throws up several interesting questions about institutional design and implementation that have dogged the debate on decentralised resource governance in India in recent years:

- Does decentralisation mean complete handing over of resource ownership?
- Should the local organisation be a Gram Panchayat or user group?
- Should implementation be an across-the-board legislated (top-down) kind or gradual, bottom-up kind?
- Should it be funded or unfunded?

Our review throws some light on these questions. First, it clearly shows that decentralisation does not mean complete handing over of resource ownership, but rather devolution of an adequate set of rights and responsibilities within a framework that permits autonomy on a day-to-day basis, while leaving significant tasks such as initial boundary identification, regulation and conflict resolution to higher state organs.⁴⁰ In other words, decentralisation should be seen as a process of moving from today's highly centralised governance to an *appropriate multi-layered governance system*. But it also shows that decentralisation is not just about transferring or devolving certain (existing) rights and responsibilities from one institution to another, but also *changing* mindsets about what governance is for (see Lélé, 2004).

Second, in the PRI versus user-group debate the recent trend is towards arguing that this is not an either-or question, that both institutional forms have their own advantages and niches, and what needs to be done is to work out the appropriate division of responsibilities and appropriate 'linkages' between them (see, e.g., Baumann, 1998; Ramakrishnan *et al.*, 2002; Upadhyay, 2003). Our review suggests that this approach fudges the issue. The Van Panchayats of Kumaon are not user groups (because all village residents are members), and they in fact do play some developmental role as well. And they have played this role without any funding from above!⁴¹ Their strength, however, lies in having a) a size that is workable (typically single village), b) sufficient autonomy (at least in the past), and c) capacity to generate fiscal resources of their own (the Panchayat forests, from which they can even sell produce, and the power to levy user fees). Today's Gram Panchayats lack all three characteristics. Hence, to consider a highly flawed Gram Panchayat as an alternative to user groups or committees (and then possibly reject GPs or try to link up the two) is to set up an unfair comparison. The advantages of Gram Panchayat-type structures (statutory, democratic, citizenship-based, broad mandate) can be captured; indeed, a commitment to democratic decentralisation requires that these *have to be incorporated*. But to do this requires that PRIs are drastically reformed to address the serious lacunae in their design in terms of roles,⁴² autonomy, size, and fiscal powers. At the same time, the line departments will have to discard the misconception of user groups being apolitical, since all resource related decisions involve allocating rights and costs to different users and hence are fundamental political. Indeed, the line department's role would have to be drastically revamped, since many of the inter-village regulatory roles are best performed by higher level PRIs, rather than line departments.

Third, the debate on gradualism versus one-shot legislated changes in resource governance (as raised in SOPPECOM, 2004) can be resolved again by looking at the Van Panchayat example (as also the case of WUAs in Maharashtra). Van Panchayats were not legislated into existence across all villages in Kumaon, but the legislation gave the opportunity to all

⁴⁰ The fear of handover varies across departments, with the FD being most fearful and the Watershed Department least, because it has nothing to really hand over, other than structures that it is incapable of maintaining itself anyway!

⁴¹ Van Panchayats have used their funds to build schools, roads, etc.

⁴² Shifting from implementing development programmes conceived at the top to autonomous planning, development and regulation.

villages to form them through a relatively simple and transparent procedure. Similarly, Maharashtra did not legislate WUAs into existence, but gave administrative recognition (by signing MoUs) and support to them, and in some cases incentives (preferential treatment in water supply during drought years). This gives time for capacity-building and careful formation of WUAs. At the same time, the creation of the opportunity to form Van Panchayats or WUAs represents a significant shift in the perspective of the state with regard to where it wants to go with resource governance. It also requires changes in several overlapping laws. And there are some issues that require comprehensive spatial coverage. For instance, in the case of forest management, a careful and comprehensive resettlement of forest and land rights would be an essential first step to any meaningful decentralisation of forest governance in almost any part of India. This has to be done for a state as a whole, not piecemeal. This process can also serve to inform and re-energise communities about DGNR.

Finally, this review should make it clear that decentralised cannot be achieved by throwing money at it. Changes in laws, rules or procedures do not require money. Even a state-wide re-survey and resettlement of land rights cannot be more expensive than a major irrigation project (and is potentially much more beneficial, especially to marginal communities). Financial investment in physically regenerating resources should come as the last step, on a needs-only basis. Starting with heavily funded projects, or worse, having donors force funds and agendas on the state results in limited, distorted or negative impacts, depending upon the proclivities and strengths of the implementing departments, and of course aggravate long-term fiscal problems for the state.

4.2 Larger challenges

This is not to say that institutional design and implementation are the only or most important factors in the picture. After all, many of the points made in this review have been made in various evaluations or assessments or studies of individual programmes. The reason why they have not been adopted go beyond 'ignorance' or 'bureaucratic inertia' into the political economy of development. Bureaucracies with a 150-year history of colonial and statist governance refusing to part with control over resources and 'turf' is an obvious part of this political economy. The lack of interest on the part of the political system is the second part of the problem. Even 'progressive' governments such as the Left Front in Bengal have done precious little to further the cause of properly decentralised resource governance: even they maintain the separation between FPCs and Panchayats, and even transfer of irrigation management to Panchayats is highly lop-sided (Chakrabarti, 2004). The states that are vociferous in their criticism of the centre for lack of devolution are also those that are most reluctant to devolve some of their own powers to district and sub-district level PRIs.

A larger issue is the contradiction between the idea of DGNR and the simultaneous espousal of a model of development that is based on industrialisation, globalisation and privatisation. This contradiction has emerged sharply in the recent attempts to draft a National Environment Policy for India (Lélé and Menon, 2004). A state that wants to encourage industrialisation and foreign direct investment in (say) mining or privatisation of forest lands for commercial plantations will not want hundreds of tiny Gram Panchayats to have their say in the matter of granting mining or plantation leases in forest or common lands. Indeed, the cases where the spirit and even letter of the 73rd amendment and PESA have been violated when granting such permissions are numerous (see, e.g., Sarin *et al.*, 2003). The same is true when parallel developmental programmes (such as MP and MLA-based 'local area development programmes') are sanctioned by parliament or state legislatures. Indeed, these cases lead one to the conclusion that the lack of operationalisation of these provisions is because of a conscious policy on the part of the states to keep development-related resource decisions in their own hands.

The political economy (broadly conceived) also operates at the local level. So-called village or even hamlet-level 'communities' in most India are highly heterogeneous in their cultural identities and occupations and hierarchical in their social and economic organisation. This poses an enormous challenge to any effort that seeks to truly democratise decision-making. This also points to the need for judicious campaigning/capacity-building, monitoring and incentive creation from higher levels of the state (without using that as an excuse to continue the current patronising approach towards local institutions). Thus, building a movement for decentralisation from state to village has to go hand-in-hand with building a movement for giving voice to marginal communities and marginal concerns (such as environmental concerns) within village politics.

Finally, although the role of the socio-economic conditions in influencing outcomes cannot be assessed in poorly designed or implemented programmes, it is important to keep in mind that the local communities are not always 'desperately waiting' for the task of decentralised resource governance to fall into their laps. On the one hand, the long history of centralised control and patron-client politics militates against an immediate acceptance of decentralised governance at the bottom, because people are used to having the larger state take care of their resources. Movements in favour of decentralisation will require careful nurturing. On the other, as livelihood strategies diversify and industrialisation increases, the role of natural resources in subsistence and livelihood becomes (or seems to become) fuzzier or more distant, the constraints imposed by natural resources seem less binding. Mobility of household members, especially if it is voluntary, means less opportunity or time for the 'face-to-face' negotiations that collective action theoretically requires. This will not diminish the importance of reforming the system of natural resource governance, but will certainly complicate the task. It also calls for an increased integration of natural resource governance with economic and social development planning as a whole.

4.3 Way forward?

This review suggests that decentralising the governance of natural resources in India is not going to be an easy task. For international agencies like UNDP, the room to manoeuvre is probably limited. Nevertheless, some changes in ideas and approaches can be suggested. First and foremost, it is necessary for international agencies to not get misled by the rhetoric of participation, decentralisation and 'good governance' being used by state agencies and donors in all their natural resource management projects. There is great need for rigour in the use of these concepts. There is also a need to realise that the ground level situation is very different from the tall claims being made.⁴³ Associated with this is the need to encourage rigorous analyses and evaluations of ongoing NRM programmes to understand fully their impacts and shortcomings, and to give such analyses a voice in various forums and platforms.

Second, it is important to push for the right kind of decentralisation: that which includes changes in the objectives of governance towards sustainability, equity and democracy, which is statutory and citizenship based, not user-group based, which grapples with political economy at all levels, which is multi-sectoral, and which leads to a multi-layered governance. Reforming PRI systems simultaneously with NR-related systems would be essential. Supporting a few progressive state governments to experiment with these kinds of approaches may be a feasible strategy.

Third, on the legal front, there is a need for much more work to sort out the historical complexities, conflicts and redundancies between different laws that impinge upon natural

⁴³ For instance, at the last Common Property Conference, China, India and Mexico were constantly mentioned as the big countries where decentralised or community resource management is being taken up in a big way, and the examples of JFM and PIM were being cited in support of this claim!

resource governance. However, rather than following an indiscriminate approach, it would be better to identify state governments that are receptive to these ideas and conduct such painstaking investigations with their involvement or on their behalf. The goal would be both clarifying the legal tangle and also drafting sound enabling legislation.

Finally, to the extent possible, these agencies must put pressure to stop the dumping of large funds onto DGNR 'projects'. DGNR is *not* a project or even a programme, but a radical change in the system of governance that really does not require funds but requires changing mindsets and building pressures at all levels. Withholding large funds might actually be a more effective means to pressurising government agencies. Creating platforms for discussing these ideas about alternative, decentralised natural resource governance and alternative development strategies and supporting research into the nitty-gritty of such strategies would be desirable.

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