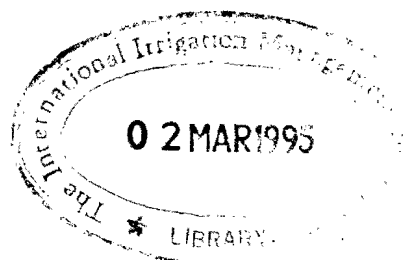


**GOVERNMENT'S PARTICIPATION IN PEOPLE'S PROGRAMS:  
AN INTERMEDIARY ROLE FOR NGOS IN DEVELOPING  
VIABLE INSTITUTIONS FOR WATER RESOURCES MANAGEMENT**



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*Abstract*

*In current "participatory irrigation management" efforts, the governments play a dominant role and the government-sponsored water users associations often become mere extensions of the public bureaucracy. As these efforts are rarely based on any intrinsic demand from the water users, they usually fail to create viable organizations at the local level. With a change in attitudes, the water users can take a greater initiative and play a more significant role than they do now in the design and implementation of participatory management mechanisms, and the governments can gainfully play a more accommodating role in this process. The NGOs have a tailor-made role to play as an intermediary between the water users and the government officials to assist both the groups.*

**1. INTRODUCTION**

A persistently low return on investment in irrigation has been one of the major concerns among the donors and governments of developing countries. Although some may argue that the major causes of this low return relate to the decline in real prices of commodities (Figure 1) and the increasing trends in real capital costs for irrigation development (Table 1), the effect of stagnant or declining productivity as another important contributing factor cannot be discounted. Tracing the cause of this problem to a lack of institutional performance in these countries, the donors are now increasingly convinced that the solutions should necessarily be sought in some institutional reform. The governments see an additional interest in institutional restructuring, to find ways and means of reducing budgetary allocations for operation and maintenance of irrigation systems. Among the various options under consideration by both groups are the participatory mechanisms in which the users would take greater responsibility.

Will the new participatory mechanisms under consideration be substantially different from the past experience with water users associations and other farmer organizations? Instead of the governments trying to "turn-over" the irrigation systems to the water users, will there be water user groups willing to "take-over" the responsibility? The purpose of this paper is not to attempt giving exhaustive answers to these or any other related questions, but to briefly discuss them and highlight the need to search for viable institutional options.

This paper refers only to the management of water resources for irrigation purposes, but the coverage of its intent may include the natural resources management in general. The reasons for its focus on irrigation are clear. While most of the world's poor are in rural areas, the main infrastructure that serves the rural poor for their economic endeavors is linked with irrigation. Among countries grouped according to their income levels, irrigation takes the highest place in the stock of infrastructure of low-income countries (Figure 2).

The paper's focus on South Asia corresponds to an identifiable peculiarity in the region's institutional framework for irrigation management, which seems to demand a special consideration in the current thinking and action towards institutional changes for participatory management. An additional justification for this focus rests with the fact that roughly one-third of the world's population and nearly half of the world's poor live in South Asia (Figure 3). While focusing on South Asia, the paper derives mainly from, and makes special references to, the experience of Pakistan's water resources management.

The theme of this paper is also directly related to the programmatic interests of the International Irrigation Management Institute (IIMI)<sup>1</sup> and its current priorities. Particularly for Pakistan, IIMI's planned program recognizes the critical nature of Pakistan's food production situation and emphasizes in its medium term strategy the need to strengthen the local capacity and to maximize the role of farmers and rural communities for increasing agricultural

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<sup>1</sup> The International Irrigation Management Institute (IIMI) is an autonomous, nonprofit international research and training institute supported by the Consultative Group on International Agricultural Research (CGIAR). IIMI's mission is to foster the development, dissemination and adoption of lasting improvements in the performance of irrigated agriculture in developing countries.

production. In Pakistan, irrigated agriculture is both the largest user of its limited water resources, which are unevenly distributed in terms of time and space, and its vast land resources much of which is environmentally fragile, and therefore, the way irrigated agriculture and its infrastructure are managed is of special significance to Pakistan's economic development. In a similar assessment, the quality of irrigation management can be seen as a major issue for the economic security of the whole of South Asia.

In the following sections of the paper, an attempt is made to isolate some important features of the respective roles played by the governments and the water users in present participatory irrigation management approaches, and based on them and their institutional constraints, to identify the main characteristics of a new approach.

## **2. PARTICIPATORY IRRIGATION MANAGEMENT**

The term "Participatory Irrigation Management" is popularly used to refer to the involvement of water users in the management of irrigation systems. In the context of its current usage, the term seems to imply a dominant role to be played by the government, not only in the act of "managing" irrigation, but also in the act of "involving" the water users.

The character of a participatory management approach depends on the nature and the scope of participation. Literally, "to participate" means "to take part", or, "to share". In water resources management, participation would mean shared control of water resources, or the sharing of decision-making power on issues related to acquisition, conveyance, distribution and use of water. For most of these issues, the power to make decisions currently rests with the government, and the water users have little voice in decision making processes for irrigation management. Obviously then, participatory irrigation management implies that the government and the water users have to share this power and that the governments are willing to transfer part of its power to the water users.

### 3. GOVERNMENT'S DOMINANCE IN CURRENT APPROACHES

A number of countries has attempted, with varying degrees of success, to have the water users involved in irrigation management. This is part of a global shift towards a reduction in public sector involvement in the management of economic infrastructure. Attention is increasingly being focused on developing countries, where investment on irrigation has been substantial as a proportion of their national budgets.

Some countries in Asia (Philippines, Indonesia, Sri Lanka), Africa (Morocco, Nigeria) and Latin America (Mexico, Colombia) have started national programs to transfer part of management responsibility for irrigation systems to local irrigation institutions. Research has shown that strategies to establish local irrigation institutions can be highly cost-effective and can result in immediate impacts. However, these positive results have been mostly in higher rates of cost recoveries, reduced overall O&M costs, reduced incidence of water thefts and water-related disputes, and some improvements in joint-management. Instances of successful organization to take over the actual management irrigation systems are rare.

In none of the Asian countries whose participatory irrigation management attempts were reviewed, do the water users appear to have taken the initiative for taking over any management responsibility. Table 2 gives a comparative assessment of the interests shown by the various actors in a few Asian countries. The dominant role of the government and the passive role of the water users can be seen in this assessment.

Most frequently, it is the government that decides to transfer part of its responsibility, and perhaps part of its power, to the water users. Some of the terms associated with this participatory approach, such as "maintenance contracts", "transfer of management responsibility", and "turnover" also confirm that the advocated change reflects a decision by the government to hand over management responsibility to some passive group of water users. Usually, the government decides what part of management responsibility should be transferred,

and how it should be exercised. Further, the government tends to use various social engineering methods to mobilize popular support for "organizing" the water users. The government would then use the organized groups for easing out its own burden in the management of irrigation systems.

This way, the government-sponsored farmer organizations, water users associations and their federations have often tended to become mere extensions of the government's own organization, acting as facilitators of various government interventions on such matters as irrigation system operation, maintenance and rehabilitation, inputs delivery, marketing and agricultural production. They are often used as instruments for obtaining farmer cooperation in conflict resolution, revenue collection and cost recovery. They are also used in some instances as devices to satisfy an increasing demand from the donors for reduced government budgets and related structural adjustments, and more efficient infrastructure management. On the average, this has been the past experience in government-sponsored transfers of responsibility to the users' groups. What can be seen in South Asia is much more dismal than the average global experience. Can the reasons be found in a historical perspective of the contextual background to these recent attempts in this region?

#### **4. DONOR INITIATIVES IN INSTITUTIONAL CHANGE**

The development process in South Asia was punctuated by intermittent attempts at institutional change. Some of these attempts were to introduce democratic institutions, some others were to bring about greater coordination, and yet others to improve the quality of management. Following project-based development aid, donor interest in promoting improved institutions and more efficient management for project implementation has been a conspicuous feature of the more recent changes. The irrigated agriculture sector, which attracted a larger amount of project-based development aid than any other sector, saw a proportionately higher incidence of attempts at institutional change.

**D. J. Bandaragoda**

Creation of new structures such as Water and Power Development Authority (WAPDA) and On-Farm Water Management (OFWM) Directorate in Pakistan, Irrigation Management Division (IMD) and Mahaweli Authority (MASL) in Sri Lanka, and Central Water Commission (CWC) in India are examples of major attempts at structural change in the irrigated agriculture sector. For improved inter-agency coordination, Pakistan has been experimenting with Command Water Management Projects (CWMP) in selected canal commands, Sri Lanka is now evaluating its introduction of the Irrigation Management Division (IMD) to the traditional Irrigation Department, and India has proceeded a long distance with a number of Command Area Development Authorities (CADAs). Similar structural changes have been attempted and are still being developed in Nepal and Bangladesh.

New laws, procedures and mechanisms for O&M cost recovery are another attempt at institutional change in the region. Basically a donor-driven initiative, this effort is now being increasingly appreciated as an essential change to meet increased O&M costs. Along with it came the idea of encouraging the water users to share part of the O&M costs. In many countries there was an increasing interest to involve the users in the management of infrastructure facilities. Among the government agencies, however, there was pessimism regarding the transfer of any meaningful responsibilities to the water user groups.

Recent political imperatives for devolution of power also led to some decentralization of responsibilities to various geographical units. In the sub-continent, irrigation has become a state or provincial responsibility, and the states or provincial governments have established their own irrigation institutions. With this change, the original tilt towards centralism has undergone some change, but aberrations exist; the devolution has only transferred power from the Center to the Provinces, while the management is still very much centralist in character.

Despite these sporadic institutional changes, however, the irrigation institutions in many of the South Asian countries appear to remain conspicuously static. Within the irrigation sector, the changes in institutions lag behind, qualitatively, the changes that have taken place in the resource base and technology over the years; they also lag behind the changes that have taken

place in other sectors. For this reason alone, the institutional framework for irrigation in South Asia is still perceived as inadequate in terms of present needs of social development.

Realizing this deficiency and following the efforts of other developing countries, some South Asian countries whose economies are largely dependent on irrigation, including Pakistan, have recently entered into a policy dialogue on the subject of "Participatory Irrigation Management". The government authorities, donors and professionals are currently engaged in developing new policies and strategies for an effective transfer of management responsibility to the water users.

For instance, the World Bank in their recent discussions on irrigation and drainage options in Pakistan proposed a reorganization of the country's irrigated agriculture sector. The establishment of autonomous public utilities for the management of irrigation systems was a prominent feature of this proposal. Thinking in terms of such radical institutional change is prompted by the common realization that it is now very difficult to restore administrative discipline and that the present institutional structure in Pakistan has ceased to provide correct incentives for improved irrigation performance. Along with this kind of external evaluation, there is also increasing awareness among national policy makers regarding the advantages of involving water users in the management of water delivery systems. More recently, the World Bank's Economic Development Institute and the Ministry of Water and Power of the Government of Pakistan co-sponsored a five-day seminar in Islamabad to outline the country's plans for Participatory Irrigation Management. The seminar produced some indicative plans for institutional change.

However, these efforts also have an inescapable linkage with the deep-rooted administrative culture of this region. The way the relevant issues are deliberated and the alternative solutions are developed, let alone how they are implemented, are flavored with this culture. To bring out this relationship, it is useful to, at least briefly, explain what is meant by this administrative culture.



## 5. SOUTH ASIAN ADMINISTRATIVE CULTURE

The notion of a distinct administrative culture in South Asia relates to the region's long history of development. Characteristically, this cultural factor has tended to fashion the institutional framework for development, especially in the irrigated agriculture sector. The following four main influences are discernible as having contributed to this culture at different stages of its development:

- (1) Ancient tradition of the ruler's responsibility<sup>2</sup> for nation building and social welfare, which contributed to evolving a supply-oriented administration.
- (2) Subsequent colonial-period influence of a regimented and formalistic administration, which was built upon the pre-colonial centralism, creating a dominant public sector with strict administrative discipline, and an efficiency-oriented, equity-based value system.
- (3) Post-independence political modernization, which retained most of the centralist elements of previous administrative styles while shedding some of the cherished values, resulting in a conspicuous dualism of ruling classes and the poor masses, or the "providers" and the "beneficiaries".
- (4) More recent development efforts focused on physical infrastructure and based on "projects" mostly supported by overseas development assistance, which have tended to favor a technocratic emphasis in administration, and to provide greater opportunities for handling large capital intensive activities.

The combined effect of these influences (ancient, colonial, post-colonial and technocratic) is an

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<sup>2</sup> Karl Wittfogel (1957) saw this as "oriental despotism" in which a social need to control large systems required the "benevolent" monarchies to take responsibility for managing the common goods.

interesting administrative culture. It has elements of democracy and feudalism existing in parallel and acting side by side to form the background to an unusual stable state in administration. In terms of relationships between the government (or its elitist members) and the people, the newly independent states still carried the vestiges of feudalism. In the words of Clifford Geertz (1963), they were the "new states with old societies". Largely, they still remain so. Being the most recent influence, the emphasis on technical processes seems to have remained as a conspicuously dominant feature of the present irrigated agriculture administration. Almost naturally, the people in this region tend to follow these cultural foot prints, even when they are in pursuit of the benefits of modern technology. The officials working in rural areas tend to have a feudalist outlook, and the farmers in their rather rare attempts at organizing themselves tend to select office bearers from elitist families. Irrespective of today's democratic ethics, big landlords in South Asia frequently interfere with, and successfully override, the formally laid down irrigation rules<sup>3</sup>.

Thus, a combination of traditional and modernizing influences, and a variety of associated attitudes, biases, skills and knowledge systems apply, sometimes as an amalgam of all, and sometimes as separate impulses, on South Asian irrigation management. Within this framework, there are also other influences. For instance, the influence of the developing market economy has made the entrepreneurship to blossom. The diffusion of green revolution technology was fairly fast in this region, but there was stubborn resistance to legislated land reform and agricultural tax reform. Overall, although the present administrative culture appears to be rather fragmented, reflecting the nature of the political culture of these countries (Almond and Verba, 1963), it represents a robust social system. On the one hand, it has been adaptable to numerous external pressures while retaining some basic indigenous elements, and on the other, it has absorbed a number of socio-economic changes while discarding some others.

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<sup>3</sup> This overriding effect of the informal influences over the formal institutions has been noted as a prominent characteristic of the current situation in Pakistan (Bandaragoda and Firdousi, 1992).

The question is why the positive changes occurred in some sectors and not in others. One possible answer lies in the findings of Mustafa Chowdhury (1988:217) that "the bureaucracy in Pakistan exercised a preponderant role in policy-making, due mainly to the weakness of representative institutions", and that "affirmative acceptance" of reforms by such a powerful bureaucracy would be contingent upon a resulting increase in power for the bureaucracy. The proposition at this stage is that the irrigated agriculture administration in South Asia is deeply imbedded in this peculiar administrative culture, and that, for any related institutional restructuring to be effective, it has to take account of this cultural factor.

## **6. MAIN INSTITUTIONAL CHARACTERISTICS**

As the government started to play a very dominant role in economic development of the newly independent nations, the government's efforts to position itself in the commanding heights of the economy led to the growth of the political system as well as to a rapid expansion of its executive arm. This process had a special effect in the case of South Asia, which is characterized by the following main features:

### **6.1 Fast Political Development**

South Asia can be described as a region, which has attempted a fast development in political processes. Immediately after independence, and in some cases even before independence, the countries were quick to adopt the Western models of democratic institutions. Most South Asian countries had early experience in representative government. India, Pakistan and Sri Lanka embarked on parliamentary democracy immediately with the declaration of independence. Universal franchise was introduced to Sri Lanka as early as in 1932. While this trend was helpful in overall political modernization in the region, it also had its own dysfunctional effects.

## 6.2 Inequitable Distribution

In this fast development process, the policies that were aimed at improving agricultural development through investment on infrastructure, price incentives and subsidies led to a skewed development. In part of this region, the opportunities and incentives provided by such well intended policies favored the few large land owners. In countries where effective land reform was not implemented, the overall distribution of farms in number and size remain substantially skewed. The small percentage of big landowners own relatively a high percentage of the total cropped area. Table 3 shows the distribution of landholdings for a number of South Asian countries.

## 6.3 Proliferation of Government Organizations

The development of populist politics in this region proceeded much ahead of economic development. This observation would appear to counter the findings of political theorists like, Huntington (1968), who saw "the lag in the development of political institutions behind economic change" to be a serious problem in developing countries. In fact, the two views are not different. What has proceeded ahead of economic development in South Asia is an expansion of the political structure rather than a genuine political development (the latter would have led to a high degree of political participation). The expansion of the political system also meant the proliferation of administrative institutional structures (Ministries, Departments, Divisions, Bureaus, Corporations, Commissions, Centers, Institutes, etc), beyond the country's needs.

## 6.4 Irrigation-Related Bureaucracies

The irrigated agriculture sector, because of its social and economic significance, attracted more than its due share from this institutional extravaganza. This feature is common to most of the countries in the region. Sri Lanka has been described as having more "irrigation institutions per hectare" than most countries (Merrey, 1992). India and

Pakistan being relatively large countries with central and provincial political arrangements, possess a very extensive institutional landscape. The multitude of organizations also mean a large number of government employees (e.g. Pakistan's irrigation departments of the four provinces have a total permanent work force of nearly 100,000 people). Inevitably, such large organizations have to be managed with some bureaucratic systems and procedures. The uncoordinated nature of organization for irrigated agriculture has drawn the attention of many evaluations. In most parts of this region, the institutions for irrigated agriculture operate in a fragmented framework<sup>4</sup>. Except for the resolution of water related disputes among the farmers, the Irrigation Departments' jurisdiction, and more importantly their interest, stop at the distributary outlet, leaving the area beyond the outlet to the Agriculture Departments. The outlet (Mogha) serves as a symbol of a "great divide" between irrigation and agriculture, which runs through the whole framework from the field level to Ministries at the center.

#### 6.5 Dilution of Accountability

With an enlarged executive body and a diffused institutional framework, the result invariably is a dilution of both responsibility as well as accountability. Inter-sectoral, inter-ministerial and inter-agency competition for funds and power tended to exacerbate this proliferation of organizational units and the dilution of accountability. In sharp contrast with the colonial administration, the present public sector agencies have tended to neglect the "rules" side of institutions. Often, this is largely attributed to the "soft state" attitude of the overly politicized administration of new governments. Field studies in these countries show evidence of a definite decline in performance of the irrigation sector since independence. Both farmers and agency staff recall with appreciation the more disciplined irrigation behavior during that earlier period. The present field situation is commonly attributed to what they call "political interference".

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<sup>4</sup> See Table 4, extracted from a previous study, for the diffused nature of an extensive institutional framework for irrigated agriculture.

## 6.6 Decline in Performance

The rapid political modernization process, which was followed by the quick expansion of its executive arm and a rapid dilution of its accountability, has seen over the years a decline in the performance of the public sector as a whole. The decline was extensive; it was visible in its regulatory functions, as well as in its infrastructure services. The actual root causes of this decline are not readily discernible, but an overall lack of accountability can be associated with it easily.

Despite the expanded public sector and its increased responsibility for national development, the South Asian countries have lagged behind other Asian countries during the last several decades. All the South Asian countries are still in the category of poorest nations, referred to as "low-income countries", showing relatively poor performance in several social development indicators. For a selected number of indicators, the relative positions among them compared with the weighted averages for 42 low-income countries and 109 of both low and middle income countries are given in Table 5. The constraints of the "bloated bureaucracy" substantially explain the difference between the South Asian social development experience from that of the other Asian situations. In this context, a consideration on viable participatory management approaches becomes not only relevant, but also very urgent.

Should the search for viable institutional development for participatory irrigation management be limited to its traditional path of relying on government bureaucracies and donor interests? Since irrigation is closely linked with local tradition, should not this search include a learning process to be initiated by the people? A strong theoretical basis exists for participatory action research, which is built upon the foundation of time-tested and holistic people's knowledge systems, using a two-way interaction between the experts and the people (Wignaraja and Hussain: 37). Time has come to explore these options in the field.

## 7. TOWARDS A NEW APPROACH

### 7.1 Why a New Approach?

Summarizing the foregoing sections of this paper, the following aspects can be isolated as relevant in considering a new approach to participatory irrigation management:

- (1). Despite a long history of attempts at institutional change in the region, there has been limited success in establishing an institutional framework that is responsive to current needs of sustainable development;
- (2). This failure can be attributed to the planner's neglect to recognize the existence of a strong administrative culture in the region while designing institutional change, and to the preferred practice in this regard of adopting a top down policy thrust on the people;
- (3). There is a need to recognize that, a large proportion of water users in South Asia are socially vulnerable, politically unorganized and economically weak; the socio-economic background in irrigated agriculture is substantially skewed; and therefore, a concerted effort in policy is necessary towards remedying this situation so that the majority of water users will be free to participate;
- (4). Even when they are not hindered by any social pressure, the water users need to see some meaningful (and real) incentives in taking over additional responsibility; and
- (5). Unless the water users themselves appreciate the value of a change, take the initiative to interact with the government and begin to play a significant role in the participatory management mode, it is most unlikely that an effective take-over of responsibility will occur or the overall performance will improve.

These aspects partly explain why the government-dominated decisions have failed to establish successful user-oriented institutional arrangements to effectively take over the responsibility in irrigation management, except in small-scale systems. The exceptions are mainly in traditional systems, which Robert Hunt (1989) analyzed as "irrigation communities" having their own systems of rewards, rights and duties. He posed the question whether the modern large-scale canal irrigation systems can be successfully converted to such cohesive social systems having complete control over the performance of the physical system. The issue relates to both the ability, as well as the willingness, of users' groups to have complete control or even shared control over large canal irrigation systems. In either case, the most basic consideration is whether there is a demand among the users for a take-over.

## 7.2 Some Features of a New Approach

A new approach should try to address at least some of the problems encountered in the past. For instance, instead of trying to coerce or manipulate water users' involvement in management, there should be a way of identifying, assessing and building on their intrinsic demand and their latent capacity. Similarly, a self-realization by the water users of the potential and the value of organized action towards achieving their economic well-being is more likely to help them to avoid complacency or the need to succumb to external pressure. Thus, in a new approach, the assessment of the above mentioned criteria should be a prerequisite to starting a participatory irrigation management process<sup>5</sup>.

In considering a new approach, an important reason for the past failure of governments or their agents should also be noted. Associated with government intervention is the popular notion that irrigation is a government responsibility or a service to be provided free of charge. The "beneficiaries" expect more free services and more subsidies from the government, the "providers".

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<sup>5</sup> The process of converting an agency-managed irrigation system to participatory management is well documented. For an excellent treatment of this process, see Skogerboe, Poudyal and Shrestha (1993).



As the governments have so far not performed well in institutionalizing effective participatory irrigation management, and are unlikely to do better in the future in a stubbornly persisting environment of subsidy-oriented attitudes, the proposition in this paper is that the local NGOs with their local knowledge and interest will be a more effective group to play this role, as the NGOs have demonstrated greater success in mobilizing the support of rural people for their own local activities. The NGOs as a third party, may fulfill the required additional task of interacting with the government officials to secure their commitment. The local NGOs also would be best suited to take account of the cultural and political sensitivity of the task of social organization.

Emerging social science knowledge indicates that the most effective tools for this type of catalytic action are the Participatory Rural Appraisal (PRA) and Participatory Action Research (PAR) techniques which are currently being sharpened in the field of irrigated agriculture. A strategy that relies on self-reliance for sustainable management change and accompanying performance improvement would find these tools tailor made for the suggested new approach.

### 7.3 The Role of NGOs

Previous studies on local level organizations have reported on the effectiveness of involving NGOs in rural development (Farrington and Biggs, 1990), people-centered development (Korten, 1987) and the development of rural organizations (Pradhan and Sharples, 1990). The Indonesian turnover program was assisted by an NGO (LP3ES) through its help in training government officials and in the whole process of institutionalizing the participatory methods (Bruns and Soelaiman, 1992). A Sri Lankan NGO, the Nation Builders Association, acted as a change agent in promoting participatory management in the country's two major irrigation systems, and contributed to the overall evolution of participatory management policy and strategies of the government (Athukorale et al, 1994).

Genuine involvement by the water users in irrigation management corresponds to their ability to internally generate and articulate their demand for sharing of power and responsibility. In participatory approaches attempted so far, the government officials or their agents in the form of social organizers or community organizers have tried to help in this process. Since the process should essentially begin with the water users and seek to proceed towards their social upliftment, the NGO in the role of the catalyst should be acceptable to the local community, should be able to identify, and closely respond to, the local ethos. The NGOs' contribution is envisaged to be from the following three main tasks:

1. *Viability Assessment:* As irrigation systems are unique in their behavior and responds closely to their environments, an assessment of the viability of participatory management in any given irrigation system becomes an essential part of initial planning. This assessment will primarily test the ability of water users to undertake the new responsibility. Their social and economic capacity (existing and potential), the influences of their internal structures and external or environmental pressures, the net gains (or losses) of a management transfer, the growth potential, and other perceived incentives can be included in this viability assessment. Along with this, an assessment may need to be made regarding the willingness among the users for not only organizing themselves into viable groups, but also for undertaking responsibility. The assessment may include the evaluation of latent capacity the users may have, which could be mobilized with catalytic social organization efforts. It will also consider what part of the system, what area, what size and what functions can be managed by water users organizations.

2. *Demand Identification:* Once the viability is established, and a fair degree of willingness has been observed, an effort to identify, and if necessary generate, an internal demand among the users can be the next step. It is presumed that some social engineering effort of this nature can best be done by an intermediary group such as an NGO. This is in effect an extension of the idea of deploying individual social organizers, which has already been used in many countries. Before the actual take-over of responsibility, the NGO will interact closely with the community and help the water users to organize themselves and identify the scope of

responsibilities they can perform, and internalize among themselves the need to undertake the identified responsibility.

3. *Management Take-Over*. Once the local demand has been identified, a formal request for management take-over can be presented to the present custodians of decision-making authorities, usually the government. At this stage, appropriate legal provisions will have to be made available. The NGO will continue to interact with the government and the users groups to ensure an effective take-over and the sharing of power in the participatory management mode that is specially designed in consultation with all concerned to suit the conditions of the given situation. The transfer of responsibility will take place only if its viability is established and commonly accepted, and appropriate institutional arrangements can be made.

#### 7.4 The Role of the Government

Merrey (1993) referred to a choice that the policy makers might have between "two basic strategies, either radical change imposed from the top down, or encouraging change through an iterative bottom-up long term process". The approach suggested in this paper is the latter strategy. Obviously, the government's involvement depends on a number of contextual factors such as the size of the irrigation system, the socio-political and economic environment, the legal system and the governance. Basically, as a point of departure from the current practices, the government's role will be perceived as one of facilitating the process of establishing a participatory management mode. The government's basic responsibility in ensuring food security in the country, and health, nutrition and other social welfare needs of its people cannot be ignored at this stage of development in this region. While accepting the sharing of decision-making power with the users, the government will need to perceive this as a people's program, and participate in it by providing it a legally recognized framework, assisting its smooth functioning with the necessary regulatory mechanisms and helping it with adequate support services. Most importantly, the government's responsibility will be to ensure that the established mechanisms are functional and are allowed to grow as enterprises.

An important concept guiding this formulation is that the government's responsibility for resources management does not end, or even get reduced, by handing over the irrigation systems to the users. The government will have a greater responsibility in ensuring that natural resources are allocated and used for the optimum benefit of the society as a whole. One of its prime functions is the development of a legal system that is helpful for an environmentally sustainable, economically viable and socially acceptable localized management of irrigated agriculture. The maintenance of law and order in the irrigation environment is another critically important government function. The appropriate adaptation of the institutional framework for irrigated agriculture to make it more responsive to current economic and social demand is a third urgent responsibility for the government. Some of the functions of the three partners in this effort are given in Table 6.

#### 7.5 Resources Required

In the foregoing proposition, no mention was made of any incentives for the NGOs to undertake this task. The issue of funding requirements to make the NGOs' services available to the two parties involved in the process of participatory management development is in fact a matter of restructuring the present investment portfolios for irrigation. Developing countries invest \$200 billion a year in new infrastructure; the World Bank alone (IBRD and IDA) has committed \$8.9 billion for infrastructure in 1993, of which nearly \$1 billion has been on irrigation and drainage (World Bank, 1994). The size of this investment and the large numbers of its potential beneficiaries demand a need to explore methods of deriving optimum returns from it. If the involvement of NGOs in developing viable participatory mechanisms for managing infrastructure services is accepted as a gainful method, finding enough funds for mobilizing them cannot be an unsurmountable problem.

## 8. CONCLUSIONS AND POLICY RECOMMENDATIONS

The water users' ability and willingness (their expressed demand) to share responsibility and power with the government for managing irrigation systems would largely determine the viability of a participatory irrigation management approach. These two attributes are normally fashioned by the extent to which the water users are convinced on the desirability of their entering into a participatory management mode. Thus, as a prerequisite to any change towards participatory management in any given context, its social and economic viability needs to be assessed. A neutral intermediary group, such as an NGO, can be more effective than a government bureaucracy in working with the water users to make these assessments, and if the assessments are positive, to develop appropriate institutional mechanisms and to help internalize the process of participatory management. The requirement of an initial viability assessment implies that no pre-conceived notion or pre-determined model will be imposed on the water users.

This is basically a demand-driven approach, in which the local culture, values, latent capacity and the need for change will be comprehensively articulated. Irrigation management at some appropriate level of the irrigation system will essentially be part of a people's program. The government's main role in this approach will be to primarily facilitate this process.

A government of a developing country will have its unalienable social responsibility for ensuring equitable distribution of resources, poverty alleviation and rural development, regulatory mechanisms, rule adjudication and such other matters involved in strategies towards a balanced growth. This overall social responsibility forms the basis for a government's facilitating role in the development of viable people's programs. For such efforts to be sustainable, the NGOs can play a valuable catalytic role to secure the government's committed participation in programs essentially planned and implemented on the initiative of the users and their organized groups.

The following main issues are recommended for further discussion and policy attention:

1. In view of less than optimum results from the government-sponsored (and often donor-driven) participatory irrigation management approaches attempted so far, a more effective role can be identified for the NGOs as an intermediary between the government officials and the water users. The effort can be supported by a restructuring of funding portfolios of the governments and the donors.
2. This intermediary role should necessarily include the need to assist the parties concerned, particularly the water users, to initially assess the viability of participatory management on a case by case (or a system by system) basis. The decision to change, the level of management transfer, the structure of participatory mechanisms and other details should depend on the results of this initial viability assessment.
3. The governments' decisions and initiatives to participate in this process should accompany an appropriate agrarian reform package to provide the necessary conditions for nurturing unfettered people-oriented development in the irrigated agriculture sector. This step is essential to reduce the existing dominance-dependence syndrome and other social impediments against genuine people's programs.
4. The peculiar administrative culture in South Asia, which is a derivative of the colonial and pre-colonial bureaucratic dominance, is another impediment to people's initiative in development. Some form of administrative reform will help both the government and the water users in furthering their participatory irrigation management objectives.
5. As the development of viable water users organizations require a long gestation period, participatory irrigation management should not be limited to hasty, and sometimes half-hearted, efforts associated with donor-financed physical infrastructure projects, but should form part of clearly articulated and fully committed national policy linked with an overall social and economic development process.

## 9. ACKNOWLEDGEMENTS

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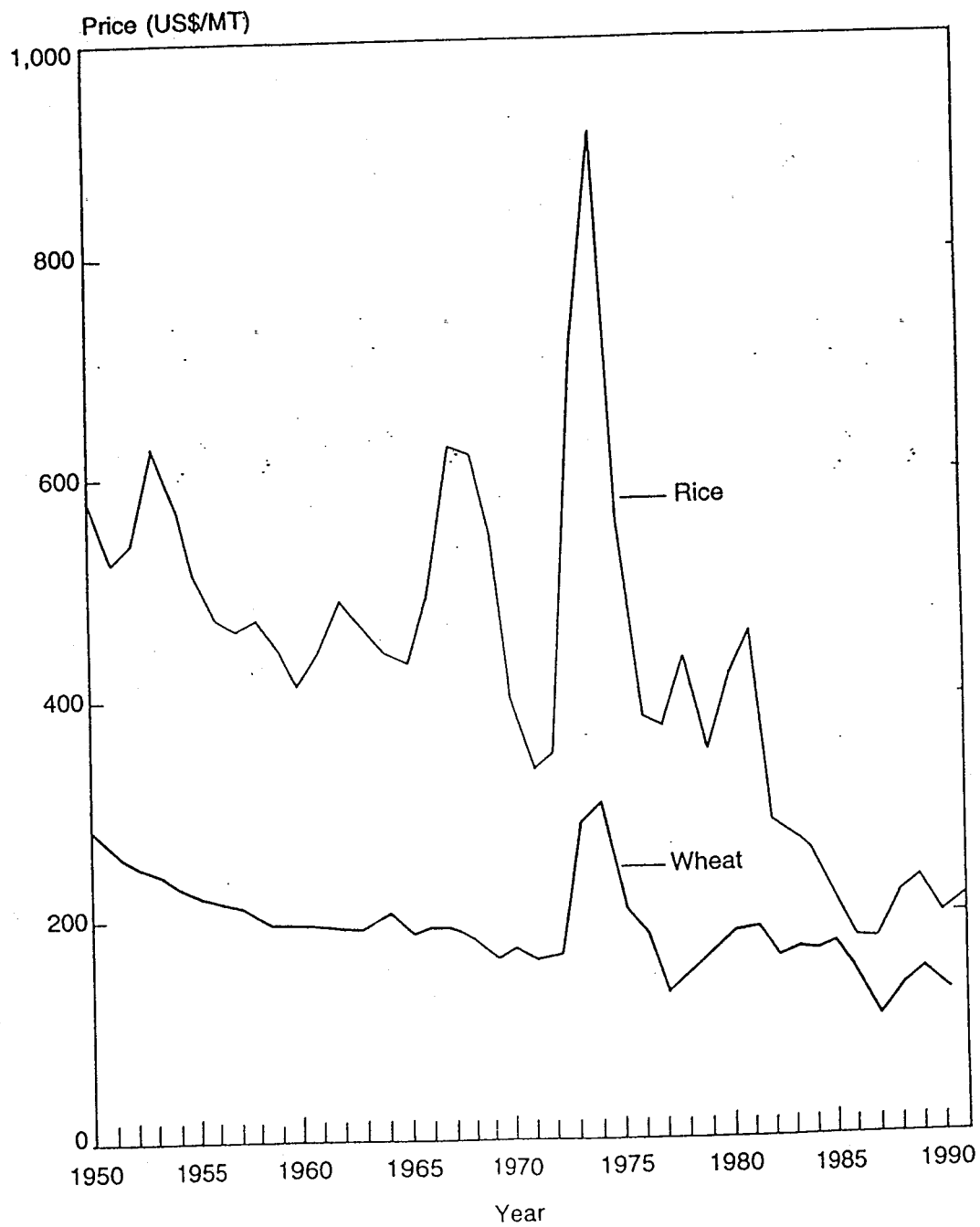
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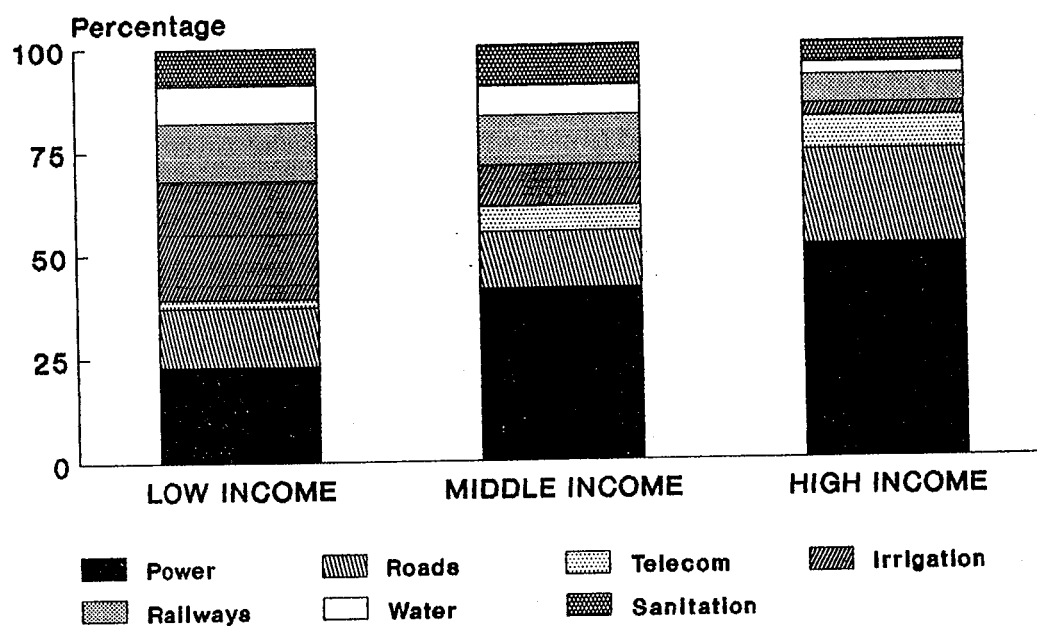
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Figure 1. Real world prices of rice and wheat (1985 prices)



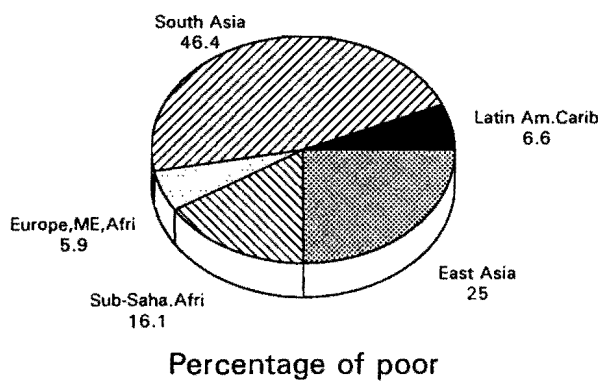
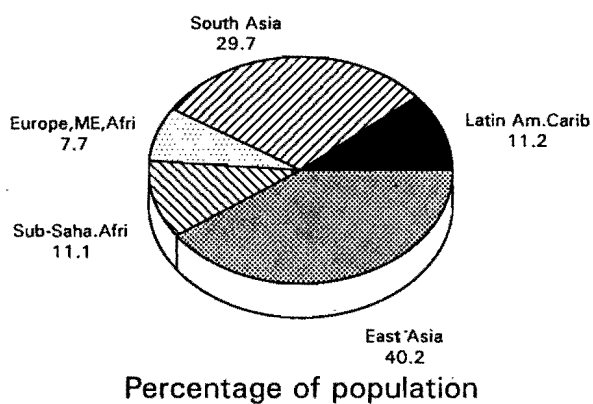
Source: Heim and Abernethy (1994:80)

**Figure 2**  
**The Composition of Infrastructure**  
**Changes with Country Income Level**



Source : World Development Report 1994, P.4.

**Figure 3 Population and Poverty in the  
Developing World, 1985**



**Source: World Development Report 1990, P2.**

Table 1. Real capital costs for construction of new irrigation systems, 1966-88 (in US \$/ha)

Year	India (1988 prices)	Indonesia (1985 prices)	Philippines (1985 prices)	Sri Lanka (1986 prices)	Thailand (1985 prices)
1966-69	2698	1521	1613	1470	1419
1970-74	2368	1681	1882	2056	2584
1975-80	1656	3187	2263	2909	2366
1981-85	4033	3283	2688	5288	2276
1986-88	4856	4096	na	5776	2812

Source: Heim and Abernethy (1994:79)

**Table 2: Initiative Shown by Various Actors in Farmer Participation**

	Government	Donors	Users	Others (NGOs, Experts)
Philippines	High	High	Low	Medium
Indonesia	High	Medium	Low	Low
Sri Lanka	High	High	Low	Low
India	Medium	Medium	Low	High
Bangladesh	Medium	Medium	Low	High
Pakistan	Medium	High	Low	Low

Source: Author's assessments

Table 3: Distribution of Landholdings

	BANGLADESH			SRI LANKA			NEPAL			INDIA			PAKISTAN		
	Size ha	Holding (%)	Area (%)	Size ha	Holding (%)	Area (%)	Size ha	Holding (%)	Area (%)	Size ha	Holding (%)	Area (%)	Size ha	Holding (%)	Area (%)
0.0	0	11.1	0.0												
0.50	0 - 0.4	47.4	9.3	0 - 0.4	42.4	8.1	0 - 0.4	55.8	11.8						
1.00	0.4 - 0.8	16.4	14.4	0.4 - 0.8	21.9	14.2				0 - 1.0	54.6	10.9			
1.50				0.8 - 1.2	13.6	15.5									
2.00	0.8 - 2.0	17.5	33.3							1.0 - 2.0	18.1	12.8			
2.50							0.4 - 2.7	37.8	44.3				0 - 2.5	70.8	24.9
3.00															
3.50															
4.00	2.0 - 4.0	5.6	23.3							2.0 - 4.0	14.3	19.8			
4.50	> 4.0	1.9	19.7												
5.00															
5.50													2.5 - 5.1	17.5	21.3
6.00															
6.50															
7.00															
7.50															
8.00				1.2 - 8.0	22.1	62.2									
8.50															
9.00															
9.50															
10.00							2.7 - 10.0	5.7	31.6	4.0 - 10.0	10.6	30.3	5.1 - 10.0	7.6	18.1
10.50							> 10	0.7	12.3	> 10	3.0	26.5			
11.00															
11.50															
12.00															
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18.00															
18.50															
19.00															
19.50															
20.00													10.1 - 20.0	2.6	13.2
20.00													> 20	1.5	22.8

SOURCE: Francis Robinson (1989)

**Table 4: Institutional Framework of Pakistan's Irrigated Agriculture**

Irrigation-related Intervention	Policy/Planning	Design and Construction	Operation & Maintenance	Research
<u>Water Acquisition</u>				
River Diversion, Reservoir Small Dams	ECNEC, CDWP, DDWP MWP, MAFC PC, MF PDWP, WAPDA PP&D, PID, PAD	WAPDA PID	WAPDA PID	MWP (WAPDA) MAFC(PARC, NARC) MST(PCRWR, NADLIN) ME(Universities, CEWRE) PID (IRI)
<u>Water Distribution</u>				
Main Canal Distributary Minor		WAPDA  PID	WAPDA  PID	
<u>Water Use</u>				
Watercourse Field	PP&D PAD, PID Farmers	PAD (OFWM) Farmers Groups Farmers	Farmer Groups Farmers	WAPDA (WMED, Mona LIM) Universities NARC, IWASRI, PCRWR PAD(RRI, ARI) PID (DLR)
<u>Water Disposal</u>				
Field Drainage Drains(Surface & Sub- Surface) Outfall	Farmers, PAD PP&D, PID WAPDA	Farmers PID WAPDA	Farmers PID WAPDA(SCARPs)	IWASRI SMO PCRWR(DRIP) MONA, LIM Universities

CDWP	=	Central Development Working Party
CEWRE	=	Centre of Excellence in Water Resources
DDWP	=	Departmental Development Working Party
DLR	=	Directorate of Land Reclamation
DRIP	=	Drainage and Reclamation Institute of Pakistan
ECNEC	=	Executive Committee of the National Economic Council
IRI	=	Irrigation Research Institute
IWASRI	=	International Waterlogging and Salinity Research Institute
LIM	=	Lower Indus Water Management and Reclamation Research Institute
MAFC	=	Ministry of Agriculture, Food and Cooperatives
ME	=	Ministry of Education
MF	=	Ministry of Finance
Mona	=	Mona Reclamation Research Project
MST	=	Ministry of Science and Technology
MWP	=	Ministry of Water and Power
NADLIN	=	National Documentation Centre, Library and Information Network (on Water Resources)
NARC	=	National Agriculture Research Centre
NESPAK	=	National Engineering Services of Pakistan
OFWM	=	On-Farm Water Management
PAD	=	Provincial Agriculture Department
PARC	=	Pakistan Agriculture Research Council
PC	=	Planning Commission
PCRWR	=	Pakistan Council for Research on Water Resources
PDWP	=	Provincial Development Working Party
PID	=	Provincial Irrigation Department
PP&DD	=	Provincial Planning and Development Department
RRI	=	Rice Research Institute
SMO	=	SCARP Monitoring Organization
WAPDA	=	Water and Power Development Authority
WMED	=	Watercourse Monitoring and Evaluation Directorate

Source: Bandaragoda (1993: 63-64)