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ISPAN

IRRIGATION SUPPORT PROJECT FOR ASIA AND THE NEAR EAST

Sponsored by the U.S. Agency for International Development



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AND THE NEAR EAST**

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International Science and Technology Institute, Inc.
Training Resources Group
The University of Arizona

ISPAN
ANNUAL REPORT - TECHNICAL
December 1988

Prepared for the Office of Technical Resources
Agriculture and Rural Development Division
Bureau for Asia and Near East
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PREFACE

The following organizations supply the technical and managerial expertise for ISPAN.

Camp Dresser & McKee International, Inc. (CDM), Boston, Massachusetts, is responsible for overall management of the project and brings extensive expertise to the technical, environmental, and engineering aspects of irrigation programs.

CARE, New York, New York, provides developmental field services in user participation, project sustainability, and agroforestry/natural resources management.

Cornell University, Ithaca, New York, plays a lead role in ISPAN's applied studies activities, agricultural engineering and agronomy, environmental issues, and social/institutional and policy/financial issues related to water management and agriculture.

Development Alternatives, Inc. (DAI), Washington, D.C., provides technical assistance in agricultural science and agronomy; in social, economic, institutional, and user participation issues related to water management; and in related aspects of agricultural and irrigation policy.

Harza Engineering Company, Chicago, Illinois, supplies engineering services in technical assistance, training and technology transfer activities for water management, energy resources, and irrigation systems and facilities.

International Science and Technology Institute, Inc. (ISTI), Washington, D.C., focuses on technical assistance and applied studies concerning the health impact of agricultural and water resource management decisions, on economic resource issues and on information management.

Training Resources Group (TRG), Alexandria, Virginia, is ISPAN's primary source for human resources development, training, and social and institutional development.

The University of Arizona, Tuscon, Arizona, contributes expertise in applied studies emphasizing irrigational energy systems, irrigation engineering, water policy and institutional development, and related natural resource issues.

ABBREVIATIONS

A.I.D.	U.S. Agency for International Development
ANE	Bureau for Asia and the Near East
CCN	Cooperating Country National
CDM	Camp Dresser & McKee International, Inc.
CLSU	Central Luzon State University
CTO	Cognizant Technical Officer
DAI	Development Alternatives, Inc.
FAO	Food and Agriculture Organization
FSN	Foreign Service National
IAV	Institute of Agronomy and Veterinary Science Hassan II
IDEC	International Development Experts Corporation
IFPRI	International Food Policy Research Institute
IIMI	International Irrigation Management Institute
IRG	International Resources Group
IRM	Information Resources Management
ISTI	International Science and Technology Institute, Inc.
LAN	Local Area Network
MIS	Management Information System
O&M	Operations and Maintenance
RI	Regional Institute
SAGE	Senior Advisory Group of Experts
SRP	Salt River Project
TCN	Third Country National
TRG	Training Resources Group
TSC	Technical Support Center

Chapter 1

INTRODUCTION

This annual report is submitted to the Bureau for Asia and the Near East (ANE) of the U.S. Agency for International Development by Camp Dresser & McKee International Inc. (CDM) in compliance with contract number ANE-0289-C-00-7044-00 for the Irrigation Support Project for Asia and the Near East (ISPAN). ISPAN's purpose is to provide technical assistance in irrigation management to A.I.D. missions within Asia and the Near East and to enable ANE to examine broad policy and technical issues that are not necessarily country specific.

The contract between A.I.D. and CDM requires the submission of annual reports that summarize activities, review progress during the year, and provide a cumulative analysis of progress since the inception of the project. This report covers the period from 14 August 1987 through December 1988.

The purpose of this technical report is to present an overview of sector issues and information on ISPAN activities and technical reports. A companion management and financial report responds to the contractual requirement for reporting on project progress, and anticipates forthcoming issues of concern to ISPAN and suggests appropriate responses.

Chapter 2

STRATEGIC CONCERNS FOR IRRIGATION IN THE 1990s

2.1 OVERVIEW

The goal of the ISPAN project is to assist the USAID missions of the Asia and Near East (ANE) region to improve the quality and performance of their irrigation portfolios, improve the capabilities of regional supporting institutions, develop solutions and innovative approaches to the irrigation management and development problems in the region, facilitate the exchange of experiences among Missions and professionals in the region, and develop the skills of relevant professionals.

ISPAN is provided core funding by the ANE Bureau to operate the Technical Support Center (TSC), and undertake a program of activities to achieve these project objectives and address the strategic concerns that will challenge development of the irrigation sector in the 1990s. Through this program ISPAN will assume a position of leadership in supporting USAID's program and policy objectives in the irrigation sector.

The specific activities in the core funded program are designed to achieve ISPAN's objectives by providing responsive and effective technical assistance, reflecting on regional experience, identifying emerging problems, and preparing appropriate policy and technical responses. The general nature of ISPAN activities are described in Chapter 3, and individual ongoing and completed activities are summarized in Chapter 4. The substantive focus of ISPAN's program is briefly outlined and discussed in this chapter.

2.2 ESTABLISHING THE FOCUS OF ISPAN'S PROGRAM

ISPAN undertook a review¹ of issues facing the irrigation sector in the 1990s which was carried out jointly by Cornell University and the International Food Policy Research Institute (IFPRI). This study was also intended as a contribution to the ANE sponsored symposium on agriculture in the 1990s, held in Washington in September 1988. The ISPAN study reviewed achievements in the irrigation sector and current investment trends, discussed prospects for growth and the problems and uncertainties to be overcome, and outlined the implications for USAID.

Based on this study, and discussions held during and after the symposium, five areas were identified as the initial focus of ISPAN's core funded program of activities. These are summarized in Table 1.

¹ Levine, G., Barker, R., Rosegrant, M., and Svendsen, M., Irrigation in Asia and the Near East in the 1990s: Problems and Prospects, August, 1988.

Table 1

STRATEGIC CONCERNS IN THE IRRIGATION SECTOR

Strategic Thinking in the Irrigation Sector

- Strengthen the analytic capacity of irrigation agencies to
 - Devise sustainable long-term investment strategies
 - Appraise investment proposals
 - Manage water resources at the basin level
 - Plan conjunctive use of ground and surface water
 - Monitor natural resource use and devise strategies to protect the resource base to ensure sustained irrigation performance

Improved Public Sector Agency Performance

- Strengthen the management capability of irrigation agencies, and promote a reorientation of organization and staff objectives to irrigation system performance
- Establish an increased client and service orientation in irrigation agencies to promote
 - increased flexibility in operating plans and decisions
 - increased farmer participation in system management
 - establish a basis for the transfer of responsibility for O&M of tertiary systems to farmer organizations

Revenue and Economic Policy Issues

- Cost recovery policies and strategies
- Develop cost-effective long-term strategies for maintenance and rehabilitation
- Promote more effective policy coordination within and between the water and agriculture sectors

Expanded Private Sector Participation

- Establish conditions for sustainable and effective water user organizations
- Establish mechanisms for effective participation of farmer organizations the management of irrigation schemes, particularly in their operation and maintenance

Expand Effective Irrigated Area and Improve Irrigation System Performance

- Modernize existing systems to create the flexibility needed to meet new patterns of water demand associated with crop diversification and the introduction of new technology
- Expand planned conjunctive use of surface water and groundwater
- Expand water supplies to increase the effective irrigated area and the intensity of irrigation by
 - improved river basin water management
 - improved efficiency and effectiveness of irrigation water use

Despite the modest size of ISPAN's funding and program, it is formulated to address each of the five major areas outlined in Table 1. This is necessary because of the exceptional diversity of irrigation practices and settings that exist in the ANE region, and because of the key role that irrigation has in agriculture sector growth in the 1990s. The specific priorities within the framework of strategic concerns in Table 1 are outlined in Table 2. These specific priorities guide ISPAN program planning, and reflect consideration of the importance of the particular issue in sustaining future growth, A.I.D.'s present experience and comparative advantage, potential for ISPAN leadership, and ISPAN's capacity to carry out effective activities that are likely to bear results in the near term.

Table 2

PRIORITY STRATEGIC CONCERNS

- Future investment and program strategies, and policy directions
- Improving the management capacity of irrigation agencies and the management of irrigation systems
- Transfer of responsibility for O&M to farmer organizations
- Cost recovery policies and strategies
- Long-term maintenance and rehabilitation strategies
- Sustainable farmer organizations, and increased participatory irrigation management
- Modernizing existing irrigation systems to increase flexibility and improve the quality of irrigation service

2.3 RECENT TRENDS AND PROSPECTS FOR IRRIGATION DEVELOPMENT

The basic premise of the draft ANE agricultural development strategy for the 1990s is that development and structural transformation in agriculture are to be "demand led". This means that the central focus of agricultural development strategy will be sustained growth in agricultural productivity to support expanded employment for and increased incomes to rural populations. Expansion of irrigation has been a primary engine of the impressive growth in agricultural production achieved over the past two decades. However, the extent to which this can continue to be true through and beyond the 1990s is not clear.

From the mid-1960s until the early 1980s cereal production grew at an annual rate of 3 percent. During this same period the nominal

net irrigated area grew at about 2% per year. But, since the early 1980s this rate has fallen precipitously to less than 1%. The area of net arable and permanently cropped land has increased at an annual rate of just 0.1 percent in Asia and 0.4 percent worldwide. Overall, foodgrain production has outstripped demand, particularly in Asia where per capita foodgrain production has risen steeply since the late 1970s.

Investment in agriculture and irrigation increased sharply through the 1970s, but since 1977-79 there has been a significant decline in real lending for irrigation development among the four major donors--the U.S. government, The World Bank, The Asian Development Bank, and the Japanese government.

During the period of expansion, the principal focus of investment was on major infrastructure development, particularly surface water facilities to expand water supplies and irrigate new land. As these sources of growth gradually have become less abundant (both land and water), and more costly, greater attention has been given to groundwater development in both the public and private sectors. Although groundwater has provided a quick-yielding means of rapidly expanding irrigated area, the physical limits of the most attractive shallow aquifers are already being encountered in some locations. Tubewells in the deeper aquifers are expensive to develop and operate, and their development usually requires significant capital and operating subsidies.

The period since the late 1970s has seen increased efforts to improve the productivity and performance of existing systems, motivated in part by the search for more and cheaper water from within existing irrigation schemes and the growing recognition of the frequently low economic returns from these schemes. These programs have commonly incorporated a complex mix of approaches and activities including the introduction of new technology, strengthening of irrigation organizations, improvements in operation and maintenance including modernization and drainage improvements, and increased participation of farmers in management and decision-making. Despite demonstrable and significant gains in pilot projects and schemes with large donor input, two major concerns bear directly on the prospects for sustained future growth:

- Too little is presently known about how these gains can be sustained and spread rapidly over a large part of the existing irrigated area.
- Too little is known about the real potential for developing new irrigation or for increasing the productivity of existing systems, both in terms of quantitative increases and the time required to realize significant benefits

Hence the situation is one of falling investment rates, and uncertain knowledge about potentials for increased productivity and expansion. It is probably also true that the pipeline of attractive investment projects has deteriorated as well. The way to generate direction and viable programs in this setting is through systematic and strategic planning. But, despite the huge investments in the water sector and its importance for growth in agriculture and other key economic sectors, little progress has been made in institutionalizing an adequate strategic planning capability to provide analysis and evaluation to support decision making. Many of the planning and management problems that must be faced involve agricultural, economic, social, and environmental dimensions in addition to the engineering aspects. The capability to deal with these non-engineering issues has not been adequately institutionalized within the organizations traditionally responsible for developing investment programs and project portfolios.

The institutional setting for irrigation development and improvement is unusually complex in the irrigation and agriculture sectors with responsibilities for investment, input management, extension, credit, and related policies dispersed among many organizations which frequently do not share common purposes or objectives. Hence coordination of policies and programs is uncommon. Most agencies have a rigid administrative system of organization and operation that does not lend itself to the flexible, performance focused management that is needed. The emergence of a strong private sector role in irrigation, initially through the development of tubewells and increasingly in the operation and maintenance of tertiary distribution systems, is forcing a reassessment of roles and responsibilities on tradition bound irrigation and agriculture organizations. The change processes implied by these developments and needs will play a decisive role in efforts to accelerate improvements in irrigation performance in the 1990s.

2.4 THE STRATEGIC FOCUS OF ISPAN ACTIVITY

2.4.1 Basis

Five areas were outlined in Table 1 as the focus of ISPAN activity. Each of these areas is briefly discussed below. ISPAN will continue to refine its perspective on the strategic questions for irrigation development through its program of activities, its work with the Bureau and individual Missions, and through collaboration with other organizations and professionals in the irrigation and water sectors.

2.4.2 Strategic Thinking in the Irrigation Sector

Ad hoc, project-specific thinking dominates investment, operations, and institutional and human resource development programs in the irrigation sector. There are three important consequences of this lack of broad, strategic thinking.

First, there now appears to be shortages of water for development of new schemes and in many cases to operation and fully develop existing schemes. At the same time urbanization and industrial development have resulted in increased demands to reallocate supplies to non-agricultural users. There is also growing awareness of the environmental impacts of many water development schemes which slowed down and in many cases halted their implementation. Second, there is a lack of attention to the cumulative impacts of uncoordinated and uncontrolled expansion in the exploitation of natural resources to expand irrigated area. The result is that the resource base for sustained production and growth is being eroded. Third, there is increasing uncertainty about the direction and level of investment required to sustain growth in irrigation and agricultural productivity.

There is a need for long-term strategic thinking focused on trends and needs, on understanding the potential for growth and anticipating the emergence of constraints, and on developing options to overcome problems and take advantage of opportunities. This type of thinking can then serve as a guide to present decision-making.

2.4.3 Improved Public Sector Agency Performance

In spite of the increasing trend toward private sector participation in irrigation, including the privatization of technology such as tubewells, public sector agencies will continue to have major responsibilities. For example, investment in new systems and in rehabilitation of existing ones; maintenance; operation of schemes especially the main distribution system; and the coordination and implementation of many key aspects of public policy concerning irrigation and irrigation management will continue to be the concerns of public agencies. The agencies such as irrigation departments or project authorities that are responsible for irrigation systems must be a part of any plan to improve system performance.

Two broad concerns should guide efforts to strengthen and improve these institutions. First, management capacity should be improved. It is clear that irrigation department managers and project authorities must exercise greater flexibility in devising and applying rules for system operation. Attention should be focused on outputs--the productivity of the irrigation scheme and the effects of water delivery operations--rather than on water as an

input. Facilitating this change and creating the technical capacity to manage effectively is perhaps the greatest task faced by HRD and training programs.

Second, the public agencies should be more oriented toward their clients. Traditionally, the irrigation department manager has been closely involved with farmers, but mainly as an adjudicator of disputes. There is mounting evidence that increased farmer participation in decisions concerning system layout or conceptual design, operation, and maintenance leads to significant improvements in performance, collection of water charges, and increased farmer investment in higher productivity. Taking advantage of these opportunities requires that the manager adopt a flexible approach and give priority to more effective communication with farmers and farmer groups. The manager must be able to communicate the capability of the system to the farmer, and he must be able to gather and monitor information on changing demands and needs for water in order to plan operations.

The performance improvements and increased revenues that appear to stem from increased farmer participation suggest the need to change the concept of operation and maintenance of irrigation schemes by transferring authority to farmer organizations for operation and maintenance of the tertiary distribution system. These changes will require the evolution of entirely new management procedures and processes for schemes which integrate and coordinate these separate roles and responsibilities.

2.4.4 Revenue and Economic Policy Issues

Incentives and revenues are perhaps the most ubiquitous policy concern in the irrigation sector. It seems clear from the discussion that strategies formulated for the 1990s will place great emphasis on promoting private actions to improve productivity, efficiency, and investment. The success of such strategies will depend on the existence of appropriate incentives. Yet, in part because of severe budget limitations, governments have gradually reduced or eliminated subsidies on a wide range of key agricultural inputs.

The irrigation sector will continue to generate high demand for public funds for subsidies, for capital investment in new systems, and for rehabilitation and improvement of existing systems. Continuing funds for operation and maintenance will also be needed. Financing irrigation expansion and improvements in irrigation performance in the 1990s will remain a major policy issue.

In most cases, it appears that systems are deteriorating too rapidly because of inadequate maintenance and that at least part of the reason is the lack of funds. Operation and maintenance budgets generally only barely cover staff and related fixed costs

with the result that only the most routine maintenance tasks are carried out. The only source of increased revenues is the water user. Two strategies are emerging: O&M cost recovery through water user fees, and transfer of responsibility for O&M to water users.

The huge stock of irrigation facilities with generally low operating performance provides an apparently attractive opportunity for development through rehabilitation and improvements. It has also served as an incentive to implement cost recovery programs to increase funding for maintenance. However, there are two persistent questions about this strategy. First, too little is known about the physical and economic impacts of rehabilitation to make major commitments of funds because of the paucity of good ex-post evaluation of investments in irrigation schemes. Second, there is too little empirical knowledge about the break-even point between a strategy of deferred maintenance and periodic rehabilitation and a strategy that relies on higher levels of maintenance to reduce the rate of deterioration.

2.4.5 Expanding Private Sector Participation

Until recently, irrigation schemes were thought of largely as public enterprises in which the farmer had very little role either as an investor, decision maker or manager. But there is increasing evidence that as the participation of the farmer in operating decisions increases, there is significant improvement in water use, higher levels of cropping intensity, and increases in private investment in improved productivity. Relations between the farmer and irrigation department personnel improve as a result. And there is a greater contribution by farmers to maintenance, both in monetary form and in-kind contributions.

Developing sustainable water user organizations appears to be a decisive element in any strategy to improve irrigation performance through increased farmer participation. The circumstances under which this strategy has been tried and the approaches used are so diverse that many questions remain. It is not clear which approaches to organizing farmers and managing schemes are transferable from locations where they have been successfully applied to new schemes in different physical, social and cultural settings.

Perhaps the most difficult issue is turning over the responsibility for operation and maintenance of the tertiary level of irrigation schemes from the irrigation department to farmer groups. Much better models of this turnover process are needed. A great deal is known about how public agencies responsible for operation and maintenance of the main irrigation supply and distribution systems are organized or should be organized, and how the systems should be managed. But there are very few models and little documentation

of how farmers manage schemes, particularly larger and more complex ones.

2.4.6 Improved Performance of Irrigation Systems

As long as there was a large and feasible portfolio of attractive infrastructure investments, irrigation development programs allocated most of the investment, institutional, and human resources in the sector to this portfolio. Priority has gone to increasing the nominal irrigated area, with little regard for the effective irrigated area. There was no need for concern with efficiency, flexibility, and effectiveness so long as returns and growth rates were acceptable. As this infrastructure-based strategy has become less viable, there has been increased pressure to utilize the growth opportunities in existing systems. These opportunities exist on the supply side, the demand side, and in management.

Expanding the water available for irrigation by developing new or increased supplies from the basin is increasingly problematic. The lack of new land, conflicting demands for water, and the cost of developing marginal sites have combined to shift the focus to developing and using all the water available in existing schemes. This can be achieved by improvements in efficiency, conjunctive use of surface and groundwater, and use of systems technology to improve management. Increasing water supply by improving efficiency in many systems is at present more apparent than real. Measured on a hydrologic or watershed basis, efficiencies may actually be quite high because of unmeasured downstream recovery.

In the demand area, the imperative to increase rural incomes and expand employment opportunities could be met in existing schemes by increasing specific crop yields and by the intensification and diversification of cropping. These strategies place greater demands on existing irrigation schemes to provide adequate and more reliable supplies of water, provide increased water supplies, and provide water deliveries in new time patterns and quantities. These initiatives would require improved quality of irrigation service, and increased flexibility in system operations.

These supply and demand opportunities can be taken advantage of by significant improvements in the management of irrigation schemes as well as investing in new and improved physical facilities. Management improvements will require basic changes in the way irrigation systems are viewed. There will be a shift away from the rigid administrative concept of operation to a management approach based on system performance. More flexible operations will have to be adopted to fully utilize facilities and water supplies to meet new patterns of water demand. And there will have to be greater focus on reliable operation and management of the main

distribution system. This can then serve as an incentive for improved on-farm water management and increased private investment.

Unfortunately, it is not clear at this point how to bring about these changes in a way that will have wide impact on the performance and productivity of the irrigation sector over a reasonable period of time.

Chapter 3

TECHNICAL ACHIEVEMENTS

3.1 OVERVIEW

ISPAN's initial 15 months have been a period of growth and evolution. The contract scope of work provides only a broad generic outline of the program. The major achievement of ISPAN thus far has been to develop that program, giving it substance in relation to the complex issues and problems of the irrigation sector in the ANE region and relevance to mission country programs and to bureau and agency policy concerns.

ISPAN has developed a base of activities in most of the ANE missions from which to gather data on issues, problems, and current experience. The project design provides that ISPAN will be proactive in approaching issues and providing assistance to the bureau as well as responding to requests from missions. Core funds are provided to enable ISPAN to design and implement a suitable program of issue-driven activities. The project scope of work establishes some goals to guide the development of that program:

- Assist the missions to improve the quality and performance of their irrigation portfolios
- Improve the capabilities of regional supporting institutions
- Develop solutions for the complicated irrigation management problems facing the region
- Share experiences within the region and develop the skills of relevant professionals

The first task of ISPAN was to assemble a staff and establish offices. Between mid-September and mid-November 1987, the professional and key support staff of ISPAN were hired and housed in ISPAN's Rosslyn headquarters (referred to as the Technical Support Center or TSC). Operations began almost immediately despite the long period required for renovation of the office space.

Field activities and contacts with the ANE missions are vital to the success of ISPAN. Field work involving the missions and their counterpart agencies is essential to ISPAN's ability to formulate of programs in applied studies and carry out other regionally-focused activities. Thus, visits to the ANE missions by TSC and consortium staff have been given high priority. These visits have

resulted in establishing working relationships with mission staff and acquiring a better understanding of mission programs and sector issues. All of the ANE missions have been visited except Yemen, Oman, and Jordan.

As noted earlier, ISPAN's four major components are technical assistance, training and technology transfer, applied studies, and regional institution-building. In the following sections, achievements and current activities are discussed for each component.

3.2 TECHNICAL ASSISTANCE

3.2.1 Project Support

The majority of ISPAN activity to date has been in the area of technical assistance to missions for project and program support. These activities involve technical assistance to support on-going projects directly and are usually funded by mission buy-ins. With the exception of assistance for the Irrigation Departments of the Indian states of Madhya Pradesh and Maharashtra, ISPAN activities have focused on team-building, project startup and project review workshops (Indonesia and Egypt), and a specially-designed workshop to develop a project monitoring process for the Irrigation System Management Project in Sri Lanka.

USAID/Cairo's Irrigation Management System project is the largest and most complex in the ANE irrigation portfolio. ISPAN has core-funded the initial field work to design a project management system for this multi-component project. The project management system will link government, contractor, and USAID managers to a common computerized data base. The Egyptian government is studying initial steps needed to implement the system.

3.2.2 Project Evaluation

ISPAN has carried out two project evaluations in Pakistan, two in India, and is currently planning evaluations for Nepal, Indonesia, and Egypt. All of these evaluations, except for Egypt and the IMS-rehabilitation project in Pakistan, are mid-term evaluations of ongoing projects.

3.2.3 Project Development

ISPAN provided the technical team for design of a new project in Morocco. The project will finance the design and construction of small dams and related irrigation works for supplemental irrigation. In Tunisia, ISPAN prepared the final project

identification document for a new irrigation project that focuses on promoting increased private sector participation in modern pressurized irrigation. ISPAN also prepared scopes of work for special studies needed for project design.

3.2.4 Project Technical Assistance

ISPAN is providing technical assistance to the Irrigation Departments in the Indian states of Madhya Pradesh and Maharashtra. In Madhya Pradesh, ISPAN is providing expertise in irrigation design, farmer organization, computerization, civil works design, and manpower assessment. In Maharashtra, ISPAN is providing expertise in computer data base development for irrigation scheme operation and monitoring, and expertise in modeling small-scale schemes to improve operations and performance.

3.2.5 Program Development and Support

ISPAN is working with several missions to develop and strengthen their water sector programs. In Bangladesh, ISPAN is providing the mission with technical assistance in preparing a review of the irrigation subsector as a part of the agriculture sector assessment. In Sri Lanka, ISPAN has developed a proposal for a program to provide support for the implementation of the government's participatory irrigation management policy. In India ISPAN has provided a resident water management research advisor through a buy-in.

3.3 HUMAN RESOURCES DEVELOPMENT AND TECHNOLOGY TRANSFER

3.3.1 HRD and Institutional Development

Institutional development is the process of improving the capacity of irrigation institutions and organizations to make effective use of available human, financial, and other resources. This involves diagnosis of deficiencies at various levels and the formulation and implementation of improvements in close interaction with the institutions and organizations. The goal of institutional development within ISPAN is to help individuals better understand institutional issues in the irrigation subsector in order to improve the design of irrigation projects by the inclusion of institutional components. ISPAN seeks to achieve that goal by (a) assisting missions to perform diagnostic analyses of existing irrigation institutions and to identify their specific needs and (b) disseminating information on innovative and successful approaches.

Human resources development (HRD), of which training is part, is a key aspect of institutional development. It is both a requirement for and dependent on effective management. Planning for training activities without putting those activities into an institutional context frequently leads to frustration and reduced effectiveness. The success of training often depends on larger institutional issues, such as the ability of the institution to manage and supervise trainees and to provide incentives for keeping trained staff over the long term.

Within the context of institutional development, HRD plays a key role in assisting individuals to develop skills needed to perform their jobs efficiently. ISPAN's HRD agenda is to help develop an institutional capacity for HRD within irrigation ministries and projects. All training activities are based on performance needs of the job that are consistent with the institution's short- and long-term objectives. Training activities use performance-based or experiential training methodologies, which are a replacement for more traditional lecture and rote-oriented methodologies which have generally been ineffective.

During the first year of the project, ISPAN has been involved primarily in specific project and program support activities. These activities include the following:

- Design and implementation of a joint A.I.D./World Bank workshop to develop a guidance document to assist government irrigation organizations in the formulation and implementation of training policy and strategies. As a follow-up to the workshop, ISPAN managed the preparation and distribution of a draft Guidance Document on Training Needs and Strategies for Irrigated Agriculture.
- Planning and facilitation of the Asia/Near East Regional Irrigation Management Workshop in Kathmandu. The purpose of the workshop was to enhance regional synergy, information exchange, and mutual support among A.I.D. mission irrigation staff; explain ISPAN services; and obtain program guidance from the missions. Technical sessions focused on approaches to building an effective interface between agencies and water users for improved irrigation performance, including resource mobilization and cost recovery.
- Implementation of team planning meetings for teams going to the field on technical assistance missions. The team planning meetings are used to improve the performance of teams, using an organized approach to discuss both task functions (what is to be done) and team-building (how the individual team members

can make themselves into an effective team). Teams also develop a specific work plan for their time in-country.

- Provision of support to USAID/Cairo mission staff to develop a relatively simple and easy-to-use system for managing and monitoring the Irrigation Management System Project.
- Design and implementation of a project review workshop for the Small-Scale Irrigation Management Project in Jakarta. The purpose was to review progress, identify and address key issues, develop a new integrated team, and produce a work plan for each provincial team. Seventy-nine individuals from the seven major organizations involved in the project participated in the workshop.
- Design and facilitation of a workshop for the Asia/Near East Bureau staff on how to organize and conduct team planning meetings. The two-day workshop focused on becoming familiar with the model for and the issues in running a team planning meeting, and developing the skills needed to run such meetings.

3.3.2 Technology Transfer

The emergence of modern non-formal training techniques has blurred the distinction between training and technology transfer, in much the same way that concepts of HRD have broadened the goals and expanded the approaches to training from the traditional narrow focus of structured skills learning. In ISPAN technology transfer activities may range from formal workshops and seminars to newsletters, networks, and video reports on innovations and lessons learned.

A limited but important group of activities have been carried out during this initial period.

Information distribution. ISPAN distributed to A.I.D. missions and other concerned organizations in the region the ISPAN brochure, ISPAN newsletter, and formal ISPAN reports.

The ISPAN brochure was mailed to more than 900 irrigation related organizations in the ANE region and elsewhere. A cover letter, which requested descriptive material on the organizations and their programs, received a response of widespread interest in ISPAN and its program. Respondents will form the ISPAN Information Exchange Network.

Every ISPAN activity results in one of several types of reports. These report types include:

- Trip Reports - These provide the TSC and bureau details of ISPAN field trips and related activities.
- Field Reports - Reports presenting finding and recommendations of field activities to missions and counterpart agencies.
- Working Papers - Informal reports with limited circulation.
- ISPAN Reports - Formal numbered ISPAN reports widely circulated.

Project Identification Documents

Materials for Inclusion in Project Papers

Formal ISPAN reports are distributed to all ANE missions, A.I.D./Washington, and collaborating agencies. Table 3 summarizes the present status of all ISPAN Reports through December 1988. Ten ISPAN reports are in various stages of completion. Two have been distributed (a third was only distributed to the ISPAN Steering Committee). Eight working papers or field reports have been completed and provided to the respective missions and counterpart agencies, and the preparation of an additional eight are ongoing. ISPAN has also prepared one PID and technical elements of one project paper.

Networking. These activities seek to provide opportunities to A.I.D. staff, host country irrigation officials, and research/information centers to share and build upon their experiences in irrigation development, and share information about the latest developments in irrigation management and technology. ISPAN networking activities have included a regional irrigation management workshop and a workshop to consider ways to develop better training strategies.

In April 1988, ISPAN sponsored a regional irrigation management workshop in Kathmandu for irrigation professionals in the ANE region. The workshop, attended by more than 60 participants from the region, including USHA and FSN staff from 10 A.I.D. missions, focused on professional development through case study presentations and the exchange of experience, and the exploration of two critical policy issues: improving the ability of irrigation agencies to work effectively with water users and identifying mechanisms to mobilize human and financial resources to sustain

proper operation and maintenance of irrigation systems.

In June ISPAN co-sponsored a workshop with the Economic Development Institute of the World Bank to consider proposed guidelines for planning more effective training strategies. Senior irrigation officials from 11 countries, consultants, university researchers, international training program officials, and professionals from six international organizations participated. The new network is now reviewing a draft guideline document prepared subsequent to the workshop.

3.4 APPLIED STUDIES

During the past 15 months, the applied studies component has increasingly focused on establishing a framework of critical irrigation issues which have emerged during ISPAN technical assistance activities and from discussions with bureau and mission personnel. These issues include planning and investment in the irrigation sector, irrigation system performance, public sector agency performance, private sector participation, and economic and fiscal policy.

The applied studies component initially identified six priority problem areas of significance to A.I.D.'s program in the region: inadequacies in the design process; inadequate and/or inappropriate participation by water users and institutions; inadequate resources for operation and maintenance; adverse impacts on the physical environment; adverse impacts on the poor and women; and unplanned conjunctive use of surface and groundwater. However, these areas were broadly drawn and could not readily be tied to bureau strategies or mission programs. The transition to a small number of critical irrigation issues was made in an effort to create a program which would be more immediately relevant to A.I.D. and counterpart officials.

Applied studies fall into two categories. The first is papers synthesizing lessons learned focusing on the experiences of A.I.D. irrigation programs in the region. Proposals which have been developed and are being reviewed include A.I.D.'s experiences with irrigation institutional development, the creation and sustainability of water user associations, and the use of microcomputers in irrigation management. Study time is expected to be no more than three to four months.

The second type of applied study is field studies that are conducted primarily in-country, and require the mobilization of teams. They generally involve local participation, including faculty and students from ISPAN Regional Institutions (RIs). ISPAN also encourages the collaboration of A.I.D. irrigation projects and irrigation research institutions in the region, such as IIMI. Four field studies, all requiring core funding, are ongoing or in

proposal stages. One field study, which is examining private sector tubewell development, is currently being conducted. IIMI is providing logistical support and is funding the participation of local scientists. The A.I.D. Irrigation Systems Management Research Project has also shown an interest in providing additional support.

A second study is currently being reviewed by the TSC prior to wider circulation. The proposed study will develop a conceptual framework based on fieldwork in Morocco for the improved design and management of small-scale supplemental irrigation systems. The study will be led by the University of Arizona and the Institute of Agronomy and Veterinary Science Hassan II, an ISPAN RI. Two additional proposals are in the final stages of preparation. A study of large farmer-managed systems in Asia, to be initiated in the Philippines, will be conducted by Cornell University and Central Luzon State University, also an ISPAN RI. The study has important implications for policies related to system turnover to farmers. In continuation of ISPAN's work in support of ANE's agriculture strategy for the 1990s, ISPAN is planning to collaborate with IFPRI in a proposed study of trends and policy directions in investment in Asian irrigation development. The draft proposal is being reviewed and co-funding is being sought from other donors.

ISPAN has also assisted ANE missions with the preparation of scopes of work for studies which are closely tied to project implementation and the development of new initiatives for the missions and their counterpart agencies. In Thailand, ISPAN staff did the reconnaissance work and designed a three and one-half month study of the Northeast Small-Scale Irrigation Project. In Indonesia, ISPAN initiated a retrospective study of the Sederhana Projects. Both studies examine the lessons to be learned from project implementation and seek to identify practical and sustainable solutions to continuing irrigation management problems. Both studies will be mission buy-ins to ISPAN.

3.5 REGIONAL INSTITUTIONS PROGRAM

The regional institutions (RI) component seeks to provide opportunities to a small number of universities and research agencies in Asia and the Near East to participate in technical assistance, research, training, and information networking activities in irrigation development in their own countries and elsewhere in the region. Its objective is to strengthen permanent institutional irrigation resources in the region which can be called upon by a diversified field of donors in the future. ISPAN encourages the participation of the institutions' staff on the full range of project activities. During the first 15 months of project

implementation, RI activities have focused on selection of institutions, preparation of collaborative research proposals, and some participation in ISPAN field activities.

In November 1987, 15 institutions in Asia and the Near East were sent letters by the ISPAN CTO informing them of the regional institutions component. They were asked to supply information about their programs, staffing, budgets, and objectives in working with ISPAN. Most of these institutions were first identified in the Project Paper. The institutions are in Morocco (1), Pakistan (1), India (7), Sri Lanka (1), Thailand (2) and the Philippines (3). Twelve of them responded. In February and March 1988, the ISPAN Program Manager for Social Science and Research visited Thailand, Sri Lanka, and the Philippines to review prospective project activities with missions. At that time, he visited six institutions to discuss the RI component.

At the end of March, members of the TSC, the A.I.D. CTO, two ISPAN liaison officers, and one member of ISPAN's Senior Advisory Group of Experts (SAGE) met to review the regional institutions component and draft a short list of institutions. Among the institutions identified were Central Luzon State University (CLSU) in the Philippines and the Institute of Agronomy and Veterinary Science Hassan II (IAV) in Morocco. Both had demonstrated competence in research and training in irrigation. An Indian institution was also selected but USAID/New Delhi asked ISPAN to postpone final determination.

The Kathmandu Regional Irrigation Workshop in April offered a good opportunity for the candidate institutions and ISPAN to learn more about each other and about ANE missions and irrigation agency concerns. ISPAN invited Dr. M. Sedrati, Director of IAV, and Dr. Honorato Angeles, Dean of the College of Engineering at CLSU, to attend the workshop and discuss their institutions' programs. In July, a representative of the University of Arizona made a follow-up visit to IAV; a representative of Cornell University visited CLSU. Their discussions focused on joint research proposals between the American universities and the RIs. Two long-term proposals are now being prepared. A Cornell/CLSU proposal focuses on large farmer-managed systems in the Philippines, Thailand, and Indonesia. A UAZ/IAV study would examine supplemental irrigation in arid, irrigated areas.

RI staff have also participated in ISPAN technical assistance activities. Five faculty members of IAV served as members of a team which designed a supplemental irrigation project for USAID/Rabat in July. Dr. Angeles of CLSU joined an ISPAN liaison officer and an IIMI staff member to design a research program for the Accelerated Agricultural Production Project for USAID/Manila in September.

CLSU and IAV were informed of their final selection as RIs by ISPAN in September. Formal contracting arrangements are now being made.

Chapter 4

ACTIVITIES PERFORMED

Act. No. 601A November 1987:Finished

Regional: Workshop on Training Needs and Strategies for Integrated Agricultural Development. June 1-3, 1988 ANE co-hosted, with the World Bank, a workshop on training needs and strategies for irrigated agricultural development. About 40 participants representing A.I.D./World Bank, FAO, and other groups with responsibility for planning and supporting irrigated agricultural development projects attended. ISPAN provided assistance in the planning and implementation of the workshop.

ISPAN sponsored an ANE Regional Irrigation Management Workshop in Kathmandu in April, 1988. This was the first in a series of annual regional irrigation management workshops that ISPAN plans to hold. The purpose of the workshop was to bring together irrigation professionals within the region to discuss common problems relating to improving irrigation performance. The workshop was attended by over 60 participants from ten countries in the ANE Region.

Act. No. 602A December 1987:Finished

Egypt: Project Management System for Irrigation Management System Component Projects. USAID/Cairo assisted in initiating the Irrigation Management System (IMS) Project. This complex umbrella project consists of ten sub-projects or components administered by eight Ministry of Irrigation Project Directors and involves several U.S. consulting firms and U.S. contractors. The mission requested ISPAN assistance in developing an approach for managing and monitoring IMS project components. This activity had four phases: design, hardware/software programming, implementation and testing, and training.

Act. No. 603A December 1987:Finished

Egypt: Management Training Program. The purpose of this activity was to conduct an initial training needs assessment by collecting and analyzing information which clearly defined current management deficiencies and needs of the Irrigation Management System project. The prevailing management culture was examined and situational data and case materials were collected for use in developing the training program.

Act. No. 604A January 1988:Finished

Pakistan: Evaluation of the Institutional Strengthening and Rehabilitation Components of the ISM Project. ISPAN was requested

to field a six-man team to carry out an evaluation of the institutional strengthening and rehabilitation components of the ISM project through a buy-in from USAID/Islamabad. The purpose of the evaluation was to assess project progress and review and evaluate management issues with a view to recommending improvements based on host government institutional capabilities and constraints. The team reviewed aspects of the project related to rehabilitations works, increasing the O&M capability of the provincial Irrigation Departments, procurement of new construction and maintenance equipment, workshop improvements, improved hydraulic design capability, development of management information systems, training, and improvements in water management at the federal level. The evaluation report was accepted by the Government and USAID/Islamabad, and provided the basis for the successful redesign of the project and the approval and funding of the second phase.

Act. No. 605A January 1988:Finished

Indonesia: Small Scale Irrigation Management Project (SSIMP) Start-up Workshop. The scope of work for this workshop included six major tasks: (1) review project documentation to date, (2) interviews, (3) design of a four-day workshop to address problem areas and develop solutions, (4) a project review workshop, (5) recommendations and discussion of them with USAID/Jakarta and the Ministry, and (6) a report describing results, activities, and recommendations. The workshop was held at Werdhapura, Sanur, Bali, 1-5 February 1988, with 79 participants from the major organizations involved in the project.

Act. No. 606A January 1988:Finished

Indonesia: Management Training Assessment of Small Scale Irrigation Management Project (SSIMP). The SSIMP is a \$50 million project to implement improved irrigation technologies and management systems in three eastern provinces of Indonesia. This activity was suggested following a reconnaissance visit in December 1987. It provided for an assessment of the need for management training within SSIMP and initial development of a Scope of Work for management training.

Act. No. 607A January 1988:Finished

Tunisia: Improved Water Resources Management Project Identification Document Preparation The ANE Bureau requested ISPAN to prepare the PID for IWRM. The activity included a visit to Tunisia to present the PID to USAID/Tunis and government officials. The project is intended to improve irrigation performance at the farm level of both public and private perimeters in Tunisia. The three year, \$5 million project will promote and extend the use of appropriate technologies throughout the country. An essential component of IWRM will be the identification and

implementation of management systems for the new technologies. To reach these objectives, the project will carry out technical training for farm-level irrigation systems designers and managers; develop special extension materials covering the selection, applications, management, and O&M of the various irrigation technologies; and disseminate these materials to the Office de Mise en Valuer extension personnel, irrigation vendors, and water user associations. IWRM will be implemented through existing institutions, such as the Department of research, Extension and Education in the Ministry of Agriculture.

Act. No. 608A August 1988:Finished

Egypt: Assessment of Energy Issues in Egypt's Irrigation Sector. The A.I.D. Bureau for Science and Technology commissioned a special ISPAN focus on energy described in the ISPAN Project Paper. This activity aimed to identify emerging strategic issues in the irrigation sector and identify a followup action program activities to address these issues. As a contribution, S&T's Office of Energy carried out a study of water pumping issues through a literature survey. During a three-week field visit the ISPAN team reviewed several water lifting issues, and investigated the potential for the installation of low-head hydroelectric generating facilities in river diversion and related irrigation distribution structures.

Act. No. 609A April 1988:Finished

Regional: Irrigation Management Workshop. ISPAN organized the Second Regional Irrigation Management Workshop in Kathmandu at the request of the ANE Bureau. A.I.D. staff, counterpart agency officials, contractors, representatives of institutions in the region, TSC members, and resource presenters from ten countries participated in the week-long workshop. The workshop focused on two critical irrigation policy issues: public institutional development to foster improved farmer participation and cost recovery. Participants were also introduced to the Irrigation Management Game and made a field trip to completed irrigation development project north of the Kathmandu Valley. See ISPAN Report No. 7.

Act. No. 610A March 1988:Finished

India: Evaluation of the HALWD Project in Himachal Pradesh. The Hill Areas Land and Water Development (HALWD) Project is a seven year effort to develop approximately 150 minor- and 2000 micro-irrigation systems in Himachal Pradesh, India. It was determined that the project was overfunded with respect to its time frame and the capability of the various state organizations to carry out all of the development works called for. USAID/New Delhi requested ISPAN to conduct an evaluation to determine if the project is consistent with USAID's program strategy and staff capabilities;

identify mid-project corrections or restructuring to improve the effectiveness and impact of the project; and suggest change or adjustments to be made during the remaining life of the project. The evaluation report describes several options for the continuation of the HALWD project. The recommended option would change the focus and criteria for site selection, place more emphasis on the action research, training, and institutional strengthening components contemplated in the Project Paper, and scale back the project targets to better fit with present capabilities.

Act. No. 611A June 1988:Finished

Bureau: Team Planning Meeting: Training of Trainers for ANE Staff. The two-day workshop was held in May, 1988, and focused on two main areas: (1) becoming familiar with the team planning model and the issues in running a TPM; and (2) developing the skills needed to run a team planning meeting.

Act. No. 612A July 1988:Finished

India: Development of ISPAN Program in INDIA. The governments of the states of Madhya Pradesh and Maharashtra requested USAID/New Delhi to provide specialized technical assistance to strengthen the irrigation department. This activity was to be carried out through a series of buy-ins to prepare scopes of work.

Act. No. 613A June 1988:Finished

Morocco: Supplemental Irrigation Project Paper Design. ISPAN fielded a joint American-Moroccan team to design a supplemental irrigation project. Moroccan team members were provided through the Institute of Agronomy and Veterinary Science Hassan II, which has since been selected to be an ISPAN Regional Institution. The project will finance the construction a number of small, multi-purpose dams for soil and water conservation and supplemental irrigation water and provide technical assistance to assist in reducing unit costs of construction and in developing farmer-user groups for maintenance of the completed works. The Project Paper has been approved by A.I.D.

Act. No. 614A June 1988:Finished

Morocco: Supplemental Irrigation Project Team Planning Meeting. ISPAN provided the services of its Program Support Manager for Human Resources Development to USAID/Rabat for a team planning meeting for the project paper design.

Act. No. 615A June 1988:Finished

Bureau: ISPAN Annual Planning Workshop. ISPAN program managers, consortium liaison officers, and SAGES met in Washington for an

annual planning workshop which reviewed progress to date and established a framework for the FY89 ISPAN Annual Plan. The design offers a flexible schedule in frequency, rate, and duration, and controlled farmers at the point of application.

Act. No. 616A June 1988:Finished

Tunisia: Special Studies SOWs for IWRM Project. ISPAN was asked to prepare scopes of work for five special studies which preceded the design of the project. The studies, focusing on private sector development, water user associations, irrigation and crop yields, mass media approaches to extension, and marketing prices and marketing requirements, were conducted by local consultants.

Act. No. 617A June 1988:Finished

Regional: Regional Institutions Site Visits. University of Arizona and Cornell University faculty associated with ISPAN visited two short-listed candidates for the Regional Institutions Program: Central Luzon State University in the Philippines and the Institute of Agronomy and Veterinary Science Hassan II in Morocco. They discussed potential applied studies and regional workshops, identifying topics and critical issues for exploration.

Act. No. 618A June 1988:Active

Regional: Preparation of a Monograph on Cost Recovery and Financing. ISPAN is providing logistical support in the form of travel and subsistence to two consultants to support their collaboration on the preparation of a monograph on cost recovery and financing in the irrigation sector.

Act. No. 619A July 1988:Active

India: Madhya Pradesh Minor Irrigation Project - Task 1. ISPAN was asked by USAID/New Delhi to provide technical assistance in the design and installation of a minor canal system. The assistance is provided over a two-year period, with a number of visits to India scheduled for the consultant. The design of the system allows for a flexible schedule for the delivery of water to farmers at the point of distribution.

Act. No. 620A July 1988:Active

India: Madhya Pradesh Minor Irrigation Project - Task 2. USAID/New Delhi requested ISPAN to provide technical assistance in the design of farmer organizations to improve their participation in the operation of the irrigation system. Working with Department of Irrigation engineers, an institutional specialist is making a number of visits to the project site over a two-year period. Through the assignment there will be training for department staff in institutional development, the creation of an irrigation

association based on traditional organizational patterns, and training for farmers.

Act. No. 621A October 1988:Active

India: Introduction of Microcomputers into the Madhya Pradesh Irrigation Department. This is Task 3 of ISPAN's technical assistance program to strengthen the Madhya Pradesh Irrigation Dept. (GOMP/ID), financed through a buy-in from USAID/New Delhi under the Madhya Pradesh Minor Irrigation Project. A one-week reconnaissance visit to the GOMP/ID was carried out by a consultant in October 1988 to draft a more detailed scope of work. Under the original SOW, ISPAN was to provide procurement assistance and training. The present plan is for an Indian firm to provide the basic training courses which are to be patterned after the courses developed for the Maharashtra Irrigation Dept. under a separate USAID-financed project.

Act No. 622A January 1988:Active

India: Strengthening the GOMP/ID Bureau of Designs for Hydropower and Irrigation Projects (BODHI). This is Task 4 of ISPAN's technical assistance program to strengthen the Madhya Pradesh Irrigation Dept. (GOMP/ID), financed through a buy-in from USAID/New Delhi under the Madhya Pradesh Minor Irrigation Project. Under the original SOW for this task ISPAN to provide specialists to strengthen and improve the design units of BODHI in the areas of water resources investigation and design; structural design of earth dams and concrete structures; and construction management and material quality control. This task is being initiated through a two week reconnaissance visit in late January 1989. The team will review BODHI's project portfolio to identify future technical and management problems, review the mission, organization, and staffing of BODHI, and draft the SOW and program of future ISPAN assistance.

Act. No. 623A July 1988:Active

India: Assistance in Manpower Assessment and Induction Training to the Madhya Pradesh Irrigation Department. This is task five of ISPAN's technical assistance program to strengthen the Madhya Pradesh Irrigation Department (GOMP/ID) financed through a buy-in from USAID/New Delhi under the Madhya Pradesh Minor Irrigation Department. ISPAN is to provide a specialist to assist a local consultant in carrying out a comprehensive manpower assessment with a special focus on induction training. At present the local consultant is carrying out a survey after which the ISPAN activity will be scheduled.

Act. No. 624A August 1988:Active

Pakistan: Evaluation of the Command Water Management (CWM) Project. ISPAN provided a four man team to carry out a mid-project

evaluation of the CWM component of the ISM project through a buy-in from USAID/Islamabad. The purpose of the evaluation was to assess the progress to date, particularly in the area of institutional development. The team was to assess the CWM project approach in key areas such as increased farmer participation, coordinated institutional, physical, and operational improvements in specific command areas, and the establishment of new sub-project management offices (SMO) to coordinate water delivery and non-water inputs. The team was to provide recommendations aimed at improving implementation for the duration of the project. The draft evaluation report has been accepted by GOP and USAID/Islamabad, and is presently undergoing final editing.

Act. No. 625A August 1988:Active

India: Evaluation of the Water Resource Management and Training Project. ISPAN provided a two-man team to carry out a mid-project evaluation of the Water Resource Management and Training (WRM&T) project through a buy-in from USAID/New Delhi. The WRM&T project is intended to increase water resource system productivity by improving the professional and technological skills and capabilities of irrigation and water resources specialists, and carrying out related policy and technical research activities. The project will strengthen selected state training institutions including improvements in curriculum planning and training of trainers. The purpose of the evaluation is to identify mid course modifications to improve the relevance, impact and implementation of project institutional development and training activities. The draft evaluation report is presently under review by the Government of India, the concerned state organizations, and USAID/New Delhi.

Act. No. 626A July 1988:Active

India: Water Management Technology and Research Specialist. ISPAN is providing a Water Management Research Advisor to the Office of Irrigation and Water Resources in USAID/New Delhi for one year. This assignment is financed through a buy-in.

Act. No. 627A June 1988:Active

Regional: ANE Agriculture Sector Strategy for the 1990s. ISPAN was requested by the Asia and Near East Bureau, Office of Technical Resources, Agriculture and Rural Development Division (ANE/TR/ARD) to make recommendations concerning the irrigation sector for the preparation of a agriculture sector strategy for the 1990s. An ISPAN team prepared a report which assessed trends in new irrigated area and irrigation investment, sectoral issues related to future irrigation growth, and issues related to the performance of existing irrigation systems. The report, which is now in final editing, was also a contribution to the A.I.D.-sponsored symposium on strategic choices for Asia and Near East countries in agriculture in the 1990s held in September 1988. ISPAN TSC staff

have also contributed to the draft ANE strategy document, and will participate in the forthcoming ANE/ARDO conference in Morocco where the draft document will be discussed in detail. A follow-up applied study investigating investment trend and policy directions in the irrigation sector has been proposed and is under review.

Act. No. 628B August 1988:Finished

Philippines: Accelerated Agricultural Production Project Applied Studies Design. At the request of USAID/Manila, ISPAN assisted with the design of a research agenda for the Accelerated Agricultural Production Project. The team developed a research management structure and identified areas for special studies: improving implementation of project components, enhancing the effectiveness of training materials and staff, improving the performance of jointly-managed systems, and strengthening the operations and functions of provincial offices. ISPAN's regional institution in the Philippines will play a continuing role training researchers from local universities and assisting with the initial stages of fieldwork.

Act. No. 629B October 1988:Active

Bangladesh: Review of the Water Sector and USAID's Program. USAID/Dhaka requested ISPAN assistance to review the current state of Bangladesh's small and large scale irrigation programs, to assess the strategic significance of these programs in view of the country's overall development efforts, identify key constraints limiting the effectiveness of small and large scale irrigation investments, and develop recommendations for improving USAID/Dhaka's Title III local currency portfolio of irrigation projects. Three reports were prepared for the mission during the initial visit in October 1988: a preliminary review of the Title III portfolio; the scope of work for a detailed review of the water sector in Bangladesh; and preliminary proposals for regional and in-country initiatives in flood management. During the first and second quarter of 1989 USAID/Dhaka will undertake an assessment of the agriculture sector to develop a paradigm for future growth, and options for future USAID programming. The proposed water sector review, which will be implemented through a buy-in, is intended to be a key component of this assessment. Future efforts in relation to the broader scope of this activity will be identified later.

Act. No. 630B August 1988:Active

Pakistan: Private Tubewell Development Applied Study. Through its Applied Studies Program, ISPAN is supporting a two-year study of private tubewell development in Pakistan. A full-time researcher is based in Pakistan for the duration of the study. The study is being conducted with shared financing from IIMI/Pakistan

and will provide insights into the operation of private tubewells and the turnover of public wells to the private sector.

Act. No. 631B February 1989:Active

India: Development of Computerized Data Library and Processing Centers. This activity provides assistance the Government of Maharashtra Irrigation Department (GOM/ID) to develop computerized data bases to assist in the collection, storage, analysis, and use of field data related to the planning, design, operation, and monitoring of irrigation schemes. It is financed through a buy-in from USAID/New Delhi. This activity is to be closely coordinated with a second and forthcoming activity (also a buy-in) that will assist the GOM/ID with the development and implementation of a modular computer model for operations planning for small scale irrigation systems.

Act. No. 632B November 1988:Active

India: Strengthening the Strategic Analysis Unit. A USAID/New Delhi 1987 review of the Maharashtra irrigation department program recommended that the ID strengthen its current capacity to provide appropriate system performance analysis and information to permit senior level decision-makers to make major informed judgments. In preparation for a buy-in, USAID/New Delhi requested ISPAN to visit the Maharashtra irrigation department to assess progress on the earlier review recommendations, and prepare a program of future technical assistance as required. The report of this initial visit reviews the mission, organization, and staffing of the cell that has been created, outlines and briefly describes the priority areas on which the cell should focus. Unfortunately funds are no longer available for this buy-in and the activity will be stopped when the final report is issued.

Act. No. 633B November 1988:Active

Sri Lanka: Institutional Support for Irrigation Management Policy Planning and Implementation. In the course of USAID/Colombo's regular policy dialogue with the Government of Sri Lanka concerning irrigation management issues, it was agreed that USAID would assess the need for a policy support program in the irrigation sector that would assist the government with overcoming these constraints, and support the formulation and implementation of new policy initiatives to accelerate the development of sustainable participatory irrigation management. ISPAN was requested to fund a series of short-term visits to identify the needs and formulate an appropriate program proposal. In the report following the first visit, a program consisting of four components was proposed: support to implement a policy planning and rationalization process; assistance with the preparation of revisions to the legal and administrative framework of farmer organizations and irrigation management; assistance with the development of effective monitoring

and feedback systems needed for effective management of policy implementation, and irrigation development and management; and institutional strengthening to develop and support the ID, IMD, and the INMAS and MANISS programs. at present this preliminary proposal is being reviewed by USAID and GSL. A second visit is planned for late March 1989 to move the proposal forward.

Act. No. 634B November 1988:Active

Regional: Eastern Waters Study. A.I.D. provided extensive disaster relief and other forms of support to the Government of Bangladesh after the calamitous floods of 1988 A.I.D. has a long-standing interest in the area from several perspectives - poverty elimination, political stability, and overall sustainable economic development - and a stake in supporting any actions which may lead to improvements in the standard of living of people in the Ganges and Brahmaputra River basins. In order to improve A.I.D.'s ability to respond constructively and expeditiously to current opportunities, ANE commissioned ISPAN to review political and technical aspects of the situation in the Ganges and Brahmaputra river basins, and to assess and compare various proposals which have been make for their improvement. The study will examine political, economic, engineering, legal, environmental, and social aspects of offered to improve resource management in the basins, comparing resource requirements, political pre-conditions, anticipated short-term impacts, and projected long-term effects. The draft report will be available in mid-February, and the final report will be completed at the end of March.

Chapter 5

TECHNICAL REPORTS

Formal ISPAN Reports prepared through 31 December 1988 are listed in Table 3.

TABLE 3

TECHNICAL REPORT LIST

AIP	COUNTRY	DESCRIPTION	ACTIVITY MANAGER	REPORT TYPE	SITUATION/NEXT STEPS
601A	REGIONAL	Guidelines for Improved Training Strategies	J. PETTIT	WP IR-8	Joint report of USAID/World Bank; Draft(12/88) being reviewed Workshop Report in final editing
602A	EGYPT	Project Mgmt System for IMS	J. PETTIT	FR	Completed
603A	EGYPT	Mgmt Training Program	J. PETTIT	FR	Completed
604A	PAKISTAN	Evaluation of ISM-1 Project	W. GARVEY	IR-2	Completed/Distributed
605A	INDONESIA	SSIMP Start-up Workshop	J. PETTIT	IR-1	Completed
606A	INDONESIA	Mgmt Training Assessment	F. BESLEY	TR	Completed
607A	TUNISIA	PID Preparation	P. REISS	PD	Completed
608A	EGYPT	Identification of an Action Program to Address Strategic Issues in the Irrigation Sector Related to Energy	W. GARVEY	FR	Completed
609A	REGIONAL	Second Regional Irrigation Mgmt Workshop	P. REISS	IR-7	Final draft being reviewed
610A	INDIA	HALWD - Redesign	M. WALTERS	IR-3	Review completed; final corrections being made
611A	BUREAU	TOT Workshop on TPMs		TR	Completed
612A	BUREAU	ISPAN Activity Investigation Coordination & Development in India	F. BESLEY	TR	Completed
613A	MOROCCO	Supplement Irrigation pp	P. REISS	PP	Completed
614A	MOROCCO	Supplemental Irrigation PP Design TPM	P. REISS	TR	Completed
615A	BUREAU	ISPAN Annual Planning Workshop	P. REISS	IR-4	Completed (Annual Plan FY 89)
616A	TUNISIA	Special Studies SOWs for IWRM Project	P. REISS	WP	Completed
617A	MOROCCO & PHILIPPINES	Regional Institutions Site Visits	P. REISS	TR	Completed
619A	INDIA	MPNIP (Madhya Pradesh)-Task 1	P. REISS	FR	Ongoing; First report submitted to Mission
620A	INDIA	MPNIP (Madhya Pradesh)-Task 2	P. REISS	FR	Ongoing; First report submitted to Mission

TECHNICAL REPORT LIST (continued)

AIP	COUNTRY	DESCRIPTION	ACTIVITY MANAGER	REPORT TYPE	SITUATION/NEXT STEPS
621A	INDIA	MPMIP (Madhya Pradesh)-Task 3	W. GARVEY	FR	Ongoing; First mission not yet scheduled
622A	INDIA	MPMIP (Madhya Pradesh)-Task 4	W. GARVEY	FR	Ongoing; First mission scheduled for 23 Jan.
618A	ANE BUREAU	Manuscript - Cost Recovery and Financing	F. BESLEY	WP	Ongoing
623A	INDIA	MPMIP (Madhya Pradesh)-Task 5	K. ALISON	FR	Not yet initiated
624A	PAKISTAN	Evaluation of the Command Water Mgmt Project	W. GARVEY	IR-5	Mission review complete; final editing in process
625A	INDIA	Evaluation of IM&T Project	W. GARVEY	IR-6	Mission/GOI reviewing
626A	INDIA	Water Mgmt Tech. and Research Specialist	F. BESLEY	FR	Ongoing
627A	BUREAU ANE	Irrigation Strategy for the 1990's	W. GARVEY	IP-9	WP completed; to be edited into IR
628B	PHILIPPINES	AAP Applied Studies Design	P. REISS	FR	Completed
629B	BANGLADESH	Review of Mission Activities in the Water Sector	W. GARVEY	FR	Completed
630B	PAKISTAN	Private Tubewell Development Applied Study	P. REISS	?	Ongoing, monthly progress reports submitted
631B	INDIA	MMIP (Maharashtra) Micro-computers	W. GARVEY	FR	Ongoing; First mission not yet scheduled
632B	INDIA	Maharashtra Irrigation Technology Management Project (Phase I)	W. GARVEY	IR-10	Field reports to be edited into IR
633B	SRI LANKA	Institutional Support for Irrigation-Sector Policy Implementation	W. GARVEY	FR	Completed

REPORT TYPES

TR = Trip Report (Focus: TSC, Bureau)
FR = Field Report (Focus: Mission)
WP = Working Paper or other informal report
PP = Project Paper
PD = PID (Project Identification Document)
IR = ISPAR Report (Numbered)