

Water Access, Livelihood Security and Stakeholders Initiative in Bhavani River Basin-India

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Key words: water poverty nexus, inter-annual fluctuations, upstream-downstream, competition, water quality degradation, groundwater dependence, urban expansion, river basin management.

Abstract:

The purpose of the study is to develop a methodology for linking hydrological information with aspects of livelihood issues in a river basin context in Bhavani basin, South India. A scrutiny of hydrological parameters and analysis of water allocation policies over a 50-year period show the dynamic character of water availability and the continuous raise and diversification in water demand in the Bhavani basin, Tamil Nadu. In principle, all available water resources are committed. Water quality degradation is a growing threat to human health and entails high social cost, especially in “hot spots” areas. Historically, water development has moved upstream, i.e. to sites where river flow is generated and where options for agriculture differ from the plain where surface irrigation systems, planned and managed by government agencies dominate. During recent decades, the dependency on ground water resources has increased substantially. Local and individual initiatives are noticeable. Abstractions for drinking water supply, primarily to urban centres, also outside the basin have highest priority. Water management for agriculture must be executed in a context of high inter-annual fluctuation in water availability and threats of water quality degradation must be addressed. Farmers have to develop strategies, which look different in different parts of the basin. Food production remains a basic challenge, but a diversification of production, development of contacts to the market and best use of the available water will be essential characteristics of agricultural water management.

Unique aspects of the research:

A prime objective of the research has been to illuminate the highly dynamic water resources situation over time in a semi-arid context and how the location within the basin influences the management options and livelihood implications. The research shows that the “privileged situation” of the surface irrigation sector, organised by the authorities, is challenged by powerful claims on “the same water” from urban based interests and also by an unplanned development of water use by individuals and groups in society in upstream areas. The relation between quantity and quality aspects and their links to livelihoods are demonstrated.

Research with Impact:

In terms of impact, the research is likely to stimulate efforts to promote a river basin management strategy. Within the agricultural sector, diversification of agricultural production, including risk management strategies, marketing arrangements etc. need to be promoted alongside with efforts to ensure food and livelihood security of the small farmers who have few alternative options. In addition, steps to address the urgent need to enhance water productivity through additional technical and institutional arrangements are a likely impact of the research.

Target audience:

Target audience include water policy and management authorities, non-governmental organisations, interest groups in the agricultural and environmental sectors, research community.

Key recommendations for action:

- A revisit of plans and financial arrangements for the basin to increase the use of water saving technologies, e.g. sprinkler irrigation systems.
- A strategy to support the livelihoods of poor
- Assess the potential to develop supplementary irrigation systems in the basin, based on rainwater harvesting and integrated land and water management.
- Identify opportunities and constraints for farmers, especially the small farmers, to diversify their land and water use by cultivating and marketing “new” crops, e.g. fruits, vegetables, cut flowers, bio-energy, material from the pharmaceutical industry. Risk with many of the new crops must be assessed and policies for ways and means of coping with them must be developed.
- Intensify discussions/negotiations with polluters in the agricultural and urban sectors to phase out technologies and practices which contribute to water and environmental quality degradation.
- Need for an integrated approach and a mechanism for coordinated development of water resources in the basin with the participation of the stakeholders especially the State.

What actions are needed:

A combination and repeated set of actions are needed to address the enormous complex challenges in the basin. Research plays a prominent role in terms of representing non-vested interests and with a methodology that can be replicated from similar situations in other areas. It is vital to proceed and develop the dialogue with different groups of stakeholders and decision makers. Media and other communication agents can be used as brokers in the exchange of information and assessments of values at stake.

Who will benefit:

The situation of the farmers has been in focus in the research. They, and especially the small farmers, are a key group in the Bhavani basin. Their livelihood opportunities vary significantly from year to year, but in general their situation has deteriorated in relation to the opportunities in other sectors, which also demand water from the same source. The report shows that, as usual, there are always groups of farmers and other water users who can find ways out of increasing hardship, for instance, increasing water scarcity. It is of special concern to identify strategic support also to those that have difficulties to cope with unpredictable scarcity situations but who could make important contributions to their own as well as the general welfare of society. Two special groups need to be mentioned; the young generation, i.e. the farmers of tomorrow, and the female farmers. Both of them tend to be left out in conventional agricultural policies.

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