



PARTICIPATORY WATERSHED DEVELOPMENT AND ITS IMPACT ON LIVELIHOODS IN INDIA

Mr. Sandeep S. Tadakhe

(Assit. Professor)

Dr. C. U. Mane

(Asso. Professor & HOD)

Balasaheb Desai College, Patan, Dist. Satara, (MH).

ABSTRACT

The watershed development (WSD) programmes being supported by the Government of India are one example of this. Microwatershed development is currently attracting over £300M/yr of central government funding with numerous projects being implemented through NGOs. Approaches to assessing the success of WSD in India have evolved over time. This paper uses the sustainable livelihoods approach to take a fresh look at the impact of WSD on rural livelihoods. It focuses particularly on questions relating to the extent to which WSD activities result in the creation of new livelihood opportunities and to extent to which these opportunities are both equitably distributed and sustainable. In terms of livelihood strategies, WSD can open up new opportunities by supporting agricultural Intensification processes. The subsequent increases in crop intensity can also potentially lead to the creation of labour opportunities. This paper demonstrates that a livelihoods perspective can be used to encourage a more explicit analysis of the ways in which WSD directly and indirectly affect people's livelihoods. It encourages a broader and more structured assessment of impacts relevant to the poor. This can help practitioners and policy-makers to adjust their approaches and so enhance poverty impacts. The paper concludes with an assessment of how successful WSD has been as an instrument for reducing rural poverty, and provides some suggestions on how the impact of WSD on livelihoods might be enhanced.

Key Words : Microwatershed, Livelihoods, Intensification, Participatory.

INTRODUCTION

In India millions of rural poor and marginal farmers rely on degraded land and tainted water resources. Often they struggle to manage with a diverse array of agro-climatic conditions, various production and market risks. It is estimated that the rate of land degradation in rain-fed areas in India in the 1990s is likely to have proceeded at more than twice the rate observed in 1980s, basically on account of soil erosion from run-off. Under such a scenario, the challenge is to manage land and water in a sustainable manner to achieve higher productivity levels, husband resources for future generations, and derive livelihoods in the most equitable manner possible. Farmers with small holdings, livestock keepers, forest users, and others who derive livelihoods from land and water find that watershed is one of the significant approaches for their economic development. Claims are being made that watershed management would ensure supply of water to every field, remove hunger and poverty from underdeveloped rural areas, provide green cover over denuded areas, bring in more rains and improve environment. In terms of livelihood strategies, WSD can open up

new opportunities by supporting agricultural Intensification processes. The subsequent increases in crop intensity can also potentially lead to the creation of labour opportunities. There are important intra-household dimensions to intensification strategies. While increases in agricultural productivity might occur as a result of WSD, men usually appropriate on-farm gains and the increased drudgery is disproportionately borne by women. NGO projects have paid specific attention to providing opportunities to the poor to diversify, often through the formation of self help groups for women, the landless and other marginal groups. These groups undertake a number of activities ranging from traditional crafts (such as leaf plate making; weaving and basket making), mushroom cultivation, forestry activities and so on. However artisanal products generally face inelastic demand, so that the scope for any increased contribution to livelihoods is likely to be limited. As well as assessing the new opportunities arising from WSD it is also important to consider the issue of the compatibility of WSD with existing livelihood strategies. The importance of this is perhaps best illustrated by looking at migration, which is one of the most important means of diversifying rural livelihoods for the poor in India. WSD involves the establishment of new institutions such as watershed committees; migrants – generally the poorest – are often absent from villages and so tend to be marginalised from decisions on resource use. Overall, it is acknowledged that watershed-based approaches can lead to substantial improvements in rural livelihoods. However, they are not a panacea: productivity gains in pilot projects have not been achieved to the same extent on a wide scale and the links between productivity gains and livelihoods is complex and poorly understood. Overall the paper urges a note of caution over the potential role that WSD can play in enhancing livelihood opportunities for the poor. Of most concern is that achieving these productivity gains can actually work against the livelihood strategies of certain groups. Undoubtedly, to achieve distributional equity is the most difficult challenge. An adequate distribution of benefits (poor / better-off; men/women) relies on exceptionally careful and continuing vigilance.

OBJECTIVES

1. To study how successful WSD reducing rural poverty.
2. To study the impact of Participatory watershed development on livelihoods.

DATA SOURCES AND METHODOLOGY

The present research paper is totally based on secondary data. Secondary data is obtained from various sources of published and unpublished book, Govt. offices records, Census etc. Collected secondary data is tabulated, calculated and analyzed through statistical methods and it is presented with suitable graphical techniques.

RESULTS AND DISCUSSION

In participatory integrated watershed management, the approach can be qualified through two aims. First, the process must be participatory in terms of the particular issues to be worked on, and how related activities are carried out. Participatory problem definition also implies that the relevant boundaries for interventions are not necessarily the “watershed,” Second, the process must be integrated. While different people may define integration differently, a common approach is to emphasize the integration of disciplines (technical, social and institutional dimensions) (Bellamy et al., 1998; FAO, 1977; Reddy, 2000) or

objectives (conservation, food security, income generation) (Shah, 1998). natural and social systems (Meinzen-Dick et al., 2002; Reddy, 2000). Principles guiding watershed approach development include equity, sustainability and local empowerment. While higher-level actions in the near future will be restricted to district-level institutional and policy interventions in support of watershed-level actions, it is possible that such ‘working catchments’ will be integrated into higher-level (watershed or basin) management initiatives. it is difficult to make a detailed assessment of the performance of WSD programmes. Anecdotal evidence and impact assessments of individual projects (particularly of donor and NGO-implemented projects) suggest several positive trends:

- Increase in cropping intensity and yields of both irrigated and dryland crops
- Reduction in the threat of drought to crop and livestock production
- Increase in milk production (livestock systems move from open grazing and towards crossbreeds)
- Recharge of ground water
- Decline in sedimentation downstream
- Improved fodder production
- More livestock managed under stall-fed conditions
- Year-round availability of drinking water
- Creation of employment opportunities for landless labour
- Diversification of the village economy into artisanal and other activities as people gain the confidence to approach banks for credit.

This kind of evidence however tells us little about the *actual* impact of WSD on peoples’ *livelihoods*. The key point here is that WSD is not an end in itself, but it is a means to an end: ‘reducing the incidence of rural poverty’. The SL approach provides a framework for analysing the ‘fit’ between WSD activities, rural livelihoods and ultimately poverty reduction.

Government – early initiatives

Largely in response to the substantial benefits recorded from ‘special projects’. the GoI initiated a number of efforts attempting to implement similar approaches on a wide scale. These included principally the National Watershed Development Project for Rainfed Areas (NWDPA) under the Ministry of Agriculture and Cooperation, and under the Ministry of Rural Areas and Employment, the Drought Prone Areas Project, the Desert Development Project, the Integrated Wastelands Development Project (IWDP), and part of the Employment Assurance Guarantee Scheme.

Watershed development and capital assets

This section assesses the extent to which WSD has enabled rural communities to build up their capital assets and the extent to which these gains have been equitably distributed. It

pays particular Attention to CPRs, which have long been an important focus of WSD and are an important asset for the poor.

Building up the asset base

As WSD approaches have evolved from primarily externally imposed biophysical interventions towards more participatory approaches encompassing a broader range of activities so the potential impact of WSD on household assets has increased. WSD has implications for all five types of assets defined in the SL framework, for example:

- Human capital – through capacity building activities; participation in new institutions and processes;
- Social capital – through the formation of watershed committees, user groups and new or strengthened institutions;
- Financial capital – through the establishment of credit groups, the establishment of a WSD fund;
- Natural capital – through increases in trees, livestock, irrigated area, more productive land;
- Physical capital – through increase in irrigation facilities, soil and water conservation structures.

There is a growing awareness of the links between different capital assets. Investments in physical capital such as bunds, check dams and the re-vegetation of common lands for instance are relatively easy to achieve. Some NGOs argue strongly that the local institutions which determine access to natural capital (e.g. common land) need to be regularised before WSD activities are undertaken.

Access to capital assets

Although WSD can no doubt have quite significant positive impacts on the natural resource base (see Box 1), there are growing concerns over the distribution of these benefits. The principle of the ridge to valley approach for instance may work against the interests of the poor who often rely on the commons in the upper slopes much more heavily than do the better-off. To begin with water control structures in the lower slopes would privilege those (i.e. the better-off farmers) having reliable access to agricultural land.

Watershed development – capital assets and the poor

- WSD envisages the construction of a wide range of *physical assets* principally for soil and water management, such as bunds, checkdams, gullyplugs, ponds, shallow wells, and so on. However, there remain questions over access and sustainability for the longer term, especially if joint responsibility for maintenance is not clearly agreed. Information on how any agricultural intensification impacts on employment opportunities for the poor remains sketchy.
- Common pool resources (CPRs) such as grazing or forest land constitute an important form of *natural capital* and joint action is generally required to manage these. Spending pressure under government programmes means, however, that the formation of resource user

associations is hasty, and that the views of the poor and women are rarely taken adequately into account.

- *Social and human capital* is being strengthened through the formation and capacity building of focus groups, watershed associations etc.. However, the short period allowed for preparatory activities, together with the lack of social organisational skills among (especially government) project implementing agencies (PIAs), means that careful approaches to *human and social capital* development are rarely implemented on a larger scale.

- In terms of *financial capital*, most forms of rural investments in India suffer from a ‘handout’ syndrome, in which rural people have long been regarded as the recipients of government munificence, with the consequence that they distinguish clearly between ‘government projects’ for which the government has planning, implementation and (in their view) maintenance responsibility

from activities they undertake privately.

Common pool resources – an important asset for the poor?

CPRs represent a form of natural and social capital that individuals and communities can draw on in pursuit of their livelihood strategies. A study by Jodha (1986) concluded that CPRs make a key contribution to rural livelihoods and are critical for sustainable agricultural production in semi-arid areas. They form a part of rural peoples’ strategies for adjusting to the harsh and stressful environment. The key question is the extent to which the poor retain access to CPRs after WSD efforts have taken place. To take one example, a crucial element of many watershed projects has been restrictions on the use of common grazing areas during rehabilitation and thereafter to permit sustainable off-take. Lokur-Pangare (1998) reports more positively from another project in Maharashtra. Here the existing users of specific common land and water resources – not the whole community – made the decision regarding how they were to be managed. Landless livestock owners formed a ‘resource user group’ and had a primary say in decisions over grazing land management. Overall the key question seems to be whether the short-term losses in terms of access to CPRs are outweighed by the longer-term gains. A second dimension of change often brought about by WSD projects is the privatisation – both *de facto* and *de jure* – of CPRs. This can work both in favour of the poor and against.

Compensating the landless

The landless and nearly landless were the most likely to express dissatisfaction with watershed projects. Problems arise because projects seal off access to common property whilst re-vegetation is under way. Many landless people depend on these lands for their livelihoods, particularly for grazing sheep and goats

Watershed development and its impact on livelihood strategies

This section examines the impact of watershed policies and structures on the livelihood strategies adopted by rural communities – particularly the poor. It highlights changes in the composition of Scoones’ (1998) ‘livelihood strategy portfolio’ *viz*: agricultural intensification/extensification, livelihood diversification and migration.

Agricultural intensification/extensification

WSD can open up new opportunities for households to both intensify and extensify production, for example through:

- Increasing the frequency of cultivation – increased groundwater recharge often permits cultivation of a second crop, or ‘life-saving’ irrigation of a main crop; and
- Adopting new technologies, such as improved varieties of staple crops, higher levels of input use and higher yields; shifts to the cultivation of higher value crops in some areas;
- Expansion of cultivated areas – soil and water conservation and irrigation structures can bring new land into production.

All of the above tend to generate increased demands for labour. These may be provided initially from farm family sources and subsequently by hired labour. Beyond pilot projects, however it is not known, for instance, how far intensification/extensification generates employment opportunities for households – often poor and the landless – who depend on labouring for their livelihoods. Some of the most striking evidence of intensification in rainfed areas in India comes from the livestock sector. It seems that WSD can support strategies of intensification if careful analysis of the livelihood strategies of different households and individuals precedes decisions on project activities. But in countries such as India, rigid socio-cultural relations at village level may work against the poor. For poor groups (usually the low-caste and/or women) to assert their rights over resources as these become more productive through rehabilitation requires careful initial development of skills and confidence, robust and transparent procedures for decision-taking, monitoring of any departures from what has been agreed, and awareness among all concerned that, if necessary, resort to an external agency continues to be feasible. These conditions are difficult to put in place on a wide scale. Serious policy attention therefore also needs to be given to alternative strategies of diversification and migration.

DIVERSIFICATION

In the past decade recognition has grown that agricultural production is only one of the strategies that contribute to livelihoods. Rural households – particularly the poor – engage in a wide range of activities. WSD has supported these diversification strategies in a number of ways. NGO projects have paid specific attention to providing opportunities to the poor to diversify their livelihoods, often through the formation of self help groups for women, the landless and other marginal groups. These groups undertake a number of activities ranging from traditional crafts (such as leaf plate making; weaving and basket making), mushroom cultivation, forestry activities and so on. However, as recent detailed preparations for a DFID Western Orissa Rural Livelihoods Project demonstrated, the prospects of such enterprises tend to be assessed on the basis of historical production and sales levels. Certainly, the evidence points to some prospect that local people could benefit if restrictions on their access to or sale of NTFPs were lifted (Neera Singh, pers. comm) but over the longer term,

MIGRATION

Migration is one of the most important means of diversifying rural livelihoods. Migration strategies in India vary widely: one or more family members may leave the



resident household for varying periods of time and in so doing are able to make new and different contributions to its wellbeing. The contribution of migration to livelihoods will depend on various factors, including the seasonality of movement, the length of time spent away, assets and social structures and institutions allowing for women (if men migrate) and others to pursue activities previously reserved for men and household heads. Highly indebted to the contractors, migrants have little bargaining power and are trapped in a vicious circle. Migration is likely to become an increasingly important livelihood strategy for the rural poor. In relation to WSD there are several key issues which need to be addressed:

- Migrants' absence from villages tends to marginalise them from the decision-making process;
- Migrants' dependence on CPRs is highly seasonal and management strategies should accommodate this;
- Migrants may be absent at key points in the year and may lose out in the sharing of benefits from common resources;
- Migration often leads to the absence of the most able-bodied working population – often males – this has key implication for women's roles and decision making.

Migration has an important impact on participation in local level decision making processes. WSD involves the establishment of new institutions such as user groups and watershed committees. Migrants – generally the poorest – are often absent from villages and so tend to be marginalised from decisions on resource use.

In the context of WSD in India, most NGOs and several donors see seasonal migration as a negative phenomenon, largely on account of its exploitative nature and its disruptive effect on family life and wider social relations. WSD offers an opportunity to address migration issues: to promote intensification under WSD in employment-creating rather than in labour saving modes, so that substantial employment is created beyond the construction phase of rehabilitation the second is to support migration processes so that labourers' conditions are improved, and they are gradually released from exploitative contractual arrangements. Groups and committees set up by WSD programmes could provide an entry point for improving awareness of migrants rights and building their capacity to exercise them.

CONCLUSION

The Integrated Watershed Management Programme seeks to improve rural livelihoods through participatory watershed development with focus on integrated farming systems for enhancing incomes and livelihood security in a sustainable manner. In conclusion, this paper demonstrates that a livelihoods perspective can be used to encourage a more explicit analysis of the ways in which WSD directly and indirectly affect people's livelihoods. It encourages a broader and more structured assessment of impacts relevant to the poor. This can help practitioners and policy-makers to adjust their approaches and so enhance poverty impacts, even though this may be incremental and subject to other sectoral or governmental goals. In conclusion, analysis (drawing on a wide variety of methods) should



be used to encourage a broader and more structured assessment of impacts relevant to the poor. This can help practitioners and policy-makers to adjust their approaches and so enhance poverty impacts.

REFERENCES

1. Alsop, R., Gilbert, E., Farrington, J. and Khandelwal, R. (2000) *Coalitions of Interest: Partnerships for Processes of Agricultural Change*. New Delhi: Sage.
2. Arya, V. (1998) 'Collaboration for Innovation in Participatory Natural Resources Management: The PAHAL Project in Dungarpur District'. Srijan, New Delhi.
3. Jodha, N. S. (1986) 'Common Property Resources and the Rural Poor in Dry Regions of India', *Economic and Political Weekly* 54, pp. 1169–82.
4. MoRAE, Government of India (1994) 'Guidelines for Watershed Development'. Department of Wastelands Development, Ministry of Rural Areas and Employment, Government of India, New Delhi.
5. Smith, P. D., Parry, A. and Mishra, R. K. (1998) 'The Use of Subsidies for Soil and Water Conservation: A Case Study from Western India' in Farrington et al. (eds.) *Participatory watershed development: challenges for the 21st Century*, pp. 281–298. New Delhi and Oxford: OUP.
6. SPWD (1998) 'Understanding livelihoods of the rural poor and marginal farmers'. Proceedings of the second workshop on marginal agriculture. Society for the promotion of wastelands development. New Delhi, India.