

Pro-Poor Intervention Strategies in Irrigated Agriculture in India: Some Issues

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The aim of this paper is to raise a few issues as examples in order to initiate discussions on irrigation and poverty in India. The issues raised here are neither exhaustive nor final. Many of the issues raised are being debated for quite some time and yet are craving for solutions.

GENERAL ISSUES

Poverty is of a serious concern in India. Though it declined during the post green-revolution period since 1970s, every third person in the country in 1993-94 was found to live in absolute poverty. National Sample Survey data vouches for only marginal decline of poverty in spite of the higher growth rates recorded in mid-1990s. This trend is partly due to statistical artifacts and also due to factors, which have accelerated poverty in some states having weak property rights and poor governance (World Bank 2000).

Concurrently, the policy agenda has significantly evolved from an initial focus on increasing food production to concerns of environment, poverty in a wider sense and stakeholder participation. The focus on poverty became more explicit and the concept has further expanded beyond earlier notions relating to supplies of food to encompass wider livelihood concerns (Carney 1998).

Currently, there is much criticism on the low performance of the irrigation sector, although it is widely accepted as vital for India's economy, and pivotal for its food security policy. Irrigation is also considered an important carrier for development of poor masses (Chambers R).

The indicators of low level performance of canal irrigation in India are:

- Low rates of utilization.
- Unreliable water supply.
- Waterlogging and salinity.

The Indian government with the assistance of the World Bank has tried to improve the situation in the 1970s through the Command Area Development (CAD) and in the 1980s through National Water Management Program. However, technical solutions were sought

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through technical measures in these massive programs. Institutional issues were not given due importance and the technical solutions alone could not bring in better performance.

In the 1990s, two institutional issues started to draw attention in wider circles. They are (1) the monopolistic role of the government in irrigation management and (2) lack of 'market' mechanisms for the allocation of water (Report of the Workshop on Alternative Approaches to Canal Irrigation Reform 1998). The participatory development 'paradigm' in irrigated agriculture like in other related development efforts (e.g., agricultural research) has certainly provided reflection on the need to devolve control of the development process to its clients. This shift has been associated with shifts in globally held perceptions concerning the role of State in society (Hall et al. 2000).

Addressing the core institutional issues and structural reforms becomes an important issue in irrigated agriculture in South Asia and especially in India. The image of irrigation sector has vastly altered from what it had been two decades ago. It is suffering from (a) financial crisis with budgets going down, low water fee and low collection rates, etc., (b) technical and managerial crisis in the light of deteriorating physical system and poor delivery of water and (c) image crisis with major dams and canal irrigation being questioned on the grounds of negative environmental impact and social displacement (Mollinga 2001).

One of the main poverty related issues in irrigated agriculture in India has been that it widened the gulf between the haves and have-nots, not only in between the project area and outside but also within. *Ceteris paribus* irrigation incrementally added wealth among all those dependant on it. But the small, marginal and 'tail-end' poor farmers are believed to have got further effected (Chambers et al. 1987). The landless poor in the labor markets got better wages but as mechanization reduced the number of man-days of work, seasonal migration became rampant. The service providers, artisans, village craftsmen etc., who are on the periphery of irrigation sector remained a further neglected lot. In such a scenario how to ensure percolation of irrigation benefits to the poor in the irrigated and peripheral areas is a major issue of concern. "Addressing questions related to water, poverty and rural development that are not yet clear and are just now emerging" calls for strategic thinking.

Integrated Water Resources Management (IWRM) approaches are of recent thinking in developing countries like India. Different meanings of 'integration' in IWRM include: (i) integration of different uses of water (ii) integration of analytical perspectives because the organization of knowledge production tends to be along different disciplinary and sectoral lines; (iii) integration of different institutions responsible for water resources development into a broader agenda of rural transformation (Workshop on Alternative Approach to Canal Irrigation Reform 1998). Lot of thinking and experimentation need to be done on this subject.

Building partnerships in research and creation of synergy in innovation aiding uptake of productivity initiatives is yet another important general issue that calls for attention. For example, ways of building linkages between the irrigation sector and agricultural research, and other organizations and farmers including poor at different levels.

The concept of food insecurity goes further than only the absence of food. The four important interactive dimensions of food security are classified as availability, access, utilization and vulnerability. The 'psychology of plenty' of late 90s as evidenced by mounting buffer stocks might soon be seen as a transient phenomenon reflecting weather-borne fluctuations in production, unsustainable farm price support policies and a lack of effective

demand by the poor. The challenge for India that lies ahead includes both raising food output and ensuring that growth is sustainable, stable and widely shared. (World Food Program 2001).

Balanced use and appropriate management of water resources are central to achieving food and nutrition security in India for rural as well as urban poor. Efficiency, equity and sustainability are three goals essential in irrigation management for meeting future challenge (Shah 2000).

SPECIFIC ISSUES

Separate pro-poor programs are not existent in the areas of irrigated agriculture. Some of the programs that are addressed to rural development are common to irrigated areas also. In other words, the fact that water is a determinant in poverty reduction though is talked about is not fully appreciated in carving out initiatives. The CAD authorities in some states were mandated to look specifically into the problems of small and medium farmers. However, like many other laudable objectives set for CAD, this objective was also drowned in a hub of construction activities like field channels—whether water reaches the target groups or not.

The following features of irrigation systems (major and medium projects) deficiencies are commonly pointed out in several evaluation studies conducted in CAD. They are: (i) unreliable water delivery and total neglect of maintenance of systems; (ii) inadequate water distribution and deprivation of water to the tail ends; (iii) inefficient and wasteful use of water; (iv) lack of incentives to economize and conserve water; (v) insensitivity of government service delivery; (vi) low water rates and recoveries; and (vii) deteriorated physical infrastructure.

Statistics on poverty is awfully lacking like other irrigation statistics in the areas commanded by major and medium irrigation projects.¹ The criteria for identification of poverty are still household level income, expenditure or consumption.

The culture of government departments working in ‘isolation’ is a general phenomenon in the Indian context. The rural development department or the panchayats raj department are both mainly responsible for poverty eradication. The irrigation or water resources department, health or education have little coordination with the rural development wing. Information sharing, among the departments is rare and ‘knowledge’ flows are always vertical and not horizontal.

Area-specific programs like DPAP, Desert Development etc., or the target group programs addressed to specific communities like tribals, backward classes, small and marginal farmers etc., do not have any focus on the poor in irrigated agriculture.

Performance measurement criteria followed by the Irrigation Department is in terms of the area irrigated and not based on the number of families. The Revenue Department is concerned with the revenue collected. The exact number and picture of poor farmers not

¹The integrated rural development programs however maintain statistics like number of tube wells, open wells, and irrigation pump sets because of the subsidy component involved.

getting irrigation at the tail ends is not available (again related to poor performance of irrigation projects and poor quality of distribution network). In irrigation commands all farmers situated are considered as beneficiaries whether they get water or not.

Eleven states in India contribute to nearly 82 percent of the total agricultural production. They cover 78–80 percent of the irrigated area. Considering the low productivity rates, how to increase productivity and how to bring the less-endowed in the irrigated commands to make the maximum use of the irrigation potential created and how can those with surplus waters efficiently use irrigation? How to ensure conjunctive use of groundwater by farmers in irrigated areas and also the peripheries?

How the participatory mechanisms developed during the last decade be reengineered to provide enough representative voice to the less-endowed to gain advantages accruing from irrigation?

How the resource poor can be enjoined upon and trusted for providing through a collective mechanism, services in storage, processing, marketing and the like breaking the nexus with traders and the powerful (rich) in the village? In other words, how to link the market with small producers for an appropriate institutional evolution or arrangement?

The Center-State relations and political economy in the Indian context needs to be clearly understood while discussing matters related to irrigation and agriculture. Many policy ideas and some funds come from the central level, but these get incorporated and transformed at state level in very different ways.

MACRO-LEVEL ISSUES IN INDIA

Unlike the direct interventions (e.g., Land redistribution through land reforms) which are difficult and not practical, a number of indirect strategic interventions can produce positive results on the productivity and equity of water economy (Shah 2000).

Poverty reduction depends on the economic conditions that generate pro-poor growth. In South Asian Countries and Sub Saharan Africa (though not elsewhere) it is evidenced that the performance of agricultural sector is critical because poverty was lower where agricultural productivity per worker was high relative to the modern sector (Hanner et al. 2000).

The natural resource management in India should aim at ensuring that the renewable resource— water— should not be allowed to damage the non-renewable resource—soil. Considerable extent of land is going out of productive use in irrigated commands year after year. What specifically is to be done by way of strategic interventions at the policy level?

Institutional issues are believed to be central to the management in irrigation sector. These issues figure at all levels. Identification of these issues (not merely economic issues) using a wide trawl at macro level is essential to tackle them in an integrated manner.

Canal irrigation reform trajectories in India are very diverse and case-specific. They are anchored in reform ‘models’ that gained international popularity. The influence of these models have no relation to the results of the approach in situations where it was conceived and implemented. The notions of a ‘model’ is attractive to irrigation professionals (mostly civil engineers) and policy makers as well as donor agencies. The specificity of reform situations calls for strategic analysis and strategic planning that is dealing with political

(I would add also social) dimension of change and transformation, for which capacity and skills need to be created (Mollinga 2001).

The ‘first wave reforms’ are believed to be completed in some states implying that participatory management mechanisms are installed. For many, reforms are linked to ‘farmer participation and management’ for several reasons. At macro level issues like establishment of water rights; participatory policy making are still elusive. However, the assessment of the first wave reforms, its process and impact are yet to be undertaken in right earnestness.

In the political economy of water pricing the funding agency (World Bank) has an important role. The banks’ approach in India seems to be evolving starting with conventional high engineering works— centered projects to efficient utilization of water (CAD) to proper management of water (NWMP) and more recently to encourage more comprehensive approach to improving the quality of water resource planning and management. But these approaches are all techno-centric and are not addressed to the whole system. However, the technical and organizational problems of improving main system management still remains neglected (Vaidyanathan 1998).

STATE-LEVEL ISSUES—ANDHRA PRADESH

Excerpts from the ‘white paper’ issued by the Government of Andhra Pradesh in June 1996 (Keith Oblitas et al. 99) point the decline in the net financial situation of the irrigation sector, low revenues, increased expenditure, non-involvement of farmers, deteriorated infrastructure, excessive drawl of irrigation water at the head reaches and the total non-availability of water at tail ends— the scenario that was to a great extent common for the other states in the country.

With the World Bank assistance, irrigation sector reforms were initiated by GOAP by enacting Andhra Pradesh Farmers’ Management of Irrigation Systems Act 1997 with a move to proceed further with:

- i. Management of irrigation systems by farmer organizations (WUAs);
- ii. Cost recovery, including principle of levey of water charges;
- iii. Mobilization of resources for completion of ongoing and new irrigation schemes, and
- iv. Improving sector financing and funding of maintenance to ensure sustainability of irrigation schemes.

Thus it can be seen that the government initiated reforms mainly aim at transference of the function of irrigation distribution to farmers and their management and for financial recovery and efficiency for the time being.

Andhra Pradesh reform process, which is currently in its first phase should eventually take up IWRM within canal irrigation commands as the situation is congenial for management of water not only for irrigation but also for the functions gaining increased importance: drinking water, water for industrial use, ecological effects of water resources etc. The most

far reaching paradigm shift would be to think the whole approach to the canal irrigation to see it as one element of watershed based resource.

The country paper presented and other papers which will follow raise several issues at the meso level. It is only recalled here that the issues at the state level are very complex and are further complicated by institutional and contextual issues.

The state of Andhra Pradesh offers diversity in the soils, climate, crops and a rich cultural background. The projects under Nagarjuna Sagar dam left and right canals may provide a platform for undertaking in-depth studies. However, in order to comprehend the Indian context, studies in different states are called for.

In Andhra Pradesh, the irrigation component in economic restructuring project envisages minimum rehabilitation of major and medium projects and recurrent maintenance of all schemes including minor irrigation for irrigation performance improvement. Scheme improvement/modernization and farmer turnover, agricultural (extension) intensification and institutional development of farmer organizations and government departments and software development are also in the agenda.

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