FARMER PARTICIPATION IN WATER MANAGEMEN'T IN THE MAHAWELI PROJECTS

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The Mahaweli Programme

The original FAO Master Plan for the Mahaweli Ganga Development programme anticipated the development of 900,000 acres of land with the provision of irrigation facilities. This comprised 650,000 acres of new land and 250,000 acres of lands, already irrigated but needing supplementary irrigation. Over 200,000 farmer families were to be settled in these newly developed areas. The many dams to be constructed under this programme would generate about 500 Megawatts of power for industrial development and rural electrification.

System H is one of the settlement areas where approximately 24,000 families have been settled. Each settler family has been given 2.4 acres of irrigable land and a little more than half an acre of highland at their homestead. The social infrastructure, hamlet centers, village centers, townships which include schools, hospitals, banks, police stations, co-operatives, and commercial areas have been planned and constructed to cater to the needs of these new settlement communities.

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A Unit Manager is in-charge of a Unit comprising a group of 250 farmers. He is assisted by a Field Assistant who is engaged in agricultural extension work. A Block Manager is in charge of a Block, which on an average covers 10 Units. The Block Manager is assisted in his work at block level by an Agricultural Officer, Irrigation Engineer, Land Officer, Community Development, and Marketing Officer. Three to five blocks make up a project area. There are three such project areas in System H each under a Resident Project Manager. The Resident Project Manager has higher level officers of each of the disciplines represented at the block level, to assist him in the management of the project.

Settlement Features

Some of the features of the Mahaweli settlements are outlined below:

- 1. By Sri Lankan standards, each project covers extensive yet contiguous areas for irrigated agriculture (approx. 50,000 to 100,000 acres).
- 2. Water storage and regulation of the Mahaweli river have given rise to an unprecedented centralized system of water issues to the many irrigation projects covering a large part of the dry zone.
- 3. Small farm model (2.4 acres irrigated farm land and .6 acres homestead).
- 4. Cluster hamlets each consisting of about 125 homesteads in System H and about 250 homesteads in other projects per hamlet, with farmlands within convenient walking distance.
- 5. Farm layout and water delivery system bused on the concept of turnouts, i.e. off-takes from the distributory channels irrigating an average of 18 to 20 farm units under a field channel.
- 6. An unitary approach to management of the Mahaweli settlement projects. At the operational level, the Unit Manager is responsible for a specific area of about 600 acres of farm land/farmers. At a higher level he is assisted by senior specialist functionaries.

Objectives of Farmer Participation

There are three objectives of procuring farmer participation:

1. To obtain collective commitment and assistance of farmers in the opera. tion and maintenance of the irrigation system.

- 2. To guide farmers in the efficient use of irrigation water.
- 3. To involve farmers in the eventual self-management of the secondary and tertiary irrigation systems.

Experience in'the Mahaweli Projects

The organisation of farmer participation necessitated the determination of: .1) physical and social basis for grouping of farmers; 2) the nature and size of the grouping and the leadership desired; 3) how and to what extent to effectively engage them in water management; 4) and the type of training required.

System H (Kalawewa) was the first new irrigation-cum-settlement project taken up under the Mahaweli programme. It consists of about 24,000-2.4 acre farms. Tertiary irrigation system is based on a series of turnouts. Unlike the Mahaweli areas (System **B** and C) which were subsequently taken up for development where population is sparse, there were many scattered villages in and around System H. The villagers were traditional social groups. In resettling them in System H, much effort was made to provide their homesteads and farmlands in a manner causing least dislocation to their social ties.

Systematic establishment of farmer groups for irrigated agriculture commenced in the year **1979.** In this exercise the following guidelines were adopted:

- □ The physical basis for the groupings to be the turnout for convenient and effective water issue and regulation.
- □ The social basis to be the farmers community which received land within a turnout. As in the hamlets, farm lots within a turnout were generally given to farmers with close social links. This proved to he a positive factor in activating the water-user groups.
- □ The subject of water management was considered in a broad perspective. It was more than the mere issue of water to the fields and maintenance of the channel. It also covered those aspects of land preparation, soil management, cropping, and institutional growth pertaining to water management.
- □ A forum to be established for regular participation of officers and farmer representatives.
- □ Understandably in a new project, the initiative has to come more from the officers in organizing farmer participation. Intensity of officer involvement was to he gradually lowered with the growth of farmer groups for self-management.

Organisation for Farmer Participation

In 1979, when this programme commenced in parts of System H (H1, H2, H7, and H9 which presently falls within the Galnewa Project Manager's Division) the unit management method did not exist. Up to its introduction in 1981, the field level operations were assisted by KVSs (*Krushikarma Vyaptha Sevaka* --agricultural extension workers) and JPs (*Jalapalaka* - water management overseers). They were supervised by the Agricultural Instructor and the Irrigation Technical officer who functioned at Block level. However, the same arrangement was continued after the introduction of the Unit Management System. The main difference was the assignment of responsibility for field level operations to the Unit Manager. The Unit Manager was expected to function in an integrated manner.

At first, adequately instructed by the senior project management, the field officers organized general meetings of farmers. The importance of working in groups and under farmer leadership was explained. Farmers were sensitized to the need to have their own groups.

Accordingly, two farmer leaders were elected for each turnout by the farmers, one person mainly to associate with water management and the other with agricultural extension. They represented the turnout irrigation community at the fortnightly meetings convened by the officers at the community Centre, Those regular meetings were to serve several purposes: 1) to allow the officers and farmer representatives to exchange ideas, discuss, and solve problems with mutual understanding and assistance; 2) to plar the operation and maintenance of the irrigation system and agricultural programme in the respective areas with farmer participation; 3) to train farmers representatives and disseminate knowledge and instructions through them to the farmers; 4) to prepare work programmes for implementation by the officers with the assistance of farmers; and 5 to monitor progress.

The field level officers, i.e., JPs and KVSs, were to be assisted by the farmer representatives in their respective fields. Reciprocally, officers were to assist the representatives in their role, in a manner enhancing their position as leaders. This structure was complemented hy the monthly training sessions which were conducted for the Block level officers, who in turn regularly trained/instructed the farmer representatives.

It is seen that the ultimate objective was to involve the farmers in water management and agriculture through a scheme of training and participation.

A general evaluation of their performance up to the year 1982 showed limited but certain positive results. Farmers realized the importance of their groups to operate and maintain the field channels properly and for their common benefit. They became conscious of the necessity for collective effort to maintain the irrigation system and to cultivate land according to an agreed calendar. Preparation and implementation of programmes for rotational water issue and channel maintenance were rendered easy as they were done with farmer consultation and commitment.

The farmer organisation provided the medium for two-way flow of information and formed'a clase link between officer: and farmers. To the settlers who came from distant places of origin, a common-purpose grouping was welcome. Absence of such an arrangement would have placed them in a state of confusion and deprived them of easy access to institutional services. To the old villagers who were resettled, the turnout principle was a continuation of their traditional village institution. The old village society had its features of leadership, selfhelp, and collective responsibility generally determined by the irrigation system. Those concepts were easily adaptable in the layout of the new irrigation system based on turnouts. In fact, a growth of leadership and community responsibility in the new settlement was first observed in the turnout areas (i.e. 303 - Toranagama) in which the resettlers were the largest majority of the population.

The organisation of water management and agriculture on the basis of turnouts has yielded several gains. Within a few years, it was possible to reduce the excessive use of irrigation water to a desirable water duty. The yield per acre of paddy cultivation recorded a steep upward trend. The groups were instrumental in bringing about a considerable transformat on in agricultural practices. Crop diversification was successfully effected in System **H**. The interest that was shown by the participants was indicated by their eagerness to involve themselves in other community affairs as well. They wished to see that the turn-out groups attended to such matters as health, educatior , and cultural development. However, with a view to keep to the main objectives, a deliberate attempt **was** made to confine them only to water management **and** agriculture.

Some Issues

The observations outlined above do not in any way indicate that there was a growth of rural institutions or leadership to the extent desired. The period of time available was short, about four years. Obviously a longer period is required for their growth. My personal assessment is that the turn-out groups were proving them to he lively cells with a promise for faster growth.

This exercise also has problems and issues which need examination. The turn-out groupings were established for a well defined but limited purpose, i.e., for participatory water management and agricultural extension. Their operation was confined to the area below the distributory channel. Building them in a pyramidal structure into higher organisations was not intended. Views have been expressed that the small turnout groups should he federated at higher points on the irrigation network. This is a debatable issue. According to my experience it is advisable, at least in the initial stages of a new settlement project, to confine their area of work and scope to the fundamental tasks of water use and agricultural extension only. Their size should be viable enough to achieve simple yet basic objectives. Larger organisations with other objectives could result in a failure to meet fundamental objectives.

A tendency noted was that the field officer:; began to be over-dependent on the farmer representatives in the performance of their own duties. For example, the Irrigation Technical Officer expected the farmer representative to come to him with the irrigation problems. Some irrigation officers tended to be satisfied by merely expecting the farmer representative to carry out given instructions. They began to move away from the field. Farmer representatives began to feel that their voluntary role was being used as a cover to get work done which should legitimately have been done by the officers. Before such a misconception got entrenched the trend was arrested. In organizing participation and in relating it to the official structure, the possibility for this tendency should be noted.

A similar trend was observed in relation to agricultural extension as well. Extension workers tended to become over-dependent on the farmer representative. As a result, it became questionable whether the extension information really went down to the farmers. The farmer representative necessarily had to be involved in the exercise of organizing other farmers and in the dissemination of extension knowledge. But, understandably, mar y of the farmer representatives had certain limitations in regard to their absorptive capacity and the time that was available to spend with other farmers. Therefore, a scheme was devised to use the best of two means to approach farmers. That was to approach them through the farmer representatives as well as to reach them directly in the field.

Another issue is, to what extent the turnout farmer groupings should be built upwards to form larger organisational units. The question is whether it is really necessary to build upwards. Is it not more practical to confine its work to the area below the distributory channel and to keep its objectives limited and well defined? It is granted that some form of organisation to cover the many other development needs in a new settlement is necessary. It may be desirable to have a different organisation for such matters as social and cultural development and to exclude from them the objectives of turn-out groupings, water use and agricultural extension. Of course, although not distinctly seen in the management structure, farmer participation is built into the project's irrigation and agricultural programming even at a higher level. e.g. individual farmers can participate in a forum where vital decisions are taken on the preparation of the seasonal irrigation and agricultural calendar. Such important decisions as the dates and periods of water issues, the type of crops, the schedule of water issues are decided before the commencement of th: cultivation season by the joint participation of officers and farmers.

This is a requirement under the Irrigation Ordinance. Once decided, the seasonal programme is implemented and the progress monitored through the turn-out groups. This is an area where refinements and improvements could be effected to achieve better results in water use and cultivation. The collective plans of the different turnout groups could be made to serve as the basis for the preparation of seasonal cultivation and operation and managment plans. In effect, this is an acceptance of the principle of planning at a grass-roots level. Such a joint exercise could result in a free flow of information between the farmers and the decision makers and in planning, implementing, and monitoring programmes based on mutual commitment and consent.

Modifications

A subsequent modification made to the scheme was to allow a single elected farmer to represent a turn-out in place of two representatives as earlier. He was expected to cover both water management and agricultural extension. It had a few advantages. Farmers had only a single person to go to. Officers found it easier to work with a single person. Organisation of meetings and training became easier as the number involved was almost half. However, it had a number of disadvantages. With two representatives, there was broader specialization in the areas of activity. Farmers could so to the representative according to the nature of the problem. In a sense, training would have been more effective with farmers who sought specialization. Through such specialist representatives, irrigation management and agricultural extension would have been more effective. Two representatives from a turnout gave the assurance that a void resulting frum inaction or disinterest by one could be covered up by the other. The trial carried out with a single farmer representative was found to be deficient in many respects when compared with the performance by two representatives per turn-out.

Recent Experiences in other Mahaweli Projects

The concept of farmers participation through turnout groupings was introduced in February 1986 to the Mahaweli projects in System B (Maduruoya), System C (Ulhitiya-Ratkinda) and System G (Elahara). The System H model was replicated, subject to two modifications: I) the election of two representatives per turnout was reintroduced, and 2) the farmers were to be approached through their representatives as well as through the officers. This was a formal and informal means of working with and for the farmers.

There are five main features of this modified scheme:

- 1. A monthly meeting of Block and Unit level managers where they receive instructions from the senior staff.
- 2. Monthly meetings of farmer representat ves and officers instead of the fortnightly meetings.
- **3.** The Unit Managers with Block irrigation and agricultural extension staff serving as trainers **of** farmer representatives.
- 4. A joint meeting of farmers and officers within the turnout at least once a month. This is more or less a field-day type of training. Training, irrigation maintenance work, agricultural demonstrations, and organisation of voluntary labour (Shramadana) are to he done at these meetings.
- 5. These are to be supplemented by other field level agricultural and operation and maintenance programmes.

As the programme was introduced recently, it is too early to make any comments on its performance. However, it must be noted that the new programme benefitted from the experience and knowledge of problems encountered in system H.

No attempt was made in this paper to compare the Mahaweli experience with that of projects outside its areas. There is a major reason for this. The layout of the Mahaweli irrigation system is on the basis of turnouts? and is different to other older irrigation projects which do not have such finely worked out small turnouts. This fact makes it easier to organize Mahaweli farmers towards participatory management.