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## DSE/IIMI Program of Dialogue and Training for Management of Irrigation, 1990-94

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This joint program by DSE (German Foundation for International Development) and IIMI addressed issues of irrigation management and policy in four countries of Southeast Asia which are all significant users of irrigation: Indonesia, Malaysia, the Philippines and Thailand. Together, these four countries operate about 14 million hectares of irrigated land, or about 6 percent of the world's irrigation, and they produce 15 percent of the world's rice.

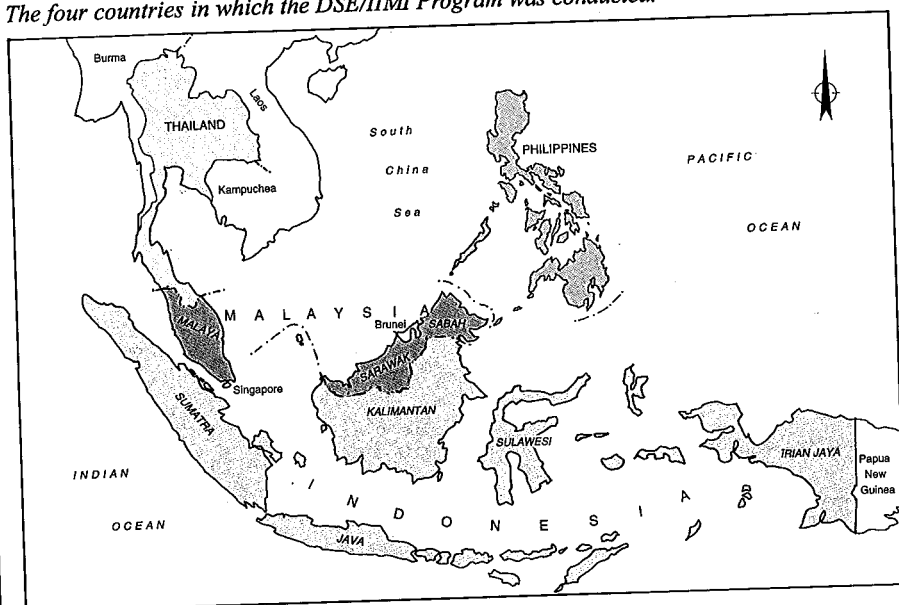
The program was diverse. It was built around two principal elements: one-week workshops for senior management and policymaking people, at which the larger issues and the challenges of newly emerging problems could be debated; and training courses of the order of three or four weeks for middle managers, in which practical ideas for the solving of current problems could be delivered. Associated with these two main styles of discussion, the program also

comprised research grants to individuals, support for participants at international meetings, a study tour to compare management methods used in the very different environment of North Africa, and other sorts of activities. In all, 23 major events were conducted over 4 years, and over 600 people could participate.

From the regional participants' viewpoint, the format of the program had some particular advantages. There are many government departments which have some kind of involvement with irrigation. Their perspectives and attitudes differ, according to the nature of their involvement: construction, operation, agricultural production, revenue and expenditure, training, natural resource conservation, social welfare, and each may be handled by a different arm of a government. The workshops of the DSE/IIMI Program sought to bring together people from all parts of this functional spectrum. Participants appreciated the wide-ranging interactions that resulted.

Participants also found that the regional dimension gave a fresh character to the events. Physically, the Southeast Asian region is one of the most homogeneous, in regard to its irrigation resources. Rainfall is

The four countries in which the DSE/IIMI Program was conducted.



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substantial over most of the region, and there are steep mountain systems delivering silty rivers to large alluvial plains, where rice cropping has traditionally predominated. However, in spite of these and other kinds of physical similarity, there is great disparity in the institutional and financial frameworks that the four countries have chosen to adopt. The workshops in the program enabled people to look closely at these management differences, and form opinions about why the differences have arisen and whether there is evidence that any of the management systems performs better than the others.

From IIMI's viewpoint too the program was a stimulating experience. More than half of IIMI's global international staff participated in it. The benefit to the Institute was not just that the program provided a channel for transmitting the Institute's ideas to an audience who were in positions where such ideas could be used practically. That was valuable; but IIMI also benefited greatly from receiving feedback about the relevance of those ideas, from highly experienced groups of irrigation managers.

Although irrigation is a traditional and familiar activity throughout Southeast Asia, and 24 percent of all agricultural land is irrigated, it now faces numerous stresses, which force the irrigation management leadership to contemplate radical policy adjustments. Among the principal stresses are the reduced rewards that farmers obtain from irrigated agricultural production; the efforts of governments to reduce and eliminate subsidies and apply the principle of "user pays;" and the steady reduction of per capita water resources, which, accompanied by growth of water demand in both the industrial and household sectors, is leading to threats to the quantity, quality and stability of irrigation water supplies.

All of these can be seen as, to some degree, the penalties for past successes, inherited from times when the primary objective in irrigation was to augment food production. Production of rice in the region rose 33 percent in the decade of the 80s alone, after other striking gains in the preceding 15 years, and is now at a level of about 230 kg/person/year. Prices fell in response to these gains, and to the steady reduction of price

controls or market interventions by governments. Farmers began to leave the land and farmers' children ceased to go into agriculture, largely in reaction to the disparity in rewards as between the agricultural and urban/ industrial sectors; so in that same decade of the 80s, agricultural population in the region declined from 58 percent to 50 percent of the total.

At the same time, general economic growth of 5.7 percent/year implied the rapid emergence of other competing uses of water; and loss of forest cover from upper catchments caused a shift in the seasonality of water flows, with a greater propensity for dry-season deficits. Society began to form the view that irrigation farmers were a privileged group, having access to an important natural resource and enjoying the benefits of past public investments in irrigation facilities, so they ought to pay the costs of these things.

Thus Southeast Asian irrigation is undergoing a large adjustment of its management objectives. Production is no longer so dominant; financial objectives such as farm profitability, cost reduction and cost recovery from users have now come to the forefront,

Some basic statistics of the four countries.

	Year	Units	Indonesia	Malaysia	Philippines	Thailand	Region
Population	1991	000	187,758	18,344	63,916	56,474	326,492
Growth of population	1980-90	%/Y	2.01	2.66	2.59	1.77	2.12
Agricultural population	1991	000	81,765	5,399	29,397	33,747	150,308
Growth of agriculture population	1980-90	%/Y	0.19	-0.06	1.55	0.67	0.54
Country area		000 ha	181,157	32,855	29,817	51,089	294,918
Cultivated area	1990	000 ha	22,000	4,880	7,970	22,140	56,990
Irrigated area	1990	000 ha	7,600	342	1,560	4,300	13,802
Cultivated land per person	1990	ha	0.12	0.27	0.13	0.40	0.18
Renewable water resources		km <sup>3</sup> /Y	2,530	456	323	179	3,488
Renewable water per person	1990	m <sup>3</sup> /Y	13,730	25,490	5,180	3,210	10,910
Gross domestic product	1991	mill.US\$	116,476	46,980	44,908	93,310	301,674
GDP per person {	1991	US\$	620	2,561	703	1,652	924
{	1991	PPP\$	2,720	6,530	2,900	3,740	3,150
Agricultural GDP	1991	mill.US\$	22,465		9,489	11,063	
GDP per person in agriculture	1991	US\$	275		323	328	
Paddy production	1989-91	000t/Y	44,724	1,650	9,483	19,172	75,029
Paddy production per person	1989-91	kg/Y	243	92	152	344	235

Sources: World Development Report 1993; FAO Production Yearbook 1991; World Resources 1992-93; Human Development Report 1992.

Note: Y = year; mill. = million.

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 Heim<sup>4</sup>*

### **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

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