

Impacts of the Institutional System on the Participants and on Irrigation Performance

A Note for Discussion

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INTRODUCTION

THIS PRESENTATION IS largely based on the discussions over the past three days and is intended to deal with some major impact areas of different institutional arrangements on participants and on irrigation performance. This is not a concluding remark. Instead, by comparing and contrasting the possible impacts of various institutional alternatives, this presentation will "open the doors" further for discussion and debate. Following this introductory section the note will be divided on the basis of the major institutional subject areas identified at the workshop:

- Organizations
- Governance
- Legal framework
- Financial framework
- Farmers' role and status

Based on the country reports to the plenary session, the status of respective countries will be summarized first. This **will** be followed by a brief discussion on possible impacts of different institutional forms. Such a discussion should help the country groups in defining objectives of necessary institutional "reforms" or "change" in the next session.

Institutional systems have been clearly defined at the outset by Dr. Douglas J. Merrey. For the sustainable development of irrigated agricultural production systems, it is necessary to optimize the use of appropriate *technologies* and the available (limited) *resources*. Institutions and organizations will have to act as a tool for combining resources and technologies.

About a decade back Prof. Ian Carruthers said: "In Africa irrigation **is** either largely unimportant or unsuccessful" However new institutions in certain African countries have already begun to combine the limited water resources and appropriate technologies for more productive and profitable agriculture. For improved performance and sustainability, the institutions should also consider such aspects as environmental concerns, distribution and other social values.

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With regard to the impact of institutions on the individual participant it should be noted that, whatever the nature of the institution, its activities may not be effective unless it involves the participation of the people directly concerned. Economic strength or socio-political power of the individual may not be adequate to reach desired economies of scale or to deal with undesirable socio-political powers. Hence, the organization will have positive impacts on its participants. On the other hand, the productivity and sustainability of institutions or organizations would depend on the creativity, resourcefulness, honesty and hard work of its participants. Such organizations will help augment resources and will improve coordination and cooperation.

An individual autonomous farm system such as a farm irrigated by a shallow well located in an easily renewable aquifer (e.g., flood plains in Bangladesh) may need little or no cooperation from outside." On the other extreme, one finds large canal systems where cooperation and coordination between various actors (farmer-farmer, farmer-agency, agency-agency, etc., and with the organized private sector) play a critical role. Moreover, the impact of institutions on individuals as well as on performance will depend, among other things, on the supply characteristics and scale of irrigation systems, nonirrigation factors related to irrigated agriculture, nonagricultural factors including global trade, political considerations, etc.

At this stage, I like to draw your attention to a diagram on "global economic disparities" shown by Mr. Tissa Bandaragoda:

- If the Philippines is classified with the rich countries and if they are free of erratic water supply characteristics, typhoons, etc., may one argue that this country will show the highest irrigation performance ?
- Similarly, if the market is completely liberalized across the world what would happen to the agricultural product prices in the equilibrium ? Would irrigation be profitable at that point ?

A real analysis of performance may have to consider **all** such externalities

ORGANIZATION

It was clear from the country presentations that in **all** the countries there exists *at least one* central (or national) organization to deal with water resources development and/or irrigation. In some countries the situation is complicated and "confused" by having a large number of organizations at the national level (e.g., eight ministries in Thailand have something to do with water resources). Similarly, the policy functions are vested with a ministry (such as the Ministry of Agriculture in Malaysia) or with an interministerial/departmental authority (such as the National Water Resources Board in the Philippines).

If we assume that agricultural diversification is essential for economic development of the countries in the region then it is only logical to expect proliferation of organizations for natural resources management because diversification is associated with complexity of functions. However, in order to reduce conflicts or duplication of functions and to improve performance, it is crucial to improve coordination and cooperation between organizations. In order to clarify functions of organizations at different levels, to regulate functions as and when necessary, to relate to other non-water organizations in the agriculture sector, etc., it may be necessary to have a coordinating body with a sufficient degree of authority vested in it. (e.g., National Water

10 Even in such cases it may be profitable for the farmers to organize into groups for service functions.

Resources Board [NWRB] of the Philippines). By no means should this imply "centralization of power." This aspect will be discussed further under the topic, "Governance."

At times, large irrigation projects (such as river diversions) are constructed by incorporating community-managed smaller systems. At the completion of the construction phase, the community-based institutions/management organization may be replaced by a large bureaucratic institution. Such an organizational structure may be expensive in its operation, may not be acceptable by the people and the performance will be affected. Similarly, due to the "project-driven" nature of development, "artificial" organizations may be introduced to achieve projects objectives in time. Financial and other support to such organizations may disappear at the end of the project period. Consequently, the organizations may become defunct. It should be noted, however, that there are exceptions: consecutive efforts through a series of projects may help to institutionalize a process or an organization.

GOVERNANCE

Dr. Douglas J. Merrey has identified three form of governance:

- centralized
- decentralized
- devolved to local authorities

In most of the countries in the region, water resources are owned by the state. In almost all the countries, allocation of authority and power is centralized. However, a trend of devolution of such powers can be observed. For example, Indonesia is trying to decentralize powers to regional levels (funding authority however, may be retained at the center). In the Philippines, the power of Local Government Units is being enhanced. In Lao PDR, due largely to communication and problems associated with accessibility, provinces (especially the Governors) had been enjoying a great deal of autonomy. However, with improved communication and other technologies, the government is now thinking of improving vertical integration.

In order to examine the impact of these institutions (related to governance) on participant3 and on performance, the latter two may need to be redefined. As we are dealing with a limited natural resource, our "participants" should include the members of future generations as well. This is relevant to the sustainability issue. Similarly, as we are dealing with a common good, we may have to consider the distribution or the equity aspect, too.

On the other hand, organized groups of small farmers may also be classified under the private sector. Then the small farmers (or organized landless groups, etc.) may also benefit from privatization and consequently the overall performance may be enhanced.

Similarly, devolution of power to lower levels of government may also be considered as an option under autonomy. Moreover, the causal factors for inefficiencies in the Government sectors may be analyzed and, based on the experiences of private-sector management, reorganization or restructuring of government bureaucracies may be attempted. Further, the involvement of beneficiaries in management may reduce government expenditure on operation and maintenance.

At the irrigation system level, the principal determinant is not the size of the system but to examine "who is responsible for management?" In certain large systems, due to the complexity of hardware and technology, or due to the fact that such systems cover huge watersheds, agency involvement in management may be necessary. The situation may be aggravated if the system is meant for multiple purposes. The performance of such an integrated system may be enhanced **and**

the multiple uses may be optimized (and therefore conflicts may be reduced), and multiple users may be benefited if the state or an autonomous corporation takes the major responsibility for the management of main system and headworks. Even in such cases, federated farmer/user organizations may share the responsibility with the agency. It may be argued that in such systems what is more important is to *institutionalize* a process to ensure productive *interactions* between the agency and the organized user groups.

LEGAL FRAMEWORK

Laws and regulations should provide an enabling environment for institutional development. Legal framework itself may be considered as a facilitating institution. Dr. Merrey has rightly pointed out that, instead of a limiting and control function, the legislation should play a facilitating role. He expects three major characteristics in water rights: clarity, security and transferability.

In regard to country positions, Lao PDR does not seem to be having a clear legal framework as yet. Administrative procedures play a dominant role in public systems. The country might establish legislation to safeguard community participation. Thailand, too, lacks a general framework and laws are "fragmented" and inadequate. In public systems, allocative rights are vested with the government. In Indonesia, individuals cannot claim legal rights to water resources. The rights are vested with the government. The traditional systems, where customary rights prevail, may be an exception. In Malaysia, depending on the situation, the federal and state governments as well as the individuals possess water rights. Even though the individuals are not allowed to sell their rights, the state rights are transferable.

The evolutionary process of the Philippines legislation is noteworthy. New legislation had been introduced from time to time, depending on the **need** and on the experience gathered, to ensure the rights of the Irrigators' Associations (IAs), the obligations of IAs and NIA, and more importantly the NIA-IA interactions and the collection of Irrigation Service Fees. More recently, laws have been imposed so that authority will devolve to Local Government Units to implement locally funded Communal Irrigation Systems.

In all these countries ownership of water resources **is** vested with the government.

With regard to the impacts **of** these legal institutions, as Prof. Constable pointed out, an appropriate legal framework may establish water and land rights and hence reduce disputes and enhance orderly functioning of irrigation systems. **Also**, legislation may provide for delegation of functions and authorities regarding management control of water, which in turn may lead to a higher degree **of** local management responsibility and, hence, improved performance.

One may argue that, if the responsibility (to manage) and the ownership (of resource) are divorced then the performance may not be optimized. In such circumstances, maintenance may be deferred and gains in the short run may be preferred by the operators. This will not improve viability of systems in the long run. **It is true** that the "ownership" will help reduce the temptation for exploitative use of water and would provide an incentive to maximize profits. However, security of tenure may be provided through alternative mechanisms. Ownership title **is** just one of the many alternatives available for this purpose.

Moreover, the state may act **as** the "savior" of public goods such **as** water resources and provide regulatory mechanisms to ensure their sustainable utilization. Similarly, legislation may provide protective mechanisms to regulate the distribution effects without having adverse effects on productivity.

Last but not least, it should be noted that the adequacy of implementing mechanisms **is** as important **as** legislation.

FINANCIAL FRAMEWORK

As for Country situations, it was reported that in Thailand, Indonesia and in Lao PDR irrigation water is a free commodity to the farmer. Part of the cost of irrigation, however, is being recovered by electricity charges, etc. It was reported that the Government of Indonesia, is seriously considering the introduction of an "irrigation fee." It should also be noted that farmers, in general, are providing labor and other inputs to operation and maintenance (O&M) at community levels. In certain cases, the entire costs of O&M in community-based small systems, as well as at lower levels of larger systems, are borne by the farmers. In the Philippines, farmers are sharing the cost of construction of Communal Irrigation Systems. In this country, irrigation fees are being collected at the rates of US\$21.00 (wet season) and US\$32.00 (dry) per ha per season. The collection efficiency over the past few years has been reported to be over 50 percent. In Malaysia, the water rates are comparatively low and are about 5–10 percent of the actual cost of water.

Generally, it is expected that local costs of construction of irrigation systems—as in the case of communal systems in the Philippines—and the O&M costs of all systems, should be borne by the users. Also, the efficiency of O&M (and, therefore, the overall performance) will be more if the amounts recovered are kept transparent and closer to the users. At the moment the users are not fully aware where the recovered money is kept or what happens to it. Water charges may also help reduce wastage. On this basis, one may argue that wastage could be minimized if water charges reflect actual costs. In many instances, however, it may not be practical to collect the actual cost of irrigation. Reasons are many. Only a few reasons are quoted below:

- i. Usually agricultural (raw) products are low-valued. Considering the escalating costs of production (and apparent stagnation of grain yields) the *capacity* of the small farmer to pay the full costs of irrigation is questionable.
- ii. The official figures of capital costs may be much higher than the actual costs.
- iii. The fee collected may not be used in an efficient manner so that there is no incentive to pay.
- iv. In large gravity systems, it may not be economical for the tail enders to pay the actual cost of water delivery.
- v. In farmers' view governments are subsidizing the non-farm sectors.

However, for reasons discussed earlier, it is advisable to recover at least part of the actual costs of irrigation. To begin with, the policymakers may design and implement mechanisms (such as farmer involvement in O&M) to reduce the cost of irrigation. Organized groups may be prepared to pay for water if it is delivered in adequate quantities and in time. In large systems, the agency may only be involved in the wholesale distribution of water—say at the distributary/secondary canal levels.

As the government agencies have increasingly found it difficult (or are reluctant) to allocate adequate funds for maintenance, the latter may conveniently be "differed." (This is also motivated by the fact that more often than not foreign donor funds are available for rehabilitation at a later stage.) Moreover, the donors are increasingly becoming reluctant to finance O&M. Hence, it is prudent that users bear the cost of O&M, for better performance.

FARMERS' ROLE

Individual use of a common good, or individual benefits derived from its existence, provide the motivation for the individual, to engage in group action (Olson 1971). Moreover, in most irrigation systems, group actions can be formulated in such a manner that no one will lose in the group transactions. Hence, the aggregate gain to the system, more often than not, may be regarded as a windfall gain. For example, dissatisfaction with commercial contractors may motivate farmers' organizations to bid for such work: this would result in a net gain to the system. At times, farmers' organizations are "established" by government officials at the field level, not necessarily to fulfill farmers' needs, but merely to follow the orders of higher officials. A federation of organizations based on hydrological boundaries may be useful in avoiding such situations. Federations or councils of user groups can help improve coordination and cooperation, not only among users themselves, but also between the State and farmers' organizations and between the private agencies and farmers' organizations.

If we accept that the ultimate actors who could determine the success or failure of the effort of agricultural production are the farmers, then there is little need to look for a sophisticated and ideological rationale for justifying farmers' participation in decision making related to the production process. Farmers' participation is important, not only to optimize resource use, and to increase productivity and profitability, but also to conserve the natural resources available to irrigated production systems. If we accept this position, then it is only prudent to consider the factors which would influence the sustainability of organized group action. Favorable adjustments in such factors would help evolve appropriate institutions for effective group action and lead to the sustainability of farmer participation. This in turn will help improve performance.

Institutionalization of participatory management in irrigation systems (where a large number of beneficiaries are involved) is as complicated as it is important. One major concern is the form of participation; another is the machinery of participation. We believe that farmer participation in management is a *dynamic and evolutionary learning process*. Hence, one should not aim at a unique form or machinery of participation.

Farmers' participation may not be confined to their representation in management bodies of a particular irrigated agricultural production system. Instead, various forms of participation have been introduced in widely differing political, economic and social systems; and it has been proved that there are many other ways of providing for the participation of farmers in the management of production systems than through membership in decision-making bodies.

Farmer participation in management is not something that can be set once and for all in a particular pattern; it is rather an evolutionary process which is dynamic in nature. It is dynamic in the sense that both the form and the machinery of participation should be adjusted to meet the changing needs. With regard to the form, a large number of patterns may exist between two extremes: from an authoritarian situation where farmers' activities in the production system are governed (or extensively controlled) by the management authority, to a situation where the management decisions of the irrigated agricultural production system are taken exclusively by farmers or farmer groups. The productivity and sustainability of participation will be enhanced through progressive expansion of the farmer's role in management. In a small farm environment where the small farmers perform crucial management functions, a rational institutional framework is necessary to involve these mini-decision-making units through organizational activity and to sustain such involvements. The major characteristics of such an institutional arrangement are given below. The role of farmers' organizations can be institutionalized if the following conditions are internalized:

- a. Institutionalization of the learning process of institution building
- b. Increasing profit to individual participants
- c. Adjustments in the organization to cope with new demands
- d. Bureaucratic reorientation and structural changes in the bureaucracy
- e. Legal support and protection
- f. Information systems and training
- g. Self-correcting mechanisms (monitoring and evaluation)
- h. Financial policy
- i. Political will to accept participatory management

Reference

Olson, Mancur. 1965. *The logic of collective action*. Cambridge, M A Harvard University Press.
(Reprinted in 1971)