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SUMMARIES OF GROUP DISCUSSION

Subject I

Watershed Development

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The discussion on the theme on Watershed Development was set in the context of an integrated approach for natural resource based development in different agro-ecological systems in India. Prima facie, access and property right regime; technology and economic returns; and institutions for benefit sharing as well as long-term sustainability were identified as three basic pillars of an integrated approach. It was noted that examining and exploring interface among these three pillars is a major challenge facing the researchers, policy makers and implementing agencies.

The discussions in the thematic sessions were by and large focused on the issues pertaining to the above aspects. More specifically the discussion revolved round the following sub-themes:

- Achievements and Impact.
- Methodology for Planning, Monitoring and Evaluation.
- Institutional Characteristics and Dynamics.

This report summarises the main points discussed, identifies major areas for future research, and highlights policy implications.

I

MAIN POINTS DISCUSSED

Achievements and Outcomes

The first sub-theme dealing with achievements and outcomes of watershed projects brought in mixed findings from studies conducted by the paper-writers. The keynote paper prepared by Joshi *et al.* provided the context for discussion by presenting results of the met analysis based on 310 watershed projects. It was observed that watershed programmes by and large have achieved the goals of productivity enhancement, income as well as employment generation and resource regeneration. The impact on long term sustainability is yet to be seen. There was however, not much mention of the equity aspect. A similar observation was also made by Dr. Johl suggesting that we need to focus more on the second generation issues, e.g., efficient allocation and use of water resources. The micro studies

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discussed during the session raised a number of issues in terms of methodology that need to be sorted out before deriving firm conclusions based on the studies on impact evaluation as covered in the next sub-theme.

There was however, an inconclusive debate on where the overall weight of evidence from the micro studies lies. Notwithstanding the issue of choice as well as rigour of methodology used, the differential impact or diverse results seem to be attributable to the agro-ecological and socio-economic condition, volume of investment made and the nature of implementing agencies.

There was a good deal of discussion on comparing the performance of watershed projects implemented by the government (GO) and Non-government organisations (NGO). Apart from the generally held view about relatively better performance of NGO implemented projects, the discussions went into dissecting the reasons and factors influencing differential outcomes, the observations emerging from several studies is that watershed programmes tend to perform better in communities with low-medium income. This is very pertinent as it indicates the major challenges for improving the performance in dryland regions.

Another important issue pertained to the sustainability of economic gains especially emanating from irrigation. The concerns raised focused on the efficient use as well as equitable distribution of the scarce input, i.e., water. Attention was also drawn towards some of the critical missing links in the implementation of majority of watershed projects such as: drinking water, common pool resources, livestock, soil-moisture augmentation and upstream-downstream conflicts which need much more careful examination and monitoring during the course of watershed development. The major constraints pertaining to common property land resources (CPLRs) emanate from encroachment as well as the entitlement in the case of forest land. This raises the issue of both - conflict resolution within community and adequate legal support.

Finally, concerns were expressed about overlooking the environmental implications of watershed projects, especially because the projects often tend to become ‘irrigation centric’. The importance of reinforcing framing system approach under different agro-ecological situations was therefore reinstated in the course of discussion.

Indicators and Methodology

A separate session was organised to discuss the methodological issues for planning, monitoring and evaluation of watershed projects. Some of the important issues flagged for discussion referred to the scale (unit of analysis), periodicity (time frame), tools and data sets to be used for evaluation at different levels. A case was made for prioritising watershed projects taking into account a ‘need based’ indexing using socio-economic and bio-physical features of the regions. While there was a fair amount of agreement on the issue of prioritisation, it was observed that some amount

of prioritisation is already built into the existing pattern of resource allocation across states and the regions within that. The greater problem faced however, is in the adoption of "ridge to valley" approach by considering watersheds at different levels.

The discussions also went into the ongoing debate on unit of evaluation - whether it should be only micro watershed or a sequence of micro watersheds on a stream, culminating into a sub-river basin. The debate however remained inconclusive though the discussion did result into better sensitisation of the need for multi-level planning, monitoring and evaluation exercises within the context of integrated natural resource based development.

A brief presentation by Kanchan Chopra highlighted the strengths and weaknesses of benefit-cost and multi-criteria analysis emphasising that the latter provides information on different aspects of impact rather than a single estimate (i.e., a ratio) as in the case of benefit-cost analysis. It was noted that given the multifunctional nature of watershed projects, the multi- criteria analysis serves as a methodology for assisting policy formulation. There was an informed discussion on detailing of the parameters on three sets of impacts, viz., socio-economic, environmental and institutional. Concerns however were raised about operationalisation of the best set of variables chosen from the existing menu of indicators developed by different agencies. The need for combing "with-without" and "before-after" comparison was also highlighted by re-emphasising the importance of approach while selecting the 'control' micro-watersheds. With regards to timeframe, the suggestion was to ensure a good benchmark (covering 2-3 years) with project-completion an evaluation study at the time of project completion and a post-project study after a gap of 5-7 years so as to capture the full impact of the project intervention. A. Vaidyanathan emphasised the need for a systematic study over an extended area, focusing on land-use, vegetation and hydrology. Use of remote sensing data could be of special help in this regard. The discussion also re-surfaced the debate on bio-physical indicators and socio-economic indicators representing output and outcomes respectively. Given the multiple objectives of watershed projects the impact assessment however, may need to cover both bio-physical as well as socio-economic aspects.

Institutions and Participation

The discussion on this sub-theme emanated from the frequently made observations that people's participants will help in improving the performance of watershed projects. The underlying issue however, is what brings people's participation? Obviously the motivation for being 'virtuous' in the absence of economic incentives may not bring about sustained involvement of the community. Also it was emphasised that community is not homogeneous and is characterised by historically constructed asymmetric power structure. Given this complexity, how to create institutions that work and sustain in the long run? It was further stressed that

the institutional challenges in the context of watershed projects are more complex than that in the case of other participatory natural resource management - projects (such as participatory irrigation management) because of the relatively unfavourable nature of economic returns. It is therefore essential that institutional mechanisms are being discussed and worked out right before starting the project interventions. While the policy guidelines do recommend a process based approach for the initial phase, the importance of proper sequencing is seldom recognised, let alone practiced, by majority of the projects. Some of the NGO-implemented projects have successfully experimented creation of self-help groups prior to starting the actual treatments. This has helped in enhancing the capacity to borrow and invest in the on-farm treatments being undertaken by the project. This is very critical for creating a sense of ownership hence, effective participation by the community. The main issues facing watershed institutions are: enhancing the total magnitude of gains from different activities, distributing them equitably among different stakeholders, including landless, and ensuring efficient use of resources for sustainability in the long run. The NGOs have an advantage of being innovative besides putting relatively higher investment per unit of land as compared to the government projects. The need is to have cross learning among GO-NGOs such that successful and workable models get replicated on a larger scale perhaps by mobilising more resources from both - public as well as private sources.

II

ISSUES FOR FUTURE RESEARCH

The discussion highlighted some important research gaps. These are:

(i) Systematic studies on the impact of completed watersheds by combining socio-economic aspects with environmental indicators especially hydrological regimes, preferably beyond a micro-watershed.

(ii) A detailed study on process monitoring for project implementation so as to know what works and what does not and why? This could be attempted through a comparative analysis across agro-ecological systems and agencies implementing the projects.

(iii)Explore the areas of trade-off and resource allocation across different land-use by working out social opportunity cost, which in turn, may help in devising mechanisms for cross-subsidies and resource transfer-across agro-ecological regions, natural resources, and resource users or stakeholders.

III

POLICY IMPLICATIONS

The above discussion led to, among others, the following policy implications:

(i) Need to improve the performance of watershed projects particularly under the low rainfall (dryland) regions by carefully examining the impact on bio-physical features especially replenishment of ground water and the efficient as well as equitable use of not only for crops but, also for other components of a dryland farming system. The need is to evolve context specific modules to suit farming systems in different agro-ecological systems in the country. This would involve efforts by a multi-disciplinary team of researchers over an extended period of 5-10 years. The state should extend support to such research endeavours and networks especially in three major agro-ecological systems, viz., dryland, forest-based hills.

(ii) Promote technological options for enhancing water-use efficiency and diversified through better co-ordination with the land-use existing schemes of the line departments.

(iii) Ensure clear legal support for developing the CPLRs (especially degraded forest and pastures) and sharing the benefits emanating thereof among the watershed communities.