

IIMI REVIEW

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A Panel of Experts Approach to Building Policy Consensus:
The Relevance of PSA for other Countries
Irrigation Sector Reforms in Nigeria

INTERNATIONAL IRRIGATION MANAGEMENT INSTITUTE

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Readers are invited to contribute articles (not exceeding 5000 words) on subjects related to IIMI's activities for inclusion in the magazine. Include colour slides with captions if available (will be returned). All articles are subject to editing. Submit all contributions to Editor, IIMI Review, P.O. Box 2075, Colombo, Sri Lanka.

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- * 5 to 14 — Study tour to Sri Lanka for participants in the IIMI – India Collaborative Research Project.
- * 18 to 21 — South Asian Regional Workshop on Groundwater Farmer-Managed Irrigation Systems (FMIS) and Sustainable Groundwater Management: Dhaka, Bangladesh.

June

- * 08 — Workshop on Cost-Effective Modernization Strategies in Sri Lanka.

October

- * 13 to 15 — Asian Regional Workshop on the Inventory of Farmer-Managed Irrigation Systems and Management Information Systems: Manila, Philippines.

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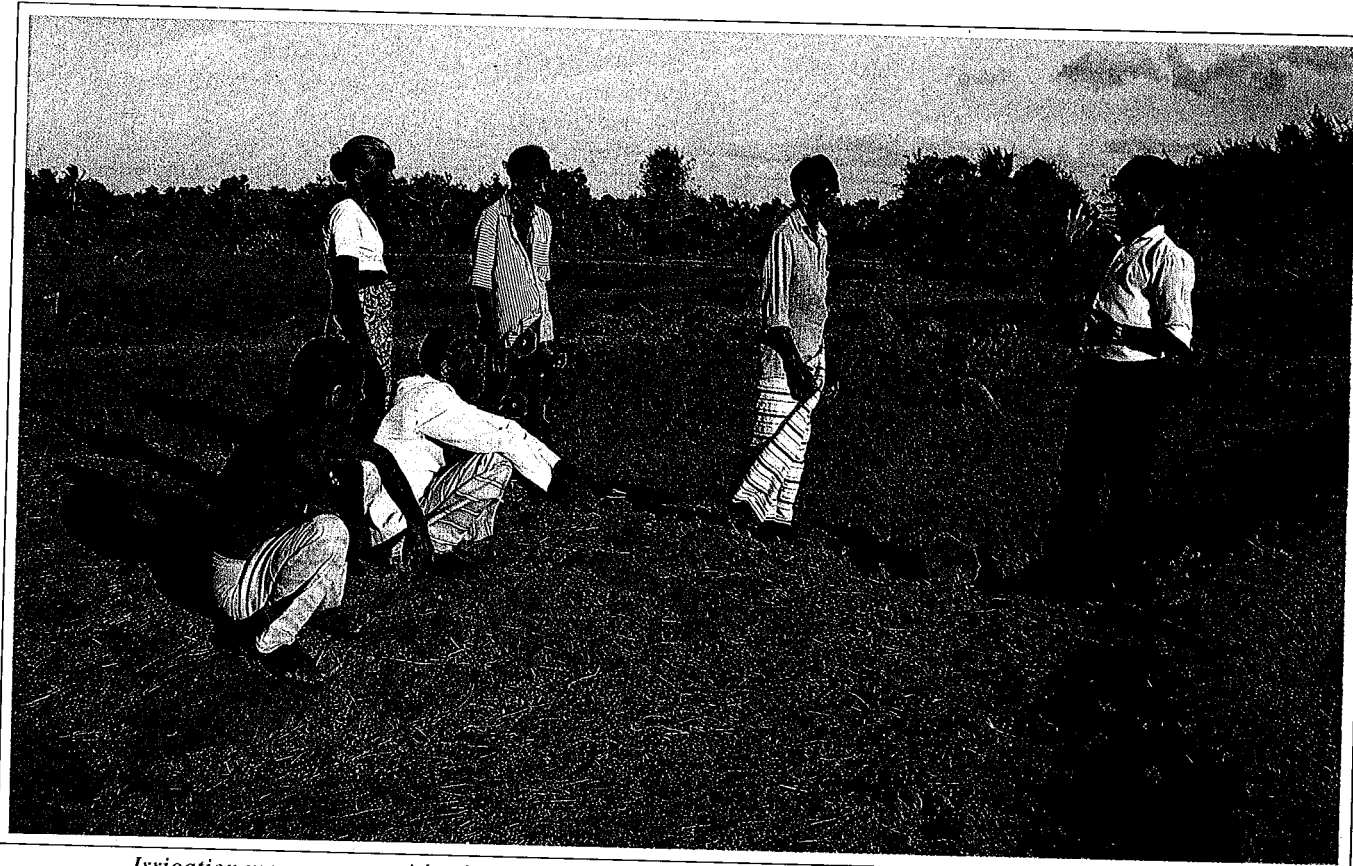
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*Improvement of distributary canal
structures by a farmer organization.*
Photo: L.R. Perera



Irrigation management with a higher degree of people's participation has received much attention in the last decade in Sri Lanka.

A Participatory Approach to Building Policy Consensus: The Relevance of the Irrigation Management Policy Support Activity of Sri Lanka for other Countries

by Douglas J. Merrey, N.G.R. de Silva, and R. Sakthivadivel¹

Sri Lanka has been experimenting for several decades with alternative approaches to encouraging a higher degree of people's participation in rural development. More recently, both the government and nongovernment organizations have implemented a number of pilot activities for enhancing farmer participation in irrigation management. During the 1980s, the government actively encouraged such experimentation, and began incorporating the lessons learned into government policy. In late 1988, the government formally adopted a "participatory management policy" for irrigation system management, which

called for substantial devolution of authority and responsibility for system management to farmer organizations, supported by the State agencies. However, at this stage, it was not clear how this policy could be operationalized and effectively implemented.

To address this issue, a unique program, the Irrigation Management Policy Support Activity (IMPSA) was initiated by the government in 1990, with the support of the United States Agency for International Development (USAID). IMPSA is carrying out a systematic planning process to assess recent experiences and to

recommend suitable policies and strategy guidelines, and through a process of consultation with people at all levels, from the farmers' fields to the policymakers' offices in Colombo, to achieve a clear consensus on what should be done over the next decade and beyond.

The purpose of this paper is to describe to a non-Sri Lankan audience what IMPSA is, what were the conditions that led to its establishment, how the process works, and what the emerging recommendations are. Based on this overview, the paper identifies lessons that may be ap-

¹ Former Head of IIMI's Sri Lanka Field Operations (SLFO), and presently a Member of IIMI's Performance Task Force; Director, Irrigation Management Policy Support Activity Secretariat; and Senior Irrigation Management Specialist, SLFO; respectively.

plicable to other sectors and especially to other countries' irrigated agricultural sector. The paper is based on the premise that although the details of IMPSA are specific to the Sri Lankan context, the broad approach, suitably modified to fit other contexts, is very relevant to other countries addressing similar issues in irrigation management policy.

Irrigation in Sri Lanka

The irrigated area of Sri Lanka has more than doubled since Independence, covering over 550,000 hectares (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 (Aluwihare and Kikuchi 1991).

Although Sri Lanka is not one of the "Big Powers" of Asia in terms of irrigated area, it does have a surprisingly complex governmental institutional landscape. One is tempted to say that it has more "irrigation institutions per ha" than most countries (Merrey 1991). The Irrigation Department is the oldest irrigation management agency, consisting almost entirely of civil engineers, which has been responsible for all major irrigation systems outside the Mahaweli systems until recent devolution of some systems to Provincial Councils. The Mahaweli Authority of Sri Lanka 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 has been responsible for "minor" irrigation, defined as those systems with 80 ha or less of command; it now shares this responsibility with the Provincial Councils. The role of the Provincial Councils is still evolving, which further adds to the confusion. Groundwater development is under yet another board. This proliferation and confusion of agencies is a serious impediment to developing and implementing consistent irrigation policies in Sri Lanka.

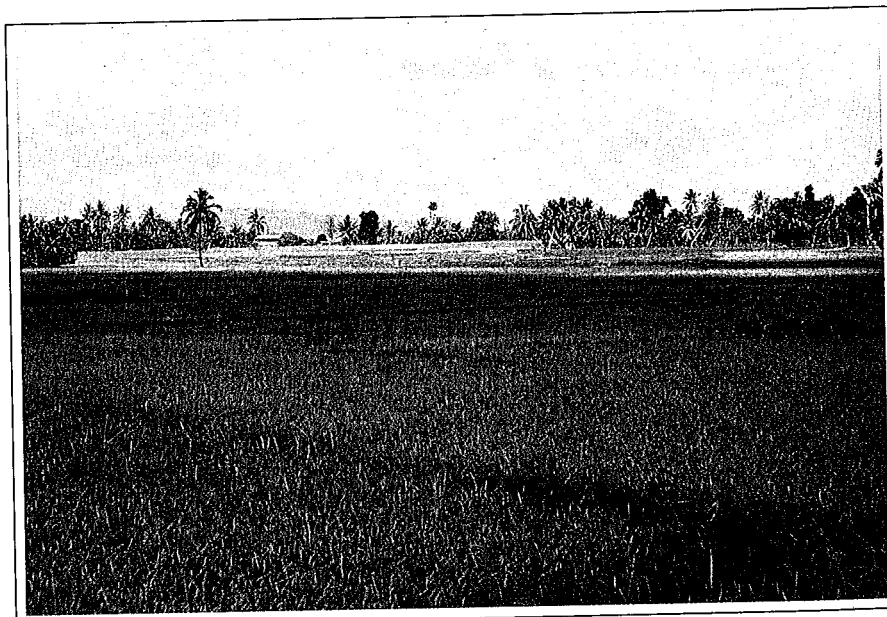
Decade of Experimentation

In the late 1970s, several experiments with farmer participation in irrigation system improvement and management were initiated by both government and nongovernment organizations which led to perceptible improvements in system performance. These efforts were soon integrated, conceptually at least, with government efforts to develop a new system

of integrated project management with active farmer participation in a few selected major irrigation schemes in the country.

In 1984, a more 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 Department's building. The organizational 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. It took only a few years for what began as isolated experiments to become an official "let 100 flowers bloom" policy (Abeywickrema 1986).

How has this "revolution" in thinking occurred? Although it is not possible to review the past decade in detail in this paper, a few key experiments can be highlighted here. One



Irrigation plays an increasingly important role in agricultural development.

very important strand of experiments is purely indigenous. Two examples that could be cited in this regard 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 system, 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 (Gunadasa 1989).

In Minipe scheme, one of the co-authors of this paper (then Deputy Director of Irrigation for Kandy Range) implemented a committee system for improving the maintenance and performance, beginning in the late 1970s (de Silva 1984). This experiment has been a specific source of a number of the management principles now used in the INMAS program, though at the time, as was the case in Kimbulwana, the experiment received little official support. During the 1980s, a nongovernment organization built on the Minipe experience through the implementation of several more pilot projects emphasizing institution building so farmers could take substantial management responsibility.

Another strand of experiments exemplifies co-operation between local and international specialists, 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 (Merrey and Murray-Rust 1987). These important lessons emerged because an explicit "learning process" methodology underlay all of the institutional and strategic experimentation.

The organizational design that emerged, further modified based on other experiences as well, is now generally accepted and is being implemented under the INMAS program. It consists of an informal "primary group" at field-channel² level as the foundation. This group chooses one member to represent its interests on a distributary canal organization, a formal farmer organization. Representatives from the distributary groups, in turn, are members of a project management committee. This is a joint committee of farmer representatives and officials, on which farmers are expected to be in the majority.

A more recent project funded by the same donor 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. Use of IOs to form farmer organizations, and pragmatic rehabilitation with much of the work carried out by distributary organizations under contracts are key components. This project has also introduced the concept of a project-level farmer organization, parallel to the project management committee and is currently testing procedures for turning over complete O&M responsibility to farmer organizations.

While these developments were taking place, it was realized that there were a number of important areas where further work was needed to interpret experience, choose among alternative approaches, establish or legitimize institutional arrangements, indicate future directions, and overcome bottlenecks and constraints to moving to the next stages. Examples of the problems that needed attention include cost-effective methods to organize farmer organizations, criteria for the turnover of irrigation systems to farmer organizations, strategies and procedures for strengthening farmer organizations, institutional arrangements for decision-making and effective operation and maintenance of systems, criteria for planning the rehabilitation and modernization of schemes, equitable and workable arrangements for joint financing of O&M, and building the capacity of the implementing agencies to work with the new farmer organizations.

The initial idea of obtaining official government sanction and policy directives for the developments that were already taking place and that were to come in the future, originated in the IIMI-Sri Lanka Consultative Committee.³ Following from the recommendations of a national workshop co-sponsored by IIMI on "Participatory Management in Sri

² In Sri Lanka, a field channel is the lowest level of canal, taking water to the fields of farmers; in modern systems it is a one cusec (28.3 liters per second) canal irrigating 8-15 one-hectare allotments. Distributaries are canals feeding a number of field canals.

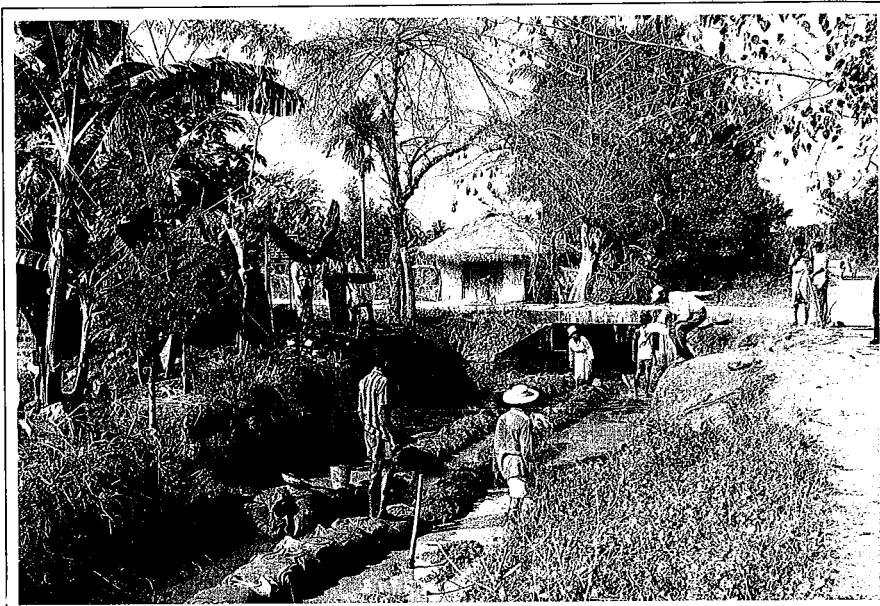
³ This committee is a formal one which provides overall guidance to IIMI's program in Sri Lanka, and communicates the important findings and insights back to policymakers.

Lanka's Irrigation Schemes" held in May 1986 (IIMI 1986), the Consultative Committee arranged a special meeting of the secretaries of the ministries in charge of Irrigation and Agriculture and other key senior officials 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 new participatory irrigation management policy outlined in the Cabinet Paper was only a skeletal framework establishing the main features of a joint system of irrigation management in which farmer organizations would be responsible for operation and maintenance at the distributary-and tertiary-canal levels and the government would maintain and manage the headworks and the main system. Though setting a clear and broad direction, the policy statement left many important issues related to implementation unresolved. Some of these issues were highlighted more recently at a national workshop on "Resource Mobilization for Irrigation Management" held in early 1990 (IIMI 1990).

In November 1988, when the government was considering the final draft of the Cabinet Paper on Participatory Irrigation Management Policy, the government and USAID agreed to undertake a joint assessment of the need for a policy planning program to investigate the numerous issues that are likely to constrain the implementation of the proposed policy.

A year later, the government approved the Irrigation Management Policy Support Activity (IMPSA), to be implemented by the Ministry of



A farmer organization rehabilitates a distributary canal.

Lands, Irrigation and Mahaweli Development, with the assistance of USAID. Under the agreement, USAID's support was to be provided through the Irrigation Support Project for Asia and the Near East (ISPAN), in collaboration with the Sri Lanka Field Operations office of IIMI. Actual implementation of IMPSA began in June 1990, and is scheduled to be completed in June 1992.

IMPSA: A Participatory Approach to Building Policy Consensus

As mentioned above, IMPSA was designed to carry out a systematic and analytical planning process to assess recent experiences and formulate and evaluate alternative policies and guidelines for implementation of the new irrigation management policy. The resulting expanded policy framework will consist of policies, principles, guidelines and criteria, and institutional, administrative, and legal arrangements to govern and guide decisions concerning programming, project design and implementation, allocation of resources, operation of systems, maintenance, and capital investment in water resources management and irrigation. The social and economic context of the government's strategy and objectives in the irrigation sector has been chang-

ing and will continue to be transformed in the future. The policy framework would also be similarly dynamic and evolutionary. Hence, IMPSA was also to focus on developing a continuing policy planning capability in the government's irrigation sector.

It is expected that the outcome of IMPSA will be improved implementation of on-going projects, new projects and programs consistent with the participatory management policy which is at the core of the government's strategy in the irrigation sector, and also public sector organizational and staff improvements and changes to enable them to perform more effectively within the framework of the new irrigation management systems that will be established.

It is also important to note that IMPSA is not an activity in which a group of people prepare policy documents in isolation and present them to the government; it is not a "turnkey" operation, and it makes only minimal use of foreign expertise. IMPSA is a broadly participatory activity, involving a wide range of Sri Lankan specialists, irrigation managers, and farmer representatives with a high value placed on achieving a broad consensus on future directions.

Irrigation Management Policy Advisory Committee (IMPAC)

Under the IMPSA Project, the government has set up an inter-ministerial Irrigation Management Policy Advisory Committee (IMPAC) to provide broad guidance for the implementation of IMPSA and to provide a mechanism to achieve consensus among the divisions and departments of the concerned ministries on the recommendations to be adopted and implemented by the government. This committee, comprising about twenty members, is chaired by the Secretary of the Ministry of Lands, Irrigation and Mahaweli Development, and includes the Secretary of the Ministry of Agricultural Development and Research and all the heads of departments and agencies under the two ministries, as well as representatives from the Policy and Finance Ministries.

While IMPSA is designed to promote the involvement of a broad spectrum of public and private sector organizations in determining future irrigation management policy in Sri Lanka, IMPAC plays a critical role in the policy planning process by providing the essential forum for achieving consensus among the concerned agencies on policies and implementation measures to be recommended to the Cabinet. Once IMPAC approves a particular policy, IMPSA publishes a policy paper describing the proposed new policy, while the concerned ministries prepare policy papers for the government.

IMPAC Working Group

In order to manage the numerous studies and activities, IMPAC has established a Working Group to manage the preparation of policy papers. The Working Group, which also consists of about twenty members, comprises some of the members of IMPAC and appointed nominees of the others. Its activities include:

- * Reviewing and approving the IMPSA workplan, schedules, working papers and study outlines.

- * Providing detailed reviews of the findings and recommendations presented in the Secretariat working papers and directing the preparation of draft policy papers by the Secretariat for presentation to IMPAC.

IMPSA Secretariat

To facilitate the activities of the IMPAC Working Group and to implement the project, a Secretariat has been established with a small full-time multi-disciplinary team of Sri Lankan professionals. The functions of the Secretariat are to prepare workplans and schedules, engage local and expatriate consultants to carry out studies, and synthesize the outcomes of these activities into working papers and policy papers to be presented to the Working Group and to IMPAC.

ISPAN, a Washington-based support project funded by USAID, provides local and expatriate short-term technical assistance to the Secretariat in carrying out the required studies and activities. The Director and other professional staff of the IMPSA Secretariat — who are all Sri Lankans — are employed by ISPAN as individual consultants to Camp Dresser McGee (CDM) International (the ISPAN prime contractor). Management support and technical backstopping, as well as office facilities, equipment, and support staff are provided by IIMI through a sub-contract with ISPAN.

The Director of the IMPSA Secretariat is responsible for managing all Secretariat operations which include:

- * Preparing workplans and schedules.

- * Assigning technical, management and administrative tasks and responsibilities to professional and administrative support staff, and monitoring staff performance.

- * Preparing consultant terms of reference, selecting consultants, negotiating consultant contracts, and monitoring consultant activities.

- * Supervising the preparation of working and policy papers.

- * Supervising the design, organization, and implementation of workshops and seminars.

- * Performing the duties of Secretary of the IMPAC Working Group and making presentations of draft policy papers to the IMPAC Working Group and to IMPAC.

Role of IIMI

The staff of IIMI's Sri Lanka Field Operations (SLFO) participate directly in IMPSA, providing management support, technical backstopping, and technical assistance to the IMPSA Secretariat. The relationship between SLFO and the staff of the IMPSA Secretariat is governed by open discussion and communication, and a collaborative approach to making decisions affecting the implementation of the project which relies on consensus whenever possible. In other words, SLFO and the IMPSA Secretariat operate as a team.

IIMI's specific roles in IMPSA include the following:

- * The Head of SLFO is a permanent member of IMPAC and the IMPAC Working Group, and SLFO staff play an active role in technical and management discussions in the IMPAC Working Group;

- * The Head of SLFO collaborates with the Director of ISPAN in providing management and technical support on a continuing basis to the Director and staff of the IMPSA Secretariat. In particular, SLFO takes a leading role in providing continuing technical backstopping and support in the preparation of workplans and schedules, working paper study designs and preparation of terms of reference, selection of consultants, review of reports, preparation of working paper summaries and synthesis of findings and recommendations, and preparation of policy papers.

In general, the Director and staff of the IMPSA Secretariat are responsible

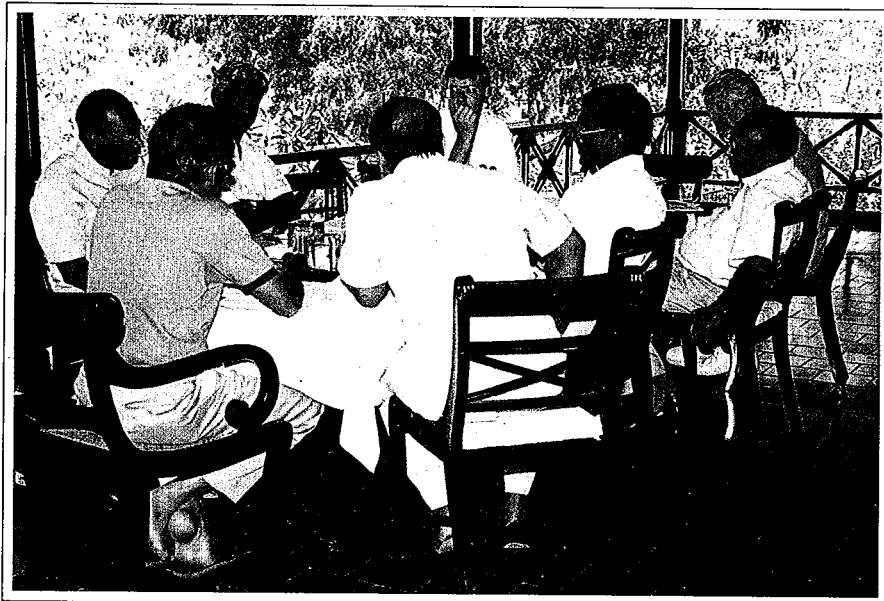
for completing all documents and studies, relying in most cases on local and expatriate consultants for the basic work. The role of IIMI is the important one of advisor, assisting directly whenever and to the extent possible, particularly with organizing, designing, scheduling, monitoring, and reviewing activities and studies. In addition, IIMI also has specific responsibilities and obligations with respect to particular working and policy papers as mutually agreed.

policies and strategies that will enable the realization of that vision.

IMPISA's program includes the preparation of 10 policy papers and over 50 supporting staff working papers. A policy paper is a concise statement of the recommendations of the Working Group. It is presented to IMPAC at a Policy Workshop along with a supporting presentation and the related working papers. The staff working papers consist, in general, of

on many issues. For most participants, it is a unique experience to be consulted on policy issues and it is this consultation process that makes IMPISA unique as a mechanism for developing policy.

In addition to the workshops, for each staff working paper a consultative panel of experts and specialists is constituted. Each panel usually has about four to ten specialists, who participate in three to ten meetings during the period of several months over which staff working papers are prepared. The IMPISA team guides the discussions at these panel meetings, in order to benefit from the range of views represented, and attempts to achieve a consensus on key issues and most of the draft staff working papers are discussed in detail, often until there is a consensus on its contents.



An IMPISA Workshop in progress.

Activities under IMPISA

IMPISA's activities are primarily focused on articulating policies or developing related guidelines and procedures to overcome constraints to implementing the government's participatory irrigation policy. However, the choice of which issues have a high priority and which options should be considered is greatly affected by the shared vision of the role and function of irrigation in the future agricultural system of the country and the strategy the government selects to achieve that vision. Hence, in the initial stages of the project, IMPISA has attempted to forge within IMPAC, a consensus on a vision of the irrigation sector in the future and the issues that will affect the progress towards realizing that vision. The subsequent activities under IMPISA have detailed the

a summary description of the background, context, and importance of the issue being considered, a description, analysis and evaluation of the range of options, and findings and recommendations.

One of the most important inputs to the policy formulation process in IMPISA is the series of over 25 workshops and seminars. The participants at these workshops are carefully selected to include government officials at various levels, representatives from research institutes, universities, and nongovernment organizations including the private sector. Special workshops are also arranged for farmer representatives from various parts of the country. These workshops are not only an important source of ideas and suggestions, but also contribute to the creation of a consensus

Substantive Recommendations Emerging from IMPISA

As of mid-February 1992, nine of the ten planned policy papers have been prepared and formally approved by IMPAC and six have been published. Work is presently underway on the 10th paper, which is a synthesis of the major recommendations of IMPISA, and the steps for implementation. The ten IMPISA policy papers are:

- PP 1: Irrigated Agriculture and Irrigation Management in Sri Lanka: Vision for the Next Decade and Beyond.
- PP 2: Institutional Framework for Management of Irrigation Systems and Building Farmer Organizations.
- PP 3: Achieving High Performance in Irrigation Systems: Strategies for Operation and Maintenance, Rehabilitation and Modernization of Irrigation Systems.
- PP 4: Modernizing the Irrigated Agricultural Sector: Transformations at the Macro-Institutional Level.

PP 5: Achieving High Productivity in Irrigated Agriculture: A Program for Research and Development for Technology Generation and Diffusion.

PP 6: Human Resources Development in the Irrigated Agricultural Sector: Achieving the Potential.

PP 7: Sustainable and Productive Resource Management: Macro Policies for Land and Water Resources.

PP 8: Promoting Profitable Irrigated Agriculture: Trade and Fiscal Policies Affecting Irrigated Agriculture.

PP 9: Macro Irrigation Investment Policy Issues.

PP 10: Achieving High Productivity and Prosperity of Irrigation Agriculture through Participatory Management. (Final title to be decided by the IMPAC Working Group).

The first policy paper proposes an overall vision and a set of broad guidelines, principles and objectives, for the future direction of irrigated agriculture in Sri Lanka, with an emphasis on irrigation management. The next eight policy papers elaborate on the necessary steps to achieve the vision, and provide detailed policy statements and strategies for implementation. Guiding the whole process is a vision of an irrigated agricultural sector that will be dynamic, diversified, efficient, equitable, productive and sustainable, and will be characterized by strong farmer organizations managing the key resources, especially water.

To make this vision of a broadly prosperous and growing irrigated agriculture come true, IMPSA has recommended specific, major transformations in the overall policy and the implementing institutions, major technological innovations to be

encouraged over the long-term, and greater attention to rural development, improvement of the overall infrastructure as well as the quality of life of the rural poor.

IMPSA has proposed a two phase implementation strategy. During the first phase, roughly the decade of the 1990s, conditions for future success will be created by implementing the policy and institutional transformations to enable an agricultural "take off" and achievement of immediate gains in profitability and labor absorption using present technologies, encouraging private investment in micro-technologies, and supporting applied research. The second phase, beginning in the late 1990s, will involve major investments in new technologies to increase small farmer productivity, based on the results of the applied research, and will be demand-driven and largely financed by the profits of the sector itself.

Some of the key recommendations emerging from the subsequent completed policy papers include:

- * Specific guidelines and methodologies for the design of scheme-level management systems for both farmer-managed and jointly managed systems, including a specific process for turning over authority and responsibilities to farmer organizations.

- * Specific policies for financing and implementing operation, maintenance and modernization of systems, which involve progressively increasing farmers' roles and responsibilities.

- * Specific suggestions for significant reforms of the implementing agencies to enable them to play their new role of supporting and assisting farmer organizations effectively, with broad guidelines for implementing the reforms.

- * Mechanisms to improve planning, funding, and co-ordination of

applied irrigation management research and the dissemination of results.

- * A plan for a major effort at developing human resources in the agencies and among farmers.

- * A broad interim policy for water resources development including the detailed terms of reference for a long-term study on appropriate water resources institutions, policies, and a master plan for future development.

- * Some suggested fiscal and trade policies that would enhance the diversification and profitability of irrigated agriculture.

- * A specific investment strategy for achieving the objectives agreed upon under IMPSA over the next decade.

IMPSA: The Process and its Lessons

"Getting the Process Right"⁴

Throughout this article we have emphasized the importance of the IMPSA *process* itself — trying to build consensus through maximizing the participation of people who have relevant experience, or who may be responsible for future implementation of the new policies, or who would be directly affected by these policies. Not only has IMPSA benefitted from these inputs — particularly the farmers whom we have found to be especially forward looking — but this participation has been very important to building a consensus on the new policy initiatives. The phrase "consultation, compromise, and consensus" has acquired a political meaning in Sri Lanka, but these values have guided all our efforts.

One important impact of this process that we have observed is a radical transformation in attitudes and perceptions of many key people who were initially skeptical and only minimally supportive. It took months of discussions to achieve a consensus on

⁴ With apologies to Norman Uphoff (1986) who both personally and through his book with this title has been an important influence on our thinking.

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 these changes.

But it is important to note that these benefits have come at a considerable cost as well. First, the whole process is very time-consuming. The papers can be written in a relatively short time, but getting people's consensus and agreement, convincing people to accept new ideas, and accommodating contradictory views, take up much of our time and that of other participants. We are convinced this time is worthwhile, but it must be planned for from the beginning.

Second, in some cases, it is likely that the policies and guidelines agreed upon are not "optimal" in the sense of being the ideal solution. A serious effort to reach consensus among people with a wide variety of interests and experiences necessarily involves

compromise. At some point these must be accommodated — and sometimes the compromise is actually an improvement over the original proposal; but often it is necessary to make a difficult choice between a "consensus" view, and the best professional judgement of specialists.

We do not wish to convey the impression that the "consensus" achieved is the lowest common denominator. The process of building consensus and agreement has been guided and directed by the IMPSA team, whose members are not at all neutral. Most of the team members, even on the IIMI side, have had a long involvement in research, testing and promoting management innovations and reforms in the irrigation sector, and have strong views based on years of practical experience as well as research.

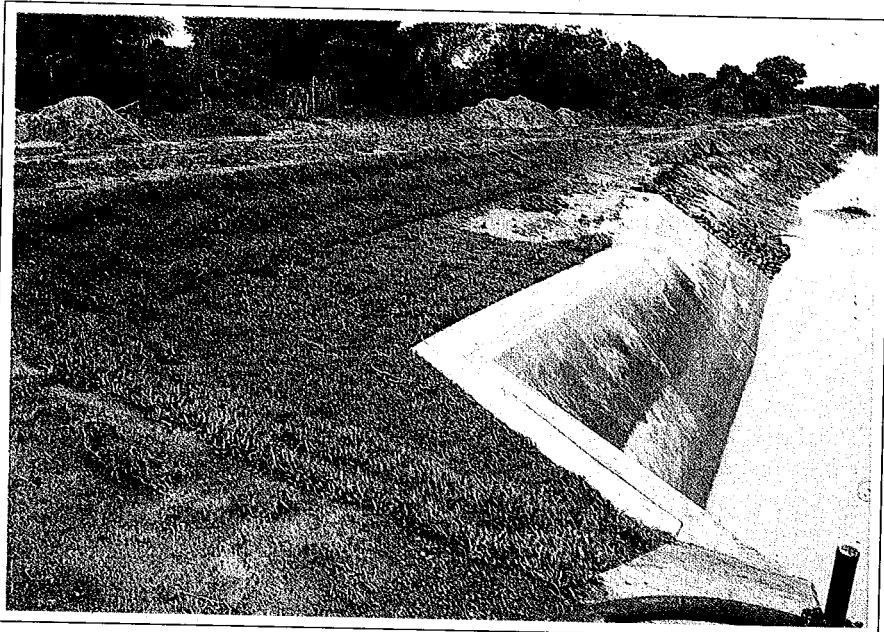
We have often found that the IMPAC members as well as the farmer representatives are more consistently "radical" in their views than others involved in the process. This was the case for questions of empowerment of farmer organizations, for example. In other cases, particularly agency reforms and the roles of private enterprise, less than optimum solutions have sometimes been arrived at in order to avoid serious

conflict that would endanger implementation at a later date.

Building on Past Experiences and Relationships

The previous decade of pilot projects and experiments has provided a firm basis for IMPSA's recommendations. IMPSA could not have been carried out effectively ten or even five years ago, because there was not sufficient experience. A broad sharing of these experiences through written media, workshops and consultancies with people involved in more than one activity, and study visits have been of equal importance in carrying out this work effectively. Further, in our consultations with farmers, we have drawn upon their rich experience both before and after the various pilot projects and experiments. The demonstrably constructive performance of farmer organizations, even during the serious disturbances of 1988-1989 when government agencies were ineffective, has also been very important. We doubt this type of process would be successful without this firm foundation in experience.

Another important factor is that many of the people involved in IMPSA have had a continuous involvement in the experimental phase for a decade or more, and have developed close personal and working relationships. The Director of IMPSA has been a pioneer in these efforts, and he and the Head of SLFO (both former and present) have known each other for many years. The Director of IMD was the Government Agent — top administrative official — overseeing the Gal Oya Project in the early 1980s. One member of the IMPSA Secretariat was involved in the Gal Oya Project, while another worked as a research associate with IIMI in addition to his many years experience in the Irrigation Department. There are other examples. A core group with a long involvement, and with close personal relationships has been an important factor in the smooth and relatively rapid progress of IMPSA, though we do not believe it is a necessary condition for success.



Gal Oya branch canal after rehabilitation.

The policy changes and institutional transformations recommended are evolutionary in nature, rather than a radical replacement of existing structures and approaches. This has been a deliberate decision: although one could make a strong case for radical reforms of the existing implementing agencies, for example, we have chosen not to do so, as this would be inconsistent with the participatory and consensus-building philosophy of IMPSA, and in our view would lead to such strong antagonisms as to endanger achieving success in the long run.

This also means that implementation of the recommendations must also follow this same participatory approach. We have strongly recommended that agency reforms, for example, be implemented in a phased manner, with a large emphasis on getting the staff fully involved, i.e., making it a participatory learning process, with professional assistance, and a large amount of training and workshops to facilitate and guide the process.

Integration of Policy, Implementation Strategies, and Investment Program

IMPSA has tried to avoid the development of "idealized" policies separately from implementation strategies and the realities of the government's and donors' investment plans. In part, this has resulted from the inclusion of implementors in the IMPSA process itself, which has led to a healthy regard for past experiences of impractical policies being enunciated, and then disappearing from view. Thus, the policy and staff working papers not only set out policy objectives in terms of turnover of irrigation systems and sub systems to farmer organizations, for example, but also propose a specific phased strategy for the actual institution-building and turnover process. IMPSA has co-sponsored a national workshop on investment strategies based on several different studies which had suggested somewhat dif-



A well maintained field channel in the dry zone.

ferent approaches, and has built the results of this workshop into a specific paper on how the government's investment plans can be used to achieve the objectives emerging from IMPSA. The IMPSA team has had a direct influence on two large donor-funded rehabilitation projects to ensure it is shaped in a way that would directly support policies that were then just emerging from the IMPSA process.

Involvement of Politicians

An important issue that must be faced is the role of the politicians in a process like IMPSA. Ultimately, of course, policy is a political decision, and politicians must make the final decisions. But they usually do not have the time or sometimes the background and experience to be able to contribute to the process from the earliest stages. Further, there is a long tradition in many countries, including Sri Lanka, of civil servants developing and proposing policy for the approval of the politicians.

In the case of IMPSA, the necessary political patronage was obtained by first briefing the relevant ministers and obtaining their approval for the IMPSA process and its objectives. Thereafter, it is expected they would sponsor the new policy documents produced by IMPSA and steer them through the Cabinet of ministers for formal approval. It is only then that

the respective ministries will have the necessary authority to implement some of the major recommendations contained in the policy papers.

It is too early to say whether we have addressed this issue as effectively as we could have. Aside from some direct interactions early in the process, we depended on the civil servants on IMPAC to keep the politicians informed, and assumed that they were doing so. Recently, however, we discovered this may not be the case. Another problem has been changes in Cabinet ministers during the IMPSA process. At the moment a Cabinet Paper based on the first three policy papers is being considered by the politicians. As the policies being proposed are very consistent with overall government policy, we anticipated no difficulties in obtaining concurrence and even active support. However, differences among the officials at the two ministries has delayed achieving final agreement on this Cabinet Paper. Later, some legislation will be proposed, at which time politicians will become more involved and at some point it will be important to brief a wider group of politicians, to ensure their support. It is very important to ensure that key politicians are informed and supportive of the process, though their direct involvement may not necessarily be desirable.

Policy Development, Implementation and Monitoring

As noted above, IMPSA is proposing policy implementation strategies as well as overall policies. But IMPSA has no role in the actual implementation, nor does it have a role in monitoring the implementation process. It could be argued that IMPSA would be more effective if it were institutionalized as a longer-term process, and were given a role in guiding and monitoring implementation. In this way, it could both ensure implementation and learn lessons from implementation that could be used to further refine and improve the policies.

IMPSA is a time-bound activity and the IMPSA team is outside of the government, so that the present structure could not easily be used in this way. One of the stated purposes of IMPSA, however, is to contribute to internalizing policy development and monitoring capacity within the ministries. Unfortunately, this directly contradicts another political imperative to reduce the size and role of the government, and particularly of ministries. Therefore, we find that the concerned ministries have very little internal capacity for policy development and monitoring. For effective implementation of IMPSA's proposals in the long run, this capability will be required, but at present it is not clear how it will be developed. One possible alternative for the next few years may be to obtain donor funding to continue something like the IMPSA Secretariat, at least until such time as the major policy changes are well underway.

Need for Broad Agricultural Sector and Water Resources Policies

One impediment faced by IMPSA is that the government at the moment has not developed and articulated its agricultural sector policy as a context for the irrigated agricultural sector policy. This has led IMPSA to move into issues that go far beyond irrigation issues at times, or to make

assumptions about the likely policies, particularly in relation to the private sector role. Based on our experience, we see that a clear broad agricultural sector policy should ideally precede the development of a more specific policy for irrigated agriculture. The absence of such a broad policy has led to a few unavoidable disadvantages for IMPSA, but it has not had too serious an impact.

Sri Lanka has not yet developed a water resources policy and planning capability as, until recently, water appeared to be quite abundant and merely needed to be captured, conveyed and distributed. An attempt to begin developing a water resources policy a decade ago made little progress precisely because the importance was not yet recognized by many people. But today, the government has recognized the need for re-examining its options in terms of future water resources development. IMPSA has contributed to this effort by developing a policy paper on water resources, and has also prepared the draft terms of reference for a water resources master planning exercise.

General Observations

We are still implementing IMPSA, so it is too early to come to any firm conclusions. There is a lot of interest and excitement (and, of course, some-

times controversy) generated by the IMPSA process, and both the donor and the Ministry of Lands, Irrigation and Mahaweli Development have indicated great satisfaction at what has been achieved so far.

Although it is too early to arrive at definitive conclusions, even at this stage we are convinced of the usefulness and importance of the participatory methodology being used. IMPSA is clearly demonstrating the effectiveness of a consensus-building approach to policy formulation, building on shared knowledge and lessons learned from a decade of experiences in irrigation management. Irrigated agriculture necessarily involves people, both as beneficiaries, and as policymakers and implementors. Hence, the most appropriate strategy for policy formulation is a people-based approach in which all the interested parties participate actively. This will ensure not only that the resulting policies will be pragmatic and implementable but also that there will be a high degree of acceptance, commitment and co-operation during their implementation.

The participatory nature of the IMPSA exercise has been the key element to the success achieved so far. Although its implementation is not an easy or smooth process, we believe that investment in getting the process



IMPSA Consultative Workshop for Farmer Representatives.

right at this stage will result in a much smoother implementation process. The transformations envisioned under IMPSA are broad and wide-ranging, and will no doubt contribute much to achieving the new vision of a prosperous irrigated agricultural sector in the next decade and beyond.

Acknowledgements

The authors wish to thank Professor Norman Uphoff for his very useful comments on an earlier draft of this paper. They are also grateful to the members of IIMI's staff and Board of Governors who provided many cogent suggestions and observations after an earlier version of this paper was presented at IIMI's Internal Program Review in December 1991. They also pay special tribute to their colleagues in the IMPSA team, and those who have been involved in the IMPSA process, as they have the real key to IMPSA's success. The authors, of course, are nevertheless fully responsible for the contents of this paper, especially for its shortcomings.

References

- Abeywickrema, Nanda. 1986. Government policy in irrigation management. *In* IIMI, Participatory Management in Sri Lanka's Irrigation Schemes. Digana: IIMI.
- Aluwihare, P.B. and Masao Kikuchi. 1991. Irrigation investment trends in Sri Lanka: new construction and beyond. IIMI Research Paper. Colombo, Sri Lanka: IIMI.
- de Silva, N.G.R. 1984. Involvement of farmers in water management: alternative approach at Minipe, Sri Lanka. *In* FAO, Participation Experiences in Irrigation Water Management: Proceedings of the Expert Consultation on Irrigation Water Management, Yogyakarta and Bali, July 16-22, 1984.
- Gunadasa, A.M.S. Sunil. 1989. The Kimbulwana Oya irrigation scheme: an approach to improved system management. IIMI Case Study No. 2. Colombo: IIMI.
- IIMI. 1986. Participatory management in Sri Lanka's irrigation schemes: Proceedings of the Workshop on Participatory Management in Sri Lanka's Irrigation Schemes. Digana: IIMI.
- IIMI. 1990. Resource mobilization for sustainable management: Proceedings of a Workshop on Major Irrigation Schemes in Sri Lanka. Colombo: IIMI.
- Merrey, Douglas J. 1991. Irrigation management institutions in Sri Lanka. *Economic Review* 16 (11-12): 13-15.
- Merrey, Douglas J. and Hammond Murray-Rust. 1987. People's participation in the Gal Oya rehabilitation project as viewed by agency personnel. Paper prepared for Workshop on People's Participation in Irrigation Management, Administrative Staff College, Hyderabad, India.
- Uphoff, Norman. 1986. Getting the process right: improving irrigation water management with farmer participation. Boulder, CO, USA: Westview Press.

A Program on Women in Irrigation

An IIMI program on Women in Irrigation aims at incorporating a gender perspective into research and training for a better understanding of how gender differences with regard to water use and water management will affect system performance.

Despite the vast expansion of knowledge on women's role in agriculture, the relevance of gender differences for irrigation has so far not been studied.

IIMI can make a major contribution to development research by helping to fill this gap in knowledge. There is a need to understand the roles and contributions of women in irrigated farming systems, in accessing, using and sharing water for agriculture, in operating and maintaining irrigation systems, and in making water management decisions on the farm and at different levels in the irrigation system and in the bureaucracy.

Gender analysis is a tool for understanding and removing impediments to the flow of resources — water, cash, labor, information, etc. — upward and downward in irrigation systems between designers and system users, between the main system and the root zone of crops, between engineers and social scientists within the irrigation bureaucracy, between designated cultivators and farm workers, and between support service providers and various groups of cultivators.

Construction of a New Building for IIMI's Field Operations in Pakistan

Progress has been made on the construction of a building for IIMI's field operations in Pakistan, for which a site on the outskirts of Lahore was secured in 1991. The Government of Pakistan has made available a first tranche of US\$ 250,000 which will be utilized to plan and design the new building.

IRRIGATION SECTOR REFORMS IN NIGERIA

by Prachanda Pradhan, Irrigation Specialist and Project Leader, IIMI Country Program in Nigeria

Nigeria is a densely populated country in West Africa, with a population of 89 million according to the official census although many people estimate it to be much more. It is also one of the largest countries in West Africa and dominates the region in irrigated agriculture.

The climatic conditions in Nigeria range from Sudan-Savannah in the north to tropical in the south. The rainfall also varies from north to south. The Kano State of northern Nigeria has recorded a declining rainfall trend over a period of time with an average annual rainfall of 700mm.

The total irrigated area in the Humid Tropics Zone of 11 countries¹ of West Africa is very low compared with the irrigable land. A large portion of arable land depends on rain-fed agriculture. In the Humid Tropics Zone, about 3 percent of the arable land is under irrigation systems while 29 percent of the potential irrigable area has irrigation facilities. Approximately 80 percent of this area is under traditional irrigation systems while the rest is under modern irrigation systems. It was estimated in 1991 (based on World Bank Report 1979, FAO Reports and information obtained from the Federal Ministry of Water Resources, 1991) that Nigeria has about 1 million ha under irrigation which accounts for about 90 percent of the total irrigated area coming



Nigerian farmer transporting small pump and pipe on bicycle. Small diesel pumps are widely used for irrigating wheat crops.

under the Humid Tropics Zone. About 90 percent of the area under irrigation in Nigeria has traditional irrigation systems while only 10 percent has modern irrigation systems defined as those with large dams or diversion weirs and headworks with water control structures. They have an elaborate network of infrastructure to deliver water and are managed independently by the irrigation agency or jointly by the irrigation agency and beneficiary farmers.

The World Bank has projected that rain-fed agriculture will not be ade-

quate to feed the people of Nigeria after the year 2000. According to FAO estimates, even after an imposition of a ban on food imports, Nigeria imported 800,000 MT in 1989. Imports have declined to 540,000 MT in 1991 according to the same source. There is however, a need for irrigation sub sector development in Nigeria to meet short-term and long-term food requirements of the country.

Large-and Small-Scale Irrigation Systems

Nigeria has both small-scale traditional irrigation systems as well as large-scale public sector irrigation systems. The history of the traditional irrigation system dates back to the 9th century although public sector irrigation development commenced only about two decades ago. The economic implications of the nation's dependence on food imports led to the adoption of new policies by the Government of Nigeria, aimed at attaining self-sufficiency in food. Consequently, substantial investment in

FEATURES OF IRRIGATED AGRICULTURE IN NIGERIA

Total land area	98.3 million ha.	—
Cultivable area	73 million ha.	74%
Crop coverage	25 million ha.	34% of cultivable area
Cereal crop coverage	13 million ha.	52% of crop area
Rice coverage	01 million ha.	08% cereal cover
Irrigated area	01 million ha.	08% cereal cover
Area under traditional irrigation	900,000 ha.	90% irrigated area
Area under modern Irrigation	100,000 ha.	10% irrigated area

Source : IIMI Nigeria 1992.

¹ The 11 countries of the Humid Tropics Zone are Benin, Cameroon, Congo, Cote d'Ivoire, Gabon, Ghana, Guinea Bissau, Liberia, Nigeria, Sierra Leone and Togo.

irrigation infrastructure development was made by the government during the years 1970–1980. The Government of Nigeria invested about US\$ 3 billion in irrigation development over a period of two decades, through River Basin Development Authorities (RBDAs) which are parastatal agencies of the Federal Ministry of Agriculture, Water Resources and Rural Development (this amount does not include the money expended on irrigation development through Agricultural Development Projects). Under this program, dams and major structures of many systems have been constructed although the irrigation distribution network remains to be completed. As of 1991, the total irrigated area under large-scale irrigation was only 70,000 ha. However, the area under public sector irrigation is expected to increase considerably by the end of 1992. The low performance of the large-scale irrigation systems reflects a shortfall between the achievement and the target set out in the National Development Plan of Nigeria.

Technologies Adopted for Small-Scale Irrigation Development

In the late 1980s, a new program designed to develop small-scale, farmer-based, privatized irrigation systems in Fadama lands for wheat and vegetable cultivation, especially during the dry season, was implemented by the government through the Agricultural Development Projects (ADPs). Fadama is low land flood plains or valley bottoms with a high water table. The technologies adopted for irrigation development in these lands included water lifting from streams or rivers with the help of small or large pumps depending on the size of the land to be irrigated. Construction of ponds and wells and small earthen dams, and installation of washbore or shallow tubewells (STWs), were undertaken as part of the development program. Most of these systems are managed by the beneficiary farmers themselves. The Nigerian Government's policy promoted small-scale irrigation for farming of winter crops such as wheat

and vegetables, especially in the northern States of Sokoto, Kano, Katsina and Bauchi.

Valley bottom irrigation systems for rice cultivation are prevalent in the central zone of the country. These irrigation systems are constructed to divert water from the valley bottom streams to the rice fields. There are different techniques of irrigation used before and after the flood plain and such systems could be found around Bida in the Niger State. Many of these systems are managed by the farmers

consideration in small-scale irrigation is the process developed by the agencies to assist farmers develop their systems.

Agencies Responsible for Irrigation Development

There are three public sector agencies responsible for irrigation infrastructure development in Nigeria: the State Ministry of Agriculture and Rural Development; Directorate of Foods, Roads and Rural Infrastructure (DFRRI); and River Basin Development Authorities (RBDAs). The State



Wheat field in Fadama area, Zaria.

themselves. However, the State Government has provided occasional assistance for improvement of these systems. It has been identified that vast potential exists for improving agricultural production in these areas through appropriate assistance programs for better water management. (A-M Izac. *et. al.* 1991).

The potentiality of small-scale irrigation development in Nigeria is tremendous. Over one million ha of Fadama land can be developed for irrigated agriculture. This needs to be considered from the point of view of initiating appropriate technology, both efficient and economical, to the farmers and developing a suitable institutional base at the farmer level. The important issue to be taken into

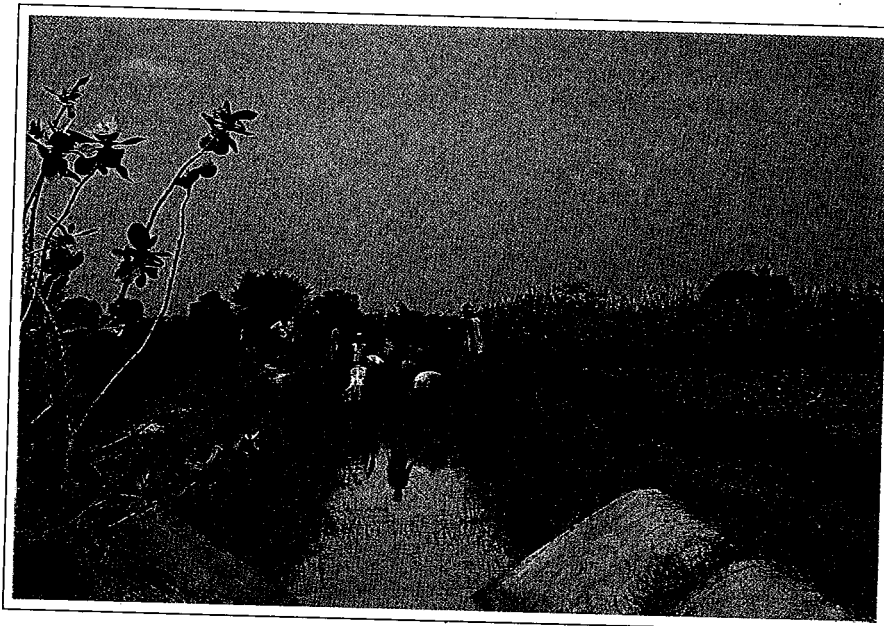
Ministry of Agriculture and Rural Development implements irrigation infrastructure development programs through the provision of credit to small scale-farmers for construction of boreholes, installation of STWs, and purchase of pumps and also through the construction of medium-scale irrigation systems. Small-scale (less than 50 ha) and medium-scale (50-2000 ha) irrigation systems come under the jurisdiction of the State Ministry of Agriculture. Parastatal institutions such as Kano Agriculture and Rural Development Authority (KNARDA) were established with a view to promoting agriculture and irrigation development in the states. Although DFRRI also has a mandate for small-scale village-based irrigation system development it plays a more

active role in potable water schemes. RBDAs are responsible for the construction and management of the large-scale irrigation systems.

Water is a scarce resource in northern Nigeria. Therefore, it needs to be conserved and better utilized. Consequent to the severe drought that prevailed during the period 1972–1974, 11 River Basin Development Authorities were established with responsibilities for developing infrastructure for irrigation, increasing agricultural production and undertaking rural development activities in systems with a command area of above 2,000 ha. However, the performance of these irrigation systems under the RBDAs, was marred due to shortfalls in achieving their area targets, operating only at 50 percent efficiency, wastage of water, lack of beneficiary participation, deterioration of structures, lack of maintenance of the systems and shortage of spare parts for the maintenance of machinery. It is reported that the main reason for the poor overall performance of these systems is a lack of funds. Although RBDAs were initially formed with multiple functions, at present, they are only responsible for water-related activities and are no longer involved in production and agriculture-related programs.

New Policy Thrust

The commercialization and privatization policy adopted by the government in 1987, as a package of the Structural Adjustment Program (SAP), has made the River Basin Development Authorities (RBDAs) to be partially commercialized. With the implementation of this program, the cost of services provided by the RBDAs is no longer subsidized but has to be borne by the beneficiaries themselves. Hence, the policy of commercialization and privatization has brought about institutional re-organization in the legal system of irrigation management, in the role of users' organizations, in water charge collection, and in sharing of responsibility jointly by the agency and the farmers for the operation and maintenance of the system. The govern-



Farmers busy cleaning the distributary canal at Karfi, KRIS.

ment will provide funds for the construction of the infrastructure while the completed irrigation systems have to mobilize resources internally to meet the recurrent costs of operation and maintenance of the system.

IIMI-HJRBDA Action Research Program

The Hadejia Jama'are River Basin Development Authority (HJRBDA) is responsible for the construction and management of the Kano River Irrigation Project (KRIP) in Kano, northern Nigeria. The Project is being developed in two phases. Under Phase I, 22,000 ha of irrigation system will be developed; of this 15,000 ha have already been fully developed. The second stage will concentrate on the development of another 40,000 ha.

Agricultural production and crop coverage in KRIP have increased over time as a result of farmers adopting irrigated agriculture as a viable alternative to rain-fed agriculture. The system has achieved a high cropping intensity due to the availability of irrigation facilities. During the wet season, 50 percent of the area is under rice. Farmers also plant non-rice crops such as sorghum, millet, maize, cow-pea and vegetables during this period. KRIP has large areas under wheat during the dry season and a smaller area under maize and other crops.

The privatization and commercialization policy adopted by the Government of Nigeria in 1987 aims at handing over public-sector enterprises to private-sector management. This has resulted in a change in the mode of management of irrigation systems from agency-management to joint-management. In the latter, both agency personnel and farmers become partners and share the responsibility of management and resource mobilization. The new policy also calls for the transfer of increased responsibilities for operation and maintenance of irrigation systems to users.

HJRBDA, in collaboration with IIMI, has undertaken action research to support the turnover of management of irrigation systems to their users. This program, currently underway in KRIP, will be used as a model to assist the RBDAs in establishing agency-farmer joint-management systems in other irrigation projects.

The HJRBDA-IIMI Collaborative Action Research Program in KRIP focuses on four issues:

* **Institutional Aspects.** This action research component is directed at strengthening the institutional support for irrigation management. It addresses such issues as legal provision for the role of the farmers, legal basis for farmer organizations in



Tomato vendors in Kano.

relation to water management, and procedures to form water users' organizations.

*** Changes in Mode of Management.** The transition from agency-management to joint-management requires a change in the existing power structure of the

agency. In order to help make this transition, re-orientation programs for the farmers and officials are being organized to discuss ways and means of implementing joint-management.

*** Operation and Maintenance (O&M) Procedures.** This is an important area which needs an

analysis of the work to be done and costs and responsibilities to be shared. The O&M procedure concerns farmer organizations as well as resource mobilization.

*** Resource Mobilization.**

Internal resource mobilization is a prerequisite for better operation and maintenance of irrigation systems. This research component includes an analysis of alternative sources of resources and the development of a procedure for the collection of a higher percentage of water fees as these are the major sources of revenue for KRIP.

The expected outputs of the program are a greater awareness among irrigation managers and users regarding the requirements for successful joint-management of irrigation systems, establishment of procedures for joint-management, recognition of users' organizations, and improvement in the operation and maintenance of the system. The lessons learned will be relevant for other systems in Nigeria.

References

Erhabor, P.O. 1990. Economics of irrigation farming in Nigeria: A case study of Kano State. In P.R. Maurya, Et. Al. (Eds.), Farmer participation in irrigation development and management. IAR. Zaira.

Federal Agriculture Co-ordination Unit (FACU). 1982. Small-scale irrigation development in Nigeria. Ibadan, Nigeria.

Federal Agriculture Co-ordination Unit (FACU). 1989. Project proposal for Fadama development under ADP. Federal Ministry of Agriculture, Water Resources and Rural Development, Nigeria.

Food and Agriculture Organization/World Bank. 1981. Report on the approach to small-scale irrigation in Kano State. Rome.

Izac, A.M.Et.Al. 1991. Strategy for inland valley agroecosystems research in West and Central Africa. IITA, Ibadan, Nigeria.

Olashore, O. 1991. Challenges of Nigeria's economic reform. Fountain Publication, Ibadan, Nigeria.

Sanda.A. 1991. The Nigerian state and agriculture policy management. Obafemi Awolowo University, Ile-Ife.

World Bank. 1979. Nigerian agriculture sector review. Washington D.C.

World Bank. 1989. Strategy for agriculture in Nigeria. Washington D.C.

Wudiri, B.B. and I.O. Fatoba. Cereals in food economy in Nigeria. The Democrat (Local newspaper), October 10, 1991.

Water development in perspective. In New Nigeria, September 12, 1991.

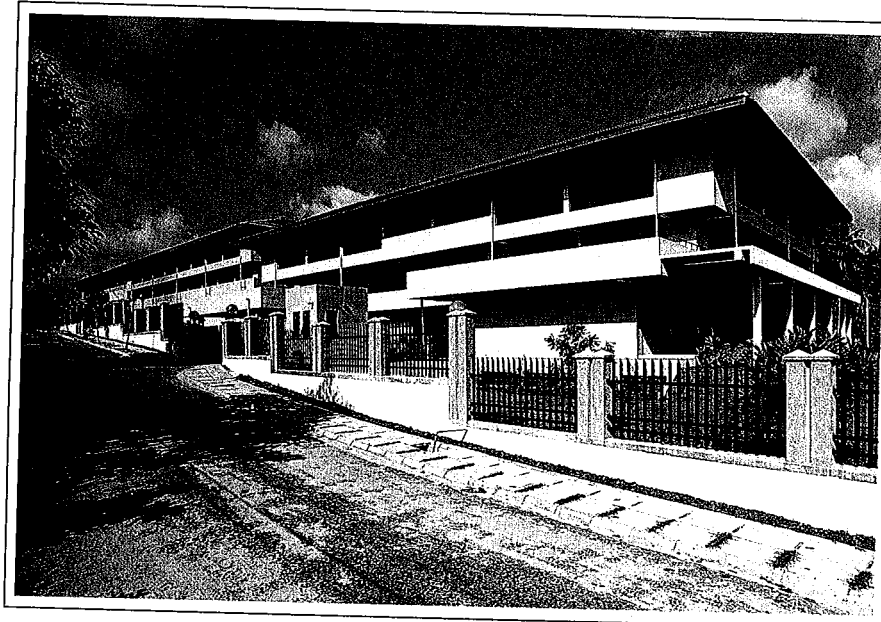
IN BRIEF

IIMI MOVES TO NEW HEADQUARTERS COMPLEX

IIMI moved to its new headquarters last December. A gift from the host country, Sri Lanka, the new building which provides the Institute with 80,000 sq. ft. of space is situated in Battaramulla, a beautiful suburb approximately 20 minutes from the commercial capital city of Colombo.

In 1984, when IIMI was established, the Institute was located in the hill country, in Digana near Kandy. It was relocated in Colombo in mid 1989.

Two moves and two years later — first to the Hotel Le Galadari Meridian and later to Rajagiriya to what was thought to be the Institute's permanent headquarters, IIMI has found a permanent home at long last.



WORKSHOPS ASSIST IN REVIEWING IIMI'S STRATEGY

Workshops to discuss and review IIMI's strategy were hosted by IIMI for its clients and donors.

The current strategy of IIMI which was published in 1989 after extensive consultations with members of IIMI's Board of Governors and staff, clients and specialists from developed and developing countries has served the Institute well.

However, in recent years, changes within the Institute and in the environment in which it functions have necessitated a rethink of the Institute's strategy. Significant among these changes has been IIMI becoming a member of the Consultative Group on International Agricultural Research (CGIAR) in 1990.

Other factors which have prompted a reconsideration of the Institute's strategy are the internal developments and growth of the Institute, a greater appreciation of IIMI's comparative advantage relative to other institutions engaged in similar activities and recommendations made by the External Review Panel in 1990.

At the workshop held from 8 to 10 January 1992 in Colombo to discuss the second draft of IIMI's strategy, the views of IIMI's clients and national collaborative partners were obtained. A noteworthy feature of the workshop was the relatively uniform opinions expressed by irrigation managers and decision makers from 10 diverse countries of Africa and Asia.

At the donor workshop held on 3 February 1992 in the Hague, Netherlands to review the third draft of the strategy, the views expressed were in line with those expressed by the clients. There was a spirited discussion on the various challenges to the irrigated agricultural sectors of developing countries and the anticipated future trends.

Donors then reviewed IIMI's proposed subject areas, activities and work locations. Strong support was expressed for different themes, including an emphasis on large-scale public irrigation and a similar emphasis on local, farmer-managed or informal irrigation.

Performance assessment was deemed to be a very important topic.

IIMI's future work was discussed in the context of the eco-regional zones being developed by the CGIAR. IIMI was encouraged to develop its own criteria for global zones over the coming years.

An important spin-off of the donor workshop was establishing closer ties with the donors. The impressive reception hosted by the Director General of ISNAR provided an opportunity for the donors to see for themselves how the centers work in unison. The donors were also able to meet some of the key members of the Board at the workshop.

Participants from Australia, Netherlands, France, Italy, Germany, the USA, the UK, India, Kuwait and Sri Lanka attended the donor workshop.

The fourth and final draft of the strategy is expected to be reviewed by IIMI's Board in April. It will be submitted to TAC (the Technical Advisory Committee of the CGIAR) at the end of the month, and discussed at a TAC meeting in Rome in June.

FMIS WORKSHOP IN BANGLADESH

A South Asian regional workshop on Groundwater Farmer-Managed Irrigation Systems and Sustainable Groundwater Management is scheduled to be held from 18-21 May 1992 in Dhaka, Bangladesh.

Farmer-Managed Irrigation Systems (FMIS) have been receiving an increasing amount of attention. This attention has been primarily focused on small surface irrigation schemes which are of a scale and location where farmers can control the source or diversion of water. However, in the past somewhat less notice has been paid to the phenomenon of groundwater irrigation as a form of FMIS. In the last few decades Third World groundwater irrigation has shifted (and greatly expanded) from predominantly one-farm dug-wells to a preponderance of mechanical tubewells capable of serving a number of farmers.

The objective of the workshop is to assess south Asian experiences with different social, institutional and legal structures that promote sustainable, productive and equitable management of groundwater through farmer-managed irrigation systems. It will focus on issues of sustainability related to the farmer-managed institutional approach to groundwater irrigation.

The workshop, organized jointly by the FMIS Network program and IIMI Bangladesh, will involve two days of sessions in Dhaka, and a two-day field trip to various types of groundwater FMIS in Bangladesh.

Irrigation in Bangladesh relies heavily on groundwater extraction. As a result, there are a wide variety of institutional arrangements for the management of tubewells. The Government of Bangladesh is presently involved in a major effort to privatize the minor irrigation sector (including groundwater systems) and therefore farmer-managed systems are likely to gain even greater prevalence.

PRIVATIZATION OF IRRIGATION SCHEMES IN SUDAN AIMED AT ACHIEVING BETTER SYSTEM PERFORMANCE

During the last decade or so, extensive efforts have been made by many countries to draw active farmer participation, aimed at achieving better performance of the irrigation systems.

In line with this on-going global change, the Government of Sudan has recently decided to turnover some irrigated schemes to the private sector and to introduce self-management in others.

A technical committee appointed by the government is working out methods of implementing the policy.

In order to achieve the intended results of the new management strategy, it is essential to learn from local as well as outside experience in turnover/privatization of irrigation schemes.

It is in this context that a workshop on "Privatization of Irrigation

Schemes in Sudan" was organized by the Ministry of Agriculture (MOA), the Ministry of Irrigation (MOI), the Arab Organization for Agricultural Development (AOAD) and IIMI Sudan.

The main objectives of this international workshop held on 6th and 7th October 1991 were:

- * To identify and discuss policy options for the consideration of the technical committee.
- * To share with Sudanese policy makers the experience of other countries.
- * To document national and international experience in the context of turnover/privatization of irrigation schemes.

An Opportunity to Share Experiences and Exchange Ideas on the Inventory of Farmer-Managed Irrigation Systems and Management Information Systems

Performance evaluation of Farmer-Managed Irrigation Systems (FMIS) is possible only when a proper inventory has been undertaken in a particular system to establish benchmarks and to evaluate the performance of FMIS.

Numerous papers and a vast body of knowledge are available for the performance evaluation of irrigation systems. However, prior to evaluation, an inventory of the FMIS should be undertaken.

An Asian regional workshop on the Inventory of Farmer-Managed Irrigation Systems and Management Information Systems scheduled to be held from 13 to 15 October 1992 in Manila, Philippines will provide an opportunity for participants to share experiences and exchange ideas on the inventory of Farmer-Managed Irrigation systems and Management Information systems.

Irrigation systems in the Philippines can be categorized into National Irrigation Systems (NIS) and Communal Irrigation Systems (CIS). The NIS generally serve systems that are over 1000 ha in extent while the CIS service areas which are less than 1,000 ha. The National Irrigation Administration (NIA) plans, designs and constructs NIS with minimal participation from the farmers, whereas in the case of CIS the end users are usually involved in the design and construction phases as well. In addition to these two systems, there are pump systems which are owned and operated either by NIA or by farmers.

The workshop is part of the Farmer-Managed Irrigation System (FMIS) Network program and is organized jointly by IIMI and the German Foundation for International Development (DSE).

STAFFING

Dr. Jeffrey D. Brewer joined the Sri Lanka Field Operations (SLFO) as an Irrigation Specialist in December 1991. He has extensive experience in irrigation management and other development issues. Dr. Brewer, a citizen of the USA, has an M.A. and a Ph.D. in Anthropology from the University of California and a B.A. in Mathematics and Physics from Tufts University. He has lived and worked in a number of countries including Indonesia, Guatemala, Egypt, India and Sri Lanka. His previous experience in Sri Lanka included 18 months as advisor to the Agricultural Research and Training Institute (ARTI) for the Gal Oya Project, as well as shorter-term consultancies. Prior to joining IIMI, Dr. Brewer was at Louis Berger International Inc. where he was most recently Chief of Party and Management Specialist for a USAID-funded agricultural development project in Guatemala.

Dr. Ujjwal Pradhan joined the Nepal Field Operations as an Assistant Irrigation Specialist in January 1992. Dr. Pradhan, a Nepali national, earned a Ph.D. in Rural Sociology from Cornell University in 1989. He has an M.A. from the Delhi School of Economics and a B.A. from St. Stephen's College, University of Delhi. He has earlier

worked in the Nepal Field Operations Office as a Research Fellow.

Ms. Kanchan Basnet joined IIMI Pakistan on an internship this year. Ms. Basnet, a Nepali national, has obtained a B.Sc. from the University of Faisalabad in Pakistan and recently completed her M.Sc. in Irrigation Engineering at Cornell University. At IIMI Pakistan, she will conduct surveys to assess the role of women in irrigation in sample areas, especially their role in coping with salinity, and assist in the analysis of tubewell operation data in conjunction with canal operation, which was also the topic of her M.Sc. degree. She will be pursuing a Ph.D. at Cornell University from September 1992.

Ms. Margreet Zwarteveen joined IIMI as an Associate Expert in March 1992 to conduct research on women in irrigation. Ms. Zwarteveen, a Dutch national, has obtained an M.Sc. in Irrigation and Soil and Water Conservation, and in Women's Studies from the Agricultural University of Wageningen. She was earlier a documentalist at the Department of Gender Studies in Agriculture and at the Department of Irrigation and Soil and Water Conservation, Agricultural University of Wageningen. She has also worked in Cameroon for six months co-ordinating a small-scale irrigation project for the cultiva-

tion of vegetables as an income generating activity for women and in Nicaragua for ten months where she carried out research on the viability of cooperative-managed sprinkler irrigation systems.

Dr. Shigeo Yashima has been appointed to the Performance Task Force at Headquarters. He was formerly Head of the Research and Planning Section of the National Research Institute of Agricultural Engineering, Ministry of Agriculture, Forestry and Fisheries, Japan. He received a Ph.D. in Agriculture from Kyoto University and a Bachelor of Agricultural Engineering from the University of Agriculture and Technology in Tokyo. Dr. Yashima has over nine years of irrigation management field experience in Malaysia, where he was given an award by the State Government of Kedah for his distinguished contribution towards increasing rice productivity in the Muda Irrigation Project.

Dr. Douglas J. Merrey, formerly Head of Sri Lanka Field Operations (SLFO) was reassigned to the Performance Task Force at Headquarters in January 1992.

Dr. Chandrasekara M. Wijayarathne, formerly Head of Philippines Field Operations was also reassigned in January 1992 to head the Sri Lanka Field Operations.

PUBLICATIONS

RESEARCH PAPERS

P.B. Aluwihare and Masao Kikuchi
Irrigation Investment Trends in Sri Lanka: New Construction and Beyond.
Research Paper
ISBN 92-9090-137-3
October 1991. xvi+112p. B5. Softcover.

Irrigation has been the most important strategic factor in agricultural development in Sri Lanka and elsewhere in monsoonal Asia. Through major efforts to develop the irrigation infrastructure, coupled with the spread of seed-fertilizer technology, Sri Lanka has reached near self-sufficiency in rice and with diminishing economic potentials of new irrigation construction the irrigation sector of the country has reached a turning point. The Sri Lankan experience revealed in this paper illustrates that a move into a "management stage" from the "construction stage" is inevitable in the irrigation sector in Asia.

COUNTRY PAPERS

Charles Nijman
Irrigation Management Processes and Conditions: A Case Study of Sri Lanka's Walawe Irrigation Improvement Project.
Country Paper-Sri Lanka-No.8
ISBN 92-9090-134-9
March 1992. xxx+312p. A5. Softcover.

The study presented in this paper takes a management perspective in the analysis of the performance of a major irrigation system in Sri Lanka under the Walawe Irrigation Improvement Project. It documents the decision-making process during project identification, feasibility assessments, system design, and system operation. A systematic analysis of the interaction between system performance, decision-making processes and their managerial conditions has resulted in recommendations for improvement and has demonstrated the far reaching changes required in the interaction among the donors, the government and the agencies to develop commitment and accountability towards irrigation system performance. While these findings and recommendations are derived from one case study, they have much wider validity and application.

PERIODICALS

IIMI Review, Volume 4 No.2.
ISSN 1012 8318X.
December 1990. 24p. A4. Softcover.
IIMI Review, Volume 5 No.1.
ISSN 1012 8318X.
November 1991. 36p. A4. Softcover.

IIMI Annual Report 1990.

ISSN 1017-5954.
September 1991. 60p. A4. Softcover.

IMIN Bibliography: A Selected Bibliography on Irrigation Management

ISSN 1015-1680.
Volume 3 No. 2. (documents entered in the Irrigation Management Information Network in 1989).
August 1991. 128p. A4. Softcover.
Volume 4 Nos. 1 & 2. (documents entered in the Irrigation Management Information Network in 1990).
March 1992. 156p. A4. Softcover.

NEWSLETTERS

FMIS. Newsletter of the Farmer-Managed Irrigation Systems Network.
ISSN 1012-988X.
February 1991. No. 8. 24p. A4. Softcover.
September 1991. No.9. 16p. A4. Softcover.
IMCD News. Newsletter of the Research Network for Irrigation Management for Crop Diversification in Rice-Based Systems.
ISSN 1016-7927.
Volume 2 No.1.
October 1991. 16p. A4. Softcover.