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**Services of Provincial Irrigation Offices
to Communal Irrigation Systems
in Western Visayas, the Philippines**

**Lea S. Zapanta, Alicia P. Magos
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**UNIVERSITY OF THE PHILIPPINES IN THE VISAYAS
NATIONAL IRRIGATION ADMINISTRATION, THE PHILIPPINES
UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT
INTERNATIONAL IRRIGATION MANAGEMENT INSTITUTE**

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Cover photograph by the National Irrigation Administration (NIA) showing NIA training conducted for Irrigators' Association members.

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Acronyms Used

AASOEM	—	Administrator for Systems Operation and Management
BLDC	—	Basic Leadership Development Course
BOD	—	Board of Directors
CIS	—	Communal Irrigation Systems
CO	—	Central Office
COA	—	Commission on Audit
FMS	—	Financial Management System
GD	—	Group Dynamics
IA	—	Irrigators' Association
ICO	—	Irrigation Community Organizer
IDO	—	Irrigation Development Officer
IOW	—	Irrigators' Organization Worker
IS	—	Irrigation Superintendent
IT	—	Irrigation Technician
MOA	—	Memorandum of Agreement
NIA	—	National Irrigation Administration
O&M	—	Operation and Maintenance
PIO	—	Provincial Irrigation Office
PIE	—	Provincial Irrigation Engineer
RO	—	Regional Office
SMW	—	Systems Management Workshop

Foreword

WITH NIA'S EFFORTS toward institutional development and turnover of irrigation systems, donor-assisted irrigation projects in the recent past have included the development of Irrigators' Associations (IAs) and irrigation management transfer as major components in project implementation.

The Accelerated Agricultural Production Program (AAPP) in the Philippines whose major purpose was to increase the profitability and productivity of agricultural production, was formulated in 1987 by the United States Agency for International Development (USAID), the Department of Agriculture and the National Irrigation Administration (NIA) both of the Philippines.

Under the AAPP, NIA was tasked to implement the irrigation component of the program. This component was started by the agency in January 1987 to support the national government's mission on agricultural development. The grant-in-aid project funded by USAID covered 30 National Irrigation Systems with a total service area of 92,952 hectares (ha) and 473 Communal Irrigation Systems with a total service area of 54,756 ha. Only 3 regions in the country were covered by the project. These are: Region 5 (Bicol), Region 6 (Western Visayas) and Region 10 (Central Mindanao).

Under research, a cooperative agreement was reached between NIA, the International Irrigation Management Institute (IIMI) and USAID. The agreement required IIMI to provide principal technical assistance to both NIA for special studies and the research element of the irrigation component of the AAPP. It also aimed to strengthen NIA's capacity to *conduct and manage research* carried out through sub-contracts with research institutions, and to *interpret and use* research results.

Specifically, the research component of the AAPP was designed:

1. To evaluate, refine and improve NIA's present package of *management innovations*;

2. To identify, develop, field-test and evaluate new management innovations to strengthen (a) Irrigators' Associations (IAs), (b) NIA's ability to work with IAs, and (c) NIA's ability to improve and sustain the performance of irrigation systems cost-effectively; and
3. In support of the first two, to assist NIA to strengthen its capacity to conduct and manage applied research and special studies.

In support of the first two, to assist NIA to strengthen its capacity to conduct and manage applied research and special studies.

The agreement between the agencies facilitated a diagnostic research during 1989–1991. This was conducted in collaboration with 9 universities in the 3 AAPP regions with adequate exposure on irrigation management research. These are: in Region 5 - Bicol University (BU), Ateneo de Naga University, Camarines Sur State Agricultural College (CSSAC); in Region 6 - University of the Philippines in the Visayas (UPV), West Visayas State University (WVSU), Central Philippine University (CPU), Panay State Polytechnic College (PSPC); and in Region 10 - Central Mindanao University (CMU) and Xavier University (XU).

The themes of the researches conducted were the following:

1. Performance of Irrigation Systems with Special Reference to IAs;
2. Management of Provincial Irrigation Offices (PIOs);
3. Impact of Training Conducted by NIA;
4. Design and Management Interactions;
5. Farmer Irrigators' Organizer Program; and
6. Irrigation Service Fee Collection.

The studies conducted were regarded as Phase I of the research activities of the concerned agencies under the AAPP. This research paper presents the findings of a study conducted by the University of the Philippines in the Visayas under theme 2. The study focused on the services provided by the

Provincial Irrigation Offices (PIO) of the National Irrigation Administration to Communal Irrigation Systems (CIS).

The PIOs are vested with the function of managing institutional as well as technical assistance that NIA provides to the CIS. Considering the area covered by the CIS (nearly 700,000 ha), the PIOs have played a vital role in irrigation management. There are, however, not much detailed information and analyses on PIO functions and operations and on how they render assistance to farmer beneficiaries through IAs in the farmer-managed CIS. Hence, the present study was conducted to examine, among other things, the optimum mix of government and local community responsibilities in creating and sustaining small-scale irrigation systems in the Philippines. Based on the findings of this study, the UPV-IIMI-NIA-USAID team designed and implemented a participatory action-research project in the Visayas (1991–1992). The learnings of this research intervention are presented in “Participatory Action Research—Research Interventions to Strengthen Farmer Organizations and Agency-Farmer Relations in Selected Irrigation Systems in the Philippines” (IIMI forthcoming). The present paper however, is confined to the initial diagnostic research phase. The study was conducted by the University of the Philippines in the Visayas and funded by the United States Agency for International Development. IIMI managed the study and provided technical assistance. NIA was an active collaborator throughout the diagnostic and intervention phases of the AAPP Research Program.

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Gratitude is also expressed to the staff of the National Irrigation Administration Region VI and the Provincial Irrigation Offices without which the Research Team of the University of the Philippines in the Visayas would have encountered great difficulty in their study of the structures/processes and performance of the Iloilo Provincial and Regional Offices, as well as in our reaching out to the farmer-clientele of the NIA's participatory irrigation management program in the Iloilo Province.

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Executive Summary

THIS STUDY IS primarily concerned with the services of the Iloilo Provincial Irrigation Office (PIO) to the Communal Irrigation Systems (CIS), and with the nature and extent of involvement of the concomitant farmers' Irrigators' Associations (IAs) both in Western Visayas, the Philippines.

The study is based on an extensive review of the effects of the structures and process variables on the viability of the PIO as a line unit as well as the effects of some management variables on the performance of the IAs, specifically in water distribution management and amortization repayments.

Study findings support the fact that decentralization measures undertaken by NIA have positively affected financial management and training of personnel and clientele. However, the NIA Central Office has continued to undertake coordination, monitoring and supervision activities instead of being much more supportive of field activities.

Findings also show that the IAs' rate of amortization repayments has been crucial to the viability of their CIS. Also, the leadership and communication variables have played pivotal roles in IAs which have operational CIS.

What stands out in the study is the fact that, despite several changes through the years, NIA's present organizational structures and centralized authority relations may not act speedily and adequately enough to facilitate the functions and responsibility of the PIOs in the implementation of the participatory philosophy for new and existing communal projects.

Recommendations are offered on the improvement on PIO structures and procedures which may effect further decentralization at the provincial levels. Recommendations are also offered which may make IAs more financially viable and strengthen the skills and knowledge of IA members in systems operations and maintenance.

The study hazards the idea that NIA might be preempting the farmers and their associations of their native genius and talents for water generation and distribution. This simply means that it is the clientele that determines the extent of its own participation in the organization and management of its CIS. Not that this should be imposed by the government, but that the government

should manage the program by substantively readying the clientele for its responsibility.

The study concludes with the reiteration of the need for organizational structures and processes that will enhance the participative aspect of irrigation service delivery. But until such time that the whole irrigation agency, especially the PIOs, has been modified in their structures, processes and policies for engendering full participation of the farmers and their associations according to the latter's capabilities, it is recommended that highly capable provincial managers must be selected and be given more powers and responsibilities to direct, coordinate and harness manpower and other resources of the agency as well as those of the local irrigation area to operate in a more decentralized framework.

CHAPTER 1

Introduction

RATIONALE

IN WESTERN VISAYAS (Region VI), the bulk of NIA irrigation functions is performed by 9 National and 134 Communal Irrigation Systems (CIS), covering a service area of 69,414 hectares (ha) and servicing a total of 20,191 farmers (NIA Region VI Regional Profile 1988). As of December 31, 1988, of the total service area, only 65.7 percent was irrigated during the wet season and 48.3 percent during the dry season, showing underutilization of irrigation potential. Admittedly, it is imperative for the irrigation agency to improve its management in the delivery of services to the greatest number of farmers within the system.

Irrigation systems management goes beyond the mere construction and repair of irrigation infrastructure. The operation of an irrigation system requires complex interactions and coordination among water users and irrigation personnel and often systems fail to achieve their optimum potential because organizational resources and capabilities are lacking among beneficiaries and the NIA personnel (Siy 1982). Likewise, the proper motivation and participation of both categories of actors are crucial to a successful irrigation systems management.

NIA CIS are usually small run-of-the-river irrigation systems built for, turned over to, and managed by farmers. There is therefore, collective water management under the NIA supervision.

The Provincial Irrigation Offices (PIOs) are at the heart of NIA's assistance to the Communal Irrigation Systems. The offices are vested with the function of managing the institutional as well as the technical assistance that NIA provides to the CIS (Coward et al. 1988). Considering the extent of communal irrigation in the Philippines, the PIOs have played a vital role in

irrigation management in the face of problems of water resources development and distribution.

There is, however, not much detailed information on PIO functions and operations and on how they render assistance to farmers and farmers' associations in the CIS. Most importantly, the optimum mix of government and local community responsibilities in creating and sustaining small-scale irrigation facilities remains vague and unclear. A study of the extent of implementation of the farmers' participatory program is relevant in this regard. Furthermore, farmers' empowerment for the planning and implementing of water infrastructures that increase their productivity are, and have been, governmental priorities that have claimed much investment, expertise and effort.

Finally, the study's focus on the technical and institutional aspects of the CIS at the provincial level will serve to meet the aforementioned information gap for program management. Hopefully, the study will also meet the recurring need for keeping the IAs and the larger public informed of water generation and distribution as well as of the incidence and extent of irrigation problems in their communities.

OBJECTIVES

The objectives of the study were:

- a. To study how structures and processes of the Provincial Irrigation Offices (PIOs) have affected the operation and management of the Communal Irrigation Systems (CIS).
- b. To study how Irrigators' Associations (IAs) have helped organize, manage and maintain the Communal Irrigation Systems and to recommend measures to maximize PIOs' and IAs' assistance to farmers on their irrigation service needs.

METHODOLOGY

The study used two analytical approaches: 1) *The organizational and management analysis of the Iloilo Irrigation Office*, and 2) *the documentation and evaluation of Communal and Irrigators' Associations (IAs)*.

The Organization and Management Analysis of the Iloilo PIO

- a. The performance of the sample PIOs as affected by its processes, structures and resources during 5 years (1985–89) was studied. Performance indicators used were:

Viability Index. The percentage of expenditures to income of the Iloilo PIO for its operations for the period (1985–1989) was studied to determine the trend of its operations.

O&M Costs/Hectare. The total amount of expenditures during the period (1987–1989) of the Iloilo PIO for constructing and maintaining the CIS in relation to the extent of irrigated area during the wet and dry seasons were derived.

Amortization Payments Collected. The amounts of amortization payments made by the IAs in relation to the direct chargeable costs of their CIS were determined for the period 1985–1989.

Extent of Institutional Development. The performance of the newly created unit of the PIO—Irrigators' Development Section—which looks after the technical and institutional needs of the irrigation beneficiaries was studied. Data on the number of IAs organized, farmers' training programs conducted and implementation of strategies for improving the collection of CIS amortization were extensively studied.

- b. The study examined the extent to which national-level policies have affected the CIS. Specifically, there was an attempt to study the extent and quality of PIOs' services from preconstruction to turnover as well

as assistance in maintenance and repair of facilities; and whether these have positively or negatively influenced the extent and quality of the participation of the beneficiaries, through their IAs.

Using Coward's key programmatic concepts (1984) in the development of small-scale irrigation systems, the study investigated how the CIS sample under the jurisdiction of the Iloilo PIO was planned for construction. Questions were asked on the following:

Investment Process. Investment process deals with the questions of who makes the choices regarding what resources will be provided and by whom, and with the site chosen for the establishment of small-scale communals.

Design Process. Design process involves choices as to who will implement what design procedures and technical components of the irrigation plans identified.

Local Organizational Process. In the local organizational process, choices are made about what local entity will perform what irrigation functions.

Agency Strengthening Process. In the agency strengthening process, choices are made about activities to be undertaken by the irrigation agency to make it more effective in a service role rather than operating and managing these communals.

- c. The study also determined whether PIO structures had facilitated PIO activities.

Division of functions in the Iloilo PIO was studied to determine whether it is through the nature of work done, by areas, by clientele, by process of equipment, or by time. How clearly defined were the job responsibilities so that each employee knew what he was supposed to do? Had each employee been delegated the authority to carry out his assigned duties? Were the assigned responsibilities and authorities consistent with the duties actually being performed?

Placement of authority was studied by determining whether decisions were given close to action points, whether delegations were adequate

and utilized, and whether there was a unity of command. The extent of decentralization within the Regional Office (RO) NIA VI was also studied. How many levels of supervision were there in the direct management of the agency? Was there a clear distribution between the respective levels as far as responsibilities and authorities are concerned?

Line of control was studied in terms of feed-forward and feedback and the budget mechanism of the Iloilo PIO and RO, NIA VI. It was determined whether the lines of control were clear, span of control reasonable and the staff and line relationships clearly drawn.

Levels of specialization were studied in terms of whether staff number and grading were appropriate to work loadings at all levels and whether special skills were properly used in the Iloilo PIO.

- d. Process variables of leadership, decision making for routine operations and conflict resolution, communication and coordination in the sample PIO as well as their effects within the provincial organization and on clientele and IAs were also studied. What patterns of these management variables have been evolved or have been institutionalized? Have these enhanced or detracted from the PIO's performance?

Regarding *leadership*, questions of supervisory goal emphasis, work facilitation, team building, and risk-taking orientation were asked about the provincial NIA leadership.

The *decision-making variable* was studied to find out whether the adequacy and accuracy of information, participativeness of the process, creativity/innovativeness of ideas, acceptability to group members and the computational/judgmental procedures were considered in reaching decisions in routine conflict resolution for the PIO.

The *communication variable* was studied in terms of lateral, upward and downward directions, frequency and the medium of communication.

The *coordination variable* was studied in terms of the vertical and horizontal modes.

- e. Special concern was given to the study of Irrigation Community Organizers (ICOs)/Irrigation Organization Workers (IOWs) as organizers of the IAs and implementors of institutional development of the CIS. Their recruitment, training, tenure and performance for the 3 years (1987–1989) were considered.

The Documentation/Evaluation of Communals and IAs

The documentation/evaluation of Communals and IAs involves the reporting of the sample operational and nonoperational NIA-assisted CIS and their related IAs which were supervised by the sample PIO.

The socioeconomic environments of the CIS were also studied. This involves the study of leadership, decision making for routine and problem-situations, communication structures/processes and resource generation-capabilities of the IA officials and members.

The performance of the sample IAs was evaluated through the use of the following indicators:

Involved participation of the IA officers and members was measured by the frequency of attendance in IA meetings, the number of training programs attended, and the frequency of involvement in the maintenance and repair of the CIS.

Equitable, adequate and timely distribution of water was measured by the percentage of IA members satisfied with services of the CIS in water distribution.

Timely payments of Irrigation Service Fees (ISF) were measured by NIA members' responses and proofs of payments made.

Cropping intensity of serviced areas was measured by discovering the trend for the 3 years (1987–1989) of the area planted (during the wet and dry seasons) in relation to the total service area.

DATA GATHERING

Primary data for the study were gathered by participant observation of day-to-day operations of the PIO Iloilo and also of the activities of IAs in selected CIS. Participant observation of both the PIO and the IAs followed the pattern based on the cropping calendar of the area. The IAs were studied for 1.5 months during the various phases of rice production from clearing the field up to harvest. The Iloilo PIO's operations were studied for 2 weeks.

Interviews of the key personnel of the PIO and the Regional Office (RO) as well as IA officials and farmer-members were held. There were specific questionnaires for farmers, IA officials, IOWs and NIA personnel.

NIA secondary data were sources for the study of structures, functions and procedures of the Iloilo PIO. Documents on the organization and management of communals were also studied. The study limited itself only to the NIA-assisted communals.

SAMPLING

Of the 5 PIOs in the region, the Iloilo PIO was taken as the sample because it has the highest number of nonoperational CIS. For 1988, 14 out of 42 CIS in Iloilo were inactive. The number is quite high compared to Negros Occidental PIO all of whose 24 CIS are operational.

For individual respondents, sampling followed the multistage and quota procedures for all categories. An error margin of 0.08 and a confidence level of 0.05 for the sample were used.

A total of 36 personnel out of 191 from the Iloilo PIO and RO VI were interviewed to ensure getting data from various levels of work and authority.

The Iloilo IAs were classified into those which had operational CIS and those which had nonoperational CIS. Thirty percent of the members of the operational IAs was interviewed. Likewise, 30 percent of the members of the nonoperational IAs was chosen. Accordingly, 13 IAs (9 operational and 4 nonoperational) have been included in the final sample. The number of IA members interviewed totaled 236.

Ninety-three officials of the sample IAs were also interviewed.

A total of 365 respondents were interviewed.

STATISTICAL ANALYSIS

Frequency distribution, percentages and means were used in analyzing the data. Cross-tabulations were done to discover:

- Association of PIO's organizational variables with factors related to performance;
- Association of farmer demographic variables such as education, level of productivity, number of dependents, tenurial status, extent of land cultivated and credit with IA organizational and management variables;
- Association of IA organizational variables with farmers' extent of performance in CIS operation and maintenance; and
- Association of Irrigation Department Officers' demographic variables with factors related to performance.

CHAPTER 2

The Irrigation Agency: The O&M Analysis of the Iloilo Provincial Irrigation Office

THE ILOILO PROVINCIAL Irrigation Office (PIO) is one of the 67 provincial units of the National Irrigation Administration (NIA), overseeing the operation of the NIA-assisted Communal Irrigation Systems (CIS) in the country. The present structure, processes and performance of the Iloilo PIO reflect, to a great extent, the growth and development of the mother agency, in terms of CIS management. They also reflect the changes in the philosophy of service, and the approaches and strategies used in the achievement of agency goals and objectives. Most importantly, the Iloilo PIO's present organizational setup and functioning reflect the changes in the agency's regard for and the roles assigned to the clientele system.

AGENCY BACKGROUND

A brief review of NIA's history as a service and infrastructure agency will serve as a background to our study of the Iloilo PIO's own growth and development.

Starting as an Irrigation Division in the now defunct Bureau of Public Works in 1908, the Irrigation Agency constructed and managed irrigation systems for 56 years stressing technical efficiency and organizational viability. Over time, the Irrigation Division proved inadequate for the changing nature of its tasks due to the absence of the necessary powers and staff for carrying out an accelerated irrigation development program (Bagadion 1989).

In 1964, a semiautonomous corporation, the National Irrigation Administration (NIA), was created by virtue of Republic Act 3601, capitalized at P300 million and attached to the Office of the President. The corporation took over the staff and functions of the old Irrigation Division. The powers and functions of the corporation were exercised by a Board of Directors and the general management was vested in an Administrator. The new agency had an initial complement of 631 personnel who were absorbed from the former Irrigation Division. There were 10 Regional Offices (ROs) throughout the country which implemented irrigation projects for the National and Communal Irrigation Systems. The Iloilo RO was one of these Regional Offices (NIA 1990).

During this period, irrigation management still focused on engineering and construction even as problems of inadequate water supply and distribution and minimal irrigation fee collections remained unsolved. Farmers were not yet adequately organized for effective representation in CIS operation.

Prior to 1981, the agency had implemented all its projects, in a nonparticipatory manner, focusing on the technical aspects of system construction and maintenance. Functional responsibility was clearly differentiated—design was a regional responsibility, implementing construction was a provincial responsibility, and operation and maintenance were the farmers' responsibility. There was no coordinating mechanism in this setup. However, in 1983, the participatory approach was used in the implementation of irrigation projects (Bagadion 1989).

NIA's participatory approach required not only the hiring of Irrigation Community Organizers (ICOs) but also caused changes in the agency's policies, internal structures and procedures. The creation of Institutional Development Units at the national, regional and provincial levels emphasizing community organizing work was considered essential to the integration of the technical and social aspects of the construction and management of communals (Bagadion 1989).

Efforts have been made to modify the functions of the Provincial Irrigation Engineers as technicians and managers. They have become responsible for all aspects of NIA assistance to farmers as well as for the shift from mere farmers' acceptance of the project to farmers' participation in planning, design, construction, turnover of the completed systems and the collection of amortization payments.

Finally, the PIO has become the lead unit in the *overall coordination* of the administration of communal projects in the provinces, carrying the burden of responsibility from the organization of Irrigators' Associations to

project identification, investigation and technical plan preparation (Bagadion 1989). However, the managerial dimension added to the technical tasks of the Provincial Irrigation Engineer (PIE) has yet to be adequately mastered by him since it involves the complexities of handling people and people's organizations. With NIA officials and farmers accepting and carrying out their new and specific responsibilities, it appears that the institutionalization of the participatory approach program has started.

To what extent agency participatory policies and structural and procedural innovations have been implemented in the Iloilo PIO is uniquely a function of the organization and environmental factors impinging on it. What stands out in our study is the fact that despite several changes through the years, NIA's present organizational structure and centralized authority relations may not act adequately and speedily enough to facilitate the PIOs' role in the implementation of new existing communal projects according to the new philosophy of true farmer participation.

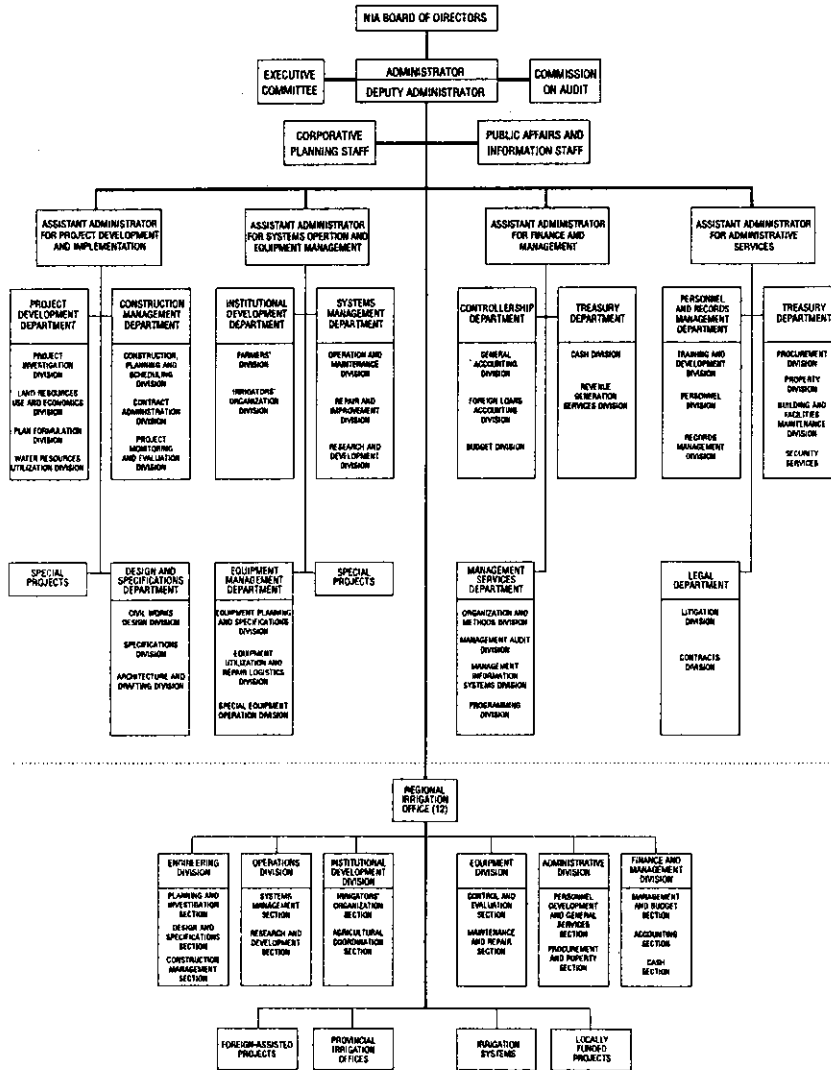
AGENCY ORGANIZATION

National Level

A full understanding of NIA's corporate organizational structure will contextualize the Iloilo PIO's structure and organization. The NIA is charged with developing water resources for irrigation and providing corollary physical and technical services in line with the government development program.

The agency's organization has undergone several changes through the years, the latest ones been made in 1983 in line with the Reorganization Plan of 1981 and with the appointment of the Deputy Administrator (Memorandum Order Number 38) in 1986. The NIA organization is so structured that there is functional specialization among the different sectors, divisions and departments from the national to the provincial levels. As of 1989, it had 12 departments, 36 divisions with 1,290 Central Office (CO) personnel and a total of 20,236 organizational personnel. All corporate work is overseen by a unity of command of the Administrator who is guided by policy objectives set by a 6-member Board of Directors. The NIA organizational chart is reflected in Figure 1.

Figure 1. The organizational chart of the National Irrigation Administration.



It has a quite capable and experienced staff with project managers and technicians trained in irrigation development and implementation, O&M, institutional development and financial development (NIA Corporate Plan 1900–2000, May 1990).

NIA is organized as a hierarchical pyramidal structure, with authority concentrated in the Central Office (CO). The present structure is such that with its 3 levels of management, little or no action can be taken from the field without prior approval from the CO. Project implementation requires much time and effort because of the need for bureaucratic clearance. Decentralization has partially occurred (ADB Interim Report 1990).

The respective project managers of the communal projects are currently under the guidance of the Assistant Administrator for the Systems Operation and Equipment Management (AA/SOEM). Their responsibilities are to plan, schedule and coordinate the various activities related to project implementation. These involve arranging for the release of funds, periodic inspection of projects, monitoring of construction progress and evaluating reports submitted by the PIOs (ADB Interim Report 1990). Government personnel procedures have been ineffective in coping with additional staffing requirements for the specific implementation of these projects. Thus, ad hoc staffing arrangements have been made (ADB Interim Report 1990).

We see the present structure for the communal irrigation activities in the Central Office (CO) as insufficiently decentralized. The CO is still too oriented towards coordination, monitoring and supervision of the field rather than being supportive. The source of funding (whether foreign or governmental) requires different organizational programs to monitor CIS development. As a result, the PIOs have too many Central Office Project Officers and other so-called Managers coordinating and doling out funds. This makes it difficult for the PIOs to formulate a realistic program of work. Overcentralization imposes on the provinces many clearances and requests on their programs/projects (ADB Interim Report 1990).

Regional Level

The NIA Regional Office (RO) VI is one of twelve regional offices throughout the country. As of January 1989, NIA Region VI operated and maintained 9 National Irrigation Systems, 130 Communal Irrigation Systems and 1,753 Pump Irrigation Systems located in the 5 provinces of Aklan, Antique, Capiz, Iloilo and Negros Occidental.

As of January 1, 1989, the RO had a total staff complement of 758 which included staff of the RO, 5 PIOs and 9 National Irrigation Systems offices. The RO staff totaled 141.

As an intermediate layer of management, the NIA RO VI supervises and coordinates the operations of the 5 PIOs and the 9 National Irrigation Systems. The organizational structure of the NIA RO for Western Visayas (Region VI) is reflected in Figure 2.

The Regional Office is headed by the Regional Irrigation Manager (RIM). He is assisted by 6 Division Managers each for Engineering, Equipment, Systems Management, Institutional, Accounting and Administration. The Engineering Division supervises the O&M of the 5 PIOs. The feasibility studies, and designing and construction of the CIS are managed and maintained by the Systems Management Division (SMD). The institutional link-up with farmer clients in response to the need to let them fully participate in all aspects of the construction and operation of an irrigation system is made by the Institutional Development Division (IDD). The Equipment Division keeps the agency's various vehicles and heavy equipment ready and serviceable. The welfare and well-being of the employees are taken care of by the Administrative Division while collection and billing of ISF and amortization payments and the office finances are handled by the Accounting Division.

Provincial Level

As a field unit of NIA, the Iloilo PIO is tasked with the construction, operation and maintenance of the CIS in Iloilo. It is also tasked to provide institutional support for farmer irrigators through the establishment of Irrigators' Associations in different *barangays* (villages) served by different CIS.

Since 1982, the Iloilo PIO has been housed in the spacious second floor of the former head office of the Jalaur River Multi-Purpose River Irrigation Project, which occupies 3.5 ha of land in barangay Tacas, Jaro, Iloilo City.

The PIO is headed by the Provincial Irrigation Engineer (PIE). The office is divided into 3 Sections: the Engineering, the Irrigators' Development and the Administrative Sections. Reflected in Figure 3 is the organizational structure of the Iloilo PIO.

Figure 2. The organizational structure of the NIA RO for Western Visayas (Region VI).

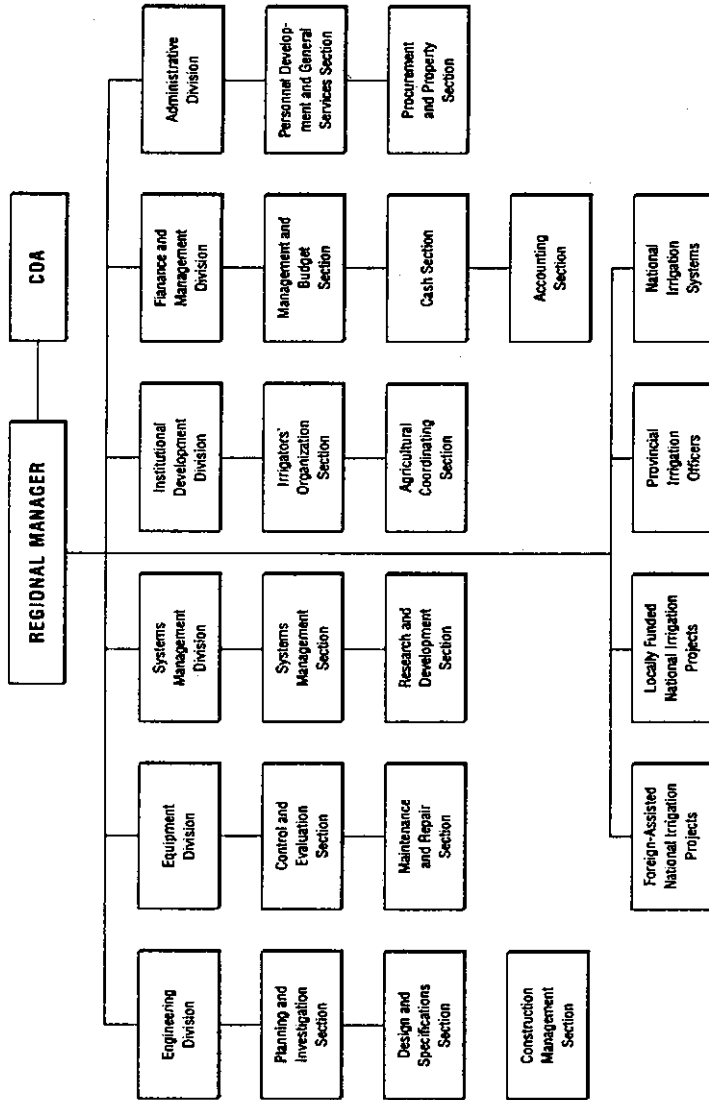
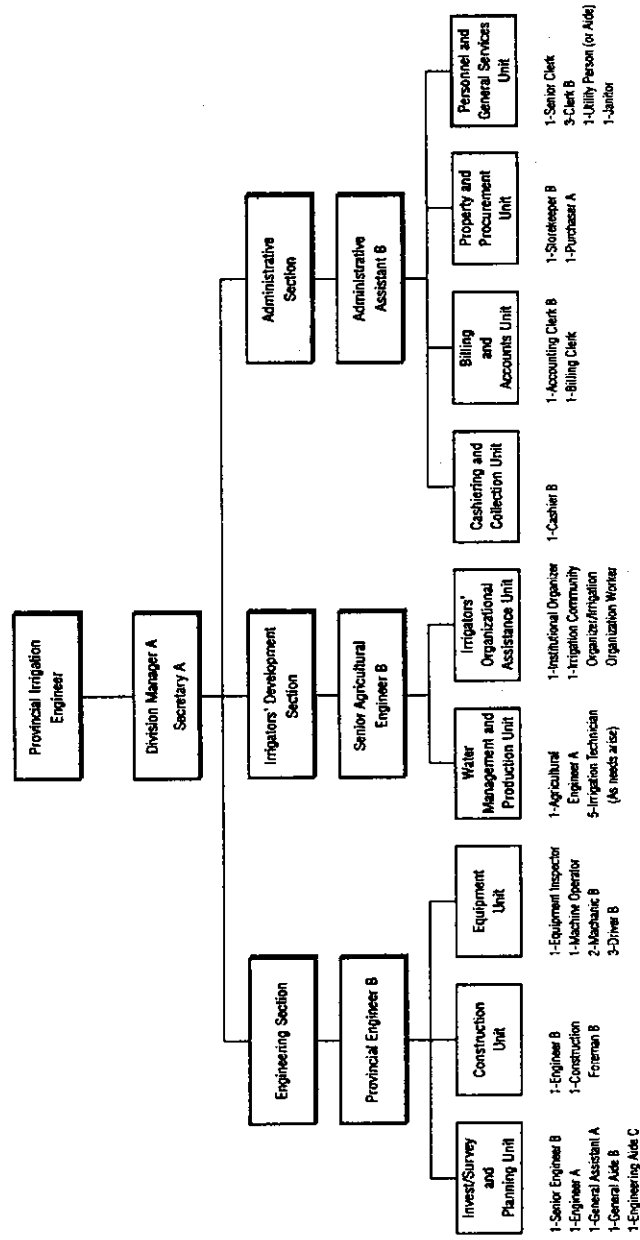


Figure 3. The proposed organizational structure of the Iloilo Provincial Irrigation Office (PIO).



- a. The Engineering Section handles the construction and repair of communal systems. It also prepares the feasibility reports, programs of work and other related matters in preconstruction. It also helps in the investigation and survey of possible sources of irrigation water. The Section, aside from its construction-related duties, collects data relevant to irrigation.
- b. The Irrigators' Development Section is in charge of preparing plans and programs for the organization and development of Irrigators' Associations (IAs), conducts institutional feasibility studies of the proposed projects, facilitates the organization of farmer beneficiaries into functional and viable IAs, conducts training programs for farmer-leaders and users, monitors and evaluates the functionality and viability of IAs, coordinates with other government agencies on other assistance to be given to IAs, collects CIS amortization and prepares necessary institutional reports.
- c. The Administrative Section is in charge of billing and collection of amortization, personnel and general services and the procurement of office and construction supplies.

The creation in the PIOs, of the Irrigators' Development Section whose primary function is to attend to the O&M of completed CIS, emanated from a national workshop in 1987 in which it was pointed out that the operation and management of the communal systems were neglected. The implementation of this idea was not, however, carried out until the issuance of Memorandum Circular Number 17 series of 1990 which required the designation of the Officer-in-Charge of the Irrigation Superintendents (ISs) in the different PIOs.

Overall, the Iloilo PIO organization, which is a line unit of the Irrigation Agency, has only one managerial layer at the level of the Provincial Irrigation Engineer (PIE). Its 3 Sections, except for the Administrative Section, directly serve the irrigation clientele while performing staff assistance to the PIE. This provides fast information flow, speedy decision making and more individual satisfaction (client and employee). Supervision in the office has, on average, a modal span of control of 7 persons per supervisor.

Prior to 1990, there were only 2 Sections in the Iloilo PIO. Presently, horizontal coordination within the Iloilo PIO is made possible through the 3

Sections, each being highly specialized but interacting with each other in construction repair (Engineering), in the establishment and development of IAs (Irrigators' Development Section) and in the revenue collection and support services (Administrative Section). There is no specialized section for the supervision of water distribution management since this function is given to the external groups of IAs. However, there is a unit within the Irrigators' Development Section (IDS) that coordinates with the IAs in the water distribution management and in their O&M needs. With the establishment of the IDS, some functions of the Engineering Section on pump installations are to be transferred to the IDS and an equipment unit is to be established under the Engineering Section.

Overall, there is a Project Manager, the PIE, directing the annual planning and budgeting processes, directing detailed programming of work and supervising and monitoring project performance. There is an Assistant and 3 Section Heads assisting the PIE in project management, back-stopped by 132 personnel in attending to 29 CIS (as of 1989). There is also an effective legal framework in support of the attainment of project objectives in regard to water rights and distribution through the Philippine Water Code and Civil Code. Recurring and fixed resources in the form of financing, staffing and equipment do exist.

For PIO coordination with regional and national levels, there are structures within the RO and CO which are analogous to those of the provincial sections, which process PIO specific outputs, passing through required channels resulting in centralization of programming and budgeting. Project monitoring/evaluation according to objectives and work targets in project implementation are supervised by the RO and the CO.

The basic framework for management of the PIO exists in the form of policies, procedures, job descriptions and a nascent information system. Because of the practice of complete turnover to the IAs of system management and maintenance after construction, the PIO has failed to follow up the CIS' needs and requirements for O&M nor has it updated its Management Information System (MIS) for farmers' CIS on their O&M, expenditures, collection, production and other matters.

ILOILO PIO PERFORMANCE (1985-1989)

The Iloilo PIO's performance during the 5 years (1985-1989) was studied by means of the following indicators: a) viability index, b) O&M costs per hectare, c) collection of CIS amortization payments, and d) extent of institutional development.

Viability Index

The amount of expenditures in relation to income of the Iloilo PIO for its operations from 1985 to 1989 was studied to determine the trend of its operations. According to NIA sources, the operations of NIA for the 5 years (1985-1989) was one of viability reflecting net surpluses during the entire period. This is reflected in Table 1.

The ratio of the average of the expenditures to income for the 5 years was 77.31 percent. The average net surplus for the 5 years was P196,697.30. The average yearly income for the 5 years was P848,987.56, while the average yearly expenditure for the same period was P652,290.26.

*Table 1. NIA statement of Iloilo PIO income and expenses from 1985 to 1989 (in P).**

	1985	1986	1987	1988	1989
Income	642,585.62	732,140.19	937,978.72	1,030,494.21	901,739.17
Expenses	522,244.53	580,668.96	698,542.86	749,138.88	710,856.33
Surplus\					
Deficit	120,341.09	151,471.23	239,435.86	281,355.33	190,882.84

* Source: Iloilo Provincial Irrigation Profile, 1989 edition.

However, if we use COA sources, then the Iloilo PIO operations were viable only during the years 1986 and 1987 since the COA considers equity contributions as trust liabilities and not as income. Thus, for the years 1985, 1988 and 1989, the Iloilo PIO operations resulted in net losses. Net surpluses were correspondingly reduced for the entire period (COA Annual Operation Audit Reports 1985-1989). This fact is reflected in Table 2.

Table 2. COA statement of Iloilo PIO income and expenses from 1985 to 1989 (in P).

	1985	1986	1987	1988	1989
Income	516,447.60	598,332.94	729,257.64	574,939.00	475,403.06
Expenses	522,244.53	580,668.96	711,058.04	735,989.23	749,394.63
Surplus\					
Deficit	(5,796.93)	17,663.98	18,199.60	(161,050.23)	(273,991.57)

Iloilo PIO's average percentage of expenditures to income for the 5 years (1985-1989), based on COA figures was 117.42 percent. Accordingly, its average yearly net deficit for the 5 years was P73,414.24. Its average yearly income was P578,876.02 while its average yearly expenditure for the same period was P652,290.26.

What is to be noted is that Iloilo PIO *Statement of Income and Expenditures* reported by NIA and COA do not include amounts derived from interest income from bank deposits, and the 5 percent administrative and engineering overhead.

O&M Costs per Hectare

To derive O&M costs per hectare, the total amount of expenditures of the Iloilo PIO for the period 1987 to 1989 for maintaining the existing CIS in relation to the extent of irrigated area for both the wet and dry seasons were determined. The data on the following page reflect PIO yearly expenditures, irrigated area and O&M costs/hectare of the Iloilo Communs for the period 1987-1989.

Values show a very minimal increase of expenditures in operations over the 3 years (1987-1989) in the face of increasing areas irrigated. Average O&M costs per ha over the 3 years amounted to P163.25 reflective of a declining trend. This derived value uses cropping seasons as factors in computation. However, if we use the total area benefited, the values resulting are as given on page 22:

PIO yearly expenditure, irrigated area and O&M costs per hectare.

1987	
a) Total expenditures of the Iloilo PIO	P729,257.64 *
b) Total area irrigated by CIS (ha)	4,282
i. Wet season	2,378
ii. Dry season	1,903
c) O&M costs/ha	P 170.30
1988	
a) Total expenditures of the Iloilo PIO	P735,989.23
b) Total area irrigated by CIS (ha)	4,480
i. Wet season	2,521
ii. Dry season	1,959
c) O&M costs/ha	P 164.28
1989	
a) Total expenditures of the Iloilo PIO	P749,394.63
b) Total area irrigated by CIS (ha)	4,829
i. Wet season	2,707
ii. Dry season	2,122
c) O&M costs/ha	P 155.18

* Source: COA Annual Operations Audit Reports of the Iloilo Provincial Irrigation Office, 1987, 1988, 1989.

The average O&M costs for the 3 years increased to P291.81, an increase of 78 percent, but the same declining trend of O&M costs per ha is observed. The declining trend of O&M costs per ha was due to the expanding area irrigated by CIS during this period. The O&M costs per ha should be considered in relation to other relevant data in assessing the PIO performance because usually the actual irrigated area is considerably less than the design area due to low water supply, defective structures and poor water management practices. For the 3 years, 1987 to 1989, benefited area of the Iloilo CIS, on average, was only 71.92 percent of the design area. This fact is reflected in Table 3.

O&M costs per hectare by benefited area.

1987	
a) Total expenditures of the Iloilo PIO	P729,257.64 *
b) Total area irrigated by CIS (ha)	2,378
c) O&M costs/ha	P 306.66
1988	
a) Total expenditures of the Iloilo PIO	P735,989.23
b) Total area irrigated by CIS (ha)	2,521
c) O&M costs/ha	291.94
1989	
a) Total expenditures of the Iloilo PIO	P749,394.63
b) Total area irrigated by CIS (ha)	2,707
c) O&M costs/ha	P 276.83

* Source: COA Annual Operations Audit Reports of the Iloilo Provincial Irrigation Office, 1987, 1988, 1989.

Table 3. Irrigated areas.

Area	1987		1988		1989	
	ha	%(BA/DA)	ha	%(BA/DA)	ha	%(BA/DA)
Design area (DA)	3,495	100	3,526	100.00	3,526	100.00
Service area (SA)	3,495	100	3,506	99.43	3,506	99.43
Benefited area (BA)	2,378	68	2,521	71.00	2,707	76.77

Amortization Payments Collected/Collection Efficiency

Amortization payments made by the IAs in relation to the direct costs charged to the IAs for the construction of CIS were determined for the period 1985 to 1989. The total collections made by the PIO from pump amortization,

equipment rentals, proceeds from the sale of unserviceable equipment, equity generation of the CIS and CIS amortization were also determined for the same period. Collection efficiency was determined by deriving the percentages of the amounts actually collected against collection targets (Table 4).

Table 4. Collection efficiency (%) on CIS amortization from 1985 to 1989.

1985	1986	1987	1988	1989
26	47	44.59	47.59	77.35

Findings show that although collection efficiency on CIS amortization was low, it was increasing, especially during the year 1987. This fact is also shown in Table 5.

Table 5. NIA total collection efficiency (%) from 1985 to 1989.

1985	1986	1987	1988	1989
74.98	47.91	76.20	47.91	35.21

For 1989, collections on CIS amortization amounted to about P224,317.62 which constituted about half of the total income of P475,403.06 for that year. This is high when one considers that in 1985, CIS amortization collected amounted to P77,499.35 (Table 4).

The average collection efficiency in amortization payments was 48.53 percent over the 5 years (1985–1989).

Likewise, the total collection efficiency of the Iloilo PIO for the same period (1985–1989) remained low after 1985 despite the spurt in 1987. This fact is reflected in Table 5.

The total collection efficiency was highest in 1987 when income of the Iloilo PIO amounted to P729,257.64. The average collection efficiency for the 5 years (1985–1989) was 44 percent (for details, see Tables 7 and 8). Overall, the collection efficiency of the Iloilo PIO through the years has never reached the ideal 100 percent since collection efficiency depends not only on the targets set but also on the coordination of both the PIO's billing and collection functions and the IA's participation in collection. Study findings in these aspects are further described in the sections in PIO financial management and IA financial management.

Extent of Institutional Development for the Communals

Even though institutional development work for the comunals was started since the 1970s, there was no specific structure at the Iloilo PIO level assigned to coordinate the work of community organizing until the early part of 1989, when the Senior IDO was made Officer-in-Charge of the Institutional Development Section of the Iloilo PIO. However, at the RO VI, there was the Agriculture Division which coordinated provincial efforts in the formation and strengthening of IAs. The latest transformation of this Division into the Institutional Division in the 1980s strengthened the RO VI coordination for institutional development.

Despite the fact that the proposed vacancies for positions for provincial institutional development work of the newly operationalized Institutional Development Section were just recently filled up, work has been going on. The accomplishments of institutional development work for the Iloilo PIO to date are shown in Table 6.

Table 6. Extent of institutional development, Iloilo, from 1985 to 1989.

	1985	1986	1987	1988	1989
No. of operational CIS	26	26	27	28	29
No. of registered IAs (organized)	26	26	27	28	29
No. of farmers involved					
Participatory	796	1,097	1,355	1,404	2,264
Nonparticipatory	895	831	559	501	—
No. of trainings conducted	0	2	0	4	4
Type of training conducted	—	SMW	—	SMW/FMS	BLDCSMWA FMS
No. of farmers benefited	1,691	1,928	1,914	1,905	2,264

Notes: SMW = System Management Workshop.
 FMS = Financial Management System.
 BLDC = Basic Leadership Development Course.

The number of operational CIS in Iloilo for the period 1985 to 1989 has remained more or less stable, but reflected an increase of 11.5 percent from 26 in 1985 to 29 in 1989.

Likewise, the number of registered and organized IAs remained stable and the number of operational CIS for the same period was similar.

In terms of training conducted for the same five-year period, there was a total of only 20 training programs conducted for the barangay leadership course, systems management, financial management and group dynamics. There were no training programs conducted from 1985 to 1987. As of 1989 there were only 390 trained members out of 2,264 members of the operational CIS.

Considering that there was 1 ongoing construction project and 3 rehabilitation projects for 1985, there was need for training for the ongoing Sirawagan CIS. For 1986, 2 training programs were adequate, since there was 1 construction ongoing (Sirawagan CIS) and 5 rehabilitation projects (2 ongoing and 3 completed). From 1987 to 1989 there were 16 rehabilitations, 10 minor repairs and 3 construction projects. However, 18 training programs were conducted (4 for 1988 and 14 for 1989). This fact implies that IA members were trained mostly during and after construction.

For the 13 sample CIS, of the 9 operational IAs, 8 had 1 and at most 2 training programs. One operational CIS (Vista Alegre) was established under the National Irrigation Administration-Farm System Development Course tie-up. Its members who have not yet undergone training are scheduled for training. It is a very successful IA despite the present lack of training.

For the nonoperational CIS, 1 participatory IA (Santiago) had not undergone training. The other 2 IAs were established under the NIA-FSDC Program, but had not yet undergone training by the time they ceased to operate.

Overall, according to Iloilo PIO records, about 10,202 farmers have been helped by the institutional development work of the Iloilo PIO. The PIO assistance has been responded to in various degrees by the farmers (see Section on IA).

Personnel Complement

There was a continuous increase in the Iloilo PIO personnel due to the government's thrust on small-scale irrigation projects since the 1980s with the concomitant increase in the provincial workload. Table 7 reflects this fact.

As of May 1990, the Iloilo PIO had 21 permanent/monthly paid, 46 daily paid, 22 contractual and 48 daily paid (co-terminous project employees) employees or a total of 137 employees. This is a 92.9 percent increase over the May 1985 personnel which totaled 71, broken down into 15 perma-

ment/monthly paid, 26 temporary, 6 contractual and 24 daily paid (co-terminous project employees) employees. Over the 5 years (1985–1989), there has been an average increase of personnel by 21.3 percent.

Table 7. Categories of Iloilo PIO personnel and their numbers, from 1985 to 1989.

	1985	1986	1987	1988	1989
Permanent/monthly	15	18	17	20	21
Temporary/monthly	26	28	2	—	—
Daily	—	—	50	44	46
Daily (co-terminous project employees)	24	26	—	65	48
Contractual workers					
ICOs	—	—	6	5	4
IOWs	6	5	10	15	18
Total	71	77	85	149	137

Overall average increase for the 5 years is 21.3 percent.

In the region, there was a personnel increase of 11.9 percent of the actual number of employees over the number of authorized positions from 1988 to 1989, so much so that the CO's evaluation of the staffing pattern of RO VI was one of overstaffing (Corporate Plan 1990–2000).

Table 7 reflects the preponderance of daily employees who are hired by NIA to supplement the regular work force, who are given appointments for three months at a time, occupying a daily *plantilla*¹ position designated by NIA, pending approval of the Department of Budget and Management. This has been a temporary adjustment to personnel assignments to meet the increased need for personnel who have to work immediately but whose appointments require bureaucratic processing. These daily employees have stayed on for several years in the Engineering and Administrative Sections and carry on the brunt of the work of the agency. Being qualified for their

1 A *plantilla* is a complete list of positions and the incumbents occupying the positions in a government agency. It includes the title of the position, item number, the salary grade and the education attainment of those occupying the positions. The list of positions may either increase or decrease depending on the need of an agency. However, positions to be added to the *plantilla* must have the endorsement of the Department of Budget and Management.

jobs, yet insecure in their tenure, these employees have expressed dissatisfaction with their jobs. There is another type of daily workers, the co-terminous project employees who are hired for specific NIA establishment positions to meet NIA project needs, usually engineers, carpenters, masons, drivers and heavy equipment operators. Although their employment ends upon project completion, many of them have stayed for many years (ADB Interim Report 1990).

The contractual workers were employed especially with the introduction of the Participatory Approach with the need for Irrigation Community Organizers/Irrigation Workers. They are contracted for specific periods of time—usually from 6 months to 1 year at a time. They have no tenure of service and are not civil service employees. This feature of their job characteristics has, ultimately, affected the quality of their work (ADB Interim Report 1990).

As of June 30, 1989, the ranks of the PIO personnel have been upgraded with increases in salary grades from 1 to 4 grades. Except for the proposed 13 new positions for the PIO organization, the Irrigation Development Officer (who is now in acting capacity) who heads the newly created Irrigation Development Section of the newly operationalized Section of the PIO, and the Section personnel have just been appointed.

The present personnel deployment in the Iloilo PIO reflected that of the 27 personnel vacancies for positions in the plantilla, only 21 have been filled up. There is a need for more vacancies for Irrigation Technicians since they take over the work of ICOs who radiate to other potential CIS systems.

There were 21 personnel who were regular (monthly employees) in 1989; 57 percent of this number was taken as a sample. The majority of them belongs to the middle-age bracket (41–50 years) and were predominantly male and married and were college graduates in Civil Engineering. About 49.8 percent had been holding their positions from 1 to 5 years but had been with NIA mostly for 11–20 years. What is notable is that there are 12 employees classified as utility workers, who have degrees in engineering, working on a daily basis, doing technical tasks in the projects.

Most had specialized training in the technical aspects (25%) although a fewer number (16.7%) had training in socio-technical aspects and some (25%) had training in both.

There is a slow turnover of employees in the Iloilo PIO. From 1988 to 1990, one employee was transferred to another government agency and another migrated to the United States. However, for the daily/contract

workers, especially the project engineers and community organizers, the turnover is faster.

Performance of PIO employees is evaluated regularly every 6 months. The PIO keeps a record of activities/job descriptions of each employee in the "Commitment Sheet" and registers the percentage of accomplishment in the "Appraisal" document. These are the bases of promotions. According to the latest performance appraisal for 1990, 23 percent (16 out of 67 personnel) was rated *satisfactory*, 76 percent (51 out of 67) rated *very satisfactory* and 1.4 percent (1 out of 67) rated *outstanding*. Of those rated *very satisfactory*, 7 were earlier rated in two previous evaluation periods in 1989 as merely *satisfactory*, implying that they were perceived as having improved after a year's interval. Of the 16 who received only *satisfactory* ratings, 15 belong to the rank and file, classified as utility workers, although 8 performed technical tasks. Except for one, those who received the *satisfactory* grade were high school graduates/undergraduates.

Promotions in the Iloilo PIO have been reported as not frequent enough to motivate the personnel. For the period 1985-1989, there have been only 2 promotions in the Iloilo PIO.

Financial Management

The source of income of the Iloilo PIO consists of payments of pump amortization, CIS amortization, equipment rentals, equity generation, sale of unserviceable equipment, management fees, interest fees, interest income and other miscellaneous income.² Equity generation and pump amortizations were the biggest constituents of the PIO income from 1985 to 1989. Yet the COA considers equity generation as a trust liability and not as income and this has been the cause of the COA's negative assessment of Iloilo PIO financial performance (refer to Viability Index).

Sources of funds of the Iloilo PIO are the annual sub-allotments from the NIA. Table 8 reflects the sub-allotments received by the Iloilo PIO from the Regional Office from 1985 to 1989, and their sub-components of income generated and the CO subsidy.

² NIA annual statements of income usually include only pump amortizations, CIS amortizations, equipment rentals and equity generation while the other incomes are categorized as miscellaneous income.

The annual sub-allotments to the Iloilo PIO include the income generated by the unit from amortization payments, equipment rentals and the like, as well as by its regular subsidy from the Central Office (CO). The annual CO subsidies are large because these are mainly CIS project fundings. The trend of the sub-allotment is one of increase from 1985–1989, reflecting the acceleration of CIS development. The average income to annual sub-allotment for the five years (1985–1989) is 15.84 percent, reflecting a heavy dependence of the Iloilo PIO on the CO.

Table 8. *Iloilo PIO annual sub-allotments (in P).*

Year	Iloilo PIO Annual sub-allotment	Income generated	NIA-CO subsidy	Percentage income/sub-allotments
1985	1,585,787.01	642,617.59	843,169.50	40.52
1986	2,551,519.22	574,939.00	1,976,580.20	22.53
1987	4,374,898.23	729,257.64	3,645,640.00	16.66
1988	5,837,352.37	574,939.00	5,262,413.00	9.84
1989	4,923,288.38	475,403.06	4,447,885.30	9.65

Using the COA statement of *Iloilo Income and Expenses*, expenditures for personnel services constituted an average of 73.4 percent of the total income of the Iloilo PIO from 1985 to 1989. Maintenance and other operating expenses constituted only 26.5 percent for the same period. Project personnel salaries constituted the major administrative overhead.

The regular annual sub-allotments of the PIO are received from the CO on a quarterly basis and are released by the RO not in a lump sum but as the need arises. The subsidy is sometimes delayed by a week. Vouchers/payrolls are prepared and submitted to the RO every 15th and 30th of the month. Fund checks are released for deposit with the depository bank. Money is withdrawn as needed. If there is a need for replenishment, the process is repeated (every 15 days release of funds).

Reports of disbursement are prepared by the PIO during the 15th and at the end of the month and are submitted to the Accounting Division of the Regional Office for posting in the subsidiary ledger. The same procedure is followed with regard to monthly collection reports. The trial balances are prepared by the Regional Office from the data submitted by all other field offices in the region. The Accounting Clerk in the Iloilo PIO does not keep

a complete set of books but only maintains the journal and analysis of obligations.

With the decentralization in 1983, NIA accounting functions were also supposed to be decentralized with financial recordkeeping moved to the field. The Regional and Provincial Project Offices began to maintain their own general ledgers, subsidiary ledgers, irrigation fees reports and reports of disbursements. However, no Accounting Manuals have been prepared for guidance of the CO and the field offices (ADB Interim Report 1990).

The subsidiary ledgers which contain detailed accounts of each farmer-customer, employees with outstanding loans or advances (disbursing officers) and detailed costs and depreciation history of properties and equipment have not been turned over to the field offices. This explains the unreconciled accounts figures—particularly irrigation fees/amortization receivables, cash held by Disbursing Officers and property and equipment (ADB Interim Report 1990).

Collection Strategies

In the face of low collection efficiency, NIA management has sent letters of demand to delinquent pump recipients but they have still failed to settle their past due accounts. So what remains to be done is to take legal action against the recipients on the basis of the terms of the contract through pump-pullout or collection of arrears. The RO legal panel takes action when the PIO files charges against delinquent beneficiaries.

The authorized collectors for the PIO are given motorcycles as their service vehicles, and gasoline allowances, with target amounts as the quota for a certain period of time.

The IDOs/ITs/IOWs have been fielded to determine IA problems regarding O&M and to hold dialogues/information drives with IA members on the importance of payment of loan amortization and farmers' duties and responsibilities.

Incentives and awards/recognition have been given to field personnel and the IAs for outstanding performance in amortization collection/payments.

IOWs have checked and initiated the financial recording of the respective IAs. Motivation techniques, follow-ups and financial assistance have been given to IAs through the IOWs.

The following are some problems and solutions taken in the financial management of the Iloilo PIO:

- a. In 1985, per COA reports, the Iloilo PIO could have earned an additional income of P 12 million from pump amortization had it instituted legal action against delinquent pump recipients. The management failed to institute proper proceedings against these delinquent pump recipients so that by 1989, the pump amortization receivables had increased to P2,284,067.07.
In 1985, of the total 638 pumps received by the Iloilo PIO, 12 pumps with an estimated value of P36,000 could not be accounted for. The Iloilo Provincial Irrigation Engineer (PIE) maintained that there might be errors in establishing the inventory, particularly with regard to those which were transferred by the Irrigation Service Unit (DPWC) to the NIA. Management is still reconciling and verifying records.
- b. In 1985, the Iloilo PIO could have had an additional bank interest income of P2,491.73 had collections been deposited with the depository bank at least once a week or if they reached P500. This omission continued until 1986 which also caused a loss of interest income amounting to P610.02.
- c. In 1985, the Iloilo PIO Cashier did not submit the report of disbursements, monthly report collections and other reports evidencing financial transactions within the regulatory period. Delays in submission reached one month or more. By 1987, a marked improvement was noted. However, the inventory report of collection still needed constant follow-up and reminders. The threat of salary suspension for all accountable officers was effective in this regard.
- d. For 1987, Cashier B of the Iloilo PIO did not reconcile the cash book balance with his cash at the close of the day as required by Accounting and Auditing regulations. Erroneous double entries were discovered in his cashbook as per auditing on December 21, 1987. His noncompliance with the regulations caused an understatement of his cashbook balance by P30,460.64. The double entries were disallowed and restitutions were effected.
- e. For 1988, total deposits/remittances amounting to P14,362.18 made by Cashier B of the Iloilo PIO were not received by the PNB Iloilo Branch. He was relieved of his function as Cashier and instructed to report temporarily at the Accounting Unit until his total accountability could

be established. However, effective March 16, 1989, Cashier B went on leave without permission, as of March 2, 1990. The management failed to conduct verification and confirmation of previous years' deposits made by Cashier B to ensure that all prior years' remittances were duly deposited at the depository bank. Similarly, it failed to file administrative charges against Cashier B for incurring shortage, on his cash and accounts.

- f. An evaluation of the internal control of the procurement system of the Iloilo PIO, revealed the following control weaknesses:
- The storekeeper/property custodian did not furnish the Auditing Office copies of purchase/job orders within 5 days from their perfection/execution.
 - The preparation of purchase/job orders, inspection reports, checks and checking of invoices and receipts, were done by the storekeeper/property custodian.
 - Paid vouchers were not effectively controlled by stamping the voucher and all its supporting documents "PAID" to prevent its possible reuse.
 - Signed checks representing payment to dealers/suppliers were released by the storekeeper/property custodian instead of by the cashier.
 - The storekeeper/property custodian did not maintain stock cards for posting/recording of supplies/materials and spare parts received or disposed.
- g. For CIS amortization payments, collection efficiency was low because collection of amortization on CIS was made a responsibility of the IA and no sanctions have been imposed on their nonpayment of yearly amortization except for the payment of an interest of 1 percent a month of the unpaid fees. Coordination of NIA and the IA on this aspect has been minimal.

CHAPTER 3

Respondents' Views on the PIO Organization

ORGANIZATIONAL STRUCTURE

Centralization

IN SPITE OF the fact that development/implementation/monitoring of CIS projects in the Iloilo PIO has to have the approval of the Regional and Central Offices, once initiated by the PIO, the majority of the sample respondents perceived that the National Irrigation staff offices and the Regional Director had *a moderate* influence concerning how the office was run and how decisions were made. The majority believed that the Provincial Irrigation Engineer (PIE) had *the most say* in the decision making of activities in the office. Despite the fact that all technical, administrative and financial activities of the Iloilo PIO in connection with CIS were to be supervised and monitored by the Regional Irrigation Office (RO), the sample respondents believed in the self-sufficiency of their provincial unit.

All the sample subordinates of the Iloilo PIE declared *a considerable* influence of the Iloilo PIE (75%), *a moderate* influence of the RIM (50%) and *some* influence of the National staff office (25%) in their office activities. Despite the centralized structure of the entire organization, the Iloilo PIO respondents declared that when decisions were being made by the supervisors, the persons most affected were consulted whenever technical and institutional procedures were involved—*moderately* (66.7%) and to *a great extent* (25%).

Chi-square analysis shows that there is a relationship between the position held by national and regional officials over the decision-making activities of the Iloilo PIO. PIO respondents perceived a *moderate* amount of influence wielded by the National and Regional Offices. However, RO respondents declared a *great extent* of influence wielded by the national and regional official over provincial decision making.

Division of Functions

Seventy-five percent (75%) of the sample respondents perceived that they had clearly defined job responsibilities and that the Iloilo PIO was divided according to the nature of the work done; 66.7 percent declared that they had clearly defined job responsibilities existing to a *great extent* so that each employee knew what he was supposed to do; 66.7 percent perceived that they had been delegated the authority to carry out their assignment duties to a *great extent*; and 66.7 percent perceived that the assigned responsibilities and authorities were consistent with the duties actually being performed to a *great extent*.

All these reflect the principle that in situations in which there is line control of workflow, there are centrally controlled personnel policies to ensure that workers are selected on the basis of their ability to carry out the work; line workers follow specific operating procedures spelled out for them while basic decisions regarding the work they do are retained by the PIO and the RO (Pugh et al. 1969). One such comprehensive set of guidelines is found in the New and Updated Guidelines on the Communal Irrigation Development Program Implementing (May 1988).

Neither staff nor line employees of the Iloilo PIO differed significantly in their perceptions regarding assigned responsibilities and authority consistent with duties actually performed.

The Iloilo PIO, as a line unit of the bigger irrigation agency organization is flat³ but the office is also structured by specialization; work units are divided because of dissimilarity of functions and jobs are performed by specialists who are professionals.

The Iloilo PIO is functionally spread out horizontally as work is subdivided for task accomplishment. There are only 3 divisions with sub-units to

3 A flat structure in an organization refers to a horizontal or leveled coordination and communication within the organization.

support the work of the divisions' functions—administrative, engineering and institutional assistance. Thus, the Iloilo PIO organization is not very complex but technical workflow is complex. Despite the complexity of workflow activities coming from the Field Office to the project site, hierarchical levels of management have not increased in the Iloilo PIO. This only confirms the observation (Perrow 1967) that if administrative and organizational procedures are highly nonroutine and are laden with problems and constant issues, a less-complex, less-formalized system would be expected (see Section on *Task Variability*).

Placement of Authority

Only 50 percent of the respondents perceived that decisions made were given close to action points to a *great extent*, although about a third of the sample perceived this fact occurring to a *moderate extent*. Although the majority of the respondents (66.7%) perceived there were more than 3 levels of supervision in the entire organization, most of them also perceived there was a unity of command in the RO and PIO, and that there was a clear distribution of authority between the respective levels as far as responsibilities were concerned. On this last aspect of placement of authority, the respondents were divided, however—50 percent perceived authority distribution of respective levels to a *great extent* while the other 50 percent perceived the same only to a *moderate extent*.

The staff and line officials of the Iloilo PIO were not significantly different in their perceptions that decisions made in the office were *moderately* given close to action points.

Decision Making

The majority of the respondents believed that in the Iloilo PIO, decisions were made at the levels where *not* the most adequate information was available and when decisions were being made *not* all the persons affected were consulted. Also, people who made decisions had moderate access to available information in both technical (41.7%) and institutional (41.7%) areas and procedures. These perceptions are substantiated by our observations on the CIS operations of the Iloilo PIO.

Leadership Structure

About half of the respondents (50%) perceived that their supervisors encouraged them to give their best efforts only *moderately* (goal emphasis), although they also declared that their supervisors showed them how to improve their performance to *a great extent* by scheduling their work ahead of time and offering ideas in solving job-related problems (41.7%) (work facilitation). Some of the respondents (41.7%) also declared that their supervisors encouraged them to exchange ideas and opinions (25%) to *a great extent* (team-building). However, they (66.7%) declared that their immediate supervisors, the Provincial Irrigation Engineer (PIE) and Regional Irrigation Engineer (RIM), only *moderately* took risks when hard decisions were to be made.

Line of Control

These aspects deal with the patterns of measuring and correcting performance of activities of personnel in relation to organizational objectives and plans. The most effective means of controlling performance in the Iloilo PIO was perceived as through the establishment and measurements of infrastructure work standards (41.7%), regular field visits (33.3%) and reports (16.7%). The majority of the Iloilo PIO sample perceived the staff and line relationships in their office to be very clear to *a great extent*, although they were divided equally on whether the lines of specialization of the staff were considered to *a great extent* or *moderately*, when work assignments were being given. The respondents perceived the need for more nonbudgetary control measures since budget finalization was beyond them.

Behavioral problems of IA members in relation to the technology-oriented aspects of water management are recurrent despite the implementation of the participatory approach.

Formalization Index

This refers to the extent to which the rules, procedures and instructions are utilized in the pursuit of organizational goals and objectives. About half (50%) of the respondents perceived that organizational goals were *very*

generally defined and about the same number perceived that job descriptions, personnel policies, office procedures and instructions were *generally defined*. Yet *some* (16.7%) said that the same were very *specifically* defined.

Vertical Coordination

On the synchronizing of individual/unit efforts towards achieving organizational goals along hierarchical divisions, 50 percent perceived that the formulation and implementation of the CIS program were coordinated by the Regional Office through policies, rules and procedures to a *great extent* although 41.7 percent said that they were coordinated only to *some extent*.

About the same number (50%) also perceived that the Iloilo PIE, and the Irrigation Technicians also did vertical coordination by personal feedback.

Horizontal Coordination (Personal Mode)

What is involved in this coordination is the synchronizing of individual efforts by individual specializations to attend to organizational goals. The perception of 41.7 percent of the respondents was that the CIS program within the Iloilo PIO was coordinated by the Project Staff only to *some extent*. The perception of 58.3 percent of the sample was that the CIS program within the Iloilo PIO was coordinated through *informal communication channels* by means of contacting members in other units of the office, only to *some extent*.

Horizontal Coordination (Group Mode)

What is involved here is the synchronization of specialized tasks of units to attain organizational goals. Horizontal coordination for the CIS Program through *standing committees* that met regularly to plan and coordinate within the Iloilo PIO was perceived to a *great extent* (50%) and *ad hoc groups* brought together for problem-solving work in the office were also observed to contribute to coordination to *some extent* (50%).

Communication

The respondents declared they communicated, as necessary, with other personnel and had more interactions with persons at the *higher levels* and *similar levels*, through face to face meetings, by written communication or by telephone than with those at the *lower levels*, in a typical week.

Within the Iloilo PIO, all personnel in this flat structure have equal access to the PIE. The nature of the communication is that of first-level supervisor-worker interaction. The PIE is able not only to communicate with all his subordinates but to follow and coordinate what they are doing.

Upward communication between units in the Regional and Provincial Offices was perceived to be greater because of the need for reporting activities as well as seeking approval and clearance from the RO because the Provincial Office's role in them was only recommendatory. However, *downward communication* from the RO to the PIO—although, more detailed and specific in the form of direct orders, training sessions, job descriptions, feedback and other information—is perceived *to be lesser*, because once the general technical translation of information is done, it serves for all similar specific tasks and activities.

Communication among peers in the Iloilo PIO units and sections is also very frequent, occurring naturally although it is not supposed to occur because communication has to go through the Heads of the Sections. There is a great deal of face-to-face and memo-to-memo situations throughout the personnel in the Iloilo PIO since the office space facilitates direct personnel communication with one another. However, the PIE also gets to know of what is occurring. This procedure saves time and often there is a great deal of informal coordination among personnel.

The communication structures from RIO to the PIO farmers being flat, there are not many intervening layers and thus, are good for communication of authority and responsibilities to the farmers. But this structure is not well utilized and distributed-responsibility for both water management and O&M of IAs is not so well managed.

ORGANIZATIONAL PROCEDURES

Levels of Specialization

Despite their technical (engineering, agriculture) and institutional (social sciences) preparation of the respondents, the majority (58.3%) of the respondents felt they had specialized training for the job only *moderately* while 33.3 percent said they had specialized training to a *great extent*. Regarding the issue as to whether irrigation personnel should be generalists or specialists, 50 percent of the sample said that irrigation personnel should be able to provide assistance/instruction in *all* activities of irrigation construction, maintenance, repair and conflict management. A smaller number (33.3%) said that irrigation personnel should provide assistance/instruction on only *one* of the functions of irrigation construction, maintenance, repair or conflict management.

Routinization

The majority (75%) of the respondents perceived that they did not do the same job in the same way everyday, although a minority (25%) said otherwise. However, the respondents were equally divided in their perception that in the Iloilo PIO, there was a need to learn more than one job to a *great extent* or to *some extent*. About 75 percent of the same said that the same steps must be followed in processing every piece of work only to *some extent*.

Role Functions

About 75 percent of the respondents declared that they did not work under incompatible policies and guidelines, yet some (41.7%) said that they have to buck a policy or rule in order to carry out an assignment (role conflict), and thus their work is bound not to be accepted by one person but accepted by others to a *moderate extent* (41.7%) and to a *great extent* (8.3%). About 91.7 percent of the sample understood their work responsibility very well yet sometimes they worked under vague directions or orders to *some extent* (role ambiguity). Finally, about 58.3 percent of the sample said they knew their

work will be acceptable to their superiors, although some said they did not know whether their work will be acceptable to their supervisors to *some extent* (33.3%) and to a *great extent* (8.3%).

Participativeness

The majority of the respondents (58.3%) felt that they usually could influence activities and decisions of their immediate supervisors concerning themselves only moderately although a *few* (25%) felt they could do so, to a *great extent*. The respondents also declared that when their immediate supervisors made decisions affecting them and their work that were unjustified or were based on inaccurate or inadequate information, the chances of getting the decisions reconsidered were *fair* (50%), *good* (25%) and *poor* (25%).

Characteristics of Work Processes

Regarding *task difficulty*, 75 percent of the sample declared that they *occasionally* met difficulties in their work, although 16.7 percent declared they *often* had problems in their work. *Most of these groups* agreed that normally it took them only hours in actual "thinking" time trying to solve specific problems although a *few* (16.7%) took days to solve their problems.

Regarding *task variability*, about 91.7 percent of the sample said there was variety ranging from *little* to *much* in cases, claims, clients or things they encountered in their work. However, regardless of the variety of the cases, claims or clients which were encountered in the work of these respondents, the activities or methods they followed in their work remained *moderately* the same (41.7%) although about the same number (41.7%) said they *modified* their activities or procedures.

Attitude Towards the Job

Regarding pride in group performance, 66.7 percent of the sample perceived that their section in the Iloilo PIO compared *very well* with other sections in getting a job done and about 33.3 percent said their sections compared only *fairly well* with other sections. About 75 percent of the respondents said they

identified themselves with other members of their section; 16.7 percent said they were indifferent to other members of their section while 8.3 percent did not identify with other members of their section. About 66.7 percent of the sample said that their PIO compared *very well* with other PIOs, and only 33.3 percent said that their PIO compared only *fairly well*.

Financial and Job Status Index

The majority (85.3%) of the respondents were dissatisfied with their salaries, although they were satisfied with the way things have been working out in the PIO regarding getting ahead in the agency, and were adjusted regarding their main vocational goals.

Motivation

The majority (58.3%) said they felt bad when they made mistakes in work because the sample respondents (91.7%) really wanted to do a good job as they felt a sense of personal satisfaction in doing a good job.

ASSOCIATION OF VARIABLES (PIO)

The respondents' (a) position as staff or line personnel in the PIO/RO, (b) their perceptions of giving farmers lead-rights/responsibilities for small systems with agency socio-technical/funding support, and (c) their perceptions of farmers' capabilities for small system design, construction, maintenance/repairs and conflict resolution were associated with 10 structure and 8 process variables. Chi-square values were derived. Almost all the variables associated were independent of one another. However, the following variables were related at $P < 0.1$:

- Position in the PIO/RO with decision-making structure. This means that irrespective of whether line or staff employees, when they make decisions, information is available and shared in the NIA Region VI and PIO offices.

- Local irrigators' groups should have lead-rights/responsibilities with agency-support with National Irrigation Staff officials' influence on Iloilo PIO. This means that NIA personnel who believe that National NIA staff officials have considerable influence on the PIO, also hold the view that local Irrigators' Associations should be given lead rights in planning/implementing of CIS projects with agency support.
- Local groups should have lead-rights/responsibilities with agency support with PIO task difficulty. This means that NIA personnel who find *a moderate* or *a great extent* of task difficulty in their work hold the view that local Irrigators' Associations be given lead-rights in the planning and implementing of CIS projects with agency support.
- Farmers able to perform functions of design, construction, maintenance, conflict resolution with NIA centralization. This means that NIA personnel who hold that National NIA staff officials wield *a moderate* influence on the PIO also hold the view that farmers be given the functions of design, construction, maintenance and conflict resolution.

OPERATIONS

Planning

Using Coward's key programmatic concepts in the planning of small-scale irrigation systems, the study reveals the following findings in the planning of the Iloilo CIS:

Investment Process

The forty-two (42) CIS in Iloilo Province (existing as of 1988) are indirect investments in which resources of the government have been made available to Irrigators' Associations (IAs) in the form of grants, subsidized loans and

technical assistance and these have led to the construction of the irrigation infrastructures by the government. These have been turned over to the associations for maintenance and control and will be owned by them after 50 years of loan amortization.

Choices for these communals were made by the government acting through the NIA, upon need-articulation of the beneficiaries. Of the 42 CIS, 10 communals were constructed under PD 552, and 16 were constructed under NIA-FSDC tie-up. The communals under these 2 programs can be considered as purely government-initiated and project-formulated programs without participation of the beneficiaries until turnover. The remaining 16 CIS are under the Participatory Program, and involve supposedly the optimum participation of the farmers from project site selection to construction, maintenance and costs sharing. For the sample CIS, 2 were constructed under the PD 552; 5 under the NIA-FSDC and 6 under the Participatory Program.

Resources allocated for the communals were decided on CO prioritization based upon RO/PIO recommendations which are usually followed. Local sectors have no say in resource allocation for these communals.

Using PIO program priorities, the RO prepares the Regional Annual Program specifying the technical and institutional activities to be undertaken for the succeeding year to ensure funding allocation. Based on the results of the monitoring and evaluation of the CO, some of the Regional Annual Program projects were not incorporated in the Provincial Annual Program and the 3-year CID Program. This can be understood in terms of the following:

- Even if a project has been scheduled and funded for construction, if the project area is a critical one, the NIA realigns the funds to other projects.
- Because of erroneous information, and poor information monitoring at the provincial level, the CO makes its own analysis and decisions, which may not agree with the Provincial Annual Program proposal. At times, the PIO makes decisions on the project which need immediate attention and which can no longer wait for the scheduled date/year of implementation.
- Costs of project construction may be high or the release of project funding is delayed.

Design Process

Prior to 1981, for the Iloilo CIS, design decisions for nonparticipatory projects were made and implemented with little use of local information or experiences of local farmers. Needed technical data not available in the agency, which could be obtained from local people were not at all forthcoming. Limited technical data from agency engineers were the bases on which design procedures, technical structures and choice of implementing technical personnel were decided. There was a lack of experience and training for staff engineers and local beneficiaries in the coordination and optimization of the use of local information and indigenous methods for designing small-scale irrigation systems.

Thus, despite PIO's technical competence, there are oversized communal structures, design defects and nonfunctional CIS today whose origins go back to the period (1974–1979) when there was a crash program under PD 552 and the NIA-FSDC tie-up.

Farmers were not involved in the information gathering, design planning and construction during the period. Design defects and oversized communals were also engendered by the participation of private contractors who were motivated by self-interests in bidding for awards.

However, with the irrigation systems coming under the Participatory Program since 1982, farmers' participation in the preliminary investigation, initial topography survey, "walk-through," locating of structures and canals and the right-of-way waivers have contributed to better and effective designs of the communals.

Local Organizational Processes

Generally, all CIS planning and construction by the government involve some irrigation responsibilities being assumed by the IAs in various degrees. Although they may not have been involved in the planning, they provided labor in the CIS construction. The CIS under the Participatory Program had IAs organized by the ICOs/IOWs/IDOs fielded from 6–12 months before construction and they organized local groups for their various participation and responsibilities from a) the investigation and section phase, through b) the preconstruction phase, and c) the construction phase to d) the O&M phase.

Finally, the IAs' Bylaws and the Memorandum of Agreement (MOA) between IAs and the NIA bind the farmers to perform their specific functions as well as maintaining the specific structures to ensure that the CIS operations and maintenance are collectively run and financed. The conditions and the amount for repayments are clearly set in the MOA.

However, in the CIS construction under the PD and the NIA-FSDC, local organizational processes were given priority during and after construction (and not before). The previous practice was concentrated on the technical and institutional aspects of CIS implementation but with no or minimal input from the beneficiaries and the immediate locality.

Except for the ID staff, technical staff of the Provincial Irrigation Office had not been properly trained, apart from doing their routine engineering work, in making local people function as a self-reliant irrigators' group, fully capable of directing their irrigation efforts.

AGENCY STRENGTHENING PROCESSES

With the implementation of the Participatory Program in 1981, structures, processes and personnel at the Regional and Provincial levels have been established by the Regional Institutional Development Division (RIDDD) and the Provincial Institutional Development Section (PIDS) to coordinate (a) socio-institutional development work at the regional and provincial levels, and (b) the ICOs/IOWs/IDOs to facilitate the formation and development of farmers into strong and viable associations to contribute to construction and maintenance of CIS.

The 1983 NIA Reorganization Plan intended, among other things, to align program functions to proper management structures and levels. Hence, one effect was to place the monitoring and supervision of ICOs/IOWs/IDOs in the Iloilo PIO under the PIE, who had supposedly undergone training in institutional program development in addition to his technical training. From March to June 1989, institutional development work for communals was managed by the Engineering Division of the Region. Hence, the Chief Regional Engineer rather than the RIDDD Head was active in the communals.

With Memorandum Circular No. 09 series of 1986, the integration of NIA's institutional development program came under the supervision of the Assistant Administrator for Systems Operation and Equipment Management (AA/SOEM). The PIEs and the ISs directly supervised the ICOs/

IOWs/IDOs. The RIDD Chief managed the IDP which had started to develop specific programs, formulate policy guidelines and establish procedures.

This shift of ID work supervision created uncertainties among the affected personnel. Hence, another Memorandum Circular was issued on 25 June 1985 which clarified functional relationships between the IDD Chief and the PIE. The IDD through the Supervising Irrigators' Association Officer continued to provide supervisory assistance to the IOWs at the field level. With the increase of ICOs and IOWs, senior ICOs were designated to act as Provincial Supervisors. In March 1989, an orientation training was undertaken for all Regional IDD personnel in both NIS and CIS IDOs.

ORGANIZATIONAL PERSPECTIVES ON THE PARTICIPATORY PROGRAM

Personnel numbering 25, coming from the PIO and RO VI were asked about their stand on several concerns of the Participatory Program and the following are the outcomes:

Farmers Designing Their Own Small Irrigation Systems

There was a higher percentage of PIO personnel (58.3%) than RO personnel (38.5%) in favor of this idea but both samples agreed that a little help on the technical aspect must come from NIA. Only the PIO sample would also have NIA assistance for farmers on the institutional aspects such as processing of legal documents and the formation of IA working committees.

Farmers Constructing Their Own Irrigation Systems

Both PIO and RO samples agreed on this but again there was a higher percentage of PIO personnel (50%) than RO personnel (38.5%) who wanted NIA to extend much help to farmers in technical expertise and equipment support. NIA must provide technical men like surveyors, engineers and

foremen while farmers can go into *pakyaw*⁴ contracts to do manual labor in the construction, paid with wages, part of which go to their equity to be deposited with their IA Treasurer. Highly technical aspects in the construction, beyond the capability of other farmers must be under the supervision of the NIA personnel.

Farmers Maintaining and Repairing Their Small Irrigation Systems

About *the majority* of the PIO sample (75%) and RO sample (76.9%) would want the maintenance and repairs of CIS to be done by the farmers. But the PIO sample would give *much help* to the farmers (33.3%) while many of the RO sample would give *a little help* (61%). The PIO will give technical assistance where there is a major damage to the CIS and will also assist in construction and O&M activities, training in leadership, system management, financial management and intergovernmental linkages of the IA.

The RO feels that *little help* is needed by the farmers because they can do system maintenance which is routine, especially if they feel that the system belongs/will belong to them. They will see to it that they do repair work, before the damage gets too large.

Farmers Continuing the Functions of Resolving Conflicts on Water Rights, Generation and Distribution

Both the PIO sample (75%) and RO sample (76.9%) would want farmers to continue to resolve their conflicts regarding water rights, generation and distribution but both samples agreed that *a little help* should come from NIA because the farmers should develop their capability in conflict management, and are in a better position to resolve their conflicts because the relevant information is germane to the IAs. The PIO sample stated that the legalities, rights and privileges and obligations to the government should be explained through IA IEC work or through training. The general assembly must provide the venue for the dialogue. The RO sample prescribed presenting the conflict

4 *Pakyaw* normally means wholesale; when used in connection with labor it means a group of workers under contract for manual labor, and payment made at the end of the job.

to proper authorities, especially where other groups are involved and when the IA and NIA cannot settle the conflict.

Other Concerns

Nature of Initial Move of the NIA Personnel When Problems in the Field, whether Technical or Institutional, Arise

More of the PIO sample would have the beneficiaries solve their problems themselves (58.3%) while the RO sample (61.5%) would have both the agency people and the beneficiaries helping each another while at the same time, it would want to avoid beneficiaries' developing a dependency syndrome upon NIA personnel. The PIO sample would want the IA assembly to be involved first before agency people come in. The agency should evaluate problems with the help of the leaders to determine whether IA or NIA should be involved.

More of the PIO respondents (75%) than the RO respondents (53.8%) perceived that the PIO units had the capabilities for socio-technical work because of the training, seminars and workshops undergone by the PIO staff and because of manuals and guidelines guiding them in their work. The RO sample perceived PIO capabilities in terms of management skills of the PIO and the field work done by ICOs/IOWs, IT and PIC. Also mentioned by the RO sample is the work of the zone engineers, rural sociologists and economists at the regional level.

Whether Technical Facilities and Rules That Can Be Managed by Local Irrigators' Association Are to Be Preferred to Those That Require Responsibility and Control by the Agency

The majority of the RO sample (96.9%) was in favor of technical facilities and rules that can be managed by local people, while the PIO sample (41.7%) was not in favor of the idea.

The Causes of CIS Becoming Nonoperational

Both PIO and RO samples were agreed on causes of CIS becoming nonoperational. This is principally due to insufficient supply of water in the system brought about by the following factors:

Planning. Poor planning, lack of a thorough study of technical and institutional aspects; design area is too big and water source capability decreases over time.

Construction. Technically defective design system and construction.

IA Performance. No proper training or awareness of obligations of members.

- Failure of the association to properly operate and maintain the system,
- Neglect and lack of concern among members,
- Weak organizational processes and poor leadership,
- The feeling of members that they do not benefit from IA membership, and
- Overdue yearly amortizations.

Nonparticipatory Program. Farmers were not involved in the entire process of planning and construction nor did they feel they owned the CIS.

Coordination. Lack of support/involvement of other agencies.

Political Motivation. Politicians such as congressmen and mayors pressure NIA to construct projects despite the fact that feasibility studies are haphazardly done.

Anomalies. Graft and corruption are brought about by the transactions between contractors and NIA personnel who endorse CIS plans for construction despite the limited supply of water emanating from the system, with the budget already spent.

Ecology. Forests in certain areas are denuded and, hence, there are no permanent and wide forest covers thus engendering supply of water for rivers and creeks. This is true in the northern Iloilo where most of the sample CIS are located.

COMMUNITY ORGANIZING (ICOs/IOWs/IDOs)

Essentially, the most crucial NIA personnel linking the agency with the farmers are the ICOs/IOWs (recently upgraded to IDOs). They have done work in community organizing and involving farmers in preliminary investigation, preconstruction, construction and the organization and management stage of CIS construction. Their work in the training for participation of the IA members has been institutionalized but problems remain.

Certain issues about the community organizers' roles are raised. Is there a relationship between tenure, training and IDO performance and IA viability? Do the IDOs' work of training and organizing IA members preempt these IA members of utilizing their native talents for organizing and managing communal enterprises? Is the decline in the activities of the IAs, as has been observed, a universal phenomenon? If so, what are the factors that bring about the decline in the said activities?

Characteristics of IDO Respondents

Of the total number of IDOs (20) assigned in the Iloilo PIO for 1989, 11 were chosen as sample respondents, all of whom were females whose ages were mostly from 22 to 30 years, assigned in the areas of Jelicuon, New Lucena, Cabano; Jordan; Tula-tulaan, Dingle; Bayunan, San Joaquin; San Florentino, San Rafael, Camambugan, Dingle; Anilao; Batad, Iloilo and San Jose, Lemery.

In most cases, the length of service in NIA has been from 2 to 2 years and 11 months. The longest period a respondent stayed in the agency was cited as 3 years. The 2 other respondents have been with NIA for less than a year. All respondents are college graduates the majority of whom are single, having a casual status. While one respondent enjoys a permanent status, a few others are either contractual or are paid daily.

Employment Status

From March 1980 to August 1986, NIA hired the Irrigation Community Organizers (ICOs) on a contractual basis with salary rates 20 percent higher than their regular counterparts in the agency. The agency started hiring ICOs on a daily basis from September 1, 1986, in response to the Civil Service ban on prolonged employment on contractuels by NIA and the immediate need for field organizers to the supplementary irrigation projects of the new administration. Thus, NIA changed the position title of ICOs to Irrigators' Organization Workers (IOWs) to avoid questioning by the Civil Service. However, the existing contractual positions of the ICOs were maintained up to the early 1990 when the Salary Standardization Law was actually implemented.

Under this law, the ICO/IOW position which was then at the Grade 11 salary level was upgraded to Grade 12 and the title was consequently changed to Irrigators' Development Officer (IDO). Based on this law, the contractual ICOs did not receive any salary increase while all the daily paid IOWs were raised to the Grade 12 salary level. Given this development, all the contractual ICOs were left with no option but to become daily IDOs (Fernandez 1990).

Depending on the area need and phase of project development, frequency of IDO visits to the project areas varied. (The scope of the work per IDO covers an average area of 419 ha for the communal systems and 3,991.80 for the national systems. The IDO, therefore covers several barangays that may be distant from each other.) There were IDOs who reported to the areas once or twice every week while there were those who lived in the project site especially during the construction phase. Since IDOs were given assignments, some IDOs visited the areas only 2-4 times a month during the operation and maintenance phase.

Regardless of the frequency of reporting to the project areas, data reveal that all respondents agreed that they were given the necessary orientation to their area of assignment which was conducted by the Senior IDO and in some cases by the Provincial Institutional Coordinator. Assistance was likewise extended by the PIE in their designated areas.

PROJECT IDENTIFICATION, INVESTIGATION AND SELECTION PHASES

Data reveal that information regarding project description, duties of IA officers and members, and the ways and means of forming IAs were disseminated to the IA members by the IDO. Other additional information on operation and management procedures, basic irrigation concepts and food production were similarly shared with the IA members. Often, the IDO personally conducted house-to-house visits to farmer beneficiaries to disseminate information regarding project feasibility and development. Likewise, courtesy calls were made to the Barangay Captains and Sector Leaders for proper coordination.

The writing of the project profile two months after deployment was considered by the majority of the IDOs as ideal but quite a big task to accomplish. Nevertheless, the updating of the project profile was considered an important IDO task in the investigation and selection phase since it served as the basis for future activities in the CIS. Data indicate that most of the IDOs (72.7%) have complied with the submission of the project profile. The profile gave information on the existing problems in the area in terms of technical and institutional matters, information on IAs undergoing rehabilitation, and information on the project status in respective area assignments. Hence, plans could be prioritized in preparation to IA activities yet to be undertaken, and data files on CIS can be updated.

The writing of the project profile was usually undertaken in the latter stage of project investigation and selection, and served as the main tool of the provincial and regional offices in selecting and prioritizing projects. The Regional IDO and the Engineering Division review the project profiles submitted and act as panelists at the annual project selection workshop during which the provincial technical and institutional staff defend proposed communal projects. Firmed-up projects are then submitted to the Central Office (CO) for programming and funding allocation.

PRECONSTRUCTION PHASE

The preconstruction phase normally takes 6-9 months to complete. As such, the IDO has to reside in the project area and perform intensive organizing activities.

As integration is done with the community, the IDO conducts social investigation to determine needs and problems of farmers, identify potential leaders, validate farmers' lists and learn about farmers' beliefs, customs and traditions. While the IDO considers the said functions to be too hard a task to accomplish, social investigation is deemed necessary to enable her to know how to deal with people in target areas. Research findings reveal that data on farmers' beliefs, customs and traditions, other than farmers' perceived needs and expectations were gathered by personally talking to the farmer-beneficiaries during house-to-house visits, discussion groups, and by attending informal social gatherings. These data were consequently forwarded to the PIE concerned for reporting through the IDS. IA committees were formed mostly based on the IDO's initiative. In some cases, the responsibility for creating committees was left to the IA members. In accordance with NIA requirements, the following committees have been formed: Membership, Bylaws, Securities and Exchange Commission, Water Permit Application, Survey and Design, and Right-of-Way Negotiation.

Committees according to the respondents, though too tiring to organize, were needed to facilitate the preparation and accomplishment of legal requirements and to develop the attitudes of self-reliance responsive to the needs of the IA. Through the committees, the IA members could fully participate in decision making, according to some respondents.

It is also very evident that face-to-face communication in the form of meetings and personal contacts with leaders and members have been utilized to disseminate relevant information to the committee members. Rarely were print materials such as brochures and memos used to facilitate transmission of information among the IA members.

Meetings were scheduled for either once a week, once a month or, in some cases, only when there were urgent matters to be taken up. To some extent, the meetings were held only when problems arose as a result of the activities initiated by the committees. Notably, the IA officials, specifically the IA President, presided in the meetings. Likewise, it was noted by some respondents that some members had developed a passive attitude towards IA activities. Hence, getting the IA members together to come to meetings has always been a difficulty. Most problems lay in the noncooperation of some

IA members. A common reaction would be to "murmur" but when asked to voice out opinion, the farmers concerned would simply refrain from giving their responses.

Whatever rules governed the IA, the members' knowledge of these rules was properly analyzed and studied to warrant accuracy of understanding. Data show that 4 out of 11 respondents have facilitated the formulation and amendment of the IA Bylaws as well as the submission of all necessary papers for IA registration.

The water permit gives the IA legal right over a prescribed quantity of water supply from the river or creek (Cablayan 1989). Though time-consuming, assistance from the IDOs facilitated the accomplishment of the needed water permit requirements. Data indicate the 4 out of 11 respondents had accomplished such tasks. Processing of water permit applications was performed by former IDOs assigned in the area. Thus, some IDOs were able to render necessary assistance. If there was indeed assistance given according to IDOs, it was in the form of processing of the tax declaration certificate. According to the IDOs, some IAs failed to accomplish the task due to lack of: time to go to the RO, financial resources for processing and of initiative to go through the hassles of processing. According to some respondents, a certain amount should be allocated by NIA to the IAs merely for "processing of papers." This way, dependence on ICO capability to facilitate the task could be avoided.

Consequently, it has been noted too that due to the low literacy level, the lack of financial capability and the inability to process requirements of IA members such as the Tax Declaration Certificate, SEC registration and other relevant papers required for IA operation, the IDOs were forced to take the initiative to do the job of processing just to facilitate and hasten the accomplishment of the above requirements.

Except for one, all the other respondents did not personally negotiate for the Right of Way. Instead, it was either the Chairman of the Right of Way (ROW) or the IA officials who negotiated for and on behalf of the IA. An uncooperative landowner who declined to negotiate for the Right of Way, solicited the assistance of the PIE, the farmers and even the barangay officials. Notable is the insight of the same IDO respondent that the job be performed by the IA members.

Through the Membership Committee, the listing of farmer beneficiaries, recruitment and financing, and firming-up of IA members were made possible (Cablayan 1990). Data indicate that 4 out of 11 respondents facilitated recruitment of IA potential beneficiaries within a period of 1-6 months. On

the other hand, 7 IDOs were not able to perform the task. Several problems were cited by 3 respondents in the lookout for potential IA farmer-beneficiaries. For one, farmers were busy working in the farm. Hence, one had to run after the farmers. Also, farmers' residences were far from their respective farm lots. This posed difficulty in locating the whereabouts of the farmers when needed. Moreover, the farmers' reluctance to join the association was prevalent. The farmers were doubtful about the potential benefits that could be obtained from the membership. Often the farmers adopted the "wait-and-see" attitude.

Half the number of respondents shared the idea that recruitment should be done by the IDOs and the rest shared the view that recruitment should be the job of the IA officials of the Membership Committee. Respondents who indicated that recruitment was part of their work were able to simultaneously attend to some questions asked by the potential IA members. According to one respondent, "If I do not initiate ... who else will?"

Prior to the start of construction proper, the IDOs conducted a preconstruction conference. Consequently, the discussion of the MOA and the NIA policies and system for construction, work arrangements and labor system policies were all among the urgent matters specifically taken up during the conference. Likewise, a discussion of the equity generation program document which was properly signed by both NIA personnel and IA members was taken up at the conference. The submission of checklist requirements for the project construction to the RO was another. Accordingly, all IA members were present during the preconstruction conference as revealed by 5 respondents. In other areas, matters taken up in preconstruction were integrated only during the BOD meetings, implying that IA members were not around when the preconference session was held.

The last activity performed in the preconstruction phase was the final preconstruction conference. The supervising IDO conducts periodic field visits to assist the field IDOs. Members of the Regional IDD staff similarly conduct supervisory field visits and validation at the project level. The progress of the institutional and technical activities is assessed during the monthly PIO coordination meeting attended by all PIO technical and institutional staff, with the PIE presiding. The IDOs submit a monthly report of the plan and accomplishment to the PIE through the IDS. The PIO-IDS in turn accomplishes and regularly submits a consolidated institutional report to the region.

Subject to the training-needs analysis, the training conducted for the IA during the preconstruction phase included the following: a) Group Dynamics

and Leadership, b) Cost Reconciliation, and c) Financial Management System. The Group Dynamics training is one vital activity attended mostly by firmed-up members and identified leaders or the training core group. Seven out of 11 respondents who were facilitated said training was done by using different training strategies: 1) Group Dynamics was conducted for IDOs at the PIO level who in turn conducted a similar training for the IAs, 2) a training-needs analysis was conducted with IDOs acting as facilitators in group discussions, 3) meetings were called to invite members to participate in the training, and 4) the management workshop was conducted by initially informing the BOD and the IA officials about the training. The President in turn called for the general assembly meeting and disseminated the information for the proposed training projects. Upon arrival of the members, the IA members' planning activities followed.

Data revealed problems encountered by the IDOs during the course of the trainings. The problems were manifold including lack of farmers' confidence, low level of comprehension, lack of support from the PIO, delayed release of funds which consequently resulted in postponement of some training schedules, time constraints, problems on availability of transportation, poor training facilities such as lack of water supply during the whole duration of the training, and the irregular attendance of some farmers who sent proxies.

CONSTRUCTION PHASE

IA participation in system construction is facilitated and leadership and decision-making capabilities of the association are strengthened in the construction phase. Inherent in the responsibilities performed by the IDOs was the formation of the following committees: Committees on Quality and Control, Cost Control, Manpower and Inventory, and Equity Generation. Research findings underscore the need to create the committees intended to perform construction-related tasks.

Procurement of construction materials is clearly stipulated as part of the functions to be performed by 4 respondents. The specific task of procurement, according to some respondents was done by the Supply Officer of the Project who is a member of the technical staff. Assistance, however, was provided by the IDOs, especially in cases when there were no material and equipment available upon request. Should there be availability of material,

IA officials were properly informed of the proper coordination with the respective PIEs, IA officials, the Assistant PIE and the Head of the Project. Nevertheless, the length of time taken for a request to be given necessary action could not be determined because availability of materials depended on available funds and resources.

The willingness of the IA to contribute 10 percent equity in the form of labor, cash, material and Right of Way has always been emphasized during the preliminary stage of the project implementation. Data, however, reveal that only one respondent was able to generate more than 50 percent of the equity. The 3 others have generated less than 50 percent. The other IDOs were left with no choice but to await the members who could afford to contribute their equity share.

Test runs were conducted before the turnover of the system to determine defects of the facilities and structures. Survey results show that test runs were conducted mostly by the IA officials. The conduct of test runs is the area of responsibility of the engineers. Hence, the most that the IDOs could do was to observe the activity. Matters concerning facilitation of necessary papers prior to the turnover, however, were processed by the IDOs which took around 1–6 months after construction. Nevertheless, there is a need for IDOs to facilitate project turnover as revealed by most of the respondents.

Data support the perceived needs to conduct reconciliatory sessions. Total expenditures, material inventory and financial releases conducted once a month were settled especially when project expenditures had exceeded P25,000.00 or whenever 25–30 percent of the project cost had already been spent. The reconciliation session was also conducted after construction in some cases. If and when reconciliation sessions were conducted, the IA officials, particularly the IA President and the Construction Reconciliation Committees took part, with the assistance of the IDO, the PIO, and the Accounting/Costing Clerk.

OPERATION AND MAINTENANCE PHASE

The IDOs assist in the mobilization of committees, development of plans and collection of amortization payments and recordkeeping of the IA during the operation and maintenance phase and they are expected to stay in the project area for 2 cropping seasons (1 year) to ensure that the IA is able to adopt and perform effective operation and maintenance functions. Thereafter, the IDOs

periodically visit the CIS only upon request of the concerned IA for technical assistance.

One activity undertaken prior to the project turnover was the conduct of a preconference, initiated by the IA President and assisted by the IDO, which aims to assess operation and maintenance needs and problems of the concerned CIS before the project turnover. This conference provided the venue for facilitating acceptance of the final statement of chargeable costs as part of the IA loan signing of the turnover paper and the formulation and signing of the amortization schedule.

With the potential leaders identified and trained, working committees were organized to take care of operation and maintenance needs. Four out of 11 respondents have organized the following committees: Irrigation Committee, Membership and Education Committee, Financial Management Committee and Audit and Inventory Committee. These committees discussed the status of IA activities, and accomplishment/progress reports in meetings called by Committee leaders or by the IA Board of Directors or in the General Assembly meetings conducted before and after cropping seasons only.

Data show that a training on System Management was conducted by 4 out of 11 respondents in order to prepare the IAs to fully assume operation and maintenance duties. Through lectures and experimental learning processes, the IA members were taught how to prepare the cropping calendar, the water distribution scheme, farm facilities needed and plans for the improvement and maintenance of IAs. Data reveal that those IDOs who conducted the System Management training have noted that attendance of IA officials and barangay officials in the training was over 50 percent. One respondent, however, indicated that attendance in her base area was below 50 percent. Progress and development of IA activities in terms of management and operation were reflected in the periodic evaluation conducted either monthly or quarterly, or semiannually or yearly. Apart from the standard grading system used in evaluating IA performance, IDOs resorted to personal observation and inquiries to monitor IA activities. Performance Reports were submitted to the Provincial Construction Coordinator/Senior IDO and then to the personnel in the Regional Office.

Data show that records and files of the association were said to be kept by the IA Secretary. Respondents claimed the IA files were submitted to the IDOs assigned in the area. The IA members, though trained to prepare needed records and files, needed proper guidance, particularly in filling up standard forms due to their limited capabilities.

Financial matters, according to the respondents, were handled by the IA Treasurer who remitted monthly financial obligations to the PIE should there be collections. One respondent claimed remittance was channeled through the IDO assigned in the concerned area. The low collection of amortization payments as one of the deterrent factors in the successful operation of the IAs was cited by most respondents. In fact, while 9 respondents claimed that collection was assigned to the IA Treasurer/Collector, some respondents still took the initiative to collect the amortization payments due to low return of collection. Despite low collection, however, data reveal that IA officials have been performing other work assignments even without supervision from the IDOs. Nevertheless, should there be a decline in the IA activities, the IDOs talk to the officials and IA leaders who have been constantly bringing up this issue in regular General Assembly meetings.

Significantly, the pullout of IDOs in designated area assignments has led to the decline in IA activities according to 6 of the respondents. Data indicate slackening of activities due to the disintegration of membership participation, the existence of a communication gap between the IA officials, the occurrence of internal conflicts among IA members and poor recordkeeping. These phenomena were perceived to be caused by the dependence of the IA members on the IDOs. Accordingly, IA members usually lost track of their respective duties and responsibilities, a strong indication, therefore, that IA members were perceived to have not been prepared well to discharge functions traditionally performed by the IDOs. Yet the suggestion of 3 out of 11 respondents was that the IDOs should stay longer than 2 years in their designated areas to give them ample time for further training on self-reliance. A longer training period for IA members would likewise permit more time for actualization of IA duties and responsibilities, especially for those whose literacy level was relatively lower. Preference for extension of the length of service of IDOs to designated areas ranged from 6 more months to 2 more years.

While IDOs monitored IA activities after the pullout, assignments in other areas limited these IDOs to fully give ample time to follow-up operation and management of their former IAs.

According to the IDOs, their jobs entail much dedication, hard work and the patience to facilitate the needs of the IAs. In this regard, consultations have been made with persons in authority on matters of critical concern. This way, problem areas were dealt with, using the IDO "charm" and the logical ability to handle divergent issues, opinions and attitudes by the IA members, in addition to the ample support accorded by the PIO.

ADMINISTRATIVE PROBLEMS

The implementation of the Participatory Program has caused several administrative problems regarding the community organizers. These are:

- A. There is inadequate lead time for the preconstruction phase due to delay in hiring IDOs. This is caused by delay in advice from the CO especially for CIPs/CIS with new fund sources. The PIEs used to assign their existing IDOs to visit periodically such preconstruction projects but such inputs are not enough. Study findings showed that for 1989, out of 20 IDOs, 5 were fielded during preconstruction, 1 during construction and 14 during O&M. Thus, optimum participation of beneficiaries in the selection, investigation, preconstruction and post-construction phases has not been possible.
- B. There is inadequate IDO institutional input to IA on post-construction phases due to overload. This results from the limited number of manpower in the PIO. An IDO may be assigned 2 or 3 adjacent projects with at least a base which limits him/her to fully cover the work load.
- C. There is inadequate backstopping/functional supervision of IDOs in the field. This is due to the large number of IDOs in the province via-à-vis a single IDS Head and is aggravated further by inadequate supervisory skills due to lack of training on the part of the IDS Chief of the supervising IDO.
- D. Earlier, NIA hired the Irrigation Community Organizers (ICOs) on a contractual basis; later on, it changed the position title to Irrigators' Organizational Workers (IOWs) and finally to Institutional Development Officers (IDOs) on a daily basis. Problems noted are: 1) low morale on institutional personnel due to prolonged unstable employment status; 2) most IOWs/IDOs cannot accept working on Saturdays and Sundays (when farmers are usually available) as they expect to render service only on office days; and 3) there is high employee turnover. Potentially good IOWs/IDOs only consider their employment as a stepping stone to find better employment opportunities.

- E. There is a need to shift to a quality-oriented monitoring. The present monitoring scheme designated by the CO for implementation by the region is quantity/figure-oriented, downplaying the process or qualitative aspect of monitoring. Organizing and institution-building are process-oriented and, hence, figures alone may not mean quality output.

IDO OVERALL PERFORMANCE

- A. ***Length of Service.*** The majority of respondents have been working as IDOs for an average of 31 months.
- B. ***Number of Trainings.*** The majority of IDOs have undergone training only once from the period of their deployment.
- C. ***Performance Evaluation.*** The IDOs' performance evaluation was done by the PIE, the Senior IDO through reports submitted by the IDOs, which are based on the roles and functions and duties and responsibilities inherent in the job. The result of two years (1988–1989) was an average of 72.029 percent performance level out of the maximum of 100 percent. This rating implies a mere *satisfactory* level of performance.
- D. ***ISF Collection.*** Records showed that, of the ISF collection in both base and radiated areas, only 29 percent of the sample IAs paid their ISF dues. Of those who paid, only 67 percent met the 50 percent target of their ISF contribution. In base areas assigned to IDOs, the percentage of collection was a little higher. Those who paid amounted to 46 percent as against 54 percent who did not pay; 35.7 percent reached only 50 percent below their target contribution although there were around 50 percent who were able to fully pay their ISF dues.
- E. ***Amortization Payments.*** Data findings on amortization payments of IAs assigned to IDOs for the period 1988–1990 reveal that, of the total sample IAs, 61 percent did not remit any amount to NIA. Of the IAs who paid, only 45.8 percent were able to pay below 50 percent of their payment targets. In radiated areas, only 21 percent of the total number

of sample IAs paid their amortization. Of the 21 percent who paid, 69.2 percent paid their amortization below 40 percent of their target payment.

- F. *Cropping Intensity.* For the period 1988–1990, cropping intensity was relatively high in sample areas, ranging from 145 to 200 percent.

ASSOCIATION OF VARIABLES (IDO)

Variables on IDOs' training, length of service and performance were associated with the viability of the sample IAs in terms of payment of ISF, amortization fees and cropping intensity. Results of the multiple correlation test reveal that there is no significant relationship between the following IDO variables:

- Length of service and ISF collection,
- Length of service and payment of amortization,
- Length of service and cropping intensity,
- Training and ISF collection,
- Training and payment of amortization,
- Training and cropping intensity,
- Performance and ISF collection,
- Performance and payment of amortization, and
- Performance and cropping intensity.

Data results suggest that the increase or decrease of amortization payments, ISF collection and cropping intensity were not significantly associated with IDO performance, length of service or with training. In the light of these findings, to imply that the IDO has not in any way enhanced the IA members' capabilities of organizing communal enterprises is rather unfounded. Yet, to conclude that the IDOs' assistance alone makes IAs perform satisfactorily is also unfounded.

OBSERVATIONS

The 2-year tenure proposal for IDOs in one area may give them the opportunity to perform IA-related functions adequately. However, while 2 years may be optimum for doing all responsibilities as reflected in the IDOs' plan of action, unpredictable external factors may affect IA management and operations so that the 2-year period may not be enough.

The nature of IDOs' work is institutional and demands a tedious process of organizing, training, mobilizing, coordinating, facilitating and monitoring the needed activities, the subject of which constitutes farmers with relatively low literacy and socioeconomic levels and who are very sensitive to the pressures brought about by the need to survive. Thus, in order to make irrigation-related technology take root, the IDOs have to take into account water availability, natural disasters like drought and flood, scarcity of irrigation resources, and the like in addition to farmers' deep-seated attitudes, values and beliefs, which come into play during the process of organizing and managing IAs. In this regard, a 2-year frame allotted to complete IDO functions in making IAs viable can only work to a certain limit but it will not necessarily guarantee the expected outputs, such as timely payment of ISF, amortization fees and increased crop yield. Most of the IDOs were fielded during the construction and O&M phases. Thus, optimum participation and involvement of beneficiaries in the selection, preconstruction and post-construction phases have not been possible. Likewise, it could have been best had the IDOs been fully exposed to all project-development stages so that there could be enough basis for evaluating the relationships between IDO and IA performances. If the participatory approach is to be effectively implemented, there has to be more room for flexibility in terms of tenure. The limited number of months given to perform multiple sets of duties and responsibilities may demand a rigid and more structured process of organizing just "to finish what is there to finish."

On the average, the one or two trainings undergone by the IDOs could not likewise account for the IA performance (in terms of cropping intensity, payment of amortization and ISF collection) as shown by data results. Training programs specifically designed to prepare IDOs to effectively organize IAs should be continuously updated if NIA is indeed serious with its goal of providing a balance between institutional and technical work at the IA level.

While it is true that all IDOs are all college graduates, the fact remains that academically, these IDOs were not purposely trained to handle IDO

work. Thus, to be able to effect changes, much preparation has to be undertaken prior to development. The act of organizing may be advantageous to those who have the innate capability to "build people." As the process, however, begins to become more complex, many more things have to be learned. Thus, training on communication, community organizing, record-keeping, motivation and management can help a lot.

The IDOs interviewed had stated that their services (roles and functions) were needed for IA viability. Data results, however, reveal that *IDO performance is not associated with IA performance*.

Several possible causes can explain this situation:

- A. The evaluation instrument does not truly measure actual IDO field performance, so much so that IA performance cannot be reflected in the evaluation results.
- B. Inherent biases and prejudices of the IA towards NIA, IA policies and procedures, IA officials and other CIS-related matters could have affected IA performance and no amount of work experience by the IDO could counter such attitudes like indifference, lack of motivation, interest and drive.
- C. The irrigation structure is really defective so that whatever help extended by the IDO could not sufficiently bring about involvement of IA members and IA activities.
- D. IA leadership does not encourage membership participation. As such, IDO assistance in facilitating IA activities is not reinforcing enough to strengthen IA member involvement.
- E. NIA projects in the concerned areas appear to be failures and the IDO credibility to restore IA members' confidence in the project is always in question.
- F. Farmers' need for survival arising from poverty brings about an "impatience" to wait for better results as a consequence of cooperating in IA activities as facilitated by the IDOs.

- G. Farmers' level of knowledge of IA duties and functions of the CIA project is low so that no amount of encouragement from the IDOs can bring about positive results in IA performance.
- H. The occurrence of natural calamities and disasters like flood and drought discourages IA members to work towards attainment of IA project goals. In this regard, efforts of the IDOs cannot enable member-farmers to strive harder to "do better" in the next cropping seasons.
- I. Lack of support in terms of monitoring through field visits by the PIE discourages IA members to participate in activities. This way, in spite of hard work, the IDOs could not guarantee better IA performance.
- J. Needs of IAs are not given immediate attention upon request so that the IDOs' role as facilitators is taken not as support but rather as an "act of futility."

CHAPTER 4

The Irrigators' Associations: Documentation and Assessment

CIS/ASSOCIATION BACKGROUND

OF THE 1988 listing of NIA-assisted Communal Irrigation Systems (CIS) in Iloilo, totaling 42, 13 were taken as samples, 9 operational and 4 nonoperational. As of January 31, 1990, there were only 29 operational CIS with their respective IAs.

Of the 9 operational CIS, 5 were established under the Participatory Program namely: 1) Anilao, 2) Bayunan, 3) Jelicuon, 4) San Florentino, and 5) Tula-tulaan. Two were established under PD 552 namely, Marapal and Camambugan. Another 2 were established under the NIA-FSDC tie-up namely, Vista Alegre and Cabano. All the operational CIS have been rehabilitated.

For the nonoperational CIS, 1 is under the Participatory Program (Santiago) while 3 were built under the NIA-FSDC tie-up. These are Bagacay, Colini and Tumagbok. All the nonoperational CIS have not been rehabilitated.

Tables 9 and 10 indicate the irrigation infrastructures of the sample CIS. For the 13 sample CIS, not much data are available for two nonoperational CIS namely, Colini and Tumagbok CIS.

Bayunan CIS and Santiago CIS do not have diversion dams but only intake structures. San Florentino has 2 diversion dams 3 km apart.

Control and regulation structures such as checks, lateral headgates, turnouts, paddy drains and drainage culverts and conveyance structures such as siphons and crossings, flumes, drops or chutes are provided in all the sample CIS.

Regulating structures such as canal headworks are found in all the CIS except in Tumagbok CIS.

Various types of protection structures are found in the CIS such as cross drainage, tunnels, turnouts, bridges, crossing and checks.

For all the sample CIS, there are no water measurement structures built into the irrigation structures to measure flows where the required head is available.

Table 10. Irrigation physical infrastructures.

Name of CIS	Length of main canal (km)	Length of lateral canals (km)	Number of zones	Total service area (ha)*
1) Anilao	3+090	2+480	5	250
2) Jelicuon	7+900	ND	ND	99
3) Bayunan	10+143	2+666	3	220
4) Cabano	5+274	1+356	5	150
5) Camambugan	2+192	0+965	ND	76
6) San Florentino				
Dam I	1+941	1+405	3	85
Dam II	0+740		4	
7) Marapal	3+429	2+920	3	80
8) Tula-tulaan	3+360	3+197	3	110
9) Vista Alegre	3+000	ND	4	80
10) Bagacay	5+996	0+840	ND	Nonoperational (200)
11) Colini	ND	ND	ND	Nonoperational (50)
12) Santiago	1+963	1+250	ND	Nonoperational (60)
13) Tumagbok	ND	ND	ND	Nonoperational (200)

* As of 1989.

ND = Data not available.

The statuses of nonoperational CIS are as follows:

- Colini CIS has deteriorated irrigation facilities and a lack of water supply.
- Bagacay has deteriorating main and lateral canals because of the lack of maintenance due to a conflict between the Lopez Family (who did not give the right-of-way) and the IA.
- Santiago CIS has institutional problems in organization and management which have led to the deterioration of the system.
- Tumagbok CIS had a major damage in its dam due to the 1984 typhoon which has caused the deterioration of the system.

Table 10 presents the data of the main canals and laterals, the zones/sectors and service areas of these sample CIS.

EVALUATION OF THE PERFORMANCE OF SAMPLE CIS/IAs

The performance of the IAs was evaluated based on the following indicators:

- Involvement/participation of IA officers and members;
- Equitability, adequacy and timely distribution of water;
- Timely payments of irrigation service fees (ISF);
- Timely repayments of CIS amortization; and
- Cropping of serviced areas.

Involvement/Participation of IA Officers and Members

Involvement of IA officers and members was measured by the frequency of attendance in IA meetings, the number of trainings attended, and the frequency of involvements in the maintenance and repair of the CIS.

Attendance in Meetings

In the IAs under study, the types of meeting conducted are the General Assembly and the Board of Directors and Emergency meetings. During the General Assembly and BOD meetings, a number of topics such as activities to be undertaken by the IA, the problems confronting the association, reminders of payments, conflict resolution and committee reports were taken up. Election of officeholders was also conducted at the General Assembly.

The General Assembly meetings are critical for collective decision making in the IAs. Findings show that although the majority of the officials (81.7%) and members (75.4%) stated that the meetings are well attended, only 23.4 percent of the officials and 39.6 percent of the members stated they always attended the General Assembly meetings. The BOD meetings held monthly were always well attended. Notably, it is the BOD, whose members are the better educated and are relatively more economically stable, that was the more influential force in the decision making of the IA, imposing its will in the General Assembly which meets only once a year. But, sometimes as in the case of Santiago IA, members could go against the BOD in the case where IA members' family interest/work supersedes the call for General Assembly reelections and where IA members could be self-oriented and could construct brush dams within the river area affecting the functioning of the intakes.

Training Programs Attended

From 1985 to 1989, a total of 20 training programs had been conducted by NIA for IAs of constructed CIS. For the 9 CIS under study, 10 training programs were conducted. Eight IAs of operational CIS were beneficiaries of the following training programs: 3 GD, 1 BLDC, 2 SMW and 4 SMW/FMS.⁵ For the same period, no training was conducted for the 4 nonoperational CIS. A total of 390 farmers participated in these training programs which is very inadequate considering the large number of participatory farmers. The Vista Alegre CIS, although operational and has not participated in any training program is scheduled for training.

⁵ GD-Group Dynamics.

BLDC-Barangay Leadership Development Course.

SMW- Systems Management Workshop.

FMS- Finance Management System.

The majority of the respondents, 73.6 percent of the officials and 61.0 percent of the members said that there was training of officials, committee members and farmer-members. Most officials stated that they had undergone training in O&M, System Management and Financial Management.

Involvement in the Maintenance and Repair of the CIS

System maintenance is always done especially in minor repairs. This is attested to by 72 percent of the officials and 50.4 percent of the members. To maintain their systems, the majority of officials (63.4%) and members (67.7%) contributed labor. Some of the officials (16.1%) contributed both cash and labor. The 51.35 percent of the members who contributed labor, 30 percent of those who contributed cash and 33.44 percent of those who contributed in-kind got an adequate amount of water. The 90 percent of those who did not contribute anything did not get the amount of water needed.

Equitable, Adequate and Timely Distribution of Water

The equity, adequacy and timeliness in the distribution of water were measured by the percentage of IA members and officials satisfied with the services of the CIS in water distribution.

The officials (54%) and members (57.3%) thought that there was *no equitable* distribution of water. Likewise, water was *not adequately* distributed as indicated by 54.8 percent of the officials and 53.8 percent of the members. As to the *timeliness* of water distribution, the officials and members had different answers. Whereas the majority of officials (51.6%) believed that there was timely distribution of water, the majority of the members (51.7%) thought otherwise. A question thus arises: Do officials get water for their farms on time because they are officials of the IA?

From these figures, it can be deduced that, generally, most of the respondents were not satisfied with the water distribution scheme of the IA. This is because the members desire to have water in abundance, whereas rice production technology operates on the principle that if there is moisture in the soil without drying up at certain stages, this is enough to sustain the growth of rice. Different stages of rice growth require varying amounts of water. The study still awaits the NIA RO data on the amount of water in the CIS structures at certain times of the rice production stages to confirm the statements of the farmers.

Timely Payments of ISF

Timeliness of ISF payments is measured by IA members' response and proof of payments made according to duly authorized NIA rates, usually 2 cavans per hectare per harvest; this is usually converted to cash where the IAs have no *bodega* or storehouses.

The majority of the respondents claimed that they paid their ISF promptly—58.5 percent of officials and 54.8 percent of the members.

Again, those IAs which paid their CIS amortization promptly, also had the highest ISF collected for 1989, namely Vista Alegre, Marapal and Cabano. For 1988, the highest payments percentage-wise were made by Marapal, Cabano, Tula-tulaan and Vista Alegre IAs. However, of the 29 operational CIS reporting for 1989, 37 percent of the IAs were unable to reach 50 percent of their pledges.

Timely Repayments of CIS Amortization Fees

Whether CIS amortization is repaid timely is measured by the IA members' response and records of amortization payments.

The majority of officials (55.9%) and members (59.3%) claimed that they paid their amortization promptly. NIA records as of 1989, however, indicate that only 4 IAs paid their amortization promptly. These are Vista Alegre, Marapal, Tula-tulaan and Cabano. Three CIS, namely, Anilao, Jelicuon and San Florentino made only partial payments and were 3 years behind in their payment. These 3 CIS paid in a lump sum instead of paying monthly.

The 4 inactive IAs did not pay their CIS amortization.

Cropping Intensity⁶ of Serviced Areas

The cropping intensity (CI) of serviced areas was measured by discovering the trend for the 3 years (1987–1989) of the area planted (during the wet and

6 Formula used in computing cropping intensity (CI):

$$CI = \frac{\text{Wet (ha)} + \text{Dry (ha)}}{\text{Wet (ha)}} \times 100$$

(It is assumed that the entire area was cultivated during the wet season.)

dry seasons) in relation to the total wet-season area. All the operational CIS IAs had high CIS going beyond the 130 percent norm required. The highest was 200 percent and the lowest 145 percent for the 3 years (1987–1989). Again, those IAs which had high ISF collections and/or amortization payments were also high in their cropping intensities namely: Cabano (200%), Marapal (191.25%) and Vista Alegre (181.3%) for 1989 although Bayunan had also 200 percent for 1989. The majority of the members of these IAs perceived receiving the needed amount of water.

Socio-Demographic Data

Of the 236 IA members and the 93 IA officials, 162 members and 73 officials came from the operational CIS while 74 members and 20 officials came from nonoperational CIS.

The following are the sample CIS with their respective IAs/Irrigation Service Associations (ISAs).

Operational CIS

1. Anilao IA, Anilao
2. Bayunan Valey IA
San Joaquin
3. Cabano IA, Jordan
4. Camambugan (GIPA) IA, Dingle
5. Jelicuon Creek ISA, New Lucena
6. Marapal-Puyas ISA, Lemery
7. San Florentino,-Ilongbukid IA, San Rafael
8. Tula-tulaan (Tulip) IA, Dingle
9. Vista Alegre IA, Barotac Viejo

Nonoperational CIS

1. Bagacay IA
2. Colini IA
3. Santiago IA

The total study sample was virtually a homogenous group; their socio-demographic characteristics did not differ markedly. There were only quantitative differences for similar characteristics. However, the respondents from the nonoperational CIS differed from those of the operational CIS sample in their attitudes regarding their IA/CIS responsibilities and their perceptions of the way the IAs/CIS were managed.

Both study samples were predominantly male (86% coming from the operational CIS and 77% coming from the nonoperational CIS), mostly married (88% and 91.8%, respectively), and each family having 5 or more dependents. However, the nonoperational sample was comparatively an older group with more coming from the age bracket of 51 years and above. The majority of both groups comprised elementary graduates (57.7% and 62%) although there were more high school graduates among operational CIS members (21.2%) than among the nonoperational CIS members (8.2%).

A considerable percentage of operational CIS members (30.3%) had an annual income of P10,000 and above, compared to the nonoperational CIS members (59%) whose modal annual income range was P500–P5,000. Rice farming was the principal source of livelihood of both groups, although they also engaged in livestock raising and small-business enterprises as alternative sources of livelihood.

In both groups lessees of the land they tilled comprised about the same percentage (44.6% and 45%). Yet, there was a higher percentage of owners/managers among nonoperational CIS members (45.9%), than those of the same category for the operational CIS members (37.1%). The modal land area cultivated by operational CIS members was below 1 ha (29.1%), although about the same percentage (29.1%) cultivated land of 2-ha extents. Among the nonoperational CIS members, a bigger percentage (39.3%) cultivated land areas smaller than 1 ha and another 31.1 percent cultivated land areas of 1 ha. More of the nonoperational CIS members devoted their land to rice (39.3%) than the operational CIS members (33.7%). IA members from both categories enjoyed 2 crops a year (85.7% and 93.4%) while a few had 3 crops a year (4% and 1.6%). For both the operational and nonoperational CIS samples, more farms were located from 100 meters to 1 kilometer at the *head* of the CIS structures (57.3% and 40%) than *downstream* (13.1% and 12%). The least number of farms for both samples was located in areas around the midstream of the irrigation structures (6.4% and 6.9%).

The motivation for involvement of both samples in CIS work was the common concern for increased economic productivity and maintaining goodwill and harmony among the IA members. The motivation of increased economic productivity has been realized because the number of operational IA members (18.9%) reporting production between 51–100 cavans/ha during the wet season before irrigation, has now increased to 25 percent of the members, an increment of 6.1 percent. For the IA members (5.1%) reporting production of 21–50 cavans/ha before irrigation, this number has increased to 17.1 percent producing the same range of production after irrigation, an

increment of 12 percent. For the nonoperational IA members, the 42.6 percent reporting production of 21–50 cavans/ha before irrigation decreased to 9.8 percent after irrigation, while the number of those producing 51–100 cavans/ha before irrigation (11.5%) has now increased to 16.4 percent.

What has to be brought out is the fact that the absence/inadequacy of records and files of most IAs, coupled with the reluctance of some IA officials to make records available, made IA documentation work difficult. Also, data for the nonoperational CIS were not available at the PIO.

IA Organization

The IAs of the 9 operational CIS have been active since their establishment in the 1970s and they oversee a total of 1,150 ha of irrigation service area. The 4 IAs of the nonoperational CIS have become inactive.

The sample IAs reflected more or less similar structures in their organization having been guided by the NIA standard format on the Bylaws with minor modifications. For the 9 operational CIS, memberships of the IAs ranged from 35 to 76, the average being 54.

For most of the IA officials, the length of their membership in the IA has been 11 years and above, while for most IA members, the length of membership has been about the same although some have been members for a lesser period (1–6 years).

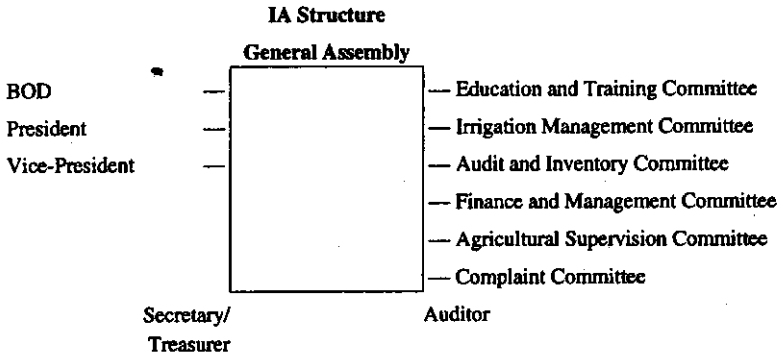
The IAs were organized with very flat structures with the Board of Directors formulating the policy and the Standing Committees implementing it.

An examination of the Bylaws of the IAs showed that, in general, the organizational setup was complex. This setup, based on Tapay's (1983) classification is intermediate between the simplest, which consists only of the BOD, the President, the Vice-President, the Secretary, the Treasurer and the water tenders and a more complex organization where system maintenance and operations are handled by a specialized group. The setup of the IAs is shown in Figure 4.

The affairs of the association are administered and its business conducted by the BOD. Some IAs have 7 and as many as 8 Directors but most have only 5. The Directors are elected by the members during their annual meeting. The term of office is usually 1 year as in Jelicuon CIS. The BOD elects from among themselves the President, the Vice-President, the Secretary and the Treasurer. In most IAs, the positions of Secretary and Treasurer are merged

into one. This is probably why recordkeeping in most IAs is not up-to-date or complete. Aside from these officials, the IAs have also an Auditor and in the case of Vista Alegre IA, a Press Relations Officer.

Figure 4. The organizational setup of the Irrigators' Associations.



The Directors do not receive any compensation but expenses incurred by them in the performance of their duties are reimbursed. There is, however, a prevailing sentiment expressed by the majority of the officials (72%) and members that compensation could be given in the form of a monthly allowance. The conditions and the process for the removal of members of the Board are alike in the IAs. Any member of the association may bring charges against a Director in writing to the Secretary, together with a petition signed by at least 5 members in good standing. The BOD convenes a special meeting to consider the removal of a Director. An affirmative vote of 2/3 of the entire membership is required to remove a Director.

The IAs have 6 committees (with the exception of Tula-tulaan IA which has 7, the 7th being the Election Committee). These committees are: Education and Training headed by the Vice-President, Finance and Development headed by the Secretary-Treasurer, Audit and Inventory with the Auditor as Chairman, the Irrigation Management headed by the Irrigation Superintendent, the Agricultural Supervision Committee headed by a Chairman and the Complaint Committee composed of a Chairman and two members elected by the General Assembly.

Some IAs have two sets of officials. For instance, the Bayunan CIS is divided into intakes—Intakes 2 and 3 (Intake 1 is not operational), each with its own set of officials. In the Cabano CIS, the farmers are grouped into Farmers' Irrigators' Groups, which are operational units of the IA.

The duties of these committees are spelled out in the Bylaws. Conditions, rights and duties of members are also listed. Membership entails payment of membership fees, irrigation service fees and other contributions. Membership fees range from P5.00 to P20.00. For irrigation fees, the Bylaws provide that every member of the association shall pay such amount per harvest season planted to rice or for crops other than rice, in accordance with the prevailing and duly authorized NIA irrigation fee rate.

Sanctions of the IA are implied in the articles of the Bylaws dealing with membership fees and dues and with termination and suspension of membership. Willful failure to pay membership and irrigation fees, dues and other contributions for two, or in some IAs, three occasions, results in suspension or termination. Destruction and obstruction of irrigation canals and ditches and other irrigation structures which prevent the conveyance of water can also bring about sanctions. Other acts subject to sanction are failure to comply with any duty and conditions of membership. For delays in payment of annual dues, a fine (as 1% in Marapal and San Rafael IAs) is imposed. The provisions in the articles, however, do not make any distinction as to which of these acts qualify for suspension or termination, except in the case of the Cabano CIS.

Most of the officials (54.8%) and members (47.0%) were not aware that sanctions existed in connection with the nonobservance of rules and regulations. Is this ignorance a result of the failure of the IA to enforce sanctions or is it because sanctions are difficult to enforce? The latter seems to be the case as indicated by 4.7 percent of the officials. Another observation is that members may not have been well-informed regarding this matter. What is notable is the rather comprehensive coverage of the Bylaws on the functions and duties of members/officials on organization and management of Systems Management and Financial Management. Structures and processes were spelled out regarding these but they lacked implementation guidelines and the follow-up of PIO officials since official supervision of IOWs/ICOs/IDOs ended after 2 cropping seasons in the CIS area.

What is notable also, is that there are sanctions for nonfulfillment/non-compliance of provisions of the Bylaws as nonattendance in meetings and nonpayment of fees. Most provisions of the sample IAs were written in English, requiring efforts on the part of the IA membership to understand them. Consequently, not many members were familiar with all the provisions of the Bylaws. Notedly, the Anilao Bylaw was revised and translated into the vernacular.

Operation and Maintenance

NIA organized the IAs to "enhance the collective involvement of farmers in irrigation development" which was needed during two distinct periods: a) planning and construction of irrigation projects, and b) operation and maintenance of completed irrigation systems (Gamboa 1990). It is during the planning and construction of irrigation projects that farmers are organized into IAs. At this stage, they are to:

- Assist the PIO technical staff in the engineering surveys necessary to obtain data for purposes of preparing engineering plans for their proposed irrigation projects;
- Assist the PIO in deciding the final plans of the project;
- Prepare all necessary documents for their project such as SEC registration, water permits, right-of-way contracts and a Memorandum of Agreement for construction and rehabilitation;
- Undertake the canvassing of the costs and technical inspections of construction materials and supplies;
- Mobilize the farmers in the construction of the irrigation facilities and structures; and
- Monitor and assess the extent of project expenses.

In the sample IAs, the majority of the respondents, both officials and members, revealed that they had no participation in these activities except to contribute labor in the construction of irrigation canals and other structures. The majority of the farmers of Marapal IA, for instance, expressed their dissatisfaction with the construction of the project. They claimed that they had no participation in the project implementation except in instances where their signatures were required to acknowledge receipt for the delivery of construction materials or when acting as witnesses in the processing of payrolls and payment of wages (ICO Report 1982). This is also true in the case of the Santiago IA. Members and barangay officials revealed that there was no participation or involvement in the preconstruction phase.

Study findings show that the engineering survey for the purpose of preparing engineering plans was conducted solely by the PIO technical staff without the assistance of the IA members according to 71.4 percent of the farmers from nonoperational CIS and 72 percent of the farmers from the operational CIS.

In like manner, IA respondents from both categories (85.7% for operational and 72.1% from nonoperational) answered that they were not involved in the preparation of documents needed for the project. This job was done by IA officials (41.1% for operational CIS and 27.9% for nonoperational CIS). This was also true with the canvassing of the costs and the technical inspection of construction materials and supplies, the job being done also by IA officials. However, the members were involved in the construction of irrigation canals and structures, as shown by the "yes" answers of 68 percent of farmers from operational CIS and 63.9 percent farmers from the nonoperational CIS.

For the operational CIS, IA officials monitored the performance of the IAs (59.4%) by personal visits (49.1%). As a result of the monitoring, meetings were called for proper action. IA officials made periodic assessments of accomplishments of targets, and wrote reports which were later read in the meetings. However, for the nonoperational CIS, the officials did not make periodic assessments of accomplishments of targets (e.g., cropping intensity, agricultural production and collection of ISF).

Leadership

Regarding this variable in IAs, questions were asked on Supervisory Goal Emphasis, Work Facilitation and on Team Building.

Findings indicate that most members gave passing marks to their Presidents on two points. Most of them (79.7%) said that the IA President encouraged members to do their best. On the second point, most of them (82.2%) also indicated that the President initiated IA activities. As to the officials, some of them (40%) said that the President did not encourage the members to do their best but other officials (39.7%) contradicted this view by indicating that the IA President encouraged members to *a large extent*. Most of the officials (44.1%) indicated that the IA President initiated IA activities to *a great extent*. The majority of the members (93.6%) said that they were allowed to air their ideas and problems.

We see many kinds of leadership in IAs. In the Anilao IA we see the leadership of the IA President and the Secretary-Treasurer, as of 1988, who were both women, resulting in a very cooperative group of IA members assisting the ICO's work of preparing the IA for participation in the rehabilitation work, effective recordkeeping, collection of ISF and in amortization payments. Records showed careful cash budgeting of IA financial resources.

In the Vista Alegre IA, excellent leadership was shown by the various Presidents aided by the Secretaries who motivated members to be actively involved in meetings characterized by 100 percent attendance, in raising IA income through innovative/alternative ways, in becoming so self-reliant that they could solve problems on their own without assistance from the ICO and in promptly paying their amortization dues and ISF. The yearly selection of a President in rotation has made the IA even more stable.

In the Cabano IA, we see a type of leadership which is committed, unselfish and dedicated to serving the IA members in the person of the latest President, who is also the landowner of the area occupied by the CIS. Although every move of the IA officials has to be cleared with the President and although he is not always in Cabano, he does not intervene in decisions made by the IA. Problems in construction are resolved by the President by his donation of used equipment and other materials to the IA. As landowner, the President dutifully pays his dues to the NIA.

In Bagacay CIS, we see the extreme opposite of the Cabano CIS leadership. Although there is a definite batch of officers of the IA, the landowners of the area in which the CIS are mostly located, exerted a de facto leadership to their advantage and even manipulated IA officers/members into following their wishes by threat or by denying them water, so much so that members/officers of the IA have become demotivated and uninvolved in the CIS/IA.

Decision Making

Decision making in the IA was studied to learn whether participation in the process,⁷ and adequacy and accuracy of information are considered in reaching decisions in routine activities and conflict resolution of the IA.

7 This refers to the involvement of the farmers through the IA in assisting the NIA staff to obtain data for engineering plans, preparing necessary documents, canvassing cost and doing technical inspections, contributing labor in the construction and monitoring and assessing the extent of project expense.

In the IAs, decision making is a participatory process; decisions are arrived at through democratic consultations. This is attested to by the majority of officials (86%) and members (80.9%). The majority of the members (61.9%) and officials (77.4%) said they were always consulted on matters relating to activities to be undertaken by the IA, such as conflict resolution and water distribution. The majority of the officials (96%) and members (71.6%) indicated that decisions suggested by members were also considered.

Although the perception of the majority of the members was that decisions are made at levels where the most adequate information is available, this view was negated by the majority of officials (53.8%). The majority of the members also indicated that in making decisions, those who would be affected were asked for their ideas, but again the majority (52.7%) of the officials did not share this view. In this context, what is to be commended is the decision-making activities of the members of the Vista Alegre General Assembly which is remarkable for its astuteness in satisfying members' needs and resolving their problems.

Communication

This variable is an essential factor for internal coordination in the IA regular and General Assembly meetings. The BOD meetings involving Board members and the officials of the associations are fora for formal communications.

The General Assembly meetings are held once a year with the exception of Vista Alegre CIS which held it twice a year, in January and October. The General Assembly meetings were usually held in January in the case of the Bayunan, Cabano and Tula-tulaan CIS. Jelicuon conducts it after the end of the second cropping.

The General Assembly meetings provide the members with information regarding procedures in O&M and plans/activities to be undertaken by the members. They also serve as feedback mechanisms by which problems internal to the association can be discussed. The flow of information from the officials to the members which is important in accomplishing task-related activities is also enhanced (Tapay 1983).

Information dissemination during this meeting are on water distribution, system repair and maintenance, conflict resolution and payment of fees. Decisions were also arrived at during the meetings. Some of the members (31.4%) and officials (33.3%) said these meetings were the venues by which

they are informed by their officials. Otherwise, there was no regular time for information dissemination. Most officials (47.3%) and members (48.7%) said information (outside of the General Assembly meeting) was disseminated only when needed. Hence, if there is a need for, for instance, of immediate repair, members are speedily informed. In spite of distance of houses in these CIS, information is transmitted to members within one day, according to most members (43.6%) and officials (59.1%). Aside from this formal means of communications, there were informal spontaneous contacts between members and officials and among members themselves. These could be in the form of consultations regarding certain matters such as the cropping calendar, water distribution, etc., or in the form of holding exploratory talks concerning conflicts.

Coordination

This variable is affected by means of formal communication through the General Assembly and other formal/informal ways. As has been stated, matters are taken up during the general meetings related to system repair, water management and conflict resolution. About 38.7 percent of the officials said they coordinated with the members on the aforementioned activities.

Although the majority of the members (63.6%) and officials (61.3%) stated that their associations coordinated with government agencies, only a small percentage of both respondents identified those agencies. The Department of Agriculture and NIA were the top agencies they coordinated with.

Conflict Management and Resolution

Conflict management and resolution are bound to occur in any organization since it is unlikely that any human group can avoid conflicts.

In the sample IAs, the majority of the officials (51.61%) and members (52.1%) said that there were conflicts regarding water rights and distribution. Most of the respondents, however, could not answer when asked about the frequency of these conflicts.

All IAs have a Complaint Committee which is responsible for taking action on a complaint or grievance by a member against another. The committee establishes procedures whereby such a complaint can be promptly investigated and acted upon. Any action of the Complaint Committee is

appealable to the Board of Directors and finally to the membership at their annual or special meeting.

How did this committee fare in the dispatch of its functions? Most of the officials (38.1%) and members (38.7%) had no answer when asked if conflicts were resolved satisfactorily although 30.1 percent of the officials and 33.1 percent of the members said that conflicts were resolved to their satisfaction. According to most of the officials (46.2%) and members (44.9%), conflicts were resolved by concerned individuals in one to two weeks' time.

What is outstanding is the case of the Bagacay CIS (Imelda IA) conflict in water distribution which has existed since the beginning between the Lopez Family and the IA members with NIA acting as an impotent arbiter between the two. The landowner, a powerful politician and economic figure in the area has exerted so much influence that the conflict has not been resolved. The conflict has favored the landowners at the expense of the IA members.

System Management

Irrigation system management involves two major activities: water allocation and distribution and system repair and maintenance.

Water Allocation and Distribution

Water allocation and distribution constitute a complex activity which demands careful planning and proper implementation. One has to deal with the question of how much water is needed in the different parts of the system. Is the water adequate for the irrigation needs of the farmers? How adequate is adequate? Furthermore, one has to contend also with the timely and equitable distribution of water, a quite delicate situation and last, it is also important to satisfy the water requirements of the crops.

The most common method of water allocation and distribution in the IAs is the rotation method. In IAs where the service is divided into zones, intakes or sectors, the farmers get water during the schedule assigned to each sector. Each IA has its own modification of this method.

Another method in water distribution was practiced in Marapal CIS. The distribution is scheduled according to the time interval agreed upon by the

farmer-beneficiaries. Farmers owning large tracts of land are given a maximum of 3 days to irrigate their farms while those with smaller farms are entitled to a minimum of 1 day. Some IAs hired a water tender to take care of the allocation and distribution of water. The compensation depended on the IA. Some were paid in-kind, i.e., *palay*, while others got cash, i.e., a percentage of the ISF collection or a fixed amount.

In Cabano CIS, water distribution was done by the water tender and the 5 sector leaders who distributed water to their respective members in the assigned sector. This was scheduled by turns. After each of the 5 sector leaders was through with the distribution, the water tender took over and distributed the water to the next sector leader and so on. For the work, the water tender is paid P500.00 a month and the sector leader P100.00/month. The sector leaders also collected the ISF and turned them over to the IA Treasurer.

In Vista Alegre CIS, where the IA President was also the water tender, they have improvised a system of signals so that everybody could know what zone was being irrigated. A pole with some kind of sack attached to it, like a flag, is set up in the area under irrigation. After completely irrigating the zone, the flag is transferred to the next until the zones are covered. Originally, there were 5 zones but the fifth zone was eliminated because water was not sufficient.

As mentioned earlier, the majority of the officials and members perceived that water was not equitably and adequately distributed. As to timely distribution of water, the officials and members had different answers. Whereas the majority of officials believed that there was timely distribution of water, the majority of the members thought otherwise.

It can be deduced that, generally, most of the respondents are not satisfied with the water distribution scheme of the IAs. This is probably because the members desire to have continuous and abundant water. The question of what is adequate could have been solved through information dissemination.

Because of this dissatisfaction, problems regarding water distribution have arisen. This is attested to by 92.5 percent of the officials and 78 percent of the members. Water stealing is the most common problem followed by jealousy among members. The farmers of the operational CIS said that they solved the problem of water stealing themselves (18.3%). On the other hand, the farmers of the nonoperational CIS said that problems regarding water distribution were not referred to the PIO (44.3%) due to poor communication (14.8%). They merely contacted the IA officials.

System Repair and Maintenance

It is a fact that after some years, irrigation structures and facilities such as irrigation pump units, canals and canal structures break down and become useless. Maintenance and repair will bring about efficient delivery of water to the farms. Thus, it is imperative that this task is to be taken seriously by the association. For major and minor repairs, NIA's assistance comes in directing the labor of the farmers.

As mentioned earlier, system maintenance was always done for operational IAs. Most of the respondents contributed labor and some contributed cash or in-kind. In the communals, maintenance was done through group work.

One activity in system maintenance is cleaning the canals of vegetation and debris brought about by floods or landslides. In Marapal CIS, the water tender was responsible for the supervision and maintenance of canal structures. He made a regular inspection to determine areas to be cleaned. He reported his findings to the IA President who in turn called for *dagyao*. This Hiligaynon term refers to an activity undertaken by group labor. The water tender then personally informed the members of the schedule and site of the *dagyao*. The call for *dagyao* was only for the maintenance of main canals. It is the responsibility of the farmer-cultivator to maintain laterals which traversed his farm. For most IAs, *dagyao* was resorted to in the maintenance of canals. In the Anilao IA, group labor for system maintenance and repair is termed *tawili*, and is of the same nature as the *dagyao*.

Cropping Calendar

Basic to planning the water allocation and distribution scheme of the system is the preparation of the cropping calendar. This is the schedule of the different farming activities within the system such as land soaking, land preparation, planting and harvesting. The cropping calendar is important because it serves as the basis for estimating the water requirement for any term of the season. The estimated water requirement is matched with the estimated water supply and if the farmers exceed the latter, the cropping calendar is revised to make the necessary adjustments.

In the sample IAs, the farmers did not seem to pay special attention to the actual preparation of the cropping calendar. What was practiced was rather an informal way where farmers verbally informed the individuals

concerned of their water needs. It was not, therefore, surprising that when the respondents were asked if they followed the cropping calendar, the majority of the officials (72%) had no answer.

However, of the sample IA members, 72.2 percent and 45.41 percent, respectively, adopted and applied farm technologies in rice production as taught/suggested by government technicians. Those who did not adopt farm technologies declared they had no training and had no inputs. However, those IA members (53%) who followed the IA-established cropping calendar were only a little more than those who did not do so (45.67%). Those who did not follow the IA cropping calendar gave lack of water and, water stealing as their reasons. Another reason given was the need to survive by making do with what was immediately feasible. Of the nonoperational CIS members, the majority did not follow the cropping calendar/pattern, giving survival/expediency as the reason.

No IA officials of either sample facilitated loans with credit institutions (73.1% and 77%) nor did they facilitate needed input supplies (fertilizer, seeds, pesticides) (80% and 83.6%). The IAs did not arrange for purchasing and selling of rice and other staples (81.1% and 88.5%) because the farmers themselves arranged for such functions (34.9% and 32.8%). The IAs did not arrange for legal assistance in case of conflict on water distribution (62.3% and 67.2%), nor did they assist members regarding agrarian reform matters (60.3% and 68.9%).

Despite the water problem and other water-related problems, cropping intensities of the sample IAs reflect farmers' able management of water scarcity.

All the operational sample CIS IAs had high cropping intensities going beyond the 130 percent norm required, the highest being 200 percent and the lowest, 145 percent for the three years (1987-1989).

Financial Management

As a result of the assistance of NIA in the construction/rehabilitation of irrigation systems, the IAs have financial obligations that have to be fulfilled periodically. The IAs have to collect payments from the members to take care of amortization and O&M expenses. To be able to perform this task, the IAs should have a financial management system. Here NIA assistance is needed to train officials and members of the IA along a simplified financial management system using the prescribed guidelines. This simplified financial man-

agement system provides procedures for classifying and recording IA income and expenses, collection of irrigation fees and other incomes, disbursement and auditing of funds, amortization of construction loans, preparation of financial statements for the IA General Assembly and the SEC, cost reconciliation on CIS constructions and cash budgeting.

Most of the officials (75.3%) and members (50.8%) said that disbursement policies were properly observed by the officials concerned. The high percentage of officials' response, vis-à-vis those of the members, is understandable considering that these are the very people who have a say in implementing disbursement policies. Thus, the failure to observe proper disbursement policies reflected not only on their capability but also on their integrity. The respondents' answer on this matter was further supported by their response to other questions. When the respondents were asked to identify the problems of their IAs, they cited lack of water and cooperation among members as their problems. There was no mention about the failure to observe disbursement policies.

Irrigation service fees (ISF) among operational farmers were paid promptly (70.3%). This was also true with their amortization fee (72.6%). They further stated that the disbursement policy in their IAs (60.6%) was observed and that their financial records were up-to-date (67.4%). They also issued service bills and service receipts promptly (84%). Farmers were unanimous in saying that the PIO should provide assistance in auditing the IA to avoid doubts/suspensions regarding the usual disbursements of money. Their IA maintained funds for the operation and maintenance activities (58.3%).

Auditing was done every year not only by the auditor of the IA but also by the NIA PIO. The PIO accounting clerk or an authorized collection representative examines the books before the submission of the financial reports to the SEC. This is based on the stipulation of the MOA that NIA may audit the books of accounts and records of the association. The majority of the officials (65.8%) and members (66.9%) in the operational CIS believed that NIA should provide assistance in auditing the IA.

Members of nonoperational CIS said they did not pay their ISF promptly and regularly (62.3%) because their irrigation systems had broken down (16.4%). They did not properly observe disbursement policies (36.1%). Their IAs did not have records and documents like cash books, disbursement books or membership books (31.1%). The documents of the IA were not completed/updated. Furthermore, the IA did not issue service bills and official receipts promptly. They also thought their PIO should provide assistance in

running the association. About 57.4 percent said that the IA did not maintain funds for operation due to poor ISF collection (26.2%).

Generally, those IAs with high cropping intensities were up-to-date in their amortization payments, namely, Marapal, Vista Alegre and Cabano IAs, and those paying partially were 1-3 years behind in their amortization payments, namely, Anilao, Camambugan, Jelicuon, and Tula-tulaan IAs. Nonfunctional IAs have not paid their amortization, namely, Bagacay, Colini Santiago and Tumagboc IAs.

As mentioned earlier, ISF are the amounts paid by farmers for NIA irrigation service within the service area. The individual collectible amounts depend on the area serviced as determined by the previous paddy survey. The rate per hectare is set by the association using as basis the funds needed for amortization, the construction costs and IA administration costs. Thus, there are targets set.

Equity generation of the IAs reflects the commitment of IA members to CIS construction and requires their payment of 10 percent of the cost of construction.

The Vista Alegre IA is exemplary in its financial management so that it has been able to pay its monthly ISF dues regularly and amortization dues in advance. The strong leadership of the various Presidents and the very active cooperation of the members have made the IA go into enterprises that augment the individual income of members as well as that of the association. The IA has accumulated money of its own which it lends to members as production loans which have to be paid in time. Otherwise, the members are charged a fine of 5 percent. Also, the *kawili* (group labor) system for the repair and maintenance of the CIS is contracted with NIA and a lump sum is given for the labor of the IA members. Expenses are deducted from the NIA funding and the balance is turned over to the association. There is an additional income that comes from the 5 percent fines imposed on farmers who do not pay their amortization dues on time, as well as the income from the National Food Authority (NFA) marketing incentives to the farmers.

Other Issues

Indigenous Methods

Overall, the majority of the respondents, both in the operational and nonoperational CIS admitted that they had no indigenous methods in relation to organization and management, system management and conflict settlement. Those few who claimed they used indigenous methods said that they made "earth" dams so that water from the creeks could not get through. Rocks and stones were used to strengthen these dams. Since most of the IA members had not used indigenous methods, they relied mainly on the suggestions and innovations introduced by NIA.

Expanded Functions

Most IAs have not assumed expanded functions for their members. As mentioned earlier, officials and members say that their IAs did not facilitate loans to members with credit institutions such as banks and cooperatives. Neither, did the IAs facilitate needed input-supplies such as fertilizer, seeds and pesticides. The officials and members stated that the IAs did not arrange for purchasing and selling of rice and other staples. However, it is a fact that there is an existing NIA-NFA agreement whereby IAs can market the members' produce with incentives given to them through NFA. Vista Alegre IA members have availed of this arrangement.

The ICOs and the IA

In general, most of the respondents in both the operational and nonoperational CIS had no idea of the role and functions of the Irrigation Community Organizer (ICO). For the nonoperational IAs, there were higher percentages of officials (70.6%) and members (72.1%) who were ignorant of this matter in comparison with the officials (59.2%) and members (28.6%) in the operational CIS. There is nothing surprising about this considering that there were no ICOs continually fielded in the nonoperational CIS. What was surprising was that most officials and members in the operational CIS did not even know about the role of the ICOs.

Although the officials in the nonoperational and the operational CIS were not fully aware of the functions of the ICOs, they still believed that the length of service of the ICOs in the project site should be extended. Also, the majority of the officials (59.2%) in the operational CIS believed that ICOs should not be pulled out. A variety of reasons were cited for this. Some of the officials (13.2%) said that the ICOs could guide the farmers and act as farming work monitors. Finally, they could facilitate the farmers' needs on matters relating to system repair and maintenance. All of these suggest a dependency of the IA on the ICOs.

It is, however, notable that in the absence of the ICOs, the majority of the officials in the operational (77.6%) and nonoperational (52.9%) CIS said that IA officials themselves performed the functions of the ICOs. Thus, if the IA officials were left to themselves, somehow the association members could always manage.

Problems of the IAs

What seemed to be the persistent problem of the IAs as perceived by most members was the lack of water. This could be borne out by the fact that most of the respondents thought that there was no adequate distribution of water. Other problems identified by some respondents were the lack of cooperation among members, conflicts among members and difficulty in fee collection. These problems were resolved by the farmers who were not always successful.

The PIO and the IA

The IA officials were made to assess the performance of the PIO in both its technical and institutional functions. Most of the officials (44.7%) in the operational CIS rated the technical performance of the PIO as "good." The officials of the nonoperational CIS, on the other hand, were divided on this matter, the percentage of those who rated the PIO's performance as "good" (35.3%) was the same as those who had no answer. Only 6.8 percent of the officials in the operational CIS and 11.8 percent of those in the nonoperational CIS rated the PIO's performance as "not good." As to the PIO's performance on institutional matters, the majority of the respondents had no answer. Only 13.2 percent of the officials in the operational CIS assessed the PIO's performance as "good" while in the nonoperational CIS, there was no

such rating. These findings show that there is, overall, a division in the perceptions of the farmers on the performance of the PIO and that there is no basis for arriving at a definite assessment based on the respondents' perceptions alone.

ASSOCIATION OF VARIABLES

The farmers' demographic variables (education, yearly income, number of respondents, number of years as IA members, area/land cultivated and distance of farms from the water source) were associated with IA management variables. The following are the significant findings (at $P < 0.1$):

Demographic Variables with IA Management Variables

- Level of education with learning from training. This means that those farmers with higher educational attainment learn more than those with lower educational attainment.
- Level of education with contribution to system maintenance. This means that the farmers with an elementary or high-school level of educational attainment contributed more to system maintenance in terms of labor than college graduates.
- Level of income with learning from training. This means that the higher the income, the more the training utilized.
- Level of income with IA Bylaws helping meet irrigation needs. This means that the provisions of the Bylaws tend to help those at the higher income levels (P5,000–10,000 and above).
- Level of income with adoption and application of farm techniques taught by government technicians. This means that those with higher incomes tend to apply farm techniques learned from technicians.

- Level of income with contribution to system maintenance. This means that the IA members belonging to higher income levels tend to contribute more in labor and not in-kind.
- Level of income with prompt amortization payments. This means that those members belonging to higher levels of income tend to pay their amortization promptly.
- Level of income with IA arranging for legal assistance to members. This means that both higher and lower income groups hold the perception that the IA does not arrange for legal assistance to members during conflicts.
- Level of income with manner by which IA members were informed. This means that those at higher income levels were informed through meetings. Information about IA activities was disseminated through house-to-house visits to those who did not indicate their income.
- Number of dependents with learning from training. This means that those who had many dependents tend to strive to learn more by means of training.
- Number of dependents with IA maintaining funds for O&M. This means that those who had many dependents perceived that IA maintains funds for O&M.
- Number of dependents with the availability of Irrigators' Organization Workers (IOWs) when needed. This means that those with many dependents said that IOWs were available when needed.
- Number of years as IA members with Bylaws helping IA meet irrigation needs. This means that those who had been members of the IA for many years believe that IA Bylaws help meet their irrigation needs.
- Number of years as IA members with participation of members in decision making. This means that those who had been members of the IA for 11 years and above participated in decision making.

- Number of years as IA members with prompt payments of ISF. This means that those who had been members of the IA for 11 years and above paid their ISF promptly.
- Number of years as IA members and following the cropping calendar. This means that those who had been members of the IA for 11 years and above did not follow the cropping calendar.
- Number of years as IA members with issuance of service bills promptly. This means that the number of years of membership in the IA did not affect the perception of members regarding their IAs' issuance of service bills promptly. Those with long and short membership hold the view that IAs issue service bills promptly.
- Number of years as IA members with IA officials making periodic assessment. This means that the number of years of membership in the IA does not affect the perception of members regarding the performance of the IA officials in making periodic assessment of IA activities.
- Areas of land cultivated with IA sanctions on nonobservance of rules. This means that there is no significant difference in the perception to IA members who cultivate land of relatively large and small areas in connection with the sanctions applied by the IAs.
- Areas of land with getting the amount of water needed. This means that those who had smaller land areas under land cultivation got the amount of water needed while those who had areas of one hectare and above said they did not get as much as the amount of water needed.
- Areas of land cultivated with the manner of informing members. This means that when the area cultivated by members is larger, information is disseminated through meetings.
- Distance of farms from the water source with contribution to system maintenance. This means that the distance of the farms from the water source does not affect the contribution of members to system maintenance in terms of labor.

Farmers' Demographic Variables in Conflict Management

- Income with steps taken to resolve conflicts. This means that those with higher and lower incomes tend to take the same steps in resolving conflicts by talking to concerned officials and reporting to IA officials.
- Income with length of time to resolve conflict, significant. This means that more of those with low income (P500 and below) said it took less time to resolve conflicts (1–2 weeks).

IA Organization Variables with Farmers' Performance

- Meetings well attended with decisions suggested by members carried out. This means that the majority of those who attended the meetings, tended to have their decisions carried out.
- Meetings well attended with IA sanctions on rule on nonobservance. This means that attendance in meetings made members aware of sanctions.
- Meetings well attended with frequency of system maintenance. This means that the attendance in meetings resulted in frequent system maintenance work.
- Payment of irrigation fees promptly with training of officers and members. This means that training participation of members resulted in payment of irrigation fees promptly.
- Payment of ISF promptly with equitable distribution of water. This means that if there is equitable distribution of water, payment of ISF is made on time.

Observations

Based on the indicators, the overall performance of the IAs was not very satisfactory. Despite the respondents' claims that meetings were well attended, actual attendance was low. Only a small number of beneficiaries participated in training programs. There were also few training programs conducted by NIA.

The water distribution scheme of the IAs was also not satisfactory as IA officials and members of both operational and nonoperational CIS perceived no adequate amount of water distribution. ISF and amortization were not *fully* paid with the exception of some CIS.

Only in the cropping intensity did some IAs score high rates. Overall, the operational CIS had cropping intensities going beyond the 130 percent norm required. Generally, for the samples, these IAs which had high cropping intensities, also paid their amortization and irrigation service fees promptly and adequately. These are Cabano, Marapal, Tula-tulaan and Vista Alegre. The majority of the members of these 4 IAs perceived that they got the amount of water they needed. On the other hand, the majority of the members of the other sample IAs which had operational CIS namely Bayunan, Jelicuon, Anilao and San Florentino declared that they did not get enough water and had no good record on amortization and ISF payments. The IA members of the nonoperational CIS namely Colini, Bagacay and Santiago declared they did not get adequate water although Tumagboc IA members perceived otherwise. The study has not discovered the reason for this.

The organizational setup of the IAs need not be changed. The affairs of the IAs could be administered and managed by the existing number of officials and committees. As it is, the most active officials are the President and the Secretary-Treasurer. There is also no need to amend the Bylaws. The provisions cover practically almost all aspects of the association's existence. Rights, duties and functions of members, officials and committees are clearly defined. There are enough sanctions; only, these are not enforced. What is needed then is to develop an awareness of the members of the provisions so that they could perform their duties and responsibilities and at the same time abide with the rules of the IAs.

The motivation for the IA officials and IA members on their participation and involvement in the IAs was their concern for economic productivity and maintaining goodwill and harmony among members. These goals have been generally realized by many members. The other members have still to realize these.

There are certain areas where, generally, the IAs performed satisfactorily. System maintenance was always done by members who contributed labor. Records are up-to-date in most operational CIS; service bills are issued promptly. IA officials are goal-oriented and they work in team-building; decision making as a participatory process is a reality. These positive accomplishments should be encouraged and reinforced by NIA.

As expected, the operational CIS performed better than the nonoperational CIS. Generally, the difference, however is not qualitative but rather quantitative. Most of the responses of the respondents in the nonoperational CIS to questions raised did not differ much from those of the operational CIS. It is only that there were lesser respondents in the nonoperational CIS who answered the same questions that the number of respondents in the operational CIS did. If these nonoperational CIS are rehabilitated, the IAs would become active again, but for how long and in what manner have to be speculated upon.

CHAPTER 5

Summary and Recommendations

SUMMARY AND RECOMMENDATIONS FOR THE PIO

OVERALL, DURING THE last five years (1985–1989), the Iloilo PIO increased its scope of operations and services. In 1985, it serviced 1,691 farmers covered by 26 CIS with a benefited area of 2,378 ha. By 1989, the number of farmers served increased to 2,269 covered by 29 CIS with a total benefited area of 2,707 ha. All these mean an increase of 33.88 percent in the number of farmers served, an increase of 11.53 percent in the number of operational CIS and an increase of 13.83 percent in the hectarage of area benefited. During the entire period, the Iloilo PIO received a total CO subsidy of P19,272,844.00.

We see in the Iloilo PIO, a line unit of a large government irrigation agency, with a participatory ideology in its service delivery adopted almost a decade ago. Yet, the streamlining of PIO organizational structures and processes to accommodate the ideology has not been totally effected during the same period.

The Central Office, despite its reorganization in 1983, has continued to undertake coordination, monitoring and supervision of field activities instead of being supportive. Its present structure in its 3 levels of management is such that for major activities like planning and funding, little or no action can be taken in the field without prior approval from the CO.

Concern over the extent of authority distributed among the levels from top to middle to supervisory becomes meaningful when we realize that on the decentralization mandated in 1983, the decentralization of authority and function occurred only partially. A lot of responsibility now resides in the field, but field officers have still little commensurate autonomy to act. For instance, although the PIOs carry the bulk of work in project identification,

investigation, system designing, construction, operations and maintenance of the CIS, they are supervised by the Regional Irrigation Managers (RIMs) who initially review and approve the previous program of work, including the plans and sub-project designs for CIS prepared by the PIO.

Regional Offices (ROs) also furnish mechanical engineering assistance to prepare designs for studies which are beyond the technical capabilities of the Provincial Engineers. The RIMs also maintain equipment pools from which the provinces can draw from when there is need. They also coordinate the organization and development of Irrigators' Associations (IAs), monitor and evaluate O&M of CIS and irrigation pumps, and direct and coordinate administrative and financial activities of the provinces. For almost every major undertaking of the PIO, whether technical or institutional, there is a need for clearance from the ROs. The PIO's decisions are mostly recommendatory in planning of the CIS program and projects, although reconnaissance survey investigation, data gathering, field verification and technical assistance to recipients are done on the PIO initiative. In this case, it is perceived that when certain powers/functions are considered central to the organization, rightly or wrongly, the power/functions will continue to be practiced by the incumbent power-holder despite attempts to decentralize.

There are enough policies, procedures and job descriptions in the management of the CIS program. What is inadequate is the manner of their implementation. Procedures, guidelines and forms, however, have to be frequently assessed in the face of the dynamic environment of the CIS, and the existing structures and processes have to be reviewed or modified to help intensify the implementation of the participatory approach.

Because of technical engineering requirements, monitoring/controlling field performance in construction, maintenance and rehabilitation of CIS against standards and consequent correction of deviation are ideal. Thus, new and updated guidelines on the Communal Irrigation Development Program Implementation (May 1988) provides the technical and socio-institutional guidelines on the planning, implementing, monitoring and evaluating of the Communal Irrigation Systems. These guidelines are further reinforced by CO/RO Circulars, Memoranda, and Forms supportive of these guidelines. However, despite careful planning, once implementation begins, precise control is difficult from Project Identification, Feasibility Studies, Detailed Engineering to Project Implementation. Problems in design, design area, trained personnel, engineering, equipment, fund releases, right-of-way acquisition, clientele participation and administrative delays do crop up and affect performance of the Iloilo PIO.

In the face of this, the Iloilo PIO's structures and processes have not adversely affected, to a great extent, its service delivery, which is still a mix of the technical and institutional aspects, with the technical aspects predominating. This has a great impact on the implementation of the participatory program. Perceptions of both RO and PIO personnel reveal their differing stands on the extent of involvement of the NIA and the farmers in the participatory program.

The PIO is more inclined than the RO towards the greater involvement of farmers in the designing, construction, maintenance and repair of their small irrigation systems. Another indicator of this situation is the very late operationalization (only on June 1990) of the Irrigators' Development Section in the PIO which follows up the O&M and water distribution needs of the IAs.

The present structure facilitates communication and decision making on delegated concerns to a great extent. However, there is no systematized MIS for planning and operations. Monitoring and evaluation structures/processes have not been efficient. This has affected agency people who make decisions since they do not have the most adequate information in either technical or institutional aspects in planning and operations of CIS. Most importantly, the use of information coming from farmers on the locale, indigenous technology, and irrigators' beliefs and attitudes have not been maximized.

The PIO leadership, however, has done, to a great extent, the facilitation of the work and the solving of job-related problems of the personnel, and has gone into team-building. These are proven by means of various strategies and training as well as by measures taken to solve problems cited by the respondents. Likewise, this leadership performance has been aided by structures like division of functions, placement of authorities, lines of control and bottom-up communication which were highly rated by personnel. The formalization index and horizontal coordination (personnel mode) were not so highly rated, however. For procedures, role functions, participation, routinization, attitudes towards the job, levels of specializations and motivation, these have been positively rated by respondents. PIO personnel, however, were concerned about the great extent of RO vertical coordination on CIS planning and implementation.

Manpower though highly qualified is inadequate at the office level and more so at the field level. Their perceptions are of their low salaries and infrequent upgrading, especially of the field personnel. Yet they have indicated positive attitudes towards the job and motivation.

The present personnel deployment in the Iloilo PIO reflects that, of the 27 personnel vacancies in the plantilla, only 21 have been filled. Three IT vacancies and 1 mechanic vacancy have not been filled. There is a need for more IT vacancies, since these personnel take over the work of ICOs who radiate to other potential CIS systems. What is notable is that there are 12 employees classified as utility workers, who have engineering degrees, working on a daily basis, doing technical tasks in the projects.

Findings show that for 1989 out of 20 IDOs, 5 were fielded during preconstruction, 1 during construction and 14 during O&M. Thus, optimum participation of beneficiaries in the selection, investigation, preconstruction, construction and post-construction phases with the guidance of the IDOs has not been possible.

There is inadequate backstopping/functional supervision of IDOs in the field. This is due to the large number of IDOs in the province vis-à-vis a single IDS Head and is aggravated further by inadequate supervisory skills due to lack of training on the part of the IDS Chief or Supervising IDO.

The financial management of the Iloilo PIO has also to be greatly improved. For the 5 years (1985–1989) it has heavily relied on the Central Office, since its generated income has been, on the average, only 15.84 percent of its annual sub-allotment. Its low collection efficiency stems from its inability to enforce sanctions when amortization and pump installments are not paid adequately and on time. Also, special motivation techniques have to be used to encourage farmers to repay their loans. Using COA figures, the average ratio of Iloilo PIO expenditures for the 5 years (1985–1989) to its income was 117.42 percent. Iloilo PIO operations have not been very viable for the 5 years. This has implications on the operational efficiency of project implementation.

The management information system at the provincial level in relation to gathering, recording and transmitting data for program planning, implementation and monitoring is inadequate. This is manifested by delayed, repetitive, unorganized and overlapping data. This is due to the lack of facilities and personnel adequately trained for this task as well as due to inadequate coordination/supervision of the RO. Periodic reporting and monitoring of project status in technical, institutional and financial terms are not as desired. Despite the Management Information Systems (MIS) at the RO, provincial data are not updated. Also, the present monitoring scheme is quantity-oriented, thus downplaying the qualitative aspects of organizing and institution building.

For the same 5-year period, only 20 training programs have been conducted for the barangay leadership course, system management, financial management and group dynamics. As of 1989, out of a total of 2,264 members of the operational IAs, only 390 members have undergone training. What is to be noted is that most training programs were conducted during and after construction of the system, which did not give farmers the opportunity, the knowledge and the skills to get involved early enough in the whole process of collective system construction and management.

Planning at the PIO level must also be streamlined, made efficient and be data-based, using clientele inputs, when necessary.

Some engineering and other technical equipments used in the preliminary work and actual construction work are inadequate and some obsolete; and so are some office equipment.

Structure Recommendations

Further Decentralization

If the Provincial Irrigation Office must truly become the lead unit in the overall coordination and implementation of the CIS, carrying the burden of responsibility from the organization of Irrigators' Association to project identification, investigation, technical planning, preparation, construction and operation and maintenance, then the present overall structure of the agency must be further decentralized to cut the need for clearance and detailed reporting to the CO. The RO can take over the functions carried out by the CO, especially in overall planning and fund allocation, for the region to make for realistic and simpler program planning speedily. This means both the RO and the PIO could be restructured and readied to facilitate this change.

Likewise, the provisions of Memorandum Circular No.09 series of 1986 regarding the integration of the NIA's institutional development program under the proper structure at the national, regional and provincial levels should be further followed up and the corresponding mechanisms and procedures strictly implemented.

PIO Reorganization

The restructuring and strengthening of the PIO must be completed with the filling up of 9 new items consisting of the Principal Engineer B, Engineer A, Equipment Inspector, Heavy Equipment Operator/Mechanic, Driver, Administrative Assistant B, Senior Clerk B, Agricultural Engineer A, and Irrigation Organization Officer. These personnel will contribute to the work of expanding the Irrigation Program of the Province as well as strengthening the O&M and Crop Production of the IAs.

Process Recommendations

Financial Management

To improve the viability of the Iloilo PIO, the following measures can be considered. Resource-generation activities for farmers like agri-business enterprises and home industries of farmers, with NIA lending capital to IAs, established as cooperatives, will increase the farmers' income and ultimately help improve collection efficiency of the PIO.

Collection strategies for amortization repayments/rewards that offer incentives to NIA collectors and IA members as well as threats/sanctions vitally affecting the farmers' welfare, such as legal suits to make them pay, must be implemented.

Repayment period must be shortened by accelerating repayment rates. Computations should be made on the optimum period of time for repayments to improve viability of the CIS program. The repayments of the amortization of IAs are staggered for 50 years and unless well attended to, depreciation of the irrigation structures is also of least utility to farmers, so as to make them lose initiative to continue payments. NIA also suffers the financial effects of annual deferred payments (cf. ADB Interim Report 1990).

Nonworking assets of PIO must be sold. The office space of the Iloilo PIO is more than sufficient for the present; the first floor can be rented out.

There must be further decentralization of accounting functions. The financial documents for financial recordkeeping should be transferred completely to the PIO and personnel should be trained to do more complex accounting work. Accounting manuals must be prepared for the use of the field office (cf. ADB Interim Report 1990).

Increase of the Iloilo PIO MOOE funds will enable the office to acquire more and modern technical equipment for field project needs.

Personnel Management

The most crucial personnel linking NIA and the farmers are the IDOs who do not have security of tenure due to lack of personnel items. Permanent items must be secured and further upgraded if they are to be adequately provided for and well motivated.

The administrative and project field personnel who have the qualifications for the job and who are on a daily or contractual basis, who have been in their jobs for years and who have performed well should be regularized. Budget items should be secured for them if only to raise employee morale.

Promotions of PIO personnel should be made more often as necessary and funds must be allocated for this purpose. Upgrading of personnel should be continuously made.

Intensive trainings on Participatory Program Management and supervision should be regularly held for the Regional Irrigation Development Division personnel to be effective at higher levels, while the IDS Chief as well as his subordinates and the PIE and all the engineering section members should also be oriented to participatory institutional development. IDOs should undergo additional training for organization and management for IAs in their maintenance of CIS. These personnel should be trained simultaneously and interact during the training programs.

Information Management

Data/information on the CIS program must be acquired, processed and transmitted to help the PIO make effective decisions to be used at the project level or be passed on to the RO to measure, in an integrated manner, the progress/deficiencies of project implementation. These need sufficient and accurate well-managed and well-integrated data to be handled by trained data analysts and assisted by adequate facilities, especially a computer for speeding up preparation and integration of reports. This can help in the setting up of a MIS terminal at the Iloilo PIO level to link up with the RO.

SUMMARY AND RECOMMENDATIONS FOR IRRIGATORS' ASSOCIATIONS

The increase in the number of CIS during the period 1985–1989 also increased the number of IAs from 25 in 1985 to 29 in 1989. Nine of the 29 operational CIS and their IAs and 4 nonoperational CIS IAs were taken as samples. CIS amortization efficiency of the IAs increased from 26 percent in 1985 to 77.35 percent in 1989.

Farmers' level of income is positively associated with learning from IA training, adoption and application of farm techniques taught, with contribution to system maintenance and with prompt payment of amortization fees.

Farmers' area of land cultivated is directly associated with the amount of water received. Farmers with small areas of land got enough water for the land than those with larger areas of land.

Despite problems in water distribution, there was a comparatively notable increase in rice production *after* irrigation than *before* irrigation. Farm technologies in rice production used by 72.2 percent of the farmers might account for the increase.

Overall, the operational IAs had cropping intensities going beyond the 130 percent norm required. Generally, for the sample, these IAs which had high cropping intensities, also paid their amortization fees and irrigation service fees promptly and adequately. These are Cabano, Marapal, Tula-tulaan and Vista Alegre CIS. The majority of the members of these 4 IAs perceived they got the amount of water they needed. On the other hand, the majority of members of the other sample IAs which had operational CIS namely Bayunan, Jelicuon, Anilao, San Florentino declared they did not get enough water they needed except Camambugan IA members, who declared getting enough but had no good record on amortization payments and ISF payments. On the other hand, the IA members of the nonoperational CIS, namely, Colini, Bagacay, Santiago declared they did not get adequate water, although Tumagboc IA members perceived otherwise. The study has not discovered the reason for this.

In contrast to the members, IA officials of both operational and nonoperational CIS perceived no adequate amount of water distribution.

Study findings show that for many IA members there was not much substantive involvement in the institutional work and technical support to PIO during the various stages for their CIS planning, preconstruction and maintenance due to little motivation. The PIO staff itself, by force of habit

and inclination, may have asserted their expertise and authority forgetting or neglecting the participatory approach. Also, the IA officials and the IDOs may have preempted them of this involvement. The farmers' substantive involvement was in the construction work only.

The pullout of the IDOs from their designed area assignments leads to the decline of IA activities in terms of disintegration of members' participation, rise of communication gaps between the IA officials and members, occurrence of internal conflicts and cessation of recordkeeping.

In the face of all these, what seems to be the major problem of almost all of the IAs is the inadequate, inequitable and untimely distribution of water. This may be one of the complex of factors leading to low ISF payments, low rate of IA amortization payments and conflicts on water rights and distribution. In the absence of hydrological and other related empirical data, which are still forthcoming from the NIA RO, this observation is based on the respondents' perceptions. Nevertheless, this finding, if confirmed, becomes a fundamental issue to be tackled by NIA since this is one valid indicator of "irrigation performance." This implies the quality of performance of the PIO personnel, the IDOs, the IA officials and members at the institutional level.

RECOMMENDATIONS FOR IA STRUCTURES, PROCESSES AND VALUES

Strengthening/Integrating Institutional and Technical Work

The technical and institutional work in the project identification and investigation, preconstruction, construction and O&M phases of the CIS projects should be streamlined and strengthened. More concern should be given to the integration of the technical process of investigation, survey, planning, design, construction, and organization and management, with the processes of organizing and mobilization of farmers and IA training. Farmers must be made to participate more actively in the integration. Project engineers should be oriented to organizational managerial work in the participatory context.

Preparation of Manuals

Since the preparation of the guidelines/manuals/ rules and regulations for technical and institutional work were premised on the separate discharge of these functions, there should now be prepared an updated set of guidelines/manuals on the integrated approach (technical with institutional) to CIS project planning/motivation/monitoring and evaluation since what NIA has prepared on the Participatory Irrigation Projects has not given evidence of successful integrated work.

Training on Values/Attitudes/Expertise

Seminars/training programs/workshops on participatory values/attitudes on the part of the farmers should be held. More intensive trainings on organization and management and conflict resolution should be held. Seminars/training programs/workshops for IDOs on more effective CO and values-orientation should also be held. The impact of these training programs on farmers and IDOs should be made after a reasonable period of time, for instance, 3 to 5 years after IA formation.

IDOs' Project Residence/Length of Stay

To be more effective and to be a constant guide to IA farmers, IDOs should be mandated to reside in the project area and the length of stay should be increased from 1 to 3 years (6 cropping seasons) to stabilize the operations of the IA and to provide guidance to members on O&M/SM/FM work. IDOs should be motivated to increase their visits to the project site if they are residing elsewhere.

Enforcement of IA Bylaws

Many of the IA problems arise from the laxity regarding the enforcement of IA Bylaws. This is to be expected knowing the Filipino values of solidarity and equivalence. Hence, sanctions on violations of Bylaws should be made to work. This can be done through training of officers and members on the

need to enforce IA Bylaws especially on attendance, payment of ISF and amortization.

Income Generation/Augmentation

The problem of inadequate/delayed payments on ISF and amortization can be solved if IA members are helped in generating and increasing their regular incomes from rice production and helping them into agri-business ventures. NIA can lend capital to IAs, established as cooperatives.

CONCLUDING NOTE

The study has documented in quantitative and qualitative terms its objectives of assessing the nature and extent of the Iloilo Provincial Irrigation Offices' services to the NIA-assisted communal irrigation clientele, both the formal Irrigators' Associations and the individual members.

The study has proceeded on the assumption that the critical factor in the management of the implementation of the participatory irrigation program is the provincial line units whose personnel carry out the program's objectives, formulated from the center, to the project level. These personnel have to work under the existing policies, structures and processes and they have to manage with the given available material resources. These factors condition the quality of the delivery of irrigation services to the clientele—individuals and organizations—who in turn respond to the service in terms of their own motivations, capabilities and limitations and, who, in fact, have assessed irrigation performance as wanting in meeting their needs.

We see in the Iloilo PIO staff and line units, including the community organizers, except for an insignificant few, well-qualified irrigation personnel with academic degrees and training. Despite their perceptions of low salaries, infrequent upgrading, managerial deficiencies, as well as clientele importuning, they are positively motivated and have affirmed their commitment to their work by staying on with the agency. Yet the odds appear great for these agency personnel. For, at the other end are their clientele who are the rural rice farmers, mostly with minimal materials resources and low education with the traditional values of dependency and passivity and who

are very dependent on the functioning of the irrigation structures for their livelihood. And yet, in most cases, these farmers believe that irrigation service should be free since it is a government function and they expect the best of service from the agency without their being involved as active partners of the irrigation program.

Furthermore, the centralized structures for the decision making, communication, coordination and financial management of the entire system affect the timing and adequacy of service delivery. Close supervision and control from the top hamper line functioning.

In this context, one of the issues raised in this study, which is to determine the optimum mix of government (NIA) and clientele participation in the Participatory Program has become difficult to ascertain. The trend discernible is that the technical aspect of irrigation management is still in the government domain while in the institutional work assigned to the farmers and their associations, the record is not very encouraging. The farmers have still to mature in the discharge of their participatory role in the irrigation enterprise against the backdrop of cultural values and their poverty which have stifled the emergence of their creativity and the need for their fulfillment as human beings.

The 1980s ushered NIA's transformation from the technical to the institutional perspective in its service-delivery ideology, from construction of infrastructure to "building of people" in its actual functioning. But there are still loopholes in the agency's performance. The next transformation needed would be a managerial change, that is for the provincial line units to be granted more autonomy and control over their own activities in the implementation of projects.

Until such time that the whole irrigation agency, especially the PIOs, is modified in their structures, processes and policies for engendering full participation of the farmers and their associations according to the latter's capabilities and limitations, the optimum roles of NIA and the Irrigators' Associations and the nature of their partnership cannot be determined at this point. We might hazard the idea that NIA is preempting the farmers' genius and talents for water generation and distribution. This simply means that it is the members of this clientele who determine the extent of their own participation in the organization and management of their CIS. Not that this should be imposed by the government, but that the government should manage the program by substantively readying the clientele for their responsibilities.

This will mean that NIA should train its personnel more adequately in providing the clientele with improved technical support/advice and commensurate financial resources, most especially the communal beneficiaries who appear to have been neglected in favor of the beneficiaries of the national systems.

Also, what is obvious is that the deficiencies in the communal irrigation project performance are partly due to the poor water distribution among CIS beneficiaries. Thus, new procedures and institutional arrangements for farmers' participation/representation in strategic decision making and other consequent organizational/managerial approaches should be formulated, tested and utilized by Irrigators' Associations; and for the technical dimension, there should be efficient infrastructure maintenance and crop water requirements on the bases of which new water distribution methods and alternative cropping patterns should be formulated, tested and utilized by farmer-members.

Many farmers and associations have yet to be sufficiently motivated to be able to contribute in improving water management instead of passively waiting for NIA initiatives. This has been amply demonstrated by farmers belonging to successful IAs. It appears that the economic rewards and effective IA leadership are good motivators.

Also, unless levels of water distribution are sooner improved by NIA, it cannot hope to increase its collection performance and if rice production continues to be irrigation-dependent and is the farmers' sole source of livelihood, NIA must ultimately consider its involvement in helping farmers engage in alternative livelihood activities if only to make its main function of irrigation-service delivery a viable enterprise. NIA cannot be passively awaiting dues and payments from IAs knowing their level of financial capability. The irrigation function will have to be made a total systems function—not merely water generation and distribution, but also income-generation and redistribution. This should be addressed by NIA with the utmost urgency.

The study findings support the need for organizational structures and processes that will enhance the participative aspect of irrigation service delivery. Hence, it follows that highly capable provincial managers must be selected and be given more powers, responsibilities and resources to direct and coordinate, in the framework of a decentralized structure, to efficiently and effectively harness manpower and resources of the agency as well as of the local irrigation area. This implies that the performance of the PIO can only be as good as the level of the technical and managerial skills of the

farmers and in their commitment to work side by side with the agency. To this end, the NIA organizational restructuring which has already started must be accelerated now. Finally, and to reiterate, much more needs to be done if the participatory program is to truly succeed. At the risk of destroying indigenous irrigation management capacity and of making the program counterproductive, not only must organizational and behavioral changes in NIA and the IAs be fully implemented, but the corresponding change in the wider agro-ecosystem of irrigation must also take place. This must consider the farmers' full participation as central to the program.

There must be another beginning for the farmers and the irrigation agency.

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