

## FARMER ORGANIZATIONS AND IRRIGATION MANAGEMENT: A RECONSIDERATION

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Participatory development, whereby the targeted beneficiaries are encouraged to take an active role in **shaping the** development that will affect them, has become a popular theme **among** international **donor** agencies and **private** organizations. A generally accepted doctrine in the field of irrigation **management** says that farmers should play a more active role in local infrastructure management and water allocation, and that this should be accomplished by establishing formal irrigation associations. This policy has been developed with little research on the extent to which farmer Organizations are **effective** in improving the physical performance of irrigation systems. While cooperation among farmers is **the sine qua non** of efficient irrigation management, organizing farmers into formal associations is only one means of attaining the requisite cooperation. Alternative approaches involving government management and enforcement might give better results in **some** situations.

### The Need **for** Cooperation

Managing limited irrigation water at optimal efficiency requires that individual farmers receive less water than they desire so that society as a whole can receive the highest possible returns to investment. With limited supplies, for **example**, total wheat production will be higher if water is spread thinly over the entire command area than when the same limited supply **is** concentrated in only part

of the area. The farmer's interest in wanting enough water for maximum yields **is** at odds with the interest **of** the collectivity of farmers, each of whom wants as much water as possible. In order that each farmer gets his fair share, some form of cooperation **is** necessary. An irrigation system with enough water to support maximum yields is actually an inefficient system. Full water supplies and satisfied farmers are not necessarily indicators of a successful project; they may be symptoms of poorly designed systems whose command areas should be expanded to spread existing supplies more thinly and productively.

Given a water supply at the outlet which is less than the water demand below the outlet, the question of equitable allocation becomes problematic. Farmers at the head reaches can increase their yields **by** using extra water but this will create serious water shortages for tail-enders, and over-all production within the service area **will fall**. How can farmers be induced to share a limited supply **of** water in an equitable fashion? In some cases, head-enders might voluntarily share water with tail-enders in spite of the economic cost involved (e.g., if they are related **or** recognize mutual social obligations). If voluntary measures are insufficient, coercion and/or legal sanctions might be necessary.

### Organizational Alternatives to Promote Cooperation

The appropriate method for encouraging farmers to cooperate depends on the circumstances. In some cases, formal farmer associations may be beneficial but they should not be seen as a blanket solution. A critical factor in evaluating the potential for voluntary farmer cooperation **is** the history of the irrigation system and of the farmers themselves.

There are three historical situations to consider: first, indigenous irrigation systems built and operated by stable, traditional communities represent situations where farmers enjoy a long tradition of cooperation. While the allocation **of** irrigation water **may** not be equitable, farmers follow an accepted procedure and there is little or no need to establish new institutions to promote farmer cooperation. Second, new irrigation systems running through old established farming communities are another situation where pre-existing social and political relationships need consideration before any new organizations are introduced **for** irrigation management. And, third, farmers in new irrigation systems within new settlement schemes may be social strangers. **The** socio-economic **bonds** that link families in stable communities **have** not yet had time to develop and the level **of** farmer cooperation necessary **for** efficient irrigation management can be attained only through government supervision and/or **by** establishing formal irrigator associations.

Depending on the ability of farmers to cooperate among themselves (which in turn **is** dependent **on** their settlement history), one or more of the following approaches might be appropriate:

**1. Indigenous organization.** If existing social institutions are adequate **for** irrigation management, a "hands-off" policy is appropriate. Most indigenous systems, as well as some new systems built in stable community environments, would fall under this category.

**2. Government management.** **If** farmers cannot manage their irrigation supplies effectively, or can manage only a portion of the system, some government involvement would be required. Nearly all large-scale systems fall in this category, with the extent of government's optimal role depending on the ability of farmers **to** cooperate informally among themselves.

**3. Induced organization.** If farmers cannot manage their irrigation **supplies** effectively, the government **may** choose to encourage or "induce" their participation in lieu **of** direct government management. The popularity of this approach is growing, largely because of the experience of the National Irrigation Administration in the Philippines.

While cooperation among irrigators is an economic imperative, the magnitude of such cooperation depends on specific social and historical conditions. These conditions must **be** considered before proposing an organizational solution to improve local management **of** irrigation resources.