

SOME ISSUES IN THE IMPROVEMENT OF VILLAGE IRRIGATION WORKS

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Village Irrigation Systems are an unmistakable feature in the rural landscape of the dry zone. These systems also exist in the form of diversion weirs supporting an important part of small production systems in many parts of the Wet Zone areas of the country.

Through a process of close intergration and inter-dependance with the rural environment, these village irrigation works have survived through the ages. The resource base in these systems is markedly limited and therefore they have been spared of large investments by the respective Governments in the past which usually result in further expansion of the service area and drastic changes in the management of the system.

More recently, however, Government agencies and even foreign donor agencies have shown a great deal of interest in effecting improvements to village irrigation works. A combination of several factors converged during about last 10 years to treat village irrigation works as worthy of some organised form of assistance.

Firstly, the involvement of different disciplines especially from Social Sciences in studying the management aspects of irrigation systems has thrown a ray of light on the management organisations which have been developed in village irrigation works and their relevance in identifying some cardinal principles in the search for suitable management processes for major irrigation systems.

Secondly, the advent of the new agricultural technology of the Green Revolution raised new hopes in overcoming food deficits and also in improving the livelihoods of small farmers who engage in irrigated agriculture. The high complementarity between the new agricultural technology and irrigation facilities necessitated the extension of their benefits to a large number of farmers cultivating lands under village irrigation works. To realise these benefits it was considered that physical improvements to village systems were necessary to optimise

the efficient use of water and also improve its management by providing a more coordinated effort by different Government Agencies engaged in providing services to farmers.

Thirdly public investments on irrigation development have always turned more towards large irrigation systems, and less towards the minor village works. With the commencement of work on the Accelerated Mahaweli Development Programme, the pattern of resource allocation for irrigation development was even more pronounced in favour of major construction. Besides this disproportionate allocation of resources, investments in Mahaweli reflected a more regionalised character which magnified regional differences.

It also meant that areas covered by major reservoirs in the Mahaweli development zones would be assured of a guaranteed supply of water for year-round cultivation. The disparity created in the availability of the resource base and in the allocation of investment resources as between major construction works and village irrigation works compelled the Government to reckon a new criterion and extend a more benevolent hand towards improvement of village irrigation works.

Special consideration shown to village irrigation works in allocating an increased amount of capital investment for irrigation development however, does not appear to have been matched with a proper understanding of the technical and organisational response in minor irrigation systems. In the absence of any such knowledge, issues in the development of village irrigation works centred round the extent of Government spending and measures designed to obtain short-term economic gains in return for the expenditure incurred.

It is interesting to note that in the early fifties, considerations which governed State interventions were largely dictated by the level of technology required to construct or restore village irrigation works. Accordingly minor irrigation systems were defined in the Irrigation Ordinance as sys-

tems constructed and maintained by farmers. Others which were constructed or restored and maintained by the Irrigation Department were classified as major systems.

During the early stages of the modern period of development in the irrigation sector which commenced during the time of the British, improvements to village irrigation works were largely confined to the main headworks which the farmer community would not have been able to accomplish on their own without some capital input from the Government. Even the capital expended by the Government was required to be recovered from farmers in instalments. More importantly, improvements were effected in response to farmer requests which necessitated a process of consultation with beneficiaries and reaching broad areas of agreement in the nature of improvements to be effected. As a result it was possible to mobilise local resources to the maximum and harness farmer participation in sustaining optimum levels of management.

Two significant factors which contributed towards a change in these perspectives after Independence in 1948 were the high priority given to the restoration of irrigation systems and more recently to the availability of foreign funding at extremely favourable terms of repayment.

Firstly the priority accorded to irrigation development in the dry zone necessitated new areas of specialisation by the Irrigation Department especially in design and construction of major works which in turn resulted in new perspectives for the programme for irrigation development. Viewed from these perspectives, minor village irrigation works were not considered so important as the major works to consider finding a berth in the Irrigation Department. They were therefore placed under the maintenance care of the respective Government Agents who devised systems of local participation to sustain their usefulness to the local community through essential improvements carried out on them.

After the establishment of specialised line Departments became a new feature in the system of public administration in the country, minor irrigation works were given over to the newly created Agrarian Services Department in the late fifties in recognition of the relevance of participation by the local

community in the work associated with minor works. In the early seventies, minor irrigation works were handed over to the Territorial Civil Engineering Organisation (TCEO) which was considered a decentralised system with a high degree of engineering orientation. The TCEO existed in operation for little over five years and neither the organisation nor the minor irrigation works could adjust comfortably to the benefit of each other.

With the dismantling of TCEO, the minor works were transferred to the Irrigation Department in 1979. In the same year it was transferred again to the fold of the Agrarian Services Department with which the subject continues upto the present day.

Evidently minor irrigation systems are caught up in a web of indiscriminate interventions resulting from a sad lack of essential understanding of their intricate relationship to the rural environment. Rigid economic criteria which have found acceptance in major irrigation works cannot find justification for their application on village irrigation works because the village works are functionally more important as a protective resource for the rural environment and the community which draws sustenance from these small schemes.

More recently, it is observed that the restoration of minor irrigation systems which lay abandoned has been programmed for the purpose of resettling chena cultivators under the Anuradhapura Dry Zone Agricultural Project. Assumptions underlying the achievement of goals under this project through the restoration of minor irrigation systems had to be revised as they were found unrealistic. Lack of harmony and compatibility in project objectives with those of the important elements in the minor systems can result in seriously hampering the integrity of the system itself and throwing it open to a permissive regime.

Due to extreme limitations in the resource base a delicate equilibrium has to be maintained in minor works as between utilisable resources and the resource user for which a series of communal agreements which have acquired the form of traditional customs and practices have been evolved in the past. External interventions which

come in the form of organised programmes do not usually examine the relevance of these practices because the programmes through which these inroads are made, enunciate different objectives which place the irrigation system in a more subjective role to accomplish project objectives which are considered more important. For instance in restoring abandoned village irrigation systems, no systematic study was made to ascertain the causes which led to the abandonment of these schemes in the midst of prevailing land hunger among villagers.

Current progress in the improvement of minor irrigation systems suggests that there is a lamentable lack of awareness of the technological, managerial and organisational issues pertaining to minor irrigation systems. It is not fair to expect these minor systems to remain as static units in the midst of vast changes in the agricultural technology. Already the production systems in village schemes are strongly linked to the market economy but the extent to which these variables both within and without could be successfully combined into a reliable production system has not been adequately explored. On the other hand, the demand for more lands with irrigation facilities has taken its toll in the minor system by stretching the culturable area and seriously jeopardizing the limitations on its resource base.

Even more importantly, the resource area of minor systems which consist of micro-catchments have not been studied to determine their extents and measures to protect their yields. Very often these catchments constitute a sub-system in a larger reservoir. Instances have been found which indicate that improvements to minor systems without adequate investigation can lead to an adverse impact on the availability of water in large reservoirs. In the present context, more attention needs to be given to ensure the co-existence of these systems.

Although research work on minor irrigation works are largely undertaken by social scientists in areas related to their disciplinary interests, an urgent need exists to combine relevant technical studies on hydrology, soils etc. in an interdisciplinary setting to understand the intricate complexity in the behaviour of minor systems. This is a matter which cannot be any longer postponed.