

# IIMI - SRI LANKA PROGRAM'S EXPERIENCE IN STRENGTHENING NATIONAL CAPACITY

## INTRODUCTION

IIMI - Sri Lanka program was one of the early country programs that commenced activities in 1984, when IIMI-Headquarters was established in Sri Lanka, the host country. In 1988, the country program in Sri Lanka was designated IIMI-Sri Lanka Field Operations (IIMI-SLFO) with a distinct identity like any other country program, separate from the IIMI-Headquarters program. IIMI-SLFO program has made rapid progress and it is one of the most successful and vibrant country programs.

This paper describes the experience of the program with respect to the goals of strengthening in Sri Lanka of i) irrigation management agencies and ii) national research agencies working on some aspects of irrigation management. First, the paper describes the context and the environment in which the IIMI's Sri Lanka program has developed. Second, there is a brief description of the institutional linkages it has established and the activities it has developed. Third, there is an assessment not so much of the outputs of the activities, per se, but of the impacts of the activities in strengthening national capacities of irrigation management agencies and irrigation research institutions. Fourth, there is an analysis of the impacts and the conclusions based on the experience.

## CONTEXT

### Irrigation in Sri Lanka

The irrigated area of Sri Lanka has more than doubled since independence, covering over 550,000 ha. of land. About 65 percent of this area is under 'major' irrigation schemes, defined as those irrigating more than 80 ha. This heavy investment in irrigation has enabled Sri Lanka to reduce its rice imports from 60 percent of its annual requirement in 1948 to about 10-15 percent today, despite an annual population growth rate of 2.2 percent. Since the early 1980s, as the Accelerated Mahaweli Development Program has been completed, irrigation investments in Sri Lanka have shifted from new construction to rehabilitation and modernization of existing systems. Research has shown that while the economic returns to new construction have declined, the returns to rehabilitation projects, particularly those accompanied by management improvements, are often quite dramatic.

### Irrigation Institutions

Sri Lanka has a variety of governmental institutions involved in irrigation. The Irrigation Department (ID) is the oldest irrigation management agency, consisting almost entirely of civil engineers, which has been responsible for all major irrigation systems outside the Mahaweli system until recent devolution of some systems to Provincial Councils. The Mahaweli Authority of Sri Lanka (MASL) is a multi-purpose organization with special powers delegated by parliament, to develop and manage the Mahaweli river basin including systems that benefit from its waters outside the basin; it also manages a major non-Mahaweli system in southern Sri Lanka. These two agencies are under the Ministry of Lands,

## Irrigation and Mahaweli Development.

Within the Ministry of Agricultural Development and Research, the Department of Agrarian Services (DAS) has been responsible for 'minor' irrigation, defined as those systems with 80 ha. or less command; it now shares the responsibility with Provincial Councils. The role of the Provincial Councils is still evolving. Groundwater development is under yet another board.

In 1984, a comprehensive program, the Integrated Management of Major Irrigation Schemes (INMAS), was launched to promote improved irrigation system operation and maintenance (O&M), better coordination of inputs, and increased farmer participation. To implement this program, the Irrigation Management Division (IMD) was created within the Irrigation Ministry. IMD works in parallel with the Irrigation Department, and is located in the ID building. The organization arrangement under INMAS was progressively extended to cover about 44 major irrigation schemes including several important donor-funded rehabilitation projects (for which IMD is the implementing agency); this program has been used as a mechanism for experimenting and learning lessons from the field.

## Experimentation in Irrigation Management

In the late 1970s, several experiments with farmer participation in irrigation system management and improvement were initiated by both government and non-government organizations which led to perceptible improvements in system performance. A few key experiments can be highlighted here.

One very important strand of experiments is purely indigenous. Two examples that could be cited here are the "Kimbulwana case", and the "Minipe Case". In Kimbulwana scheme, a dedicated technical officer of the Irrigation Department decided that, without farmer involvement, a donor-funded rehabilitation project was not likely to have a lasting impact. He therefore motivated the farmers to form committees and get involved in the improvement of the systems, and its subsequent operation and maintenance. He was successful in assisting farmers to improve the equity, efficiency and reliability of water deliveries, and thus improve cropping intensity and yields. Perhaps more important, he assisted farmers to set up a management system in which farmers continue to take the primary responsibility for system operation, and are maintaining the entire system including the main system. In Minipe case, the then Deputy Director of Irrigation for Kandy Range implemented a committee system for improving the maintenance and performance, beginning in the late 1970s. This experiment has been a specific source of a number of the management principles later incorporated in the INMAS program. During the 1980s, a nongovernmental organization built on the Minipe experience through the implementation of several more pilot projects emphasizing institution building so farmers could take substantial management responsibilities.

Another strand of experiments exemplifies cooperation between local and international experts; with assistance from an external donor (USAID). Begun officially in 1979, the Gal Oya Water Management Project has had a tremendous impact not only in Sri Lanka but beyond. The original concept of this project was focused on rehabilitating part of the then - largest irrigation scheme in the country, the Gal Oya Left Bank System; but the package included a large training

component, technical assistance, research, and experiments with farmer organizations. Over time, this project evolved from a primarily construction-oriented effort, to one focused more seriously on institution building. Among other lessons learned from this project, came a tested methodology for assisting farmers to organize effectively using 'Institutional Organizers' (IOs) as catalysts of the process; a methodology for implementing rehabilitation of the physical system in a cost-effective and participatory manner (called 'pragmatic rehabilitation'); and an organization design for joint management of irrigation schemes. These important lessons emerged because an explicit 'learning process' methodology underlay all of the institutional and strategic experimentation.

A more recent project funded by the same donor (USAID) has been building on previous experience in the four major schemes in Polonnaruwa district. The Irrigation Systems Management Project has the objective of establishing a management system on these schemes which could operate them on a 'sustained renewal' basis.

Some important aspects deserve to be emphasized regarding the process of experimentation described here. First, the strong, effective, and continuous leadership provided at the highest political and administrative levels in the Government by the Minister and the Secretary to the Ministry respectively; and the existence of leadership, though small in number, at other levels in the Irrigation Department. Second, the willingness of a donor to build flexibility into a project to promote experimentation and a learning process approach to its design and implementation. Third, the enormous potential for human resources development of such a climate of experimentation. Many individuals, both Sri Lankans and foreigners had developed their skills in the Gal Oya project and quite a few had built their doctoral dissertations on the Gal Oya experience.

#### Irrigation Research Institutions

Though there has been a strong tradition of agricultural research in the country, there are no research institutions with sustained interest in irrigation management research. Agrarian Research and Training Institute in Colombo was closely associated with and involved in research in Gal Oya and training of Institutional Organizers (IOs) for the project. Many individuals had been benefited by the opportunity provided for doing Doctoral-level research. The Institute itself could not retain the highly trained persons or the momentum generated during that period. There are some institutions and consultancy firms in the private sector with research capabilities on specific and limited aspects of irrigation management.

#### IIMI - SRI LANKA PROGRAM

#### INSTITUTIONAL LINKAGES AND MODALITIES

#### Consultative Committee

IIMI - Sri Lanka Consultative Committee is the institutional mechanism for interaction at the highest level and comprises senior officers of the ministries and departments of irrigation and agriculture, heads of research and training

organizations and senior academics. The committee helps to deliberate on and determine the research program and other activities, set priorities, review and evaluate programs and relate it to overall national policy.

#### Memoranda of Understanding and Memoranda of Agreements (MOU and MOA)

MOU and MOA are developed either as a basis of continuing interaction and collaboration between IIMI and an organization or as the basis for a particular project.

IIMI has developed MOU with the following organizations in Sri Lanka:

- i. Agrarian Research and Training Institute, Colombo
- ii. University of Peradeniya, Kandy

IIMI has developed MOA with Government of Sri Lanka (GOSL) and a donor agency in the context of specific projects in the following cases:

- i. IIMI - GOSL - ADB for the Research Project in Kirindi Oya and Walawe projects (Phases I and II).
- ii. IIMI - GOSL - USAID Cooperative Agreement for ISM Project in the Polonnaruwa Systems.
- iii. IIMI - GOSL - ADB for Monitoring and Evaluation of Participatory Management Policy

#### Project Committees

These committees are specific to a particular project and operate at different levels:

- \* Project Coordinating Committees help to manage IIMI's projects. Examples: ISM Research Advisory Committee.
- \* Study Advisory Committee (SAC) to manage a research program and Study Coordinating Committees (SCC) to coordinate research at the scheme level; Example: SAC for research in Kirindi Oya and Walawe and SCCs separately for Kirindi Oya and Walawe Schemes; and Monitoring and Evaluation Project, NIRP.

These committees are chaired by senior officers at the appropriate levels who are in charge of the project or scheme, and comprise the representatives of departments and other organizations who are involved or interested in the project. The IIMI staff member who is in charge of the project or the research will be the convener of the committee meetings.

#### Finances for activities

There are a variety of financing arrangements for the activities in the Sri Lanka Program. In the initial stages, IIMI's core funds were the main source. Subsequently, many other sources were drawn upon. Some examples are the

following:

- i. ADB Technical Assistance grants for research in Kirindi Oya and Walawe - Phases I and II, and Monitoring and Evaluation Project.
- ii. Cooperative Agreement with USAID for financing under ISM project.
- iii. USAID support through a subcontract with ISPAN for IIMI's contribution to IMPSA.
- iv. ADB Technical Assistance for Monitoring and Evaluation
- v. EC Contract for Irrigation Research Management Unit under NIRP
- vi. USAID Cooperative Agreement for financing 'Shared Control of Resources (SCOR)' Project

## ACTIVITIES

### Field Research

#### Dewahuwa and System H

Early work on irrigation management for crop diversification was conducted in Dewahuwa and System H of the Mahaweli System. It involved considerable collaboration with national agencies, including some testing of management innovations at field channel and distributory channel level.

#### Kirindi Oya and Walawe

IIMI-SLFO has been carrying out field research in Kirindi Oya and Uda Walawe, the two major irrigation systems in southern Sri Lanka, since 1986. The research is conducted in close collaboration with the departments and agencies in both the systems. With renewed financial support from the Asian Development Bank, IIMI and its collaborators initiated an action research phase in mid - 1991. The purpose of this work is to test and assist in the implementation of selected organizational and management innovations which would improve the performance and sustainability of these systems, and would also be relevant to other systems in Sri Lanka.

#### Irrigation Systems Management (ISM) Project

In this USAID funded project, under the research component of the ISM project, IIMI contracts for specific research to be carried out by national institutions, generally private firms. The work is guided by a Research Advisory committee which fosters close working relationships among the agencies, consultants to agencies, IIMI, USAID and the collaborating private firms conducting the contracted research. All the nine applied research projects were completed by 1992.

#### Farmer-Managed Irrigation Systems (FMIS)

IIMI-SLFO completed, during 1991, a number of activities that had been

initiated under a previous IIMI-Headquarters supported FMIS program. One of the outcomes of the program is that a research officer completed the field work and wrote his M.Sc. thesis examining the sustainability and productivity of two systems previously rehabilitated - one by the government and the other by a non-governmental organization.

## Policy Research and Analysis

### Irrigation Management Policy Support Activity (IMPSA)

IIMI-SLFO's most visible activity during 1991 and 1992 has been its collaboration in the IMPSA. Funded by USAID, this activity uses a unique participatory and consultative process for elaborating and refining the government's participatory management policy and developing a wide consensus on the institutional reforms and strategies necessary for success. Ten major policy papers were completed and published by mid-1992. For each policy paper, a number of more detailed staff working papers were developed.

IMPSA is implemented by a Secretariat of Sri Lankan Professionals, guided by a high-level Irrigation Management Policy Advisory Committee (IMPAC). IIMI-SLFO provides both office support services and technical support to the Secretariat, so that IIMI-SLFO and Secretariat staff operate as a team. Secretariat members, consultants, and IIMI staff prepare draft staff working papers, in consultation with panels of experts; in addition, for each Policy Paper, the Secretariat organizes a series of Consultative Workshops with a broad spectrum of people, including farmers, field level officials, middle managers, and representatives of the private sector. Each draft policy paper is reviewed in detail by an IMPAC working group, and then by IMPAC members themselves, in order to reach consensus on the contents. Once approved by IMPAC, the recommendations are submitted to Government for formal approval as policy. IIMI REVIEW of April 1992 contains a paper describing IMPSA and its outcomes in detail.

## OTHER ACTIVITIES

### Professional Development

This activity includes on-the-job training of research officers leading to their working for Masters degrees; and hosting post-doctoral fellows for training.

### Assistance, Dialogue and Consultation

There are quite a few activities of this type. Examples are:

- i) Assistance to Ministries and Departments in the design of donor funded projects (NIRP; and NWP water resources, SCOR project). It includes development of a Research Management Unit in the Irrigation Department.
- ii) Assistance to the Irrigation Department and a private firm, TEAMS, in evaluation study of the Village Irrigation Rehabilitation Project (VIRP).
- iii) Collaboration with NGOs on studying impact, sustainability of minor tank projects done by NGOs ---- FFHC and NDF; and workshops on

sustainability of NGO programs.

#### Workshops

Three or four workshops are organized in a year by IIMI-SLFO. Apart from this, IIMI-SLFO staff participate in a number of workshops organized by others such as IMPSA.

#### Publications

These include Research Papers, Project Reports, Workshop Proceedings. A list of IIMI-SLFO project titles, workshops and publications can be found in the IPR document.

### RESULTS OF STRENGTHENING NATIONAL CAPACITY

#### Strengthening National Capacity of Agencies in Irrigation Policy

##### Making and Management

##### Policy Making

It seems to be a widely accepted fact in Sri Lanka that IIMI's activities had an impact over the years in the promotion of Participatory Irrigation Management as a government policy and on the subsequent IMPSA Project.

Following from the recommendations of a national workshop co-sponsored by IIMI on "Participatory Management in Sri Lanka's Irrigation Schemes" held in May 1986, the IIMI - Sri Lanka Consultative Committee arranged a special meeting of the Secretaries of the Ministries in charge of Irrigation and Agriculture and other key senior officers to discuss the steps that should be taken to obtain the Government's approval at the highest level for the participatory irrigation management system being developed in various projects. As a consequence of that meeting, a Cabinet Paper containing the broad policy framework for the introduction of participatory irrigation management was prepared. This document was jointly submitted to the Cabinet by the two ministers in charge of Irrigation and Agriculture, and was approved by the Cabinet in December 1988.

The Cabinet Paper outlined the policy and set the broad direction clearly but many issues related to implementation needed to be worked out. This need has led to the subsequent USAID-funded IMPSA described earlier. The IMPSA process itself--trying to build consensus through maximizing participation of people who have relevant experience -- has considerable impact. "One important impact of this process that we have observed is a radical transformation in attitude and perceptions of many key people who were initially skeptical and only minimally supportive. It took months of discussions to achieve a consensus on the original 'vision', but now we find many people referring to this automatically as the accepted reference point in terms of which other proposed changes are analyzed. Very large changes have therefore occurred in people's perceptions of the role of farmer organizations, the necessity for reform of implementing agencies, and the involvement of the private sector. It is unfortunate, with

hindsight, that we did not carry out a baseline survey which could be replicated at the end of the two years to measure the changes" (IIMI Review, Apr. 92, P.10). This represents the assessment by the key persons who worked together and managed IMPSA and it appears to have been shared by many people who followed IMPSA.

In another instance, IIMI-SLFO's work has demonstrated that benefits of water management cum institution building and modest rehabilitation on existing systems are very high compared to investments in new construction, which provided support for establishing this as policy of Government.

#### Management

IIMI-SLFO had developed, through action research, recommendations for improved system management in Kirindi Oya and Walawe. IIMI's work in Walawe has led to some increase in participatory implementation of the rehabilitation of the system.

Middle level officers of government agencies were seconded to work with IIMI on field research projects. They have individually acquired considerable expertise in research as well as improved understanding of the irrigation systems. In two cases so far, they have returned to positions of increased responsibility.

Many workshops and seminars were attended by agency personnel. This would certainly have helped to increase the awareness and appreciation of the management improvements and interventions suggested on the basis of the research of IIMI. This is not easy to measure. Similar is the case of the influence of various IIMI - publications.

#### Strengthening National Capacity in Research on Irrigation

##### Management

The research component of the Irrigation Systems Management (ISM) Project, overseen by IIMI-SLFO, was specifically designed to develop the research capacity of national institutions. Research projects were contracted to private consulting firms who worked in close collaboration with IIMI-SLFO. The work was guided by a Research Advisory Committee. This has provided opportunities for the firms to gain experience and develop strength in irrigation management research.

The IMPSA project in which senior professionals in Sri Lanka worked closely with IIMI-SLFO staff, policy research and analysis is the type of activity that strengthens capacity of both the irrigation management practitioners and the researchers. This is a good model with high potential for development and dissemination of improved management practices as well.

A Research Management Unit (RMU) was established in the Irrigation Department under NIRP.

#### ANALYSIS AND CONCLUSIONS



## Analysis

### Strengthening National Capacity for Irrigation Management

The important impacts in terms of the new participatory irrigation management policy which was approved by the Cabinet in 1988 and the subsequent IMPSA project and its impact became possible largely because of the context in which IIMI-SLFO activities took place. A climate of experimentation in irrigation management existed for a decade or more before the advent of IIMI on the scene. A big push was given by the Gal Oya Project which adopted farmer organizations as important elements of the rehabilitation process. The INMAS program was launched in 1984 for improved irrigation system operation and maintenance, better coordination of inputs and farmers organizations. The Irrigation Management Division was already established. The previous decade of pilot projects, experiments and the Gal Oya experience have provided a firm basis for the strengthening of national capacity for policy research and analysis in IMPSA.

The other factors that influenced the success of IIMI-SLFO in strengthening national capacity are quite important.

### Length and Scope of IIMI Involvement

The process of establishing IIMI-headquarters in Sri Lanka has ensured continued interest and interaction at the highest levels of the government. The continuity of strong leadership at the Minister and Secretary levels in the government had helped considerably. This was also reflected in the deliberations and the role played by the IIMI-Sri Lanka Consultative Committee in shaping the Sri Lanka Program. The presence of a very eminent and highly respected Sri Lankan Scientist on the international staff of IIMI also greatly helped in fostering effective communication, understanding and trustful relationships.

### Resident Staff Strength

IIMI - Sri Lanka program has always ensured the presence of a critical mass of multidisciplinary international staff. The establishment of the IIMI-Headquarters in Sri Lanka has also provided many opportunities for all IIMI staff to develop formal and informal links with senior officers of the agencies in Sri Lanka. The informal links consisted of IIMI resident staff and visiting staff participating in sector or project planning meetings, workshops, field visits, meetings with managers and policy makers. The formal links consisted of developing MOU and MOA for specific projects.

### Collaborative Field Research

Two factors have played important roles in helping close collaboration in field research. First, the interaction in the Study Advisory Committees and the Study Coordinating Committees. Second, deputation of staff from national agencies to work on research projects to work under IIMI supervision. Both helped in strengthening national capacity and closer relations between the agencies and the researchers.

## Strengthening National Capacity in Research on Irrigation

### Management

The national capacity for research on irrigation management in public sector research institutions and universities is too weak and fragmented. That there were no takers for the contract research under ISM project from the public sector was evidence of this state of affairs. There is some capacity in the private consulting firms which can be further strengthened. How sustainable such a capacity is remains to be seen.

### CONCLUSION

It seems to be widely agreed that IIMI - Sri Lanka program has succeeded in making an impact on the policy research and analysis : first, in promoting the participatory irrigation management as government policy and then in the IMPSA in building a policy consensus. A context of experimentation in irrigation management for over a decade and a set of other favourable factors have made this impact possible.

The success in making an impact on the adoption of improved management practices by the agencies is much more modest.

Strengthening national research capacity for irrigation management in public sector institutions was not found to be feasible. However, the research capacity of private consulting firms is enhanced.

Looking into the future, it would be excellent if a project similar to IMPSA can be developed to implement in the next stage the policies formulated under IMPSA and if a similar collaborative effort can be mounted by the team of practitioners of management and the researchers to monitor the implementation. This will be a sure way of strengthening both national research capacity and the national irrigation management capacity.