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Moving towards the concept of "Partnership" in irrigation management in India

M.V.K Sivamohan and Christopher A. Scott

Abstract

Involvement of local individuals or communities in government agency programmes may be viewed as simply a convenient way to reduce the immense workload involved in bureaucratic management without devolving control over decision-making. Alternately, as this paper suggests, farmers' water management associations (WMAs) are interested in and fully capable of prioritising and managing those aspects of irrigation in which they have the greatest stake. Two questions arise: What is the most appropriate level in the hydraulic system for the agency-WMA interface? What is the process involved in creating partnerships to facilitate the turnover of management at the interface?

Farmers' Management of Irrigation

Recent analysis of the shortcomings of conventional irrigation management points to a lack of meaningful involvement by farmers in decision-making, and even the various physical activities, surrounding irrigated agriculture. There has been a plethora of well articulated books on the subject of farmers'

participation in irrigation management (for example, Singh, 1991; and Uphoff, 1986). What is needed at the present juncture is not yet another piece which covers the issues, but examples, whether successful or failed, of management approaches in which farmers and irrigation authorities undertake to improve the performance of their irrigation systems. This volume presents twenty-two such papers, presented at the National Workshop on Farmers' Management in Indian Irrigation Systems, held during 4-6 February 1992 at the Administrative Staff College of India, Hyderabad.

A brief note on workshop recommendations is presented in the Appendix at the end of this volume. The workshop participants felt that the term 'participation' carries with it some unwanted connotations. A discussion of the hidden assumptions behind current thinking on farmers' roles in irrigation management is presented in the paper in this volume by Ambler. Perhaps a better term to express the type of relationships between farmers and government agencies that would result in improved irrigation performance is 'partnership.' In this light, the title of this volume, *Irrigation Management Partnerships*, seeks to convey a revolutionised approach and a new understanding of the subject.

The objective of the book is essentially to present case studies of various attempts at creating partnerships to manage irrigation in India. It is divided into three major sections, each containing a separate category of papers. The first section, "Issues in Irrigation Partnership," deals with conceptual approaches to the collaborative management of irrigation. The four papers in this section present different frameworks with which to view irrigation partnerships. As has been mentioned, the paper by Ambler sets the stage by bringing into question some of the prevailing notions of farmers' and agencies' relationships. He proceeds to introduce new terminology which reflects the approach followed in this volume. Two papers follow which

describe the experiences with farmers' management in Maharashtra. Pendse and Bhogle provide excellent coverage of the techniques used to strengthen farmers'participation, including the use of television and video. The paper by Kulkarni and Kulkarni, also on Maharashtra, presents historical details of the legal context in which cooperative WMAs have emerged as well as issues relating to their financial viability. The final paper in the first section, by Maloney and Raju, links farmers' organisations with environmental issues, particularly water management, by briefly presenting several examples of local initiatives to address environmental degradation.

The second and third sections of the book, "Major and Medium Projects" and "Minor Projects," contain eighteen case studies of attempted irrigation partnerships in existing and newly created projects. The rationale for the division of papers based on the scale of the project stems from the difficulty faced by farmers in exercising decision-making authority over resources outside their community. Thus for major and medium projects, the involvement of government agencies is imperative. However, for small projects where farmers can control water aquisition, and subsequent storage, it makes sense to turn over all management functions to a farmers' organisation. As will be discussed subsequently, it appears that agencies have an important role to play in these small systems as well.

The paper by K K Singh *et al* opens the second section with an examination of the evolution of efforts to create WMAs in an existing, major project, the Sreeramsagar project in Andhra Pradesh. A constraint is noted in the requirement to have WMA elections on a strictly annual basis, as this requires a significant amount of agency input and supervision and detracts from other duties. Two papers follow which look at the role of WMAs in the Mahi project in Gujarat. Nagabrahmam addresses the issue of WMA dependence on the external catalyst agency, in this

case the Institute for Rural Management (IRMA). Patel and Gulati's paper examines water distribution in a tailend minor and postulates that the conjunctive use of groundwater is a potentially important technique of solidifying the WMA-agency partnership.

The remaining five papers in the first part of section II take up the issue of intervening in existing systems in order to improve irrigation performance. Krishnaswami's paper on the Lower Bhavani project in Tamil Nadu spells out the process of dialogue and problem-solving with farmers using technically trained community organisers. The paper by Lele and Patil examines the Shri Datta cooperative society's attempt to organise farmers in an area in Maharashtra where cooperative societies are dominated by sugar interests. The following two papers deal with the Sone canal system in Bihar. Mishra approaches the issues concerning the Sone system from a social science perspective and addresses the need for effective leadership. Finally, the paper by Raju looks at efforts in the Mahanadi command area in Madhya Pradesh to revitalise now defunct pani panchayats as well as to improve water distribution through the creating of a micro-distribution network.

The second part of section II is in some sense the most interesting part of this volume. The papers by Dave and by Pujari both describe new irrigation systems; the former is government created while the latter is farmer created. In the Sardar Sarovar project in Gujarat described by Dave, nearly 5000 village communities are to be organised for volumetric supply to WMAs, which represents perhaps the world's most ambitious efforts to create partnerships. Pujari's paper on the Chikkapadasalagi barrage in Karntaka provides an excellent example of farmers' ability to mobilise Rs. 1.3 crores, appoint an independent technical staff, and complete the project before turning it over

to the government for management, despite considerable odds.

The third section of the book deals with minor projects, which the workshop recommended for complete turnover to WMAs after rehabilitation by the government. The paper by Scott and Walter looks at water harvesting systems for supplemental irrigation in the Shivalik Hills in Haryana and links irrigation with watershed management. Another case study on irrigation in a hilly region is presented in Pande's paper on water rights in Uttar Pradesh. The paper emphasises that water scarcity can be a motivating factor for effective management by the WMA. Also, under existing minor projects is the paper by Pundarikanthan, Kallapiran and Narayanan which deals with participatory approaches to tank rehabilitation in Tamil Nadu.

In the second part of section III are five papers documenting the creation of new minor systems. Shah's case study of Samadhiala cooperative society in Gujarat, while presenting significant operational details of the WMA, focuses on financial matters, which can make or break any attempt to organise farmers. This is followed by another example of lift irrigation in Gujarat, documented by Whitby, which discusses the role of women in cooperative management. The paper by Joy on people's construction of the Bali Raja dam in a drought-prone area of Maharashtra deals with the issues of access to natural resources and equitable water distribution, even to the landless. Gera discusses the revitalisation of a traditional irrigation system in Rajasthan, the *johad*, with assistance of a local non-governmental organisation. Finally, the paper by Ratan takes up the issues of partnerships in twenty-four hill irrigation systems in Himachal Pradesh. It describes the need for coordination among the various governmental agencies involved in irrigated agriculture.

Policy and Organisational Issues

India's irrigation development till the advent of British rule was marked by the initiative of Kings and rulers, with people playing a supportive role. All the three sets of irrigation management activities generally referred to were performed by the people themselves. They are (1) those focussed directly on water viz., its acquisition, allocation and distribution (2) those concerning with physical structures, their operation and maintenance, and (3) those related to organisation - namely decision making, resource mobilization, communication and conflict resolution (Uphoff 1986). The ownership of water resource, however, always rested with the State but the right to use water for crop production devolved to the farmers.

The British during the colonial period continued with the policy of state initiative in the construction of large irrigation works but with a great difference in their approach and objective. The overriding considerations were to add on to the imperial wealth through the collection of irrigation revenue and providing navigational facility for the movement of army. The peoples' support was not enlisted. Logically elaborate bureaucratic structure with higher degree of centralisation was warranted to administer and monitor irrigation systems, hence it was created. India after independence retained the British legacy of irrigation administration with centralised bureaucracies. Thus, the flux of time witnessed a "dependency syndrome" of farmers on the State agencies (Freeman & Sivamohan, 1991).

The performance of many of the large, medium and small government owned irrigation projects in the country even after independence remained unsatisfactory. The aspects such as delivery of water with a degree of certainty and identification of a point in the hydraulic system at which it can be done have

assumed critical importance in recent times for directly involving the water users in the management of irrigation systems.

The command area development (CAD) approach, the Eighth Plan and the National Water Policy (1987) have stressed the importance and inevitability of farmers' involvement in irrigation management. However, the experience with CAD programme has shown that sizeable funds invested on rehabilitation turned out to be infructious because of faulty implementation and apathy of users. "Experience also has shown that when farmers are involved, water utilization improves, investment on agriculture increases and the relations between the farmers and the irrigation agency become mutually supportive and yet, no noteworthy progress has been made in involving the farmers in irrigation management. The irrigation agency has transferred its own work responsibilities to farmers without passing on the resources or creating conditions conducive to cooperation" (Singh K.K. 1991).

One of the reasons appears to be the preoccupation and "fixation" of the minds of planners and implementors "below the outlet level" (Chambers 1988) of the government owned irrigation systems. Participation was sought by organising and encouraging farmers to form associations at the outlet level mainly for implementing agency designed *warabandi* (rotational water supply) and thereby ensuring equity in the distribution of water.

Participation without a careful organisational design is futile for farmers and threatening to main system managers (Freeman *et al* 1989). Hence in order to make water users' associations work effectively, there is need to conceive them at policy level as management bodies, vested with decision making powers and challenging tasks to perform for the 'collective good' (Freeman and Sivamohan 1991). For this, organising outlet committees is not a solution. A minor or a cluster of outlets

appear to be an appropriate level for encouraging the formation of water users' associations.

In this context, creation of new administrative structures - some consisting exclusively of farmers and some with water users working jointly with government officials - becomes necessary. The attitude of irrigation agency has to change and the capability of its officers has to be enhanced to support institutional innovations. Political leadership has a major responsibility in creating conditions in which farmers and administration can work cooperatively (Singh K.K. 1991).

The experiences embedded in the papers of this Volume throw up many more of such policy and organisational options.

Financial and Technical Considerations

The foregoing discussion and subsequent case studies of this volume raise a number of financial and technical issues that are of critical concern to farmers and agency personnel alike, as well as to policy makers and researchers. The vexing problem of resource mobilisation for the creation, operation and maintenance of irrigation systems is in one sense addressed through the promotion of partnerships. While we have warned against the assumption that participation is a convenient way for the agency to share costs with the users, without relinquishing control over decision-making, there is no doubt that farmers can mobilise significant resources, if they perceive a favourable outcome. The papers by Pujari and Shah amply demonstrate the ability of farmers to take financial matters in their own hands. Another model of local resource mobilisation is presented in Joy's paper, in which farmers were shown to have taken control of local natural resources which were carefully utilised to finance the construction of the Bali Raja dam.

A point which emerges not only in several of the case studies in this volume, but is also reflected in current thinking in some circles of the government is that volumetric pricing of water will lead to more efficient use and less wastage. The rationale, linking flat per hectare irrigation fees (regardless of the number of irrigations taken in the season) with wastage and neglect of precious water is not disputed here. On the other hand, volumetric pricing implies a significantly high level of technical and managerial input on the part of the agency, even if water is not to be measured at the outlet, but rather at the minor or distributory. To give some idea of the magnitude of this undertaking in large schemes, the paper by Dave on the Sardar Sarovar project in Gujarat mentions that phase I of the project alone will create approximately one thousand minors serving one thousand WMAs. In total, the project will ultimately reach some 4700 villages. If volumetric delivery is to be measured manually even once during an average irrigation rotation of two weeks, the managerial requirements are incredibly high. Let us assume that state-of-the-art automatic stage recorders are installed (with photovoltaic power supplies to allow them to function when electric power fails or in remote regions). The strip charts must nevertheless be converted to discharge and volume readings and water charges calculated accordingly. Clearly the magnitude of the undertaking is enormous.

If WMAs are to effectively manage water distribution below the interface point, there needs to be a secure and reliable supply of water to the interface. In major projects, this is a formidable task for several reasons. First, inflow to the reservoirs is highly variable, particularly as watershed conditions in the catchment areas deteriorate with the resulting sediment inflows and high variations in seasonal flows. Second, the ability to control water supplies at the minor or distributory level assumes efficient functioning of water control structures, many of which were

inadequately designed in the first place and are now in a state of disrepair.

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