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Re-visioning of the Watershed Development Programme in India

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From the margins of rural development practice and a limited focus on soil and water conservation, the concept of integrated and participatory watershed development and management has today emerged as the cornerstone of rural development in the dry and semi-arid regions of India. What began as a set of diverse and isolated experiments in Sukhomajri, Ralegaon Siddhi, and the Operations Research Project of the Indian Council of Agricultural Research (ICAR) was initially institutionalized in the form of the National Watershed Development Project for Rainfed Areas (NWDPR) in 1990 by the Ministry of Agriculture. Following the Hanumantha Rao Committee's report, Common Guidelines were formulated in 1994 for all watershed development programmes (WDPs) funded by the Ministry of Rural Development. The period 1995–2001 saw the implementation on a very wide scale of the first-generation projects under these two programmes. More importantly, integrated watershed development now came to be acknowledged as a core strategy for stabilizing rural livelihoods in dry and semi-arid regions.

The country has made significant investments in this approach. By the end of the Eighth 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 crore (GoI 2001a). In the Ninth Plan period, an outlay of Rs 1020 crore was provided to treat 2.25 million ha. Overall, including funds from bilateral, multilateral, and private foreign donors as well as national funds,

it is estimated that Rs 2400 crore (Farrington et al. 1999) are being spent annually since the mid-1990s on watershed development in the country. Even more ambitious plans have been made for the future—the government has set a target of Rs 76,000 crore for the next twenty-five years (GoI 2000).

Recognizing the complexity of implementing watershed projects with multiple objectives and the operational constraints on the ground, the Ministry of Rural Development appointed a Technical Committee on Watershed Development in India under the Chairmanship of Mr A. Parthasarathy to assess the situation and suggest policy measures for improving efficacy of WDPs across different agro-ecological conditions in the country. The committee submitted its report 'From Hariyali to Neeranchal' in January 2006. The Report has been widely acclaimed in different circles as a major landmark in the policy discourse on watershed development in India (Joy et al. 2006b).¹ The report also dwells on the major components of the normative framework (discussed later in the chapter) and tries to translate it into practical operational guidelines. Recently, in the Eleventh Five Year Plan, watershed development has gained additional ground, though the actual policy is yet to be firmed up. It is therefore timely to reflect on the past experience and take the policy discourse forward, going beyond specific project guidelines of the different programmes, and explore possibilities of establishing better linkages between biophysical, socio-economic, and institutional aspects of watershed development in the larger context of promoting natural-resource-based sustainable livelihoods. This context is essential because watershed development, as a concept, is relevant to various sectors, programmes, and areas that deal with natural resource development.²

Notwithstanding the growing recognition of these conceptual linkages, the Approach Paper for the Eleventh Plan reiterates a fairly rudimentary view on watershed management (rather than development) as a means to enhance availability of water in rain-fed areas and thereby increase productivity of land and generate sustainable increase in employment in these areas (Planning Commission 2006). Evidently, despite the recommendations of the Parthasarathy Committee, the issues of equity, sustainable use of natural resources, and strengthening of local institutions, as important and interconnected objectives, are yet to enter the mainstream discourse on watershed development.

In order to bridge the policy gap, the Ministry of Rural Development has made proactive efforts to evolve common guidelines that try to address the normative concerns and incorporate many of the recommendations of

the Parthasarathy Committee.³ While this initiative will help internalize relatively less emphasized concerns such as equity, sustainability, and democratic decentralization, it is imperative that the next stage of policy formulation brings a much more nuanced notion of integrated natural resource approach to watershed development. It is in this context that the subsequent sections discuss some of the finer aspects of the normative framework—conceptually and operationally—in the light of experiences from various watershed projects in the country.

EVIDENCE FROM THE FIELD: THE IMPENDING PROBLEMS

The results of the widespread implementation of watershed development programmes appear to be rather mixed. There is certainly evidence of positive impact in terms of improved soil and water conservation and agricultural productivity in normal rainfall years (Kerr et al. 1999; Karanth and Abdi 2001; Reddy et al. 2001). On the other hand, several individual studies (for example Kerr et al. 1999) and reviews (for example Joy et al. 2004; Shah 1998) show that there are also likely to be serious limitations even in the 'model' heavily funded and intensively managed programmes. We next discuss some of these limitations and the reasons for the same.

The Limitations

Some of the limitations are:

- Productivity gains are often limited and temporary. The mid-term appraisal of the Ninth Plan programme by the Planning Commission, (GoI 2001b) shows that in watersheds surveyed in Maharashtra and Andhra Pradesh, the productivity gains did not last more than two years (Soussan and Reddy 2003).
- Landless and marginal farmers often benefit only peripherally and only a small fraction of the funds is being utilized to support livelihoods of poor and landless families (Soussan and Reddy 2003) and very often commons are closed to them (Kerr et al. 2002).
- Common lands do not get adequately treated (Shah 1998), and revegetation does not take place as expected as the survival rate of plantations is often below 50 per cent (Joy et al. 2004).
- Domestic, livestock, and ecosystem water needs often do not get addressed as the increased water is mostly used for irrigation. Of course there is also evidence that the time spent on fetching water has reduced in certain cases as a result of watershed development (Reddy et al. 2001).

- Downstream impact of intensive upstream water conservation is not being considered though there is some evidence to show that downstream water bodies are being impacted. Also, the gains from recharge of groundwater are rapidly dissipated through increased withdrawal and there is absence of regulation of water withdrawal and use (Batchelor et al. 2000a; Batchelor et al. 2000b; Batchelor et al. 2002).
- People's participation is limited to the implementation stage and to certain participatory techniques like PRA; concerns of the resource-poor sections do not get reflected in the 'participatory' plans; often there is no building of institutions for long-term collective governance and management of resources (Kolavalli and Kerr 2002; Ramakrishnan et al. 2002; Joy et al. 2004).

The Reasons

These findings seriously question the sanguine approach in popular and policy-level discussions that treats watershed-based development as the new panacea. The reasons for these shortcomings are several, and exist at different levels. In particular,

- Excessive focus on engineering structures; social processes and institutions are either ignored or de-linked from the biophysical interventions.
- Inadequate knowledge of local biophysical conditions, poor technical analysis, and no integration of local knowledge.
- Issues of water management or rural domestic water supply needs are typically not addressed.
- 'Self-help groups' (SHGs) and 'user groups' are promoted without addressing deeper issues of democratization and empowerment.
- Lack of transparency on the part of implementers and rigidity of guidelines.
- Multiplicity and fragmentation of programmes even after adoption of the concept of 'integrated' watershed development. Potential advantages of convergence and synergetic effects are lost.

Sustainability of Biophysical Changes and Its Relationship with Livelihoods: A Neglected Parameter

Biophysical aspects and how they interact with socio-economic aspects have not received much attention both from the practitioners and researchers. Though a number of studies from different viewpoints have been carried out, the biophysical changes on which watershed interventions

are actually premised are often studied cursorily or the biophysical assumptions driving the watershed programme are taken as given. Sustainability of these biophysical changes and its relationship to sustainable livelihoods do not seem to have received much attention. For instance:

- Watershed development converts surface flows to groundwater stocks. In India, surface flows are generally considered common pool resources, but groundwater is an unregulated, private access resource. Hence, in the absence of appropriate institutional arrangements, the WDP could end up privatizing common pool resources and concentrating their ownership in the hands of those who can exploit them.
- Increased water harvesting may often be accompanied by increased use of water, leading eventually to depletion of aquifers and decline in agricultural output.
- Once agriculture becomes water- and other input-intensive, agricultural water use acquires higher priority and this may result in shortages of water for drinking and domestic use, or force a shift to deeper aquifers leading to problems of salinity and toxicity.
- While individual micro-watershed interventions may not affect downstream water availability significantly, the cumulative effects of treatment of a contiguous set of micro-watersheds can be significant.

The recent policy initiatives mentioned earlier have focused on financial, procedural, and institutional aspects of a policy to overcome many of the constraints and limitations of the projects. Some critical issues however, need to be re-emphasized to help evolve a comprehensive perspective on what watershed-based development can attain and what needs to be strengthened through greater convergence across watershed and other related projects, line departments, and implementing agencies.

RE-VISIONING OF WATERSHED DEVELOPMENT PROGRAMMES: SUGGESTIONS TOWARDS A NORMATIVE FRAMEWORK

It is necessary to state upfront that small changes in existing guidelines and policies will not help in actualizing the full potential of the WDP. A radical restructuring and reorientation of the programme is needed—a reorientation that might be best described as a shift from ‘integrated and participatory watershed management’ to ‘integrated and decentralized resource governance’. The necessary ‘re-visioning’ of the watershed

development programmes is discussed below in the form of a suggested normative framework.

The Evolution of Watershed Development Concept and Goals

From soil and water conservation to watershed development and beyond

Catchment protection programmes and soil and water conservation programmes were the precursors of watershed development. Catchment protection programmes looked upon the watershed as a unit, but the focus was mainly on reducing sediment load and siltation of reservoirs. Soil conservation programmes aimed at conserving fertile soil through bunding, but the bunding component operated with the farmer’s field as a unit and lacked any larger unit of organization. Check dams and other waterline treatment carried out for water conservation were taken up in an isolated manner without being integrated into a watershed-scale programme.

With the emergence of watershed development as a distinct programme, soil and water conservation acquired a unit of organization—the watershed. Soil and water conservation are still central to watershed development, and other components such as afforestation and common land regeneration or agronomic changes are linked to this central theme. However, more recently, watershed development is also being seen more and more as a core strategy for stabilizing rural livelihoods, especially in the dry, rain-fed regions of India by everybody concerned: governments, donors, and NGOs.⁴

From production to ‘sustainable development’: livelihoods, sustainability, equity, gender, and participation

There is also an increasing shift in the goals of watershed development. Earlier, along with soil and water conservation concerns, there was a preoccupation with production goals and targets. There is now increasing attention being paid to issues like (a) how the increase in productivity is brought about, (b) what happens to the biophysical system and processes, and (c) finally how does it contribute to the quality of life. Terms such as participation, gender, equity, sustainability, and livelihoods are now much more prominent, if not commonplace, in the watershed development literature. These concerns are increasingly reflected in the provisions of the various guidelines (for example the 1995 Common Guidelines) issued by the Central government concerning WDPs.⁵

Preliminary Concerns

Sustainable productivity enhancement and security/stability of livelihoods

In a country like India where the vast majority of population—farmers, agricultural labourers, adivasis, pastoralists—has been historically dependent on natural resources for their livelihoods, 'development' will have to be based primarily on long-term sustainable productivity enhancement of and economic value addition to the natural resource base. Moreover, in the dry or drought-prone regions of the country, development is not just about raising the average productivity of resources, but also about increasing the 'certainty' or reliability of production and the consequent security of livelihoods that are often threatened or undermined by drought.

Interconnectedness of the biophysical and the social

The interconnectedness of the biophysical and social is intrinsic to the concept of watershed development and the final outcome of any intervention is a combined effect of both. The watershed is an ecosystem comprising all biophysical processes within the watershed and their interactions with the larger systems, and biophysical interventions constitute modifications of these processes. However, the same processes and interventions are also simultaneously social processes. Biophysical and social interventions are not two *separate* processes, but aspects of the same unified process.

Moreover, historically determined processes and factors inherent in the situation within the watershed also interact with the biophysical and social interventions and may be crucial in determining the acceptance and implementation of technologies and rules for resource use. It is important to understand the social and historical context of intervention to fully comprehend how the ecosystem processes generate indirect impacts on different groups over different temporal and spatial scales.

A dynamic framework

Ideally, allocation of funds, processes and institutional arrangements, and the expected outcomes have to be worked out in the light of a dynamic conceptual framework. A tentative outline is presented in Figure 9.1 The framework suggests that the effectiveness of watershed development is governed primarily by three sets of factors: (i) techno-economic parameters in given agro-climatic conditions; (ii) property rights regime and intra-community distribution of land and other resources; and (iii) policy

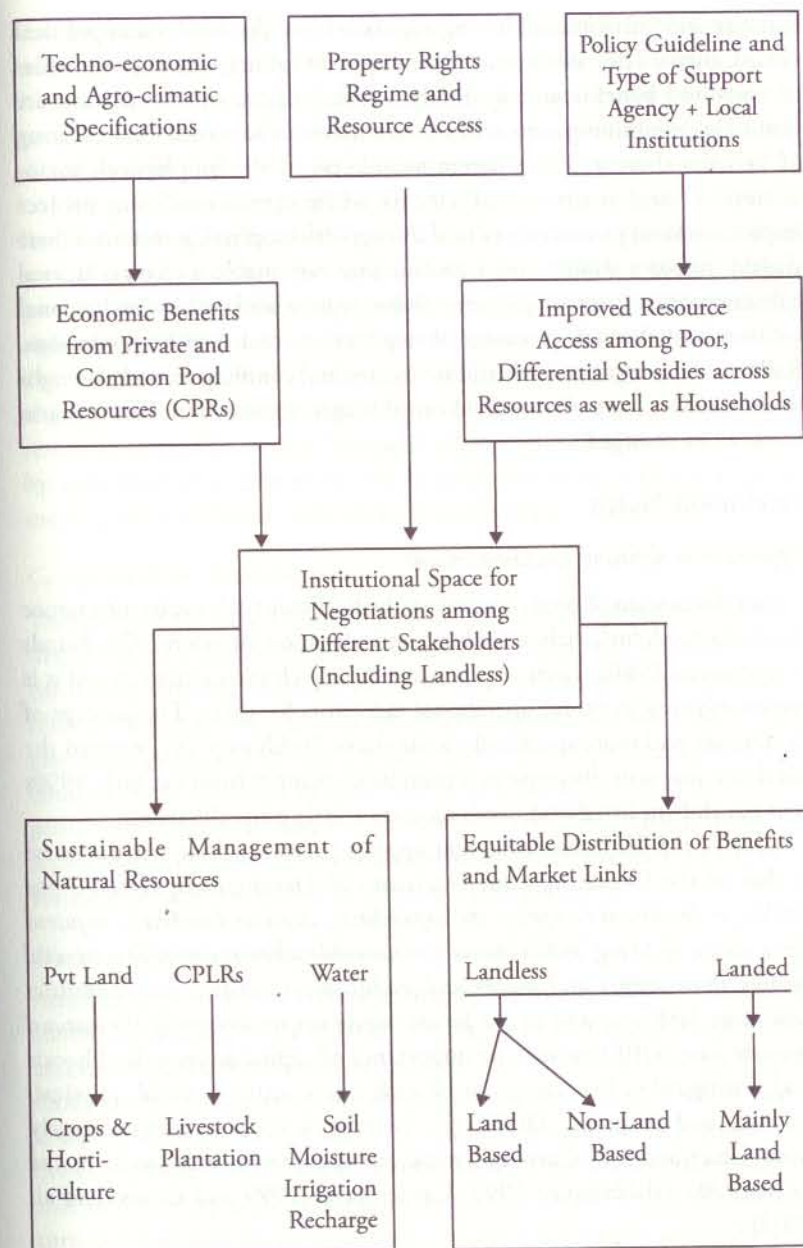


FIGURE 9.1: Conceptual Framework for Watershed Development Dynamics

Note: CPLRs—Common Property Land Resources

Source: Shah 2004.

support and institutional arrangements within the local socio-political environment. They also form the local context for negotiations over issues of costs and benefits among different stakeholders, which, in turn, are critical in determining outcomes like treatments to be carried out or sharing of benefits thereof. The interconnectedness of the biophysical, socio-economic, and institutional aspects while operationalizing project implementation processes is critical. Along with biophysical measures there should unfold a simultaneous process that can enable a change in local context with respect to property rights regime and policy-institutional environment through processes of negotiations and conflict resolutions. Such space for negotiations is seldom created and conflicts are rarely brought to the surface, leave alone sorted out through negotiations. This scenario needs to be changed.

Livelihood Needs

Approach to defining livelihood needs

Earlier discussions of needs centred on the fulfilment of basic or subsistence needs like food, fuel, shelter, clothing, and education (Streeten 1979; Brandt Commission 1980). Their requirements have a clear connotation and it is reasonably easy to evolve operational indicators for them. The concept of livelihoods and more specifically 'sustainable livelihoods' (SL) entered the rural development discourse in a prominent manner from the early 1990s and the shift to livelihood needs requires a little more discussion.

One of the SL frameworks that appears prominently in the discourse is that of the Department for International Development (DfID). For DfID, 'A livelihood comprises the capabilities, assets and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base.' DfID stresses the importance of capital assets to livelihoods and distinguishes five categories of such assets: natural, social, physical, human, and financial. DfID's SL framework itself is derived largely from Chambers and Conway's work on 'sustainable livelihoods' in the early 1990s. (Bebbington 1999; Carney et al. 1999 and Conway et al. 2002)

'Livelihood needs', in the sense the term is used in this chapter, include the basic needs of food, shelter, and clothing but in addition also include needs that are imposed due to the nature of the livelihood activity. For example, farmers would require means of tillage, and would have to satisfy

this need either through maintaining a pair of bullocks, or sharing a pair with someone else, or else having enough cash to hire a pair or a tractor. Unlike some strict subsistence frameworks, it also takes into account certain need for surpluses over and above consumption needs that can be exchanged directly and/or through value addition for other needs.

One key difference between the SL frameworks and the notion of livelihood being put forward here is a higher premium placed on *natural capital* as compared to other forms of assets or 'capital', especially where people are primarily dependent on natural resources. This implies that rights to land and water must become a basic consideration in such a livelihood strategy, so that the issue of clearly recognizing the need to negotiate favourable and equitable access rights at least over the *additional* resources created (in terms of annual flows—whether it is water or biomass) by watershed development, is seen as an important part of a strategy for meeting the livelihood needs of the resource poor.

Composition of livelihood needs

Therefore, in the rural Indian context, particularly in drought-prone areas, the minimum livelihood needs would then comprise domestic water (including drinking water and water for livestock), food, fuel, fodder, some biomass input to the agricultural system to maintain soil productivity, minimum goods and services important for well-being that may have to be obtained from the larger system (health, education, entertainment, transport, communication, and similar services), and, additionally, minimum access to natural/productive resources—land, water, livestock, or any other resource or facility required by the livelihood pattern.

Norms of meeting needs: produced versus purchased

Another normative issue is: how many of (and to what degree) these needs should be fulfilled locally in kind? It is suggested that at least food, fodder, and fuel requirements should, as far as possible, be produced locally. Buying food, fodder, or fuel from distant areas with cash sets up a chain that is liable to break at many points. For example, generation of requisite cash does not ensure it will be spent on those needs. There is a distinct possibility that it may be squandered on something else.⁶ Or the terms of trade may turn more and more unfavourable.⁷ Moreover, in most agro-ecological conditions obtaining in the country, it is possible and desirable to do so at watershed level. In exceptional situations where self-sufficiency in these needs may not be possible, a degree of self-reliance, that is satisfying locally a substantial component if not all of the requirement, is considered

possible and desirable, while the rest of the needs should be met from a kind of production that could be exchanged on equal terms with the larger system.

Quantifying need: consumption norms and scales

The normative framework implies estimation or quantification of needs. It has been suggested that biomass could be used as a common measure to quantify these needs for the purpose of overall productivity planning. Studies show that a minimum upper bound productive potential of about 15 to 18 T (dry weight) annual biomass increment is sufficient to meet all the livelihood needs discussed earlier, including estimated minimum cash requirements for a farmer family of five persons (Paranjape and Joy 1995; Datye 1997; Paranjape et al. 1998).⁸ Similarly if such assessments are carried out only at village level, they may hide significant intra-village variations in both needs as well as their satisfaction. There is a need to simultaneously assess the household-wise fulfilment of livelihood needs.⁹

Sustainability

Terms like sustainability and sustainable development are being used very widely for very different things: from a purely economic sense equivalent to the withdrawal of all state subsidies and support to a strictly environmental sense.¹⁰ However, we suggest that the use of the term sustainability be restricted to the specific sense of environmental sustainability as mediated by human intervention.

Sustain what: products or underlying biophysical processes?

According to the World Commission on Environment and Development (WCED), 'Sustainable development is development that meets the needs of the present without compromising the ability of the future generations to meet their own needs' (WCED 1987). The key point of debate has been what exactly has to be conserved or sustained so that the 'ability of future generations' will not be 'compromised', and it is suggested that maintaining and/or enhancing the productive and assimilative potential of the ecosystem be the criterion of sustainability. Therefore, in the context of watershed development, one is talking about sustaining the increased productivity and availability of various resources that is supposed to result from the interventions.

However, this sustainability is dependent on the underlying biophysical processes, and it is important to be proactive and focus on what is happening to the underlying processes rather than wait for it to show up in effects on

visible production.¹¹ Some of the operational norms that logically follow from such considerations are as follows:

- Use water within renewability limits
- Minimize import of water, do it in a fair manner
- Use uncultivated resources within renewability limits
- Maintain/enhance soil resource quality and potential
- Increase diversity of crops and crop practices, and agro-ecological processes
- Shift from high-input-based agriculture to 'low external input-based sustainable agriculture' (LEISA)
- Maintain balance between cropped and non-cropped lands
- Increase the component of local, renewable, and energy efficient materials, especially in construction of structures
- Plan for higher degree of dependability and assuredness (sustainability as dependability)

Equity

Different dimensions: class, caste, ethnicity, gender, and offsite impact

The satisfaction of livelihood needs depends crucially on who has access to how much and what kind of productive resources. It is suggested that there are two dimensions of equity that need to be considered. The first is 'the concern about the intra-generational distribution of human well-being across typical barriers of class, ethnicity, and gender, etc., including concerns about fairness of outcome as well as processes' (Lele 2002), and it is related to the historically embedded inequalities.¹² This implies the need to disaggregate the 'local community' in terms of different social sections (class, caste, ethnicity, gender, etc.) and see the differential impact on them. The gender dimension adds one more layer to the issue—a need to go below the household level and see what the impact on women within the households are.¹³

The second dimension emanates from spatial or locational inequalities and is embedded in the biophysical characteristics of the watershed. Especially in the case of water, location in the watershed often determines access—people who own land in the valley portion benefit most from the augmented resource. The issue of upstream–downstream differences also crops up as a matter between adjoining watersheds, between upstream and downstream communities, right up to differences at the level of the river basin. Given the fundamental asymmetry (activities of upstream users can

affect downstream communities, but not vice versa), the question of what constitutes fair or unfair behaviour by upstream communities or equitable allocation of resources or benefits between upstream and downstream communities crops up immediately and needs to be carefully addressed at all levels: within the micro-watershed, across watersheds, and across the entire basin.¹⁴

Water use prioritization: inter-sectoral equity

Water needs to be seen as a common property resource and managed and regulated collectively in order to ensure equitable and regenerative use. This implies making distinctions about water use and treating different uses differently. First it implies prioritizing water use. Broadly, the priority in most areas would be: drinking water; water for domestic use and for cattle; water required for ecosystem regeneration and livelihood activity; and surplus/extra water that could be used for cash or commercial crops. The principle here is that water should become available to the next category of use only after the first use is assured.

Contextualizing equity in watershed development

Equity thus implies that we take into account the impact of watershed interventions on *all* these dimensions of equity.¹⁵ It demands ensuring a fairer distribution and privileged access to the resource-pool of resource increments at least, though the details may differ from situation to situation. In view of the asymmetries in watershed processes (for example those between surface water and groundwater, between upper and lower reaches, between downstream and upstream), it also becomes important to realize that often these asymmetries map on to and accentuate historical inequities of access to productive resources because (a) more land in the upper reaches is owned by the poor, in the lower reaches by the rich and upper castes, (b) watershed development augments groundwater, which is currently private property and can be tapped much better by the rich and the landed, less by the rural poor, and not at all by the landless, and (c) in any case, increased availability or assurance of water does not directly benefit the landless in the normal course of affairs.

Therefore, unlike concerns in respect of environmental sustainability, which watershed development per se is likely to enhance, we are likely to find that there is nothing *intrinsic* in watershed development to take care of inequity. The implication is that if there is no proactive element of equity built into the programme it only succeeds in accentuating inequity.

Water: local or non-local resource?

It is important to recognize that water is both a local and non-local resource. Water flowing down from upstream watersheds is the basis of livelihoods in the downstream regions and modifying water regimes in any watershed ultimately has *basin-wide* implications, positive as well as negative. Because watershed development deals with watersheds at micro-watershed level and tends to treat and manage them as independent entities, their interdependence and the downstream effects appear as 'externalities'. It is in the way we define our boundaries that it becomes so—because water is both a local and exogenous resource. And so, while slogans like '*gaonka pani gaonme*' ('keep rain that falls in a village within the village') may help conserve water, they go against the grain of collective regulation and control of water resources. While we can argue for full rights of local communities over the resource in the case of many other local resources, the same cannot be said about water.

Recognizing that the impact of watershed development extends beyond the treated watershed along with a commitment to equity means ensuring inter-watershed or basin-level equity as well. Here, our normative position is that every community has a right to water as part of its right to assured livelihood. This implies that the local communities should be assured of adequate access to the water necessary for their livelihood—from local *as well as* non-local or so-called exogenous sources together. Equally important in this respect is the principle of equitable sharing of shortages and surpluses. Without such a viewpoint, we cannot expect downstream–upstream conflicts to be resolved.

Watershed also creates conditions for a positive sum game

In spite of its asymmetries, watershed development has imminent potential for equity, though it may be realized only where strong proactive initiatives exist. Watershed development results in enhancement of ecosystem resources and productive potential that takes place on the basis of public funds and through collective, community effort, making it possible to argue that *access to the additional resource* that has been created be *assured equitably* to everyone in the watershed, even while recognizing and leaving prior right to previously existing resources largely undisturbed. Thus, without greatly disturbing prior rights and use, potential access to productive resources for the rural poor could be created by watershed development. It creates the possibility of providing equitable access within a positive sum game framework.

Participation and Democratization

Participation: Both a goal and a means

Over the last two decades or so participation (variously seen also as collective action, community-driven development, decentralized governance, etc.) has gained increased currency both in developmental practice as well as in CPR research and literature. This increased awareness draws from different sources and standpoints: (a) critique of the centralization of power in the bureaucracy and alienation of local communities, (b) disenchantment with the top-down approach, (c) increasing aspirations, awareness and demands from the 'subalterns' for their share both in political space as well as in the benefits of development, and (d) donor agency prescriptions. Hardin's 'Tragedy of the Commons' in a way forced the CPR research community to look at the question of community and community control and institutional issues much more closely and this has given rise to a vast literature which also brings out the different strands, trends, and nuances of the problem.¹⁶

Participation of the local communities or resource users is also seen as a means to achieve certain goals. For example, Water Users' Associations (WUAs) are being formed primarily to increase efficiency of collection of water charges and water use, or Joint Forest Management (JFM) committees are formed for the protection and 'sustainable' use of forest resources. Here participation is a means to achieve a goal, often set by the state or an outside agency: an instrumentalist viewpoint on participation. However, participation may be valued for its own sake and participatory mechanisms and tools utilized to move towards greater self-governance. We see participation as *both*, a goal of the developmental process, as well as means of more equitable, sustainable, and efficient outcomes.

Democracy within local communities

The quality and nature of participation within the community in democratic local governance depends to a great extent on the characteristics of the local community itself. Given that rural Indian communities are often highly differentiated, simple transfer of decision-making power to 'the community' may well hand over decisions to the dominant sections within the community¹⁷ and may not ensure regenerative and equitable use. There is therefore a need to recognize the heterogeneity (both horizontal and vertical) within the local community while forming the various institutions and the need for proactive measures so that space is created for all sections to participate in and benefit from the process.

Outsiders' role

There is no example of watershed development that is initiated, funded, and managed purely by local communities. In almost all watershed programmes in India, outside intervention plays a major role in the funding, implementation, technical guidance, setting up of different organizations, etc. We clearly recognize the role of outsiders and consider it important to spell out clearly what should be that role and the relationship between the local community and outsiders.

Basis of collaboration with outsiders

Informed participation, livelihood assurance, regenerative use, and equitable access should be the foundational objectives of the collaboration between the community and outside agencies. The latter two concerns do not emerge spontaneously and, even if they do, they seldom acquire foundational importance, unless conscious attempts are made to address them as issues and this often requires the intervention and support of outside agencies. Outsiders and public funds may have a proactive role to play in these matters by ensuring that transfer of decision making and mobilization of public funds to the 'community' are contingent on the disadvantaged getting a fair share of the benefits, on their getting a greater voice in the decision making, and on the 'community' ensuring regenerative use of ecosystem resources.

Two-way capability building—the key role of the outsiders

It should also be emphasized that the process described is a two-way process. It is important for the outsiders not to start off with any preconceived ideas about what *form* the foundational objectives of the collaboration may take in social arrangements and actions. It is rarely that a community, its history, and its ideas will not incorporate regenerative relations with their surroundings and value people's control over their own lives in some manner, though they may be circumscribed by constraints of social structure and history. It is important for outsiders to identify and build on these traditions. The foundational objectives may then be seen as an amplification and extension of principles imminent in these traditions and social forms. Without such an understanding and learning from the community it is well-nigh impossible to make any headway towards informed consensus on sensitive questions.

Though it may take different forms, one of the key roles of the outside agency should be that of capability building for the realization of the foundational objectives of this collaboration, of providing information

and offering a forum for discussion of issues. It should become the conduit of communication of such experiences and the possible options that people elsewhere may have tried out and help the community arrive at a consensus. Outsider intervention should be oriented towards participative experimentation with and adoption of regenerative practices. It is our experience that local communities do change their choices in the light of new information and experiences if these are discussed and a consensus formed before rights and interests are indiscriminately created through premature biophysical interventions.

The role of the outsider may thus be summed up as that of a two-way capability enhancement. It involves bringing together the knowledge that already exists within the community through a participative process of resource awareness and mapping and also making the data and information collected by the scientific establishment and government agencies available to the local communities, enabling local communities to evolve a qualitative and quantitative understanding of their ecosystem resources and make informed choices between different options.

Accountability of larger structures and agents to the local community

The relationship between the local and outsider also calls for greater accountability and transparency on the part of the outside agency to the local communities in many ways. First, it is important to state clearly the overriding concerns and goals of the outsider agency and engage in a dialogue on the foundational objectives to understand convergences and divergences and define a mutually agreed basis for action. This will make for better participation as well as better performance. Second, financial transparency is of paramount importance and the outside agency should openly provide information regarding the funding sources, the quantum of money that is coming in, and also the way the money is to be spent. Keeping the accounts open for public scrutiny can ensure financial transparency and accountability. Third, in recognition that the outsider agency may be in an advantageous position because of various factors, it is important for the outsider agency to evolve mechanisms to 'democratize' the relationship between outsider agency and the local community.

What the WDP Can and Cannot Do:

Overcoming Limitations

It is important to realize that while the WDP can go a long way towards providing a base for livelihood *assurance*, by itself it may not be able to provide that assurance for a variety of reasons.¹⁸ This does not mean

removing livelihoods from the WDP agenda in favour of soil and water conservation in the name of what is 'doable', but implies clearer understanding of how far the WDP by itself can go in sustainable livelihood enhancement of the poorer sections of the community. This will help planners as well as practitioners articulate clearly how and in what manner it should be integrated with other schemes.

However, how far the WDPs can go in providing livelihood assurance for the rural poor or in ensuring environmentally sustainable resource augmentation and use is dependent on how clearly these goals are articulated and how they are incorporated into WDP practice, otherwise it will revert to the old concept of soil and water conservation, with a bit of drinking water and common land regeneration thrown in. It is therefore important that the new set of guidelines to come should reflect the developmental dynamics underlying the WDP, and supply a firm normative framework followed by clear statements of the outcomes expected at the end of project implementation period as also how potential outcomes can subsequently be realized in the long run.

NEED FOR CONTINUOUS EVALUATION AND FEEDBACK

The main purpose of the foregoing discussion on the re-visioning of the watershed development programme in India has been to bring together the various dimensions of watershed development under an overarching perspective of equitable, productive, and sustainable development. The proposition that such a vision of development is feasible itself needs continuous evaluation and an active feedback system. The question is not so much whether watershed development is a desirable approach or not, it is rather that of identifying critical issues that will make it work and realize its potential which will need constant reflection and innovation. Seeking practical answers necessitates a two-pronged approach: conceptual formulations and building up a wider consensus around these formulations amongst the stakeholders on the one hand, and the translation of these into policy guidelines and setting up of practical targets on the other. This may then help identify further linkages and coherence with other related interventions in the field of natural resource-based initiatives. The Forum for Watershed Research and Policy Dialogue (ForWaRPD) in its submission to the Parthasarathy Committee has tried to work out how such a restructuring in consonance with the normative framework discussed in the foregoing pages could be done (for details see Joy et al. 2006a). However, there is no final word on concepts or on practical wisdom. The process therefore has to continue. We see our initiative under ForWaRPD as one

of the numerous building blocks needed to keep this discussion going and we welcome suggestions and active debate on the issues raised in the chapter.

NOTES

1. Also see Vaidyanathan (2006), Shah (2006), Joshi (2006), and Ambasta (2006) in the Symposium on Overhauling Watershed Programmes in the *Economic and Political Weekly*, vol. 41, nos 27 & 28.
2. For instance, watershed development appeared in the discussion in a number of Working Groups set up for formulation of the Eleventh Plan; obviously it assumed special importance in the theme on Natural Resource Management.
3. It may be noted that the issue of equity was highlighted as one of the most important concerns to be deliberated upon by the Working Group on Natural Resource Management.
4. For a detailed discussion on the evolution of the watershed programme since the early 1930s refer to Shah (1998).
5. This is not to say that there are no problems with the guidelines. In fact there has been a fair amount of criticism about the Revised Common Guidelines (2001) which were further revised (known as Hariyali) and became applicable from 1 April 2003. In the Hariyali guidelines, though the alleged aim is 'to further simplify procedures and involve the Panchayati Raj Institutions (PRIs) more meaningfully in planning, implementation, and management of economic development activities in rural areas', the main criticism has been that there has not been enough devolution of powers and also that the space of the NGOs, CBOs, etc., has been reduced. For a detailed discussion refer to Shah (2003) and also the WASSAN website, www.wassan.org for related material on Hariyali—workshop reports, recommendations, consultations with CBOs/PRIs/NGOs, and concept papers on Hariyali.
6. In some of mines in Madhya Pradesh, women from miners' households waged a struggle and forced the management to pay half of the wages directly to the women in the household!
7. For some of the issues related to trade and sustainability at macro level see Lele (1993).
8. This approach could broadly be called the biomass-based productivity planning approach. It tries to tie together both the sustainability and livelihood needs. Livelihood needs of a typical family are then estimated in terms of biomass equivalent and it may be shown that if a family of five can produce or get access to about 18 T of biomass (dry weight) in a year then it can meet all its needs comprising food (2 T), fodder (5 T), fuel (2 T), recirculable matter for the agriculture system (6 T) for ensuring sustainability, and surplus biomass for cash income (3 T). However, what is emphasized in this chapter is the biomass approach rather than the specific figures.
9. Given the likelihood of gender-based discrimination, there is also need to go one more step below and disaggregate the household and see what is happening to women within the household.
10. See Lele (1991) for a review of the 'sustainable development' discourse and Lele (1993) for a detailed discussion of the concept of sustainability.
11. One way to understand this, as Lele puts it, is by looking at what is happening to the physical attributes of the system (like dynamic steady state, reliability, resilience, and adaptability) and how certain changes affect these attributes. For example, how do certain shocks like droughts affect the biophysical processes and the ecosystem's (non-)ability to cope with such shocks (Lele 1993). Another way of understanding these underlying processes from sustainability point of view is to see whether the primary productivity of that ecosystem is maintained and enhanced through the types of interventions we make (Paranjape and Joy 1995); (Datye 1997). To operationalize the notion of sustainability, Shah et al. (1998) have given some basic guidelines: (a) The rate of regeneration of a renewable resource must be greater than or equal to the rate of harvest; (b) waste emissions should not exceed the renewable assimilative capacity of the micro-environment; (c) the rate of exploitation of non-renewable resources must always be less than or equal to the rate of creation of renewable substitutes; (d) in case an existing renewable resource is to substitute for a depleting non-renewable resource, the rate of harvest of this resource must be strictly less than its rate of regeneration, to the extent necessary to permit this substitution.
12. Shah (2003) clubs all these inequalities under the umbrella term 'historically disadvantaged'. For a detailed discussion see Shah (2003).
13. For some of the critical issues related to gender and development see the discussion on the major trends in gender and development writings in Kulkarni and Rao (2002) and Joy and Paranjape (2005).
14. For a detailed discussion of the asymmetries in watershed and other ecosystem processes see Lele (2002) and Kerr et al. (2002).
15. For a critical review and detailed discussion on the issue of equity in the context of common property resources (CPR) research see Menon (1999).
16. For a detailed discussion on the major trends and issues in the CPR research over the last thirty years since Hardin's 'Tragedy of the Commons' see Dietz et al. (2002).
17. There is a growing literature that argues that pre-existing inequities within local communities would distort the outcomes. This literature challenges the earlier assumptions that village communities are relatively homogeneous in their interests and cohesive in their relationships with each other and deconstructs the 'local community'. Some of the writings include Agrawal (1997), Menon (1999), Mosse (1997), Shah (2003).
18. For example, in the arid zones/severely drought-prone areas it may make a difference in better years, but may not be able to be of as much help in the bad years. There is a possibility that such areas may need import of and dispersed access to exogenous water to supplement local water systems and ensure basic needs. Similarly, the WDP creates a potential preferential access to the resource-poor that may be acceptable to the resource-rich because the resource cake increases for everyone (positive sum game), yet may not fully

achieve livelihood goals by itself. Lack of consistent and proactive approaches and high incidence of landlessness could both prove serious limitations. Even in areas where it offers substantial benefit to the rural poor, the WDP may not be able to ensure full employment for all and may need to be supplemented by an alternative approach to non-farm incomes in order to provide livelihoods for all.

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