

with natural-resources management objectives grouped under the general heading of "sustainability" not far behind. The institutions required to attain these new objectives, it has already been found, are not quite the same ones that were found adequate for the challenges of the past.

These stresses and changes have been vigorously debated in all the

events of the DSE/IIMI Program. Questions have been addressed such as: what are the future goals? what are the necessary characteristics of the institutional system? how shall performance be defined and measured? what human resources development is needed so that the relevant institutions will have the skills, attitudes and knowledge that the new situation calls for? how will

government organizations interact with farmers' organizations?

Perhaps the best way of indicating the tendency of current ideas about some of these matters is through the regional synopses that were developed at the conclusion of the Langkawi Workshop on the future of irrigated agriculture, and the Chiang Mai Workshop on the institutional framework.

DSE-IIMI ACTIVITIES IN IRRIGATION MANAGEMENT

Franz Heim⁴

Initial Contact

Collaboration between the Food and Agriculture Development Centre (ZEL) of the German Foundation for International Development (DSE) and IIMI dates back to 1986 when DSE conducted a workshop on "Irrigation Improvement" together with the Royal Irrigation Department (RID) of Thailand. The then Director General of IIMI, Dr. Thomas Wickham participated in this national workshop as a resources person. The outcome of this workshop was a set of recommended changes in the irrigation sector covering issues in the field of engineering, socioeconomics and institutions. The then Director General of RID stated in the foreword to the proceedings of the workshop that "full support will be given to carry out the recommendations with the limit of available manpower and budgetary resources."

Commencement of the Program

Based on the results of a DSE workshop on "Needs for Training and Dialogue in Irrigation Management in Southeast Asia" conducted in the Philippines at the end of 1987, a series of programs on Dialogue and Training in Irrigation Management in Southeast Asia was

planned and forwarded to the Federal Government of Germany for financing. The basis of this series was the proposals developed during this workshop by irrigation experts from the Philippines, Indonesia, Malaysia and Thailand.

In October 1989, the program was approved by the Ministry for Economic Cooperation (BMZ) of the Federal German Government. It began in January 1990 with an appraisal mission for preparation of the DSE program on irrigation management in Southeast Asia. The mission's first visit was to IIMI headquarters, as the leading agency in the field of irrigation management. This was followed by visits to other relevant institutions in Southeast Asian countries. Discussions on possibilities for joint dialogue and training activities took place which led to a Memorandum of Understanding between IIMI and DSE/ZEL with the objective of designing and conducting a 5-year program of dialogue and training through which both agencies will work with irrigation professionals in Indonesia, Malaysia, the Philippines and Thailand to address current issues in irrigation development throughout the region.

Highlights of the Program

The most outstanding events in this program of dialogue and training include the following:

Workshop on New Trends and Policies in Management

The workshop on New Trends and Policies in Irrigation Management held in Colombo, was attended by sixteen high-ranking decision makers in the field of irrigated agriculture from Southeast Asia. This event also included a study tour for the participants. Some of the conclusions of the workshop participants, included:

- Laws related to water resources must be responsive to current needs. They require to be updated, disseminated and enforced particularly to address issues arising from changing water resources and environmental constraints.
- We must aim to manage irrigation schemes rather than just administer them. For this, procedures are required for the timely collection, processing and analysis of data to monitor output and operational performance and to enable timely corrective action.
- Future irrigation development and management efforts need the active participation of farmers at appropriate levels from planning to O&M. The participants favored an institutional structure in which

⁴Head, Agricultural Engineering Section, DSE/ZEL.

eventually operational control at certain levels would be integrated to the extent possible under a board of farmers' representatives.

- The irrigation sector is experiencing a period of rapid policy changes. Irrigation agencies need to respond to these changes by adopting new frameworks, attitudes and procedures to address the changing relations that should now exist within agencies, and between agencies and farmers. It was agreed that training is a prerequisite in this process.
- Irrigation schemes require constant human intervention to remain sustainable. Management strategies for improving performance and maintaining sustainability should address institutional strengthening through incentives, training, motivation and other such approaches. Countries face threats to sustainability. These include institutional weaknesses, economic competition and weaknesses of funding mechanisms.

Workshop on Management Orientation in Irrigation Engineering Curricula in Southeast Asia

This regional workshop took place at the Asian Institute of Technology (AIT) in Thailand. Twenty nine senior staff of agricultural, irrigation and civil engineering faculties of Southeast Asian academic institutions participated in the workshop. Participants from the four countries represented at the workshop identified the issues currently affecting irrigated agriculture, which needed to be included in the engineering curricula of these countries. These issues are:

- farmer participation and farmer/ agency relationships;
- institutional and policy changes taking place in the region;
- management issues in the field of water management;

- the economics and financing of irrigated agriculture; and
- setting objectives and assessing performance.

Workshop on Irrigated Agriculture in South-east Asia Beyond 2000

The Strategy Workshop on Irrigated Agriculture in Southeast Asia Beyond 2000 brought together 56 senior persons from national institutions, organizations and companies and also resource persons from international organizations such as the International Rice Research Institute (IRRI), the International Food Policy Research Institute (IFPRI), the Food and Agriculture Organization (FAO), and IIMI to develop options and recommendations for policy, research, education and development of irrigated agriculture in the next century. This objective was achieved through a mixture of subject- and country-oriented sessions in which four country statements and one regional statement were developed. Changes required to ensure sustainable irrigated agricultural production in the next century include:

- policy issues;
- laws and institutions;
- human resource development;
- capital investment in irrigation; and
- supporting infrastructure.

In addition, issues of regional cooperation and collaboration with international agencies were addressed.

Workshop on Institutional Framework for Irrigation

This workshop took place in Thailand and had as co-organizer the Royal Irrigation Department. In this workshop, each country group defined objectives and changes relevant to their own institutional irrigation sector. Topics discussed included; organizations, governance, legal issues, financing options, and farmers.

Methods and strategies of implementing the proposed objectives and changes were also outlined by the various country groups.

Workshop on Diagnosing Training Needs and Designing Training and Teaching Programs for Irrigation Management

A national workshop in Indonesia followed by a consultancy mission on the issue of Diagnosing Training Needs and Designing Training and Teaching Programs for Irrigation Management resulted in a number of recommendations for urgently needed changes.

- To change the existing engineering concept of water management to the broader concept of irrigation system management to anticipate future dynamics in the use of irrigation water.
- To enrich the curricula of irrigation engineering institutions through management courses.
- To revise and adapt to local conditions all training courses in the field of irrigation.

Irrigation agencies are called on to provide a system of incentives and rewards to motivate engineers to work at project sites through a career development system. A basic management course on concepts and techniques of management and a special course on irrigation system management were developed which can be included in the curricula for irrigation engineers.

Two of the training courses conducted jointly during these four years were focused on Planning, Monitoring and Evaluation of Irrigation Performance and Management of Rehabilitation and Modernization of Irrigation Projects. Both courses used irrigation projects as learning laboratories and were very successful in providing skills and knowledge to participants.

The comments of two participants regarding the usefulness of these courses are given below:

As an irrigation engineer I found that the course was excellent and I have gained more knowledge, skills and experience. These are very useful for improving my job. Thank you for giving me this valuable opportunity.

The workshop approach was in a sense geared towards encouraging trainees to use the same approach to their jobs back home and I think most of them would make a change in their work attitudes.

Conclusion

Most of the events under this DSE/IIMI Program were held in the Southeast Asian region and the others in Germany. IIMI took part in 15 of these programs. As part of the program 12 fellowships were awarded to provide opportunities for young irrigation professionals to study specific problems in irrigation management.

As a result of this program, target-oriented planning and performance assessment were introduced in projects and agencies to improve irrigation performance as well as irrigation rehabilitation and modernization.

Increased attention is being given to the role and importance of water users and user organizations involvement in managing irrigation. In each of the four countries, two young irrigation professionals have been given an opportunity to study the difference in management arrangements for diversified cropping.

Management has become a part of training and teaching curricula for irrigation engineers in the region. Several irrigation projects are increasingly being managed in a professional way in accordance with the principles of irrigation management as developed by the participants in the DSE-IIMI Program on Dialogue and Training.

QUOTES FROM PARTICIPANTS

Langsy Sayvisith, director General, Department of Irrigation and Micro-Hydropower (DOI), Ministry of Agriculture and Forestry, Laos. (A delegation from Laos was invited as observers to the workshop in Chiang Mai.)

We appreciate being invited to this workshop in Chiang Mai. These workshops are important because they expose us to the experiences of others in the region. We see that many countries have improved as a result of changes in their approach to irrigated agriculture, as in the case of Australia. We too are open to such change and don't want to be rigid. We want especially to transfer the responsibility of implementation to the farmers, the villagers, and the beneficiaries in the region. Our job is only planning, policymaking, and developing the regulations that will govern the irrigation sector. We want to centralize some of the responsibilities and transfer others to the regions, the provinces, and to the projects. We are very interested in exchanging ideas with IIMI because we have had very little direct contact with IIMI. The DSE/IIMI workshops gave us our first exposure to IIMI. In the future, I am sure that we will learn more and benefit from IIMI's workshops and publications.

Dr. Lockman Soetrisno, Rural Sociologist, Indonesia.

Two years ago Franz⁵ came to my office and I asked him how we could improve the curriculum of the civil engineering program in Indonesia because sometimes when the civil engineers design irrigation systems these designs are rejected by the farmers. So, I asked him if something could be done in terms of a curriculum change and he responded very fast. In two months we had the first seminar at the AIT in Bangkok. DSE invited Malaysia, Thailand, Indonesia, and the Philippines. At that time I was surprised that my colleagues from other countries shared the same problems and concerns. Fortunately, the first

country chosen for curriculum reorientation was Thailand and then Malaysia and last was Indonesia. We still have to talk amongst ourselves in Indonesia about the results of this.

Jose A. Galvez, Vice President, NIA Consultant, NIA, Quezon City, the Philippines.

The major contribution of these workshops is that I feel they provided a venue for the different agencies in the country to get together. Another important contribution is the discussions on irrigation problems and the difficulties of the irrigation agency. This will be a very important contribution because, for instance, in the Philippines these different agency representatives seldom see each other. There is no forum through which these people working in the different agencies get together and talk about irrigation and irrigation problems. This is a venue where we have a national view of what is going on in the irrigation sector.

Dr. Apichart Anukularmphai, Managing Director, A & R Consultants Co. Ltd., Bangkok.

I have been participating in a number of these workshops, and in my opinion the program itself addressed some really important issues in irrigation development and I think most countries in this region have an agricultural base and many countries are still investing heavily in irrigation management, so I think the subject matter is very relevant. As for the contribution, I can see that it was a very important thing and that it provided a forum for participants from different countries to exchange experiences and ideas and also served as a peer consultation group. In addition, the resource persons injected some new ideas. So I think all these things will stimulate new thinking and it will probably have some effect on each country's program. Participants will probably take the new ideas and suggestions presented at these meetings and put them into practice in their own agencies.

⁵Franz Heim was one of two primary organizers of the DSE/IIMI Program of Dialogue and Training for Management of Irrigation.