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Management Turnover of a Pump Irrigation System in the Philippines: The Farmers' way

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IIMI

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Abstract

THE NATIONAL IRRIGATION Administration (NIA) of the Philippines has continuously piloted and implemented several approaches of organizing farmers to undertake management responsibilities in the operation and maintenance of irrigation systems. In 1983, NIA piloted a new approach which, instead of following the earlier practice of employing professional community organizers who were college graduates, involved the employment of farmers in organizing co-farmers into Irrigators' Associations. The Farmer Irrigators' Organizing Project (FIOP) was piloted in the Angat-Maasim Rivers Irrigation System, which is one of the oldest and largest irrigation systems administered by NIA. The system serves an area of 31,485 hectares and is located approximately 53 km north of Manila.

The implementation of FIOP in a Pump Irrigation System of the Angat-Maasim Rivers Irrigation System yielded several positive results, employing selected and well-trained farmers in organizing co-farmers. The activities of FIOP resulted in active Irrigators' Associations at field and distributary levels, and reduced O&M costs, enabled higher fee collection rates, and made water distribution more equitable. Compared to previous approaches with professional organizers, this new approach showed that organizing activities can be shortened, made less expensive and be very effective. The encouraging results of the pilot implementation of FIOP led to its nationwide implementation in all National Irrigation Systems being operated by NIA. This case study shows that rehabilitation and institutional development must go together. Also, the personal manner of sociality, character, camaraderie and cooperative decision making of the implementors played an important role in the success of the implementation of the Farmer Irrigators' Organizing Project.

Acknowledgements

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Dr. Vermillion patiently corrected the drafts of this report and from him, I learned the proper sequences, arrangement, the art of clarity and simplicity in writing a report. My very special thanks go to Ms. Muriet Stanislaus who tirelessly typed and retyped my handwritten drafts with a smile. Endless thanks go to Mr. C. Abernethy, Dr. Zenete Peixoto Franca, Dr. Alfredo Valera, Dr. S. Miranda and Mr. H. A. Karunasena for giving me the encouragement and opportunity to attend the 1990 IIMI Internal Program Review and present a summary of this paper there. Also I appreciate having attended the International Workshop on Rice-Based Farming Systems and being able to visit the wonderful places in Sri Lanka. I also wish to thank Mr. C. Nijman and Mr. Adriza for keeping me company in those games of chess and in cigarette puffing and to all the IIMI staff, including the drivers, for my unforgettable stay at IIMI.

Back home, allow me to express my sincerest thanks to NIA Administrator J. B. del Rosario Jr., Assistant Administrator J.A. Galvez, and Regional Director Tiburcio C. Layug Jr. for recommending and allowing me to participate in the IIMI Special Awards Program on official time. The FIOP approach was heavily influenced by Engr. B. Bagadion, Project Consultant. I thank to Ted Ejera, the late Regional Director; F. L. Gendrano, the late Project Officer, and S. Santiago for providing total support in project implementation. Special thanks are due to Mr. A. Mejia, E. Payawal, F. Montano, A. Lazaro, Ms. E Santiago, Ms. E. Flestado, S. Salandanan, A.

Mendoza, all of the staff of the Central and Regional offices of the Institutional Development Department/Division who contributed greatly to the FIOP. All AMRIS personnel, the BUSPAN IA officers and members, all Farmer Irrigator Organizers (FIOs) and all the farmers that joined together to form their respective associations, please accept my warmest appreciation for all the support you have given me and to irrigation development in the Philippines. And I extend thanks to all persons who contributed in one way or another in the FIOP implementation. And above them all my special gratitude to the Almighty who gave me enough courage and guidance in the implementation of the Farmer Irrigators' Organizing Project.

Lastly to my beloved wife, Fely, and our children (Randy, Ricky and Faye), an everlasting thanks and admiration for their unlimited support and inspiration.

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Foreword

IN 1990, MR. Leonardo S. Gonzales was selected as an awardee under the Special Awards Training Program of the International Irrigation Management Institute (IIMI). The purposes of this program are to provide an opportunity for innovative irrigation management professionals to broaden their management perspectives through interaction with IIMI staff and IIMI's programs and to document and share knowledge about innovative developments in irrigation management which will be of interest internationally. Awardees are generally mid-career professionals having current or recent direct experience with innovative development in irrigation management.

Mr. Gonzales certainly fulfilled these criteria and demonstrated the value and importance of providing a voice for practitioners to directly and personally describe their own experience with irrigation management. This personal perspective provides an insight beyond what more conventional research generally produces. In this report one gets a sense of what the experience was like for the manager.

The topic of irrigation management turnover is important and has widespread interest wherever there is irrigated agriculture. Since the mid-1980s there has been a wave of interest in trying to transfer the responsibility and authority to manage irrigation systems from government agencies to local irrigators' organizations. This is a complex challenge which generally involves the need for strategic planning, diplomatic negotiation with various stakeholders, pilot-testing and action-research, the creation of new local institutions, and the reorientation of old ones.

Mr. Gonzales provides us with a personal account of one strategy which was used in the Philippines for transferring management to irrigators. Besides documenting the process used and results obtained, Mr. Gonzales

shows that the challenge of irrigation management is both an art and a science.

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CHAPTER 1

Introduction

FARMER PARTICIPATION IN the operation and maintenance (O&M) of irrigation systems can be an effective approach and solution to the problem of management of irrigation systems. Past and present experiences have shown that without farmers' participation, operating and maintaining an irrigation system is a continuous headache for persons or agencies that manage it.

Often, many of the problems in irrigation systems such as inequity in water distribution and destruction of irrigation facilities are created by the farmers themselves. The notion of many farmers that the government will or should always take care of everything is a common misconception. In the past, farmers and even agencies running the irrigation system never realized the importance of farmer involvement in irrigation. Today, in the Philippines, it is a different story. Irrigation agencies and farmers have often become partners in the efficient and viable O&M of irrigation systems. Both have realized the importance of supporting each other in the successful management of irrigation systems.

Inducing farmers to participate in undertakings related to irrigation is the first step toward the achievement of goals to attain efficient and successful irrigation system O&M. In the 1970s and 1980s in the Philippines, the National Irrigation Administration (NIA), in its continuous search to find solutions to problems of operations and sustainability has initiated, piloted and implemented a new approach of farmer participation. NIA has involved farmers not only in the O&M of irrigation systems, but also in the organization and formation of Irrigators' Associations (IAs). In the Farmer Irrigators' Organizing Project (FIOP), farmer irrigators have been employed in organizing co-farmers into IAs.

IRRIGATION DEVELOPMENT IN THE PHILIPPINES

The Philippines has a long tradition of irrigation dating back to several centuries before the Spanish colonization (i.e, before 1521). The origin and spread of irrigated rice cultivation are attributed to a terrace-building agricultural people. Vestiges of rice terraces can still be found in the mountains of Ifugao and Banaue and in areas around Laguna de Bay in Laguna Province in Luzon and on the island of Panay in Western Visayas.

During the Spanish colonial period (1521–1898) irrigation systems were built on friar estates owned by either the Jesuits or Augustinian orders. Among other things which have attributes of permanency aside from Christianity, nothing excels either in conception, execution or useful worth, the irrigation systems built by the Spaniards. The Spanish authorities during the last quarter of the 19th century implemented the "Ley de las Aguas" in the Philippines which codified all rules and regulations pertaining to irrigation. Irrigation societies came into existence during this era, mainly from the Ilocos region and the Cagayan Valley. These *Zangeras* (farmers' groups) built their irrigation systems mostly with temporary brush, rock dams, and earthen canals and these systems exist to date.

It was in the American period (1898–1941) that government intervention in irrigation development started. A Bureau of Public Works with an Irrigation Division was established in 1908. In 1912, an Irrigation Act was passed by the Philippine legislature, setting up the laws governing water rights, water use, irrigation construction, duties of irrigation personnel, formation of irrigation associations, and payment of irrigation fees. The first national irrigation system was constructed in San Miguel, Tarlac, in Luzon and was inaugurated in August 1913. This era is characterized by slow advances in irrigation development. However, unlike in earlier periods, the government started to focus on irrigation as one of its main development thrusts.

During the Japanese occupation (1942–1945), there was a halt in irrigation development activities. Only one small irrigation system was constructed and put into operation. After World War II, the government resumed its construction activities so that, by 1968, the total irrigated area had increased considerably. The Philippines, for the first time, achieved marginal self-sufficiency in rice.

THE NATIONAL IRRIGATION ADMINISTRATION (NIA)

The National Irrigation Administration was created under Republic Act No. 3601 signed on June 22, 1963. Its charter mandated NIA "to make the ten to twenty-year period following the approval of the Act as the 'Irrigation Age' of the Republic of the Philippines." Republic Act. No. 3601 established NIA as a semiautonomous government corporation responsible for planning, constructing, operating and maintaining all National Irrigation Systems in the Philippines. NIA was also empowered to investigate and study all national water resources for irrigation purposes; to plan, construct, temporarily administer and periodically repair Communal and Pump Irrigation Systems; and to collect Irrigation Service Fees (ISF).

In 1974, Presidential Decree No. 552 widened NIA's scope of action, by giving it broader powers and authority to undertake related projects in coordination with other government agencies. Some such projects are flood control, drainage, land reclamation, hydropower development, domestic water supply, road or highway construction, reforestation and other activities to maintain the ecological balances. As a semiautonomous agency, NIA has considerable operational freedom, but is attached to the Department of Public Works and Highways (DPWH) for program and policy coordination purposes.

TYPES OF IRRIGATION SYSTEMS

The total land area of the Philippines is about 30 million hectares (ha). Out of a total arable land area of 10 million ha, 9 million ha are devoted to agricultural production. Out of this 9 million ha, 3.1 million are rice, 3.2 million are used to plant cash crops and 2.7 million to commercial crops like coconut, sugarcane and abaca. The potential area for irrigation development is about 3.14 million ha. At the end of 1989, some 1.47 ha million were provided with irrigation facilities, or 47 percent of the potential irrigable area. This can be classified as follows:

No.	System	Area coverage (ha)	Percentage
1	National Irrigation System (NIS)	621,140	42
2	Communal Irrigation System (CIS)	695,132	48
3	Pump Irrigation System (PIS)	152,128	10
	Total	1,468,400	100

There are two types of irrigation systems in the Philippines. These are the National Irrigation Systems (NIS) and the Communal Irrigation Systems (CIS). The distinction between these two types of systems rests on who owns, operates and maintains the system. They also vary in terms of coverage area. National Irrigation Systems are owned and operated by the government through the National Irrigation Administration. They irrigate areas of 1,000 ha and above. At the end of 1989, there were 158 National Irrigation Systems under 102 responsibility centers or irrigation system offices irrigating about 621,140 ha. Communal Irrigation Systems are owned and operated by Irrigators' Associations. The size of each such system is below 1,000 ha. Although it is quite difficult to make an accurate count, it is estimated that there are about 6,171 Communal Irrigation Systems in the country covering an area of approximately 695,132 ha. Pump Irrigation Systems can either be national or communal systems, depending on their area coverage and ownership as stated above. The present area coverage of Pump Irrigation Systems is approximately 152,128 ha.

IRRIGATION SERVICE FEE (ISF) AND COLLECTION

The National Irrigation Policy adopted in 1978, authorized NIA to charge Irrigation Service Fees on irrigated lands within the NIS at levels sufficient to finance O&M to recover initial investment costs (without interest) in no more than 50 years, provided that such charges are within the beneficiaries' capacity to pay. Since 1975, Irrigation Service Fees have been paid largely in the form of rice. Farmers may pay either in kind or in cash, based on the

government rice support price. Payment in rice has provided a degree of indexation against inflation, although it is also costly for NIA, which must collect, store and sell the rice. ISF rates vary according to type of system, and by season, as shown in Table 1.

Table 1. Current ISF rates.

No.	System	Cavans per ha	
		Wet season	Dry season
1	Diversion systems	2.0	3.0
2	Reservoir systems	2.5	3.5
3	Pump irrigation systems	3.0	5.0

Note: One cavan = 50 kg of unmilled rice.

As shown in Table 1, Pump Irrigation Systems are considered to have the highest operational expense because of the cost of energy. Farmers in this type of system pay a higher ISF than those in gravity systems. The ISF for Pump Irrigation Systems at present is 5 cavans or more of unmilled rice per ha for the wet and dry seasons, depending on the individual energy consumption for each Pump Irrigation System. For non-rice and annual crops, the ISF is equal to the cash equivalent of 3 cavans (150 kg of unmilled rice per ha).

ISF collections have consistently lagged behind amounts due, although they are improving. Nationwide collection efficiency, which averaged 43 percent during 1980–1984, rose to 54 percent in 1986 and is estimated at 59 percent in 1987, as a result of increased efforts by NIA and the Irrigators' Associations. Low collection levels stemming from weaknesses in the collection process are aggravated by inadequate billing. About 20 percent of the NIS area lacks detailed parcellary maps. Records of service area, individual irrigated holdings and irrigation fee registers are often incomplete and outdated. Changes in landownership are not fully recorded. Consequently, it is estimated that in some areas, about 30 percent of irrigated lots go unbilled. Many times, although bills are prepared, they are not served on time. In a recent study, one third of delinquent farmers also cited dissatisfaction with NIA's services as the principal reason for nonpayment. The situation is complicated by the lack of effective legal instruments for enforcing ISF collections. In practical terms, it is very difficult to implement

a "no pay, no water" policy. NIA has to resort to costly civil suits to collect ISF from delinquent farmers.

IRRIGATORS' ASSOCIATIONS (IAs)

Early in the 1970s, the National Irrigation Administration (NIA) became seriously concerned about problems of irrigation system operation and maintenance. Service areas of its irrigation systems were not fully irrigated and the amount of ISF collected was far below its O&M costs. It was becoming clear that farmers' organizations were a crucial element to effective irrigation management. In 1976, NIA piloted the participatory approach program in two communal irrigation projects. It fielded Irrigation Community Organizers (ICOs) in the organization and development of Irrigators' Associations (IAs). The ICOs were college graduates in social sciences, experienced in working with the rural and urban poor, able to communicate with farmers and dedicated to the participatory concept (Bagadion 1983).

The development of Irrigators' Associations proceeded at a snail's pace from the time it was started by NIA in 1976 up to 1980. It was only after 1982, when the National Government cut off the subsidy being given to NIA for the O&M of its National Irrigation Systems, that NIA began to accelerate the development of Irrigators' Associations. It created the Central Institutional Department in the central office and the Regional Institutional Development Division in the regional offices. The main responsibility assigned to these departments was to oversee the development of Irrigators' Associations and the preparation of programs to strengthen capabilities of IAs, including various training courses.

The continuous losses being incurred by NIA in the operation of its National Irrigation Systems and the positive results obtained in the 1976 pilot participatory project, prompted NIA to implement a similar approach in National Irrigation Systems. In December 1980, NIA piloted the same approach in National Irrigation Systems, where the goal was to organize Irrigators' Associations that could manage the entire system in the case of small nationals, or entire secondary canals in the case of larger systems. The experiences and results gained in this project demonstrated that it was indeed

possible to develop Irrigators' Associations which could take over substantial parts of NIA's responsibilities for O&M of irrigation systems (Bagadion 1983).

The willingness of organized Irrigators' Associations to take over partial or full responsibility for the management of irrigation systems resulted in negotiations between NIA and IAs prior to their signing of agreements. NIA then prepared several schemes or stages of management turnover of systems in preparation for a wider dissemination of this participatory approach. There are three stages of turnover related to the capacities and preparedness of IAs. These are:

1. Stage I — NIA takes responsibility for the diversion weir and the Irrigators' Association takes responsibility for the O&M of canals. NIA pays the association a maintenance fee of 610 pesos per 3.5 km of earth canal or 7.0 km of lined canal per month. For assisting in collection, the IA gets an incentive of 2.5 percent for a collection efficiency of 70–99 percent, and 3.0 percent if collection is 99–100 percent; provided 70 percent of the current collectibles is collected. The maintenance fee for this stage in 1990 was increased to 1,100 pesos per 3.5 km of earth canal and 7.0 km of lined canal per month.

2. Stage II — Irrigators' Associations participate in the O&M of portions of the Irrigation System and handle the collection of ISF among their members and remit to NIA all amounts collected. After deducting O&M costs (salaries or wages, including allowances and benefits of a ditchtender per 3.5 km) the surplus is shared with the IA getting 30–35 percent and NIA getting 65–70 percent. This was later modified in 1990 with incentives for collection efficiencies from current collectibles as follows: 2 percent for 51–60 percent collection; 5 percent for 61–70 percent; 10 percent for 71–90 percent collection and 15 percent for 91–100 percent collection. Collection of arrears incurred prior to contract activity entitles the IA to a 25-percent incentive.

3. Stage III — This is the full turnover stage. The Association assumes full management of the O&M of the Irrigation System and amortizes the investment costs in not more than 50 years.

In the continuous search to find solutions to attain corporate sustainability, new methods of organizing farmers that were less expensive, but effective were being sought by NIA. In 1983, NIA again piloted a new approach for organizing farmers, the Farmer Irrigators' Organizing Project (FIOP). The history, procedures and experiences of this new approach as piloted and implemented in the Angat-Maasim Rivers Irrigation System (AMRIS) are discussed in this report. This report also discusses the impacts and results as well as actual experiences of this author during its implementation. It is hoped that this paper will be of some help to people who are directly involved in management turnover programs or who are involved in organizing and developing Irrigators' Associations in their own countries.

CHAPTER 2

The Angat-Maasim Rivers Irrigation System

THE SYSTEM

THE ANGAT-MAASIM RIVERS Irrigation System (AMRIS) is located 53 km north of Manila, in the provinces of Bulacan and Pampanga in Central Luzon (Figure 1–p. 10). It has a service area of 31,485 ha and covers 16 municipalities in Bulacan and 4 municipalities in Pampanga. It irrigates about 28,000 ha in the dry season and about 24,000 ha in the wet season. Approximately 6,000 ha of its service area are submerged during the wet season. AMRIS is one of the oldest and largest single systems in the country. It became operational in 1927 and has undergone a series of major improvement and rehabilitation works. At that time, the service area was only about 25,000 ha with only one diversion weir across the Angat River. In 1949, the auxiliary check-gate in Maasim River was completed with the generation of an additional 2,111 ha. This was followed by the construction of another checkgate in the same river in 1967 together with the raising of the operating level of the Angat River weir from elevation 17.50 m to store an additional 5,000,000 cu.m. of water. The construction of Pump Irrigation Systems in 1972 and 1976 brought the service to its present total of 31,485 ha (Figures 2 and 3–pp. 11 and 12).

The water of the Angat River is one of the most utilized resources in the Philippines. Approximately 45 km upstream of the irrigation weir is the 220-m high Angat-Multipurpose or Reservoir Dam. It has a combined power output of about 225 megawatts and a reservoir capacity of 850,000,000 cu.m. It is operated and maintained by the National Power Corporation (NPC). About 6 km downstream of the Reservoir Dam is the Ipo Dam (Figure 4–p. 13), which supplies domestic water to Metropolitan Manila. It is operated and maintained by the Metropolitan Waterworks and Sewerage System (MWSS).

In anticipation of the abnormal years to come, the National Government, through the National Water and Resources Board (NWRB), established

Figure 1. Luzon Island.

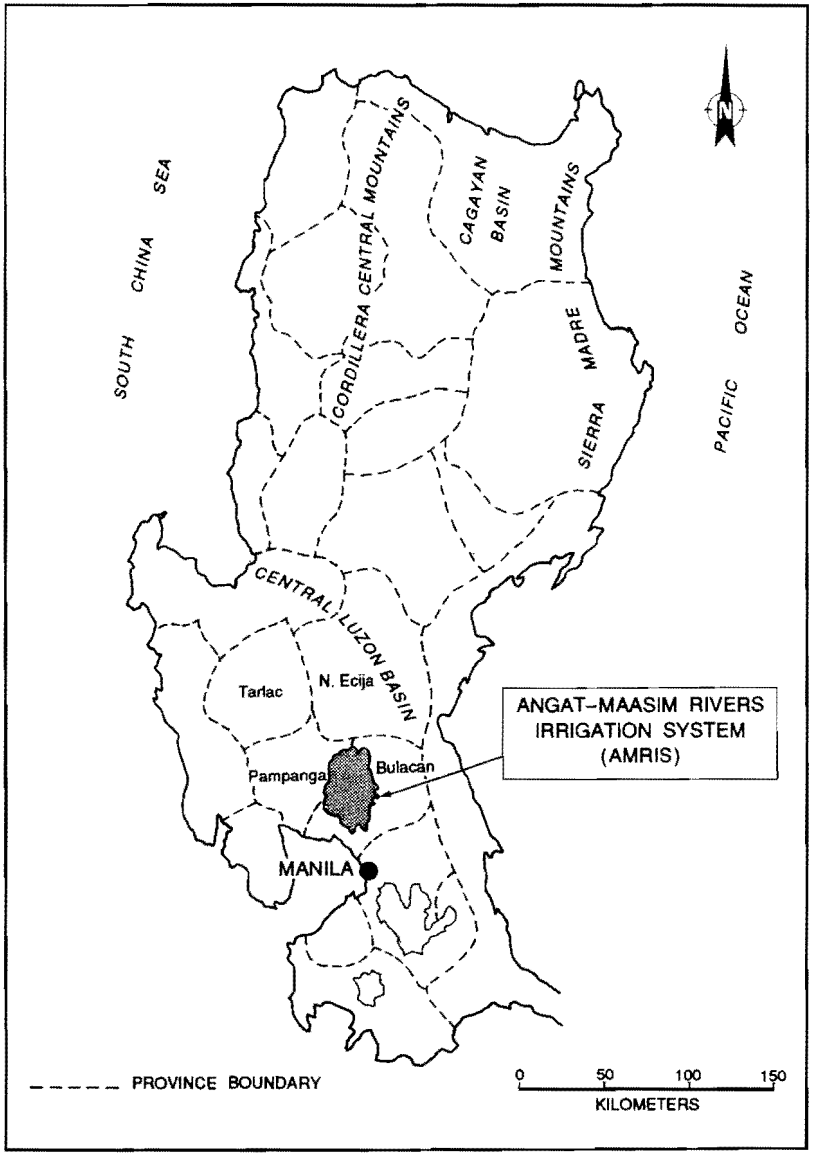


Figure 2. AMRIS general layout.

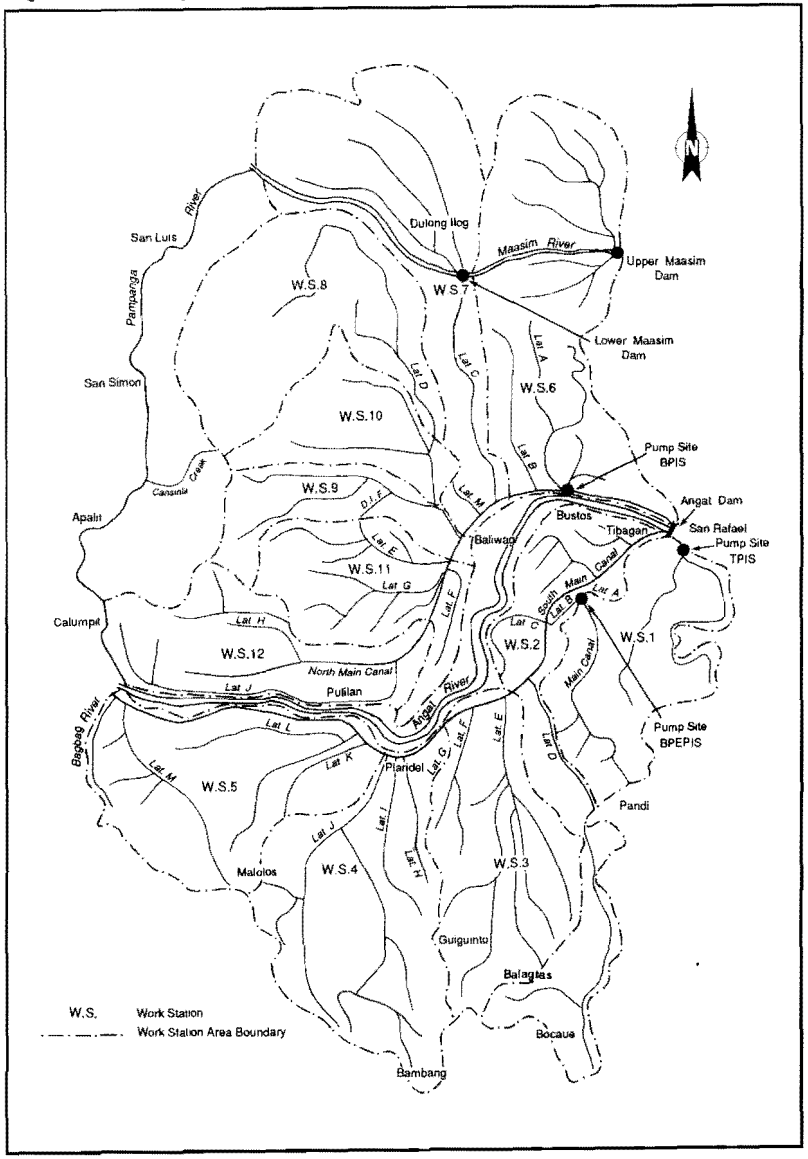


Figure 3. Schematic diagram of AMRIS: Network of actual area irrigated.

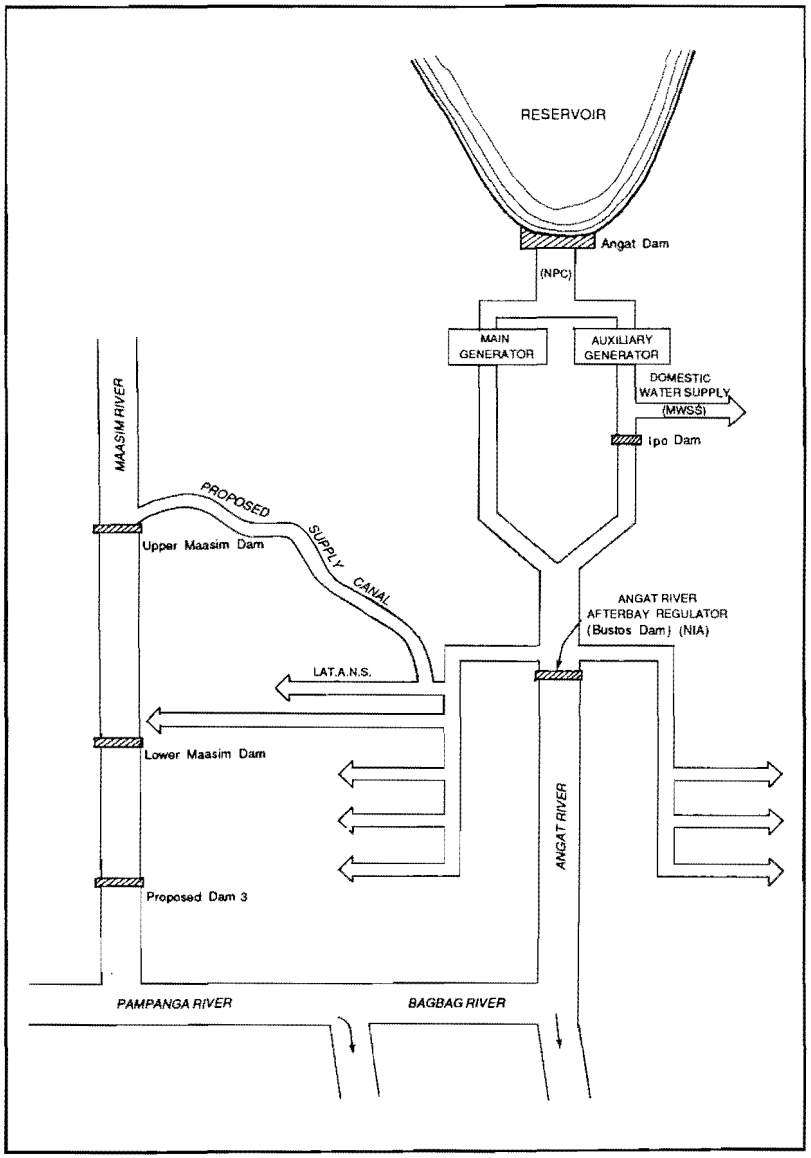
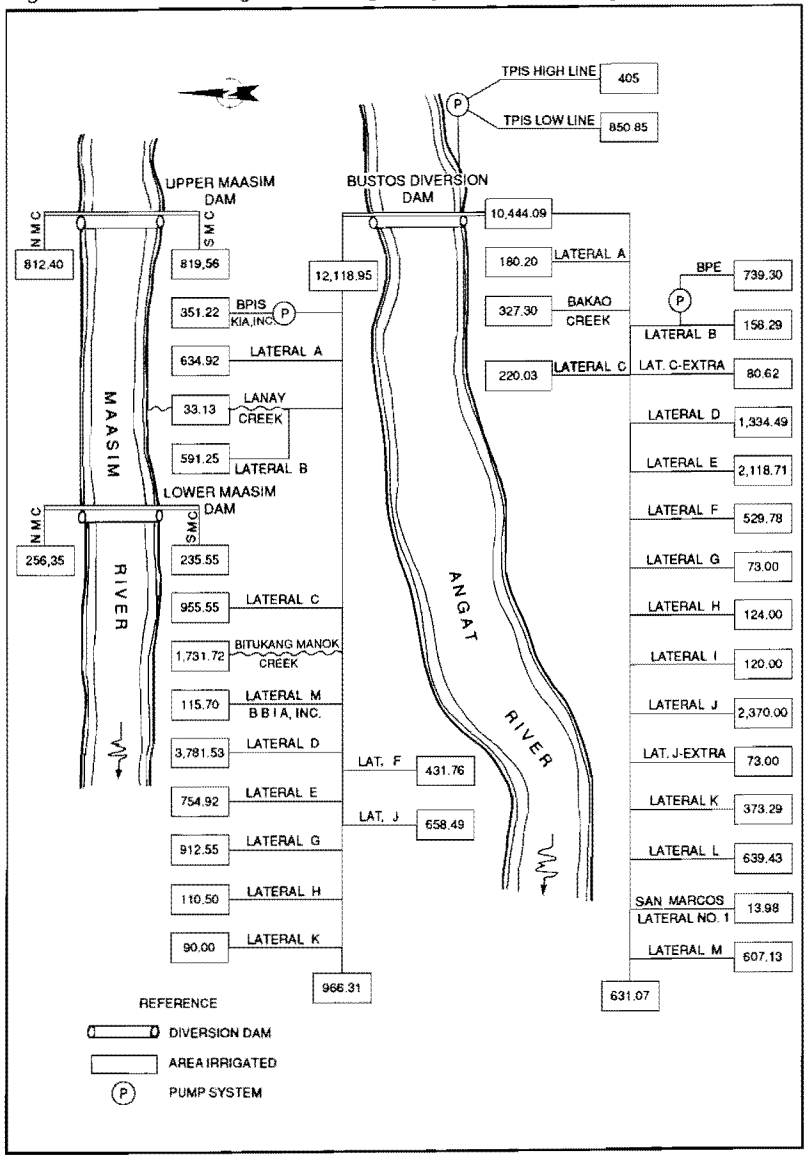


Figure 4. Schematic diagram showing the operation of the Angat-Maasim rivers.



guidelines in the operation of the reservoir, upon its completion in 1967. An operation rule curve formulated by the NWRD is shown in Figure 5 (p. 15). The current rule designates the following priorities in the utilization of water supply:

First priority	—	Domestic Water Supply (MWSS)
Second priority	—	Irrigation (NIA)
Third priority	—	Power (NPC)

The guidelines state that once the water level in the reservoir falls below the curve, NPC cannot release water for irrigation without prior approval by NWRB. No approval is needed if the level in the reservoir is above the curve, indicating that the supply can meet the demands of irrigation and domestic purposes.

During its initial sixty-three years of operation, irrigation was the last of the three priorities. The occurrence of the 1990 drought (which caused only 45 percent of the area to be planted in the dry season) alarmed the growing number of Irrigators' Associations in the system. They grouped together and made representations to the office of the President of the country. Finally, through their representations, irrigation was given due importance and second priority was awarded for water use from the Angat-Multipurpose Dam to generate the abovementioned power.

AGRICULTURE IN AMRIS

Long before the construction of the AMRIS irrigation facilities, farmers depended on rain and were able to harvest only one crop of rice per year. The construction of irrigation facilities brought forth two cropping seasons per year, increasing rice production, thus benefiting more farmers. At present, some 22,192 farmers benefit by the system. Every year, wet-season cropping for the system usually starts on the first of June and continues to the end of October. The dry-season cropping starts on the first of November and runs to the last of March of the succeeding year. However, this may vary somewhat due to the usual wet-season pattern and the availability of water in the

reservoir. Most of the farmers in the system use mechanized farm implements and adopt the direct seeding method of planting rice, to lessen the cost of production. Table 2 shows the irrigated area of AMRIS from 1983 to 1988 for dry- and wet-season croppings.

Figure 5. Operation rule curve formulated by NWRD.

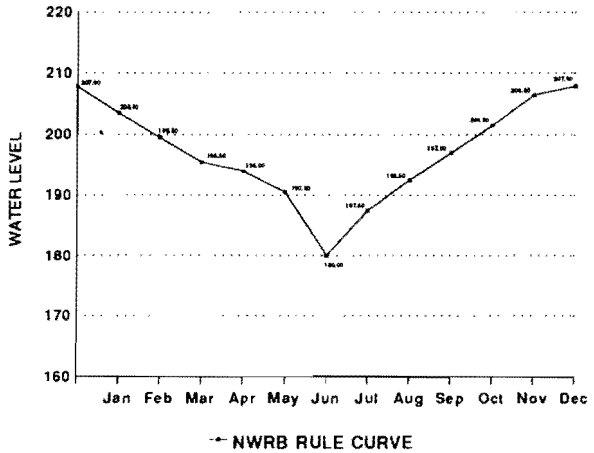


Table 2. Irrigated area and average yields in AMRIS.

Year	Dry season		Wet season	
	Irrigated area (ha)	Average yield (ton/ha)	Irrigated area (ha)	Average yield (ton/ha)
1983	27,786	3.9	23,092	4.1
1984	26,822	4.6	24,071	3.9
1985	27,745	4.7	23,428	4.2
1986	26,940	4.6	23,271	4.1
1987	27,471	4.8	22,944	4.3
1988	27,729	4.3	23,400	3.5

The occurrence of slight water shortages in the dry season explains the difference in the area irrigated between 1983 and 1988. Farmers' involvement in operations and water distribution also contributed to the problem of irrigating the service area. In the wet season, the unpredictable typhoons (averaging 19 annually) have damaging effects on all crops grown. Farmers in low-lying areas have no security for their crops. Most of them plant rice two or three times in the wet season on account of flood damages. Rice plants that survive to near-harvest time are still not safe. They may still be affected by typhoons that may occur between October and November.

LAND TENURE WITHIN THE SYSTEM

Available records of the system indicate that the average landholding per farmer is approximately 1.4 ha. About 70 percent of the farmers own or till more than 1 ha and 30 percent own or till 3 ha or more. Table 3 shows the tenurial status within the system.

Table 3. Tenurial status in AMRIS.

No.	Status	Number of farmers	Percentage
1	Owner-cultivator	1,024	4.6
2	Amortizing-owner	5,002	22.6
3	Leasehold	15,361	69.2
4	Share-tenant	805	3.6
	Total	22,192	100.0

As shown above, the majority of the farmers are contract leaseholders. The amount of lease for these farmers was determined by the Department of Agrarian Reform (DAR), based on the level of production or yield for three normal crop years. The income derived from farming a 1-ha plot is not sufficient for farmers to survive. Even before the construction of irrigation facilities, most farmers had been engaged in other livelihood activities such as keeping poultry and livestock, dressmaking, carpentry, weaving, pottery, etc.

ORGANIZATIONAL STRUCTURE

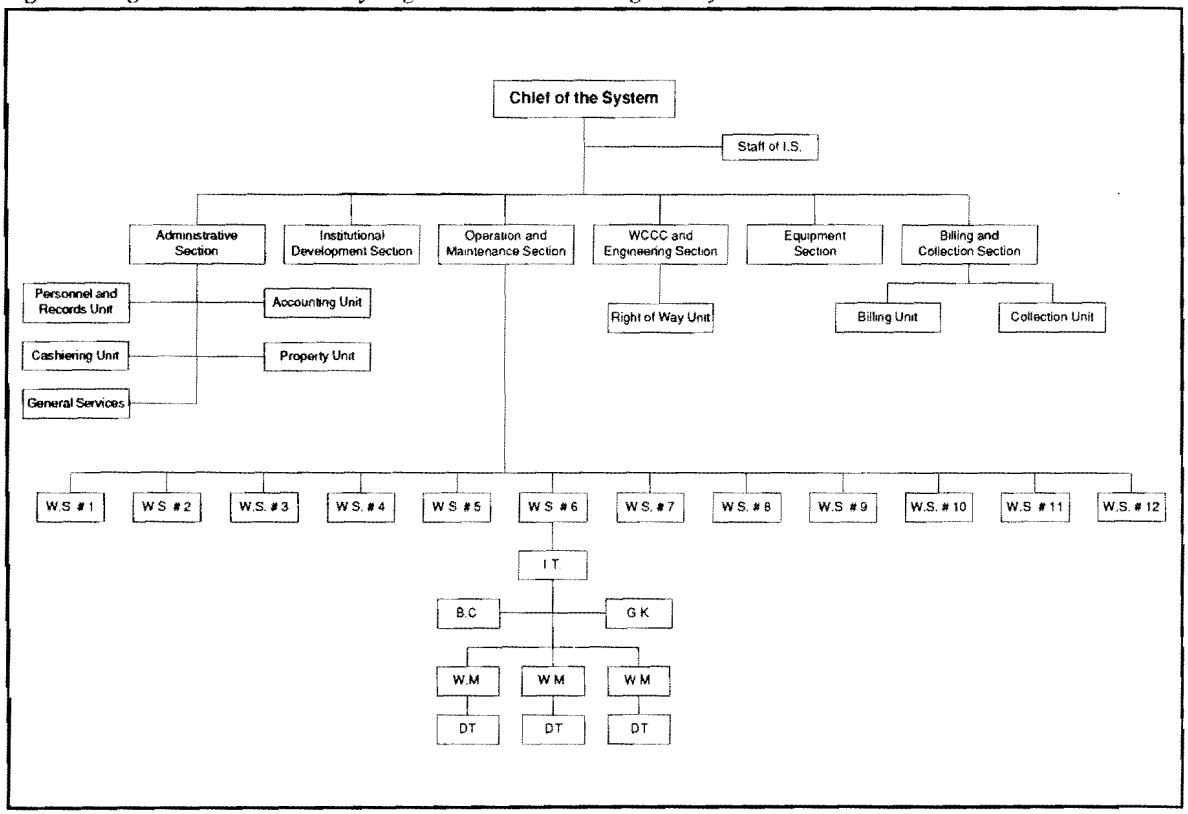
Unlike many small or medium-sized National Irrigation Systems, AMRIS has a complex formal organizational structure (Figure 6-p. 18). AMRIS is headed by the Chief of the System, who is referred to as the Irrigation Superintendent. He is responsible for the overall supervision of the following major functions of the system:

1. Operation and Maintenance — water distribution in the entire system and maintenance of irrigation facilities;
2. Rehabilitation and improvement of facilities — repair of damages caused by typhoons, floods, etc., desilting of canals, repair of embankments, and so on;
3. Collection of Irrigation Service Fee (ISF) — this refers to the collection of two and three cavans (1 cavan = 50 kg of unmilled rice) for wet- and dry-season crops, respectively, or their cash equivalents;
4. Repair and maintenance of equipment and vehicles — to keep all equipment and vehicles in operable and running condition;
5. Formation of Irrigators' Associations — the organization of farmers into Irrigators' Associations to enable them to take over partial or full management of the whole or portions of lateral canals;

The Administrative Section is responsible for the preparation of personnel records, reports and matters pertaining to the performance, functions, appointments and development of employees, etc. An Administrative Office with ten staff, also takes charge of the overall preparation of all accounting matters, including the payment of salaries, wages and office vouchers. This also handles the inventory of supplies, spare parts, equipment, etc., and looks after the safekeeping and safeguarding of all the properties.

The Institutional Development Section functions as the NIA-IA coordinating arm. Supervised by an Agricultural Officer, with five staff, it is responsible for the organization of the Irrigators' Association. The evaluation of the performance of the Irrigators' Association is also a function of this section. This section conducts training needed by the IAs. It is also responsible for coordinating with other government and private agencies in the

Figure 6. Organizational structure of Angat-Maasim Rivers Irrigation System.



establishment, evaluation and implementation of programs for pilot demonstration farms.

The Operation and Maintenance Section (O&M) is the field-implementing arm of the system. This section is supervised by an Operation Engineer with eight Irrigation Technicians, 35 Watermasters and 200 Ditchtenders. To facilitate easy supervision, the system is subdivided into 12 work stations each with an average area of 2,400 ha. Each work station is responsible for the distribution and delivery of water to its respective area. It is headed by an Irrigation Technician who sees to it that all irrigation facilities and structures are properly maintained in good operating condition. The O&M section also formulates and implements operational programs of work and handles repairs and improvements. The section is also responsible for the collection and consolidation of periodic reports such as irrigated and planted areas, yield and ISF collections

The Water Control Coordinating and Engineering Section provides technical and water control equipment of the system and is primarily responsible for the control and distribution of water into the north and south main canals and headgates of lateral canals. It keeps records on water discharges at every measuring point on the north and south main canals and headgates of lateral canals. This section also prepares the design, cost estimates and programs of work for construction, repair and improvement. It is headed by a hydrologist with ten personnel working with him. It also facilitates the updating and keeping of plans, maps, and drawings and provides the survey requirements for land verification and needed improvement and rehabilitation work.

The Equipment Section is supervised by a Mechanical Engineer with ten permanent staff. It is responsible for the dispatch and detailing of all equipment and vehicles. Repair and maintenance of vehicles and equipment are also its responsibility.

The Billing and Collection Section has a Senior Billing Clerk supervising the work of eleven Billing Clerks. The section takes charge of the preparation of bills for distribution to farmer clients.

The Collection Unit headed by a Collection Officer is responsible for the remittance to a government bank of all ISF collections of the six Bill Collectors.

It also prepares reports on the collection status and efficiency to enable it to formulate and recommend better collection strategies.

BUDGET, EXPENDITURES AND INCOME

In 1982, the National Government cut off the subsidy being used previously for the O&M of National Irrigation System. As a result, the NIA top management issued directives that every irrigation system office should become self-sustaining by local resources. NIA requires the submission of yearly operating budgets together with a projected collection of ISF and other income.

Analysis of Table 4 (p. 21) shows that an average of 68 percent of its yearly expenses is being spent on personnel services such as salaries, wages, etc., for its 432 regular employees. About 19 percent is spent for power consumption and 13 percent for other expenditure such as supplies, materials, fuel and oil. Yearly increases of the budgets and expenses of the systems are mainly due to the increase in the salaries and wages of employees, increases in the price of commodities and increase in unit cost per kilowatt of electricity.

Table 4 shows a six-year record of AMRIS O&M expenses (US$1.00 = 14 pesos).

The collection of the ISF is the main source of income of AMRIS. As with other systems, it collects two and three cavans (one cavan = 50 kg of unmilled rice) for the wet and dry seasons, respectively. Other sources of income such as payment of equipment rentals, lease of other properties or sales from disposal of unserviceable equipment also contribute to the income of the system. Table 5 shows the fee collection records for AMRIS.

Table 4. AMRIS O&M expenditure (in pesos).

Year	Personal services	Power cost	Other expenditure	Total
1983	6,525,625	1,816,449	911,074	9,253,148
1984	7,689,094	2,211,355	1,775,962	11,676,411
1985	8,472,522	2,586,059	1,533,832	12,592,413
1986	8,874,559	2,291,834	1,311,101	12,477,494
1987	8,944,545	2,460,555	2,039,401	13,444,501
1988	10,189,662	2,390,177	2,310,158	14,889,997

Table 5. Record of collection of current accounts (CA) and back accounts (BA) (in pesos).

Year	Collect-ibles	Current account collection (CA)	Collection efficiency (in %)	Back account collection (BA)	Total collection (CA+BA)	Total collection efficiency (in %)	Govern-ment support
1983	13,798	4,561	33.06	1,152	5,713	41.40	1.70
1984	15,687	7,258	46.27	2,239	9,497	60.54	2.10
1985	19,490	9,138	46.89	2,304	11,442	58.71	2.65
1986	21,353	7,910	37.04	2,139	10,049	47.06	3.50
1987	20,228	7,832	38.72	3,049	10,881	53.79	3.50
1988	20,706	7,935	38.32	3,188	11,123	53.72	3.50

Farmers are given the option to pay in kind or in cash. If farmers elect to pay in cash, the total weight will be multiplied by the prevailing government support price at the time of payment. According to records, collection in kind ranges from 5 to 10 percent of the total collection of AMRIS. Data from 1983 to 1988 as shown in Table 5 show that AMRIS had an average of 40 percent collection efficiency for its current accounts (collection efficiency is equal to current collection over the collectibles). This increases to 53 percent if collection of back accounts is included. The low collection efficiency of the system could be attributed to several factors:

1) the campaign of several cause-oriented groups for nonpayment of ISF, 2) the promise of several politicians to bring down the ISF rates and not abolish it, 3) the poor irrigation service as claimed by nonpaying farmers, 4) the negative attitude of most farmers toward paying ISF, and 5) the inability of the government to institute legal and court actions against those who do not pay.

The attainment of financial viability has been a continuous goal among AMRIS personnel since 1982. In 1984, the Irrigation Superintendent initiated the issuance of collection incentives to all irrigation fee collectors even without sanction from the top management. He authorized a 2-percent collection incentive from the total collection. The 2-percent compensation is considered as the traveling or collection expenses of the collectors. This move has had a major impact from then onwards. Table 6 shows the record of income and expenditure for the system.

Table 6. Record of income versus expenditure (in pesos).

Year	Income ISF + other income	Expenditure	Excess (deficit)
1983	5,924,393	9,253,148	(3,328,755)
1984	10,253,169	11,676,441	(1,423,272)
1985	12,622,735	12,592,413	30,322
1986	11,634,143	12,477,489	(843,346)
1987	13,727,439	13,444,901	282,538
1988	15,026,142	14,889,996	136,146

The data above show that the system incurred deficits of 3.3 and 1.4 million pesos in operations in 1983 and 1984, respectively. These data also show that starting from the year 1985, (with the exception of 1986), with the coordinated efforts of all its personnel, AMRIS has attained viability status by improving its collection efficiency through the combined efforts of NIA personnel and farmers. In 1986, the wet-season harvest was greatly affected by the occurrence of several destructive typhoons. Most farmers applied for exemption of payment of irrigation fees. This resulted in a deficit of over 800,000 pesos in the system for 1986.

Findings of a 1983 management and personnel audit of the system concluded that the system will never attain the status of financial viability. Up to 1983, when all Pump Irrigation Systems were still under NIA management, the collection efficiency for all these systems averaged 40 percent and 60 percent for wet and dry seasons, respectively. Even at 100 percent collection efficiency, the total collectibles from these pump systems would not cover even the cost of power consumption. Such conditions prompted the Central Office Management Team to declare that the system would never be financially viable. However, the Team failed to anticipate the surprising and impressive changes which were about to come in cost reductions and increased collection efficiency. These were primarily the result of the success of the Farmer Irrigators' Organizing Project and the turnover of management to Irrigators' Associations in Bustos Pandi Extension Pump Irrigation System (BPEPIS) and Buenavista Pump Irrigation System (BPIS).

THE PUMP SYSTEMS PRIOR TO THE FIOP

As stated earlier, AMRIS constructed Pump Irrigation Systems in 1972 and 1976 (Table 7) to bring its service area to its present total of 31,485 ha. These are BPEPIS completed in 1972, and the Tibagan Pump Irrigation System (TPIS) and BPIS completed in 1976. All Irrigators' Associations (IAs) in the three Pump Irrigation Systems were organized using the Farmer Irrigators' Organizing Project (FIOP) approach.

Both BPEPIS and BPIS were turned over to IAs in June 1984. TPIS was turned over to IAs in June 1986.

Table 7. Pump irrigation systems in AMRIS.

No.	Name of pump system	Service area (ha)	Number of farmers	Year operat-ional	Year turned over
1	Bustos-Pandi Extension Pump Irrigation System (BPEPIS)	731	655	1972	1984
2	Tibagan Pump Irrigation System (TPIS)	1,286	1,200	1976	1986
3	Buenavista Pump Irrigation System (BPIS)	350	216	1976	1984
Total		2,367	2,071		

The Bustos Pandi Extension Pump Irrigation System (BPEPIS) (subject of case study) lies within the 31,485 ha service area of the Angat-Maasim Rivers Irrigation System (AMRIS). Two 110-kw, 76-cm vertical propeller pumps were installed in 1972 to lift water 8.5 meters from Lateral B of the south main canal of AMRIS (Figure 2). The pumps were designed to irrigate a potential irrigable area of 900 ha, but upon operation in 1972, its actual service area was only 731 ha. The system (Figure 7–p. 25) has a 14-km long main canal and 19 km of lateral canals. It was under NIA management from 1972 to May 1984. The conveyance facilities consist mainly of earthen canals from the main canal to the lateral canals and farm ditches. Steel gates were provided at the headgates of laterals and turnouts. Parshall flumes were

installed below the discharge valve of the pump and below the headgates of lateral canals.

The Pump Irrigation System covers eight *barangays* (villages) in the municipalities of Bustos and Pandi in Bulacan Province in Luzon. It starts its pump operation at the same time of year as the operation of the gravity system. It also has the same cropping intensity as the rest of the service area of AMRIS. The system benefits some 655 farmers, whose average landholding sizes are estimated at 1.1 ha per farmer. The gravity area of the gravity system of AMRIS is mostly flat while the service area of the Pump Irrigation System is rolling in topography.

Operation and Maintenance. During the period from 1972 to May 1984, the Pump Irrigation System was under the supervision of a NIA Watermaster. The Watermaster was in charge of the overall O&M of the Pump Irrigation System. Under his supervision was one Pump Operator, who operated and maintained the pump, and eight Ditchtenders who assisted in water distribution and maintenance of canals. Each Ditchtender maintains approximately 3.5 km of canal.

It was only in the latter part of 1982 that NIA set up and installed separate electric meters for each of the three individual pumps in AMRIS. Prior to this, only one electric meter recorded all the power consumption for the whole of AMRIS. Table 8 (p. 26) shows the total O&M expenses for BPEPIS including collection expenses for the calendar year 1983.

Fees. Table 8 shows that even at 100-percent collection efficiency, the amount to be collected was not enough to cover total O&M expenditures for BPEPIS. This was true with the other Pump Irrigation Systems as well. The irrigation fee rate for all three Pump Irrigation Systems at that time was set at 5 cavans of unmilled rice for dry-season crops and 3 cavans of unmilled rice for wet-season crops. NIA has been offering a 10-percent discount for all current bills paid on their due dates.

Figure 7. Sketch of Bustos-Pandi Extension Pump Irrigation System (BPEPIS).

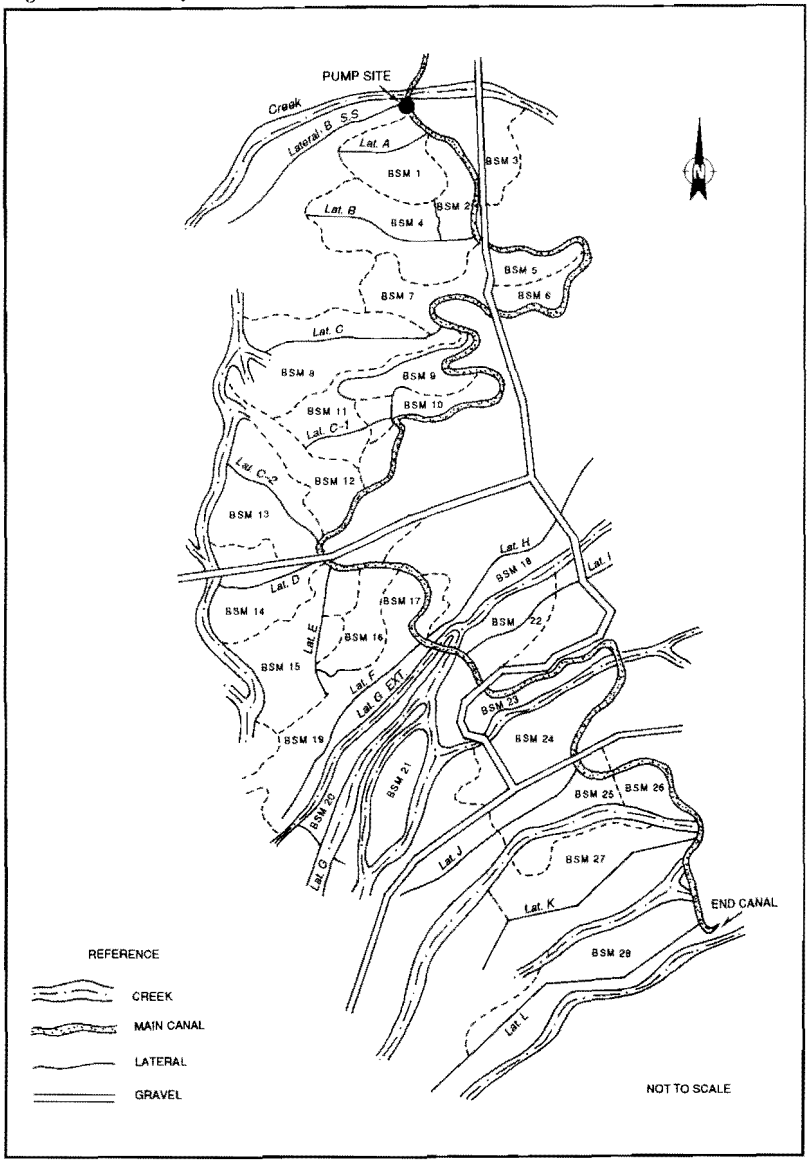


Table 8. Records showing 1983 O&M expenditure and collection of BPEPIS.

Particulars	Amount in pesos
A. *O & M expenses – 1983*	
1. Salaries and wages	125,007.00
2. Supervision	5,898.00
3. Fuel cost (motorcycle)	3,422.00
4. Power consumption	300,700.00
5. Transmission line maintenance	3,553.00
6. Pump repairs	34,000.00
Total	472,580.00
B. *Collection – 1983*	
1. Collectibles	
1.1 Dry season (5 x 50 x 1.70 x 649)	275,825.00
1.2 Wet Season (3 x 50 x 1.70 x 649)	165,495.00
Total	441,320.00
2. Actual collection (wet and dry season)	348,201.00
3. Percentage	78.90

Note: US$1.00 = 14 pesos in 1983.

Costly operations of the Pump Irrigation Systems can be attributed to the following factors, which also hold true for gravity areas:

1. *Farmer's individualism.* The majority of farmers tend only to care about their own needs of water and ease of water application, without bothering about wastage, timing or the needs of other farmers. This factor causes waste of pump operation time, resulting in high total costs.

2. *Use of different varieties.* Many farmers plant long-maturing varieties, like IR–42 which takes 140 days to harvest. Farmers also plant these varieties in the dry season thereby increasing pump operating hours and operational cost.

3. *Excessive use of water.* Farmers do not bother to close individual rice openings and allow excess water to flow to the drains, depriving the downstream farmers of this excess water. This causes low irrigation efficiencies.

4. *Illegal checking and intervention.* Illegal checking and intervention are frequent problems. Farmers tend to go to their farms any time they

want. On seeing that their farms need water, they make illegal checking with check structures, thereby interfering with the official rotation schedule. Most farmers do this even when their farms are saturated. This factor causes long pump operations and high power costs.

5. *Nonsimultaneous farm operations.* Nonsimultaneous farm operations cause a major problem. Occasionally, there are instances when the pump operates for nearly a month, only to irrigate as little as 10 ha. Farmers contend that they religiously pay their bills so that NIA should provide them with water anytime they need it.

The above factors, coupled with power costs and frequent power cut-offs, contribute greatly to the high cost of operations for these Pump Irrigation Systems, not only in AMRIS but also nationwide. In 1981, NIA management issued Memorandum Circular No. 48, a supplemental guideline for pump operation in National Irrigation Systems (see the full text in Appendix 1). This Memorandum stated that in all cases, the collection efficiency in all Pump Irrigation Systems must be 90 percent before they can be operated. This created a problem among the system personnel assigned in the pump area, including the chief of the system. It was very difficult for them to inform the farmers about this guideline but they were nevertheless required to do so. Then they observed the trend of collection rates for both the dry- and wet-season crops of 1982. Still the collection efficiency for the Pump Irrigation Systems did not improve. Collection rates were only 150 kg and 250 kg of unmilled rice for the wet and dry seasons, respectively, so that it was time for a change. The NIA officials at the system level had to inform the farmers that the Memorandum provision for nonoperation was about to be implemented.

CHAPTER 3

The Farmer Irrigators' Organizing Project (FIOP)

HISTORY

EARLY IN THE 1980s, NIA was searching for institutional innovations to make its irrigation systems physically and economically self-sustaining. The issuance of NIA Memorandum Circular No. 48 of 1981, as discussed in the previous chapter, and the very low collection efficiency in both Pump and Gravity Irrigation Systems, set in action the wheels of change. In 1983, AMRIS, in compliance with the said directive and with its urgent need to attain financial viability, informed the farmers that it would not operate the Pump Irrigation Systems for the dry-season crop of 1983. Naturally, this announcement caused widespread protest among farmers of the Pump Irrigation Systems. The farmers approached powerful politicians to demand the operation of the pumps at all cost. They came in groups to the NIA Central Office in Quezon City, to pressure the management to operate the pumps. Finally, meetings were scheduled between NIA and the farmers to thrash out problems and formulate a solution that would satisfy both farmers and NIA.

The dialogues were scheduled for October 1982, prior to the beginning of pump operation in November of that year. The two NIA Assistant Administrators for Operations and Finance attended the dialogues held at two different locations. One was at the Bustos Municipality and the other at the Municipality of San Rafael in Bulacan Province. Many complaints including poor irrigation service by NIA personnel were aired by the farmers. After this, both Assistant Administrators simply advised the farmers "Okay, we will operate the pumps, if you yourselves organize into Irrigators' Associations." The farmers, sensing that this was probably something similar to the compact farm associations and seeing the prospect of continuous pump operation,

nodded their approval. And so the "green light" was given and all the Pump Irrigation Systems operated that year.

It was during a coffee session the author had with the ex-Regional Irrigation Director of NIA Region 3 and the ex-Manager of the Regional Institutional Development Division (RIDD), that the latter suggested the employment of select farmers in organizing co-farmers into Irrigators' Associations. He mentioned some advantages of this approach, including the fact that it would be cheaper to hire a farmer organizer than a professional organizer. He said that a farmer organizer would stay in the area after organizing the work plans, and would be more concerned with looking after the welfare of the association being organized. This suggestion was brought to the notice of the Assistant Administrator for Operations, who immediately agreed with it. He then called the consultant for the Irrigation Community Organizing Project (ICOP) and instructed him to prepare a framework and plan for a pilot implementation of this new approach for organizing farmers. And so, in May 1983, the Assistant Administrator called the Regional Irrigation Director and his staff, the AMRIS Irrigation Superintendent and his staff, and all others concerned, and the initial Farmer Irrigators' Organizing Project (FIOP) was launched. It was to be piloted in two Pump Irrigation Systems of AMRIS and some gravity areas of the Porac-Gumain Rivers Irrigation System in the Province of Pampanga in Central Luzon.

BACKGROUND AND RATIONALE

Project background. As embodied in Presidential Decree 552, NIA's corporate plan provides that:

> *water users through their associations shall have maximum participation in the construction and management of irrigation systems. The participatory approach to farmers association development shall be implemented to prepare the farmers' major role in the efficient and effective operation and maintenance of irrigation systems.*

In line with the agency's thrust to obtain corporate financial viability, a new approach to organizing farmers that was less expensive and replicable nationwide was needed. The FIOP, which employed farmers as organizers,

seemed to fit the need for a program in farmer organization to complement the Irrigation Community Organizing Project (ICOP). In ICOP, after organizing the farmers in a certain area, the IC Organizer will be transferred to another area, leaving behind the Irrigators' Association that still needs to be developed and strengthened, whereas in FIOP, the farmer organizers stay in the area, looking after its continuous development.

Project rationale. The rationale for implementation of FIOP was as follows:

1. Cost reduction in direct organizing work without sacrificing project effectiveness. Under this project, one Farmer Irrigator Organizer (FIO) would have an average deployment area of about 105 ha. With a monthly incentive allowance of 350 pesos, the direct organizing cost was only about 400 pesos per month, or about US$29.00 (US$1 = 14.00 pesos, approximately).

2. The employment of farmer irrigators as organizers, directly develops the organizing capabilities of some members of the irrigation community, in the interest of IA formation.

3. Selecting FIOs who are currently trusted and respected by a majority of the farmers in the system has advantages over the external ICOs in their capacity for social integration and contact building, since the farmers are already members of the community. They could easily identify potential leaders because of their community knowledge; they could also easily identify irrigation problems because of their familiarity with the system.

4. The FIOP hastens farmers' reliance on themselves for organizational capabilities and consequently shortens lead time for the formation of Irrigators' Associations, due to the increased intensity of frontline organizing manpower and a much-reduced deployment area per FIO.

PROJECT AREA

Table 9 below shows the irrigation systems where FIOP was to be piloted and implemented. It also shows the length of canals, the number of farmers and the number of FIOs needed for the project.

Table 9. Extent of project area.

System	Length of canals (km)	Area (ha)	No. of farmers	No. of FIOs
C.1 Porac–Gumain RIS Pampanga — gravity	23.68	1,068	901	9
C.2 BPIP – AMRIS Bulacan — pump	3.98	351	216	3
C.3 BPEPIS – AMRIS Bulacon — pump	33.00	731	655	7
Total	60.66	2,150	1,772	19

The average number of farmers per FIO was 93. The average area per FIO was 113 ha.

PROJECT OBJECTIVES

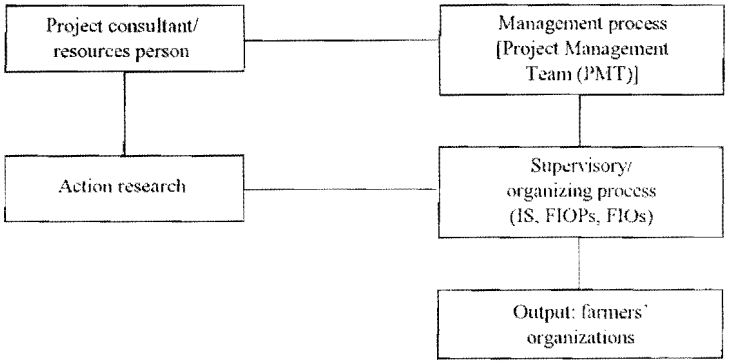
The general objective of FIOP was to establish Irrigators' Associations that could manage the O&M of pump systems and portions of a gravity system.

The immediate objectives were to: i) organize and develop a Project Management Team (PMT) which would have capabilities for overall planning, directing and controlling the FIOP; and ii) document activities of the Project through Action Research Methodology.

PROJECT SYSTEM AND COMPONENTS

The organization of FIOP management and implementation is illustrated in Figure 8–p. 33:

Figure 8. Framework plan of FIOP.



Note: IS = Irrigation Superintendent

The terminal output of the Project is the organization of irrigators into associations capable of managing the operation and maintenance (O&M) of system laterals and on-farm facilities. This output is dependent on the effectiveness of the FIO organizing input which is, in turn, dependent on the quality of the Project supervisory processes. To provide the PMT with available and comprehensive data on project processes, action research would document supervisory and organizing activities and their results. The research drew insights from the status of farmers' organizations through an external consultant. The interaction of the PMT with the external consultant and resources persons was intended to achieve effective FIOP management processes. The FIOP consultant had wide experience in all aspects of institutional activities. He had been working with ICOP since it was first piloted.

PROJECT ACTIVITIES AND TIMETABLE

Table 10 (p. 34) shows various activities involved in the implementation of FIOP. From May 1983, the project was programmed to be completed within 30 months. It was expected that the Irrigators' Association would be

organized and prepared to assume full responsibilities in the management of the Pump Irrigation Systems.

Table 10. Timetable of project activities.

Activities	Frequency	Schedule
1. *Management organization and development*		
a. Project orientation	once	1st quarter
b. PMT meetings/conferences	once a month	continuous
c. Supervisory assessment/planning	twice a month	continuous
d. Coordination meetings	once a month	continuous
2. *FIO recruitment/development and utilization*		
a. Recruitment	once	1st quarter
b. Predeployment training	once	1st quarter
c. Sessions with supervisors	4 times a month	continuous
d. Formal staff development	3 days per quarter	continuous
e. Farmers' consultation meeting	once	3rd quarter
f. Technical inputs to farmers on organization	once	4–5th quarter
g. Technical inputs to organized farmers on system management	once	6–8th quarter
3. *Action research*		
a. Workshop on diagnostic framework for action research	once	2nd quarter
b. Data gathering	-	continuous
c. Data feedback and action planning	-	continuous
d. Action taking	-	continuous
e. Monitoring/evaluation	-	continuous

Note Total project time is 30 months or 10 quarters. Within the 9th and 10th quarters, turnover of O & M responsibilities to the Irrigators' Associations was expected.

Management organization and development. Management organization and development include the orientation and briefing of all NIA personnel involved in the project on all aspects of FIOP implementation. The Project Management Team (PMT) headed by the Project Officer, should convene monthly meetings to assess the problems and progress of the project. The FIO supervisor should conduct a bi-monthly meeting with the FIOs to assess the progress of direct organizing of work. Monthly coordination meetings were to be conducted to assess physical problems on the irrigation facilities and progress of organizing work. This meeting was to be called by the Chief of the Irrigation System.

FIO recruitment/development and utilization. FIO involves the selection, hiring, training and deployment of farmers to be employed in organizing co-farmers into Irrigators' Associations. Once the associations are formed, they will be trained and will participate in seminars on system management, financial management, and basic leadership training, to prepare them for the eventual takeover of the irrigation system.

Action research. Action research involves the hiring of two action researchers to document the experiences of the project personnel so that insights and learning would guide subsequent project implementation and the replication of the project in other irrigation systems.

ESTIMATED BUDGETARY REQUIREMENTS

Table 11 (p. 36) shows the total estimated project cost for the three project areas (refer to Table 9–p. 32). For a total area of 2,150 ha, the cost per ha of organizing work is estimated at 383 pesos (in 1983, US$1.00 = 14.2 pesos).

ACTUAL IMPLEMENTATION

NIA created the following teams or groups to ensure smooth implementation of the new approach in the project.

The NIA central office support group. The NIA central office support group was headed by the NIA Assistant Administrator for Operations. NIA hired the services of a Project Consultant from ICOP to prepare the framework plan for FIOP implementation. He was assisted by three personnel from the Institutional Development Department (IDD) and they worked out all the plans, project cost, and training designs for the project. The Systems Management Department provided the logistic support for the rehabilitation and improvement of all irrigation facilities requested by the farmers. All valid requests of farmers were consolidated for the preparation of the Program of Work. Upon approval, the Program of Work will be submitted for funding by the Systems Management Department.

Table 11. Estimated budgetary requirements.

Particulars	Estimated cost (in pesos)
1. *Project management*	
a. Incentive allowance of a FIO supervisor @ P 150/month x 2 x 30	9,000.00
b. PMT an FIO supervisor conferences and staff development	75,000.00
c. Travel/supervision expenses –P 400/month x 4 x 30	48,000.00
d. Gasoline allowance – P 500/month x 30	15,000.00
Subtotal	147,000.00
2. *Action research*	
a. Salary/allowances of action researcher – P 2,000/month x 2 x 30	120,000.00
b. Salary of 1 staff assistant –P 1,000/month x 30	30,000.00
c. ART feedback/planning session with PMT	25,000.00
d. Monthly/quarterly summative reports	54,000.00
Subtotal	229,000.00
3. *Farmer Irrigator Organizer*	
a. Travel/incentive allowance of 19 FIOs – P 350 x 19 x 30	199,500.00
b. Predeployment training/staff development	75,000.00
c. Supplies – P 50/month x 19 x 30	28,500.00
Subtotal	303,000.00
4. *Farmers' training*	
a. Consultation meetings	34,000.00
b. Organization training	42,000.00
c. System management training	68,000.00
Subtotal	144,000.00
Grand total	823,000.00
5. Cost per hectare	383.00

Note: 1983 conversion rate: US$1.00 = 14.00 pesos.

Project Management Team (PMT). The Project Management Team comprised the Regional Irrigation Director, as de facto head; the Manager of the Institutional Development Division (IDD) as the Project Officer, Chief of the Operations Division; the Irrigation Superintendents of the three systems; the Farmer Irrigatos' Organizer Supervisors (FIOS) for the two pilot systems; and staff of the IDD of Regional Office. This Team was responsible for the tasks enumerated below:

i. corduct Project Management Team meetings;
ii. monitor, direct and control FIOP implementation;

iii. conduct periodic field visits for monitoring and evaluation of implementation;
iv. recommend budgetary allocation for program implementation;
v. provide institutional/technical assistance for field implementors; and
vi. submit assessment/progress reports to the Regional Irrigation Director.

Topics discussed during PMT meetings include the number of farmer groups organized, funding problems in implementation, feedbacks reported by the action researcher, and recommended solutions to problems.

The supervisory/organizing group. The supervisory/organizing group was headed by the Irrigation Superintendent who directly supervises and coordinates all FIOP and O&M activities of the system, validates farmers' demands, conducts coordination meetings, at least once a month, and attends supervisory meetings when needed. During coordination meetings, the Chief of Systems gathered all farmers' requests on rehabilitation works. He discussed this individually with every FIO and approved items that warranted his own judgement. Items that he thought were not immediately needed and not so vital in the operation of the system were shelved for further study. At this meeting each FIO and the supervisor has to report to him the status of organizing work on the number of small groups organized. Under him are the following groups of personnel with their assigned tasks or responsibilities.

The FIO supervisor:

i. directly supervises organizing activities and evaluates performance of FIOs;
ii. submits consolidated reports to the Irrigation Superintendents;
iii. conducts farmers' consultation meetings, planning meetings and regular field visits;
iv. provides technical inputs to FIOs on organization; and
v. assists in the conduct of training for FIOs.

The Farmer Irrigators' Organizers (FIOs) have to:

i. establish the physical and socioeconomic profile of the assigned deployment area;
ii. conduct house visits for contact building and problem identification;
iii. identify IPL (Identified Potential Leader) for mobilization;

iv. facilitate conduct of IPL meetings;
v. create farmers' awareness of collective problem-solving;
vi. attend coordination and staff development meetings; and
vii. submit monthly progress reports on organizing activities.

The Water Management Technologist/Watermaster was assigned to:

i. assist in identification of FIOs;
ii. provide FIOs with a list of farmers' names and parcellary maps;
iii. assist FIOs in validating the list;
iv. orient FIOs in the status and condition of irrigation facilities in their deployment areas; and
v. assist FIOs in organizing and conducting meetings.

SELECTION OF FIOS

Selection of FIOs was a totally new experience for all members of the Project Management Team. During the meeting conducted for the selection of Farmer Irrigators' Organizers, nobody was aware of the qualifications needed for FIOs. Participants contributed their own ideas about what a farmer organizer must be. Although there were some contradicting points of view, the following were the agreed criteria for the final selection of a FIO:

i. Educational attainment (at least High School Graduate certificate);
ii. Economic status (preferably middle class); defined as not very poor (that the farmer will always look for a living) and not very rich (that he may not lose the enthusiasm);
iii. Age (at least 25 years old);
iv. Status of Irrigation Service Fee (ISF) payment (good payer and no arrears of payment);
v. Must be available on call;
vi. Not holding a political position;
vii. Able to read and write;
viii. Physically fit;
ix. Respected in the area;
x. Have leadership potential;

xi. Good in oral communication; and
xii. Must be a farmer-irrigator of the lateral canal that he will represent and be a resident in the area.

Selecting a Farmer Irrigators' Organizer who has all the above qualifications is a very difficult task. A farmer may be proficient in oral communication and a respected man, but he may be illiterate; for example, some farmers had relatively low educational attainment (less than high school graduate certificate). Another prospective FIO was not a resident in the sector he represented, but his farm was located in that particular sector. Whatever difficulties there were in the FIO selection, the Watermaster was instructed to select and submit names of the best three farmers he knew, in each deployment area.

The three prospective FIOs in each sector were required to fill in a bio-data sheet (Appendix 2) and were informally interviewed by a NIA Screening Committee with members from the Project Management Team, and two personnel from the Institutional Development Department of the NIA Central Office. Basic information obtained were personal, social, and economic characteristics such as age, highest educational certificate obtained, sources of income, etc. A copy of the biodata sheet is presented as Appendix 2. A background investigation was also made by the regional and central office staff of NIA by interviewing the neighbors of the prospective FIOs. Information obtained was used to validate the data given by each prospective FIO to determine the perception of neighbors regarding their leadership capabilities and the candidates' established credibility. The interview guide for the neighbor of the prospective FIO is shown in Appendix 3.

The Central Office and regional staff, including the FIO supervisors, assessed all the information obtained. Finally, after the social investigation, the Selection and Screening Committee selected one from the three candidates for the IA area. This nominee was finally interviewed personally by the Project Officer (the Manager of the Regional Institutional Development Division). It was fortunate that no one among those selected was refused. They were well-informed about their obligations and accepted the fact that what they were about to perform was for the benefit of themselves and their co-farmers. All FIOs selected expressed their opinion that their assignments were somewhat of a challenging nature. To accomplish something memora-

ble and worthwhile for their compatriots was, to them, something which cannot be valued in monetary terms.

FIO PREDEPLOYMENT

Preparatory to the actual organizing activities, a predeployment training for the selected FIOs was held at the NIA Training Center in San Rafael, Bulacan from 2 to 7 May 1983. The objective of this training was to familiarize the organizers in all aspects of organizing work, area of deployment and possible problems to be encountered. The trainers were composed of the Project Consultant, three personnel from the Institutional Development Department of the NIA Central Office, together with the Project Management Team. Trainees numbering nineteen, (Table 9) were given parcellary maps showing areas under their jurisdiction, together with the list of farmers' names in each area. Some of the topics discussed during the training period were:

i. orientation of the FIOP;
ii. physical characteristics of the irrigation system;
iii. present status of the system and its operation;
iv. historical background of NIA organizing Irrigators' Associations;
v. farmers' problems in irrigation and suggested solutions;
vi. decision making;
vii. communication;
viii. guides in organizing the IA;
ix. steps in organizing;
x. duties of IA members;
xi. interpersonal communication to know problems in irrigation and to identify potential farmer leaders; and
xii. the conduct of meetings and mobilizing of people.

The topic of farmers' problems in irrigation and corresponding solutions drew a very lengthy and productive discussion. The discussion was centered on: 1) farmers' problems with NIA, 2) NIA staff problems with farmers, and 3) farmers' problems with co-farmers. Farmer's problems with NIA dealt mostly with nonfunctional irrigation facilities. Their major problems, however, were with co-farmers. During this discussion, NIA raised the following

questions: 1) Who were the ones throwing garbage into the canal?; 2) Who were slowly "eating-up" the canal embankment or dike season-after-season, to make their farms bigger?; 3) Who allowed work animals to destroy the canal dikes?; and 4) Who were bending and even stealing the stems and steel gates of lateral canals and turnouts? When these questions were raised, the trainees remained speechless and they all agreed that none of those problems could be resolved by NIA personnel. It was truly the work of their co-farmers. The extensive, lengthy, but fruitful discussion on this topic made them realize that there really was a need for them to participate in the operation and maintenance (O&M) of the system. They were now aware that they should not and could not leave all responsibility with the government and that they must participate and help the government. As a result, the Farmer Irrigators' Organizers themselves felt and recognized the need for a viable Irrigators' Association. Before leaving the seminar, the FIOs were advised by the Irrigation Superintendent to identify and record problems of all the farmers in their respective sectors.

FIO DEPLOYMENT

The first month of actual organizing had no results at all. Calls of FIOs for farmers to attend meetings seemed to fall on deaf ears. Farmers were always saying that they were fed up with NIA. Ever since the irrigation system was constructed, they had brought their problems to NIA, but no action had been taken. These were the common problems aired by the FIOs in the first coordination meeting held to identify the problems of their organizing works. However, upon obtaining the list of the farmers' problems and requests to NIA, (such as canal lining, thresher crossings, etc.) the Irrigation Superintendent scheduled a field visit to each FIO sector in July 1983, in order to assess their requests. When he determined the requests were reasonable, he talked to the farmers about their need to participate in all the needed repair and rehabilitation work. Agreements were made for joint-investment for every needed repair work to be undertaken. NIA would provide all materials needed and the farmers would provide free labor. The Superintendent facilitated the delivery of construction materials or equipment needed for

every FIO sector. He negotiated for the procurement and delivery of all materials needed even without an approved program of work and funding support. The FIO was of the opinion that the NIA management would support him, once they were informed that the materials were all intended for the benefit of their co-farmer clients. He also took the risk of ordering the materials, believing that the farmers would also back him up in what he was doing for them. When the farmers saw the arrival of a NIA truck, loaded with construction materials on the agreed schedule, or soon thereafter, they were greatly motivated. The FIOs became instant local heroes. The farmers then believed in them and realized that NIA was serious this time.

Establishing contacts with every individual farmer in a FIO's sector is a very difficult and troublesome activity for any FIO. One FIO thought of the idea of making contacts with three to five respected farmers or a potential farmer leader in every turnout or in a particular area, to make the job easier. This was discussed among all FIOs in their supervisory meeting with the FIO Supervisor. The criteria used in selecting these potential leaders were identified as follows. They must:

i. be respected in the community;
ii. possess good character;
iii. have good economic status (to have time for the organizing job as well as farming and family); and
iv. possess good leadership qualities.

One FIO sector covered three to five turnouts or a whole lateral canal, as shown in Figure 7. One turnout serves a minimum of 5 ha, or a maximum of 30 to 50 ha, in the case of a lateral. It also serves 5 to 30 farmers, as the case may be. The FIO selects three potential leaders per subunit or farm-ditch to constitute what is called a core group (CG). These core groups are visited by FIOs who conduct small group meetings. All the core groups (three to five) together are called an organizing group (OG). There is one OG for each turnout. The OG is responsible for contacting other farmers and convening meetings in their respective subunits or farm-ditches to discuss problems in irrigation and the need for the Turnout Association or Farmer Irrigators' Groups (FIGs). These are called *Bukete ng Samahang Magpapatubig (BSM)*, in the Tagalog dialect (which means Farmer Irrigators' Group). These are joined at a higher level to form the Irrigators' Associations. The FIO also conducts meetings with all the organizing groups in different turnouts. In

some cases, the FIO conducts meetings in each subunit of the turnout service area and finally, it conducts meetings of all farmers comprising the BSM, or FIGs (Farmers Irrigators' Groups), at the turnout level.

ORGANIZATION OF THE BUKETE NG SAMAHANG MAAGAPATABIG OR FARMER IRRIGATORS' GROUP

Following the training, a preorganizational meeting was conducted for all farmers served by the turnout. Farmers discussed their problems in the area, such as the repair of canals, the need for culverts, and especially, poor distribution of water. The problems gathered by the FIO from these meetings were then submitted to the FIO Supervisor. The farmers' problems and needs were discussed at bimonthly supervisory meetings, presided over by the FIO Supervisor. These meetings, held alternatively in different FIO houses, were attended by the FIOs, the Zone Engineer and Watermasters. All problems of disrepair and the need for rehabilitation and improvement works were identified and recorded by the Zone Engineer for submission to the Irrigation Superintendent for action.

In the formation of the BSMs or FIGs, the FIO maintained a logbook of activities which was occasionally checked or monitored by the Supervisor. The date and place of meetings and attendance were recorded, as well as the major topics and problems discussed. In some instances, the FIOs provided snacks for the meetings held, paid by them personally. In other instances, the FIO Supervisor temporarily shouldered the cost, for reimbursement from the NIA funds. Problems in organizing were also presented by the FIOs to their Supervisor. The FIO Supervisor who was previously a Watermaster in another division within AMRIS had some background knowledge in organizing work. He began to organize farmers in his former division when he was selected personally by the Irrigation Superintendent. He had a very good relationship with the farmers in his previous assignment. The job of the FIO Supervisor was given to him.

When all farmers in a turnout agreed to form the BSM, a meeting was scheduled for the election of BSM officers. The officers elected were the Chairman, Vice-Chairman, Secretary, Treasurer and Auditor. This process

was repeated for each turnout until all the BSMs were formed by October 1983. It took about 5 months for the 7 FIOs to organize the 28 BSMs, which now constitute the Bustos-Pandi Irrigators' Association or BUSPAN IA. The indicators set forth by the FIO Supervisor and the FIOs demonstrating that the BSMs were organized, were the following:

i. about 90 percent of the farmers in a BSM attended monthly meetings;
ii. ninety percent of the farmers participated in canal maintenance and provided free labor in rehabilitation and repair works;
iii. farmers who were unable to attend meetings paid penalties on the amount agreed upon; and
iv. farmers who were unable to participate in repair works sent their sons or other people to represent them.

As an incentive, each of the 7 FIOs received 350 pesos per month (US$16.00) for a period of six months. This was subsequently increased to 500 pesos per month for the next 18 months. The agreement between NIA and the FIOs to undertake the organizing activities covers a one-year period. As a reward for a job well done, NIA decided to grant them a one-year extension. In 1990, the contracts of FIOs in the Irrigation Operation Support Project (IOSP) covered a one-year period without extension. As provided in the bylaws of the Irrigators' Association, the FIOs were installed as members of the Board of Advisers. They were required to attend the monthly meetings of the Board of Directors and any other meetings that required their attendance. They were given the same transportation expenses given to members of the Board of Directors to attend meetings. This incentive started from 30 pesos per meeting attended in 1984 to the present 80 pesos per attendance (US$3.00). They were given the same penalties as for Directors for not attending meetings, such as forfeiture of the incentive plus payment of a fine of 30 pesos for each absence. These incentives and penalties were all agreed upon by the Board of Directors and the Board of Advisers.

CHAPTER 4

The Birth of Buspan IA Incorporated

ORGANIZATIONAL ESTABLISHMENT

SHORTLY AFTER THE 28 BSMs were organized, NIA conducted a workshop on establishing farmers' organizations, from 4 to 7 October, 1983. It was during this workshop, on 6 October, 1983 (five months after the predeployment training of the FIOs) that BPEPIS became established as the Bustos-Pandi Irrigators' Association, Incorporated, or BUSPAN IA, INC. The seminar was attended by the BSM chairman and FIOs. The FIO supervisor served as one of the resource speakers while the FIOs acted as facilitators in their sectoral group sessions.

In the workshop, the officers of the Irrigators' Association (IA) were elected and the bylaws of the Association were formulated, improved and revised. The Securities and Exchange Commission (SEC) requirements were discussed, and the IA held its first Meeting of the Board of Directors. The topics discussed in the meeting included the need for discipline among officers and members of the IA, the schedule of their regular monthly meetings and the role of the FIOs as members of the Board of Advisers of the IA. During the election of officers, NIA advised the group on the need for officers to come from various portions or sectors of the service area. The FIOs served to heighten the awareness and interest level of the BSM chairmen toward IA formation. Each one of them explained to the group the need for the farmers to be united.

One FIO confessed that earlier he was a problem farmer and had always caused illegal checking of the check structure near his house. He owned approximately 10 ha of land located adjacent to the canal and he had always wanted his farm to be full of water at all times. He never bothered to know if other farmers downstream had their share of water. Today, after NIA had oriented him on various irrigation problems and after he had gone around to

see the plight of other farmers, he says he is convinced that farmers must group together. After this orientation he no longer caused illegal checking and allowed downstream farmers to get the water first.

Another FIO told the group that one farmer had told him that there was no need for an association, since he and other farmers were religiously paying the Irrigation Service Fee to NIA. The FIO had asked that farmer if he was happy and contented, in just having the water and paying the ISF, knowing that there were farmers downstream who were unable to get water, just because of the result of that line of thinking and reasoning. The FIO informed the group that the farmer was stumped by that, and that he was able to convince the farmer of the need to organize themselves. The farmer was even elected as chairman of the BSM in his area.

Other FIOs reiterated and emphasized that since most of the farmers were old, they must have something of worth and value that their children must inherit and that showing the young generation a good example of leadership and the value of unity would surely guide their children to a meaningful and contended life in the years to come. By citing such examples as those above, the FIOs facilitated and enhanced speedy formation of the BUSPAN IA. Thirteen months after the predeployment training of FIOs, in June 1984, NIA formally turned over full management of the Pump Irrigation System to the BUSPAN IA. The details of the Memorandum of Agreement between NIA and BUSPAN IA are shown in Appendix 4.

There was a great deal of apprehension among members of the Board of Directors of the IA during the final discussions, prior to the signing of the turnover agreement. They were unsure whether they could efficiently manage the operations of the Pump Irrigation System. There were so many questions of "how" and "if" from the farmers. However, NIA managed to convince them that it would always support and guide them in their management. NIA also emphasized the need and timing for their participation. If farmers would not participate in O&M, the cost of operation would continue to increase, while the collection efficiency rate remained unaltered. NIA would be forced to pass the burden on to the farmers and increase the ISF at the minimum level that revenue would break even with the operational cost. On the other hand, if the farmers would participate and be able to save costs, whatever surplus or profit obtained would be given to them. In the end, the farmers agreed to take over the pump operation for one year on a trial

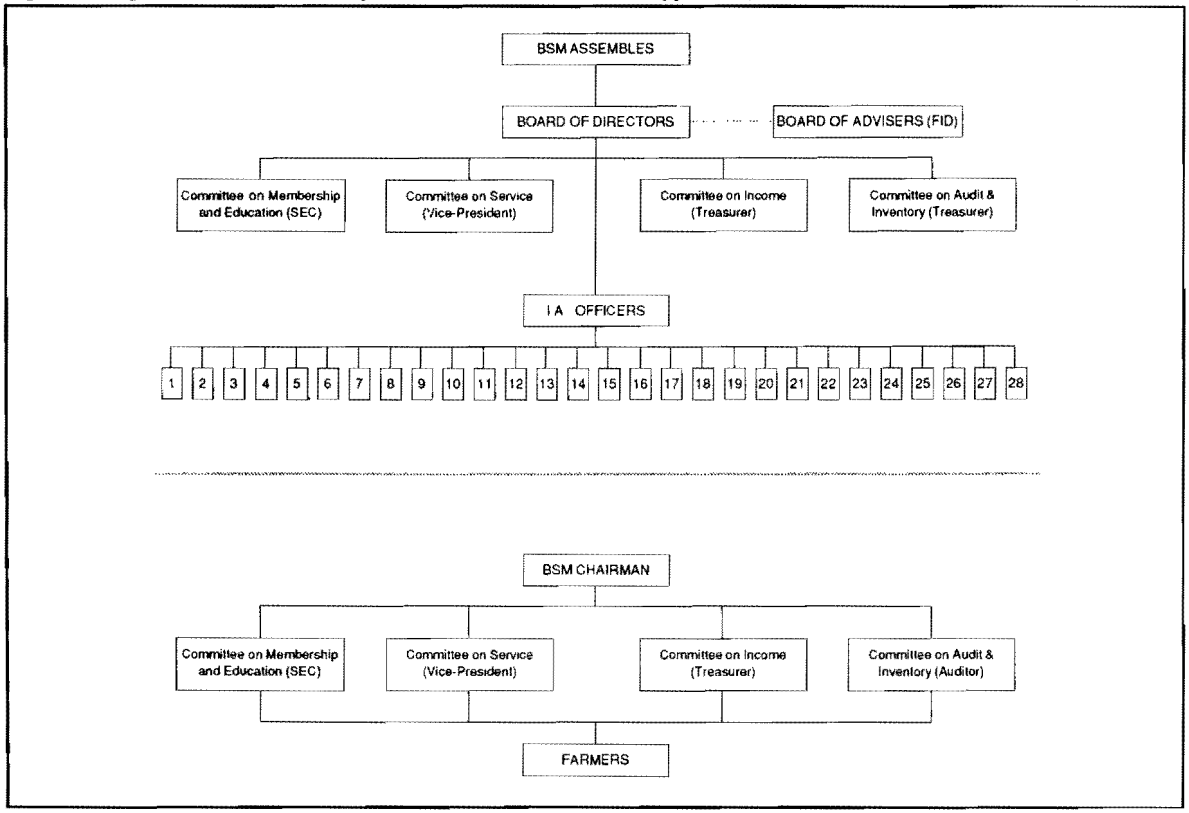
basis, beginning with the wet-season crop of 1984 until the dry-season crop of 1985. The rest is history. They realized at the end of the wet-season crop of 1984, that they had reduced power consumption, had increased collection and that the IA had netted an income of more than 100,000 pesos (US$7,100).

The relationship that had developed among BUSPAN IA, the other IAs in AMRIS, and NIA is something worth mentioning. With the initiative of BUSPAN IA, all Irrigators' Associations organized by AMRIS eventually grouped themselves in 1986 as the AMRIS Confederation of Irrigators' Association, with NIA as its adviser. The primary purpose of the Confederation is for IAs to advise and help each other solve problems within their respective Associations. Strengthening O&M performance, attaining self-sustainability, and joining each other for or against national issues of concern have become other activities of the Confederation.

Recently, NIA encountered another stumbling block in its quest for corporate financial viability and self-sustainability. Recently, national politicians, urged by some politically cause-oriented groups, sponsored bills in the Senate that would provide partial or free irrigation to farmers. During the preliminary hearing at the Senate Committee on Agriculture and Food on 3 August 1989, the NIA Administrator was requested to present NIA's concerns about the proposed bills. Together with the presidents of BUSPAN IA and the Angat-Bustos-Pandi Irrigators' Association (ANBUSPA IA), he informed the Senate Committee on Agriculture and Food that abolishing the Irrigation Service Fee was not the answer to supporting farmers. He told the Committee that the farmers in their organizations were amortizing the Pump Irrigation System to the government and managing the system itself. They are the ones collecting the ISF that is even higher than the gravity rates and still they attain a 100-percent collection. Besides being unfair to the farmers in upland areas and in Pump Irrigation Systems, the proposed bill will only encourage the farmers to always rely on the government. They also stated that to support and help the farmers, the government should finance a so-called "Rice Production Cluster" Project, designed to enable IAs to take over postharvest activities from the middlemen and traders (Appendix 5).

Figure 9 (p. 48) shows the organizational structure of BUSPAN IA. There are 28 members on the Board of Directors. These are the 28 BSM chairmen. The Board of Directors elected from among themselves the IA officers and through NIA's guidance, they created four committees to handle various

Figure 9. Organizational structure of BUSPAN IA at the IA level (upper box) and at the BSM level (lower box).



tasks of the IA. The officers who were elected among the 28 BSM chairmen are the following:

i. President — The President acts as the Head of the IA. He is responsible for all IA transactions;

ii. Vice-President — Two Vice-Presidents are elected. The first Vice-President is the chairman of the committee on service, while the second Vice-President acts as co-chairman. They are responsible for the implementation of the rotation schedule and overall water distribution within the IA;

iii. Secretary — The Secretary acts as the chairman of the committee on membership and education. He is in charge of the follow-up activities for training and application for membership;

iv. Auditor — The Auditor is the chairman of the committee on Audit and Inventory. He is responsible for checking financial transactions and all properties acquired by the Association. He is also responsible for auditing the IA accounts and records.

Members of the Board of Directors who were not elected as officers of the IA were assigned to different committees as members. Each committee comprised four members. At the BSM level, the same sets of officers were elected with only one Vice-President and the same set of committees was created. Election of officers is done annually. Election at the BSM level takes place every first Friday of the year. This is followed by the election of officers at the IA level every second Friday of the year.

Prior to the monthly meeting of the Board of Directors, a monthly BSM meeting is also held. They discuss problems affecting operations and all unresolved issues are forwarded to the Board of Directors for decisions. Once agreement or a decision is made at the Board of Directors' level, this is brought down to the BSM level for implementation. The elected President of the IA presides over the monthly meeting of the Board of Directors. He also presides over the meeting at the BSM level. In the first board meeting, it was decided that an amount of 30 pesos would be given to each member of the Board of Directors for attendance of meeting and a fine of 30 pesos for each absence. So, a member of the Board of Directors who is absent from one meeting not only pays the fine but forfeits his incentive. All collected fines

and forfeited incentives accrue to the Board of Directors' fund. In January 1986, on the suggestion of the President, the Board of Directors approved an additional incentive of 50 pesos per officer to encourage them to actively participate in all IA activities.

The role of the FIOs up to 1990 has been advisory. They are permanently installed as the Board of Advisers. They attend the monthly meetings and also give guidance. They attend BSM meetings for their sectors. They see to it that policies of the IA are being implemented. Like the Board of the Directors, the FIOs are also issued with the same incentives for attending meetings of the Board of Directors and are imposed the same fines and penalties if they fail to attend them.

During the first year of operation, the IA hired the following personnel:

i. Irrigators' Aide who manages water distribution under the guidance of the Committee on Service;

ii. Accountant who acts also as Billing Clerk in preparing the ISF bill for each BSM in the turnout group; and

iii. Pump Operator.

As part of the IA development program, NIA scheduled and conducted the following training to further develop and strengthen the capability of the IA.

i. *System Management Training* held from 25 to 27 July 1984 was attended by the BSM chairmen and vice-chairmen and FIOs. The trainees were given lectures on simple water-management practices, such as principles of closing of rice dike openings, if farms are fully irrigated, checking and closing rice leakages, and close coordination among farmers to prevent water flow to the drains. The importance of planting early maturing varieties and simultaneous farm operations was also discussed. During the System Management Training, the participants had a very strong appreciation of this concept as they were able to relate it to the power used in pumping irrigation water.

ii. *Seminar on Billing, Collection and Remittance System* was held from 11 to 12 September 1984. This was attended by the BSM chairmen, treasurers, the IA accountant and FIOs. Billing Clerks of AMRIS gave lectures on the preparation of ISF bills. In the case of the IA, the

preparation of group bills per BSM was taught. The importance of regular remittance of collections was also emphasized.

iii. *Financial Management Seminar* held from 23 to 25 August 1985, was attended by the BSM chairmen, treasurers, the IA accountant and FIOs. On financial matters, the groups were given guidelines on simple accounting procedures and practices. The Accounting Clerk of the System gave lectures on the importance of keeping records of money or funds coming in and out of the IA or BSM.

iv. *Basic Leadership Development Course* conducted from 11 to 13 December 1985, was attended by the BSM chairmen and FIOs. Proper procedures in conducting meetings were discussed in this seminar. Methods for agenda preparation as well as recording of the minutes of meetings were given emphasis during this course.

The major role of the FIOs in these training programs, aside from attending them, is to make sure that the BSM officers are all present. With the exception of members who were sick or who were absent because of unavoidable commitments, attendance in all seminars was nearly 100 percent.

SYSTEMS MAINTENANCE AND OPERATION UNDER BUSPAN IA

According to the agreement between NIA and BUSPAN IA, (Appendix 4), NIA provided full financial assistance for pump repairs until 31 May, 1985. After this date the association took over. For canal maintenance, the main canal was subdivided among the 28 BSMs. Each BSM was given the responsibility to maintain about 500 meters. This included the laterals and farm ditches within each of their sectors. Each BSM was given P 800 by the IA per cropping season for the monthly clearing and maintenance of canals. They used this amount for snacks and meals during maintenance operations. In case of emergency repairs along the main canal, the President is authorized to hire laborers. If repair works occur on lateral canals, the BSM concerned will take care of the job, including expenses. If major repairs such as desilting

of canals and surfacing and leveling of roadways are needed that require equipment and vehicles, NIA provides the equipment (including operator) free of rental charges, while the Association shoulders the fuel expenses.

During the NIA management, it formulated a water delivery schedule for the Pump Irrigation System. At that time, the Watermaster, the Ditchtenders and the Irrigation Superintendent had to work during the night just to facilitate water delivery to the downstream areas. On account of farmers' interference, it was very hard to deliver water to downstream areas, not only in the Pump Irrigation System but in the gravity system as well. When BUSPAN IA took over, they adopted the NIA schedule, and after some weeks of operation they made some modifications and adjustments, to suit actual field conditions based on the length of time needed to irrigate all BSMs. Figure 10 (p. 53) shows the modified water distribution schedule of the BUSPAN IA. The schedule calls for the Committee on Service to facilitate water delivery to BSMs 1 to 19 from 8.00 a.m. Friday to 8.00 a.m. Monday. Water is rotated to BSMs 20 to 25 from 8.00 a.m. Monday to 8.00 a.m. Thursday. During this period, water is simultaneously delivered to low-lying areas in BSMs 1 to 19, although the gate openings of all intakes will be adjusted to half that of the previous openings. On the last shift, all gates from BSMs 1 to 25 will be closed to deliver water to BSMs 26, 27 and 28 from 8.00 a.m. Thursday to 8.00 a.m. Friday.

FINANCIAL MANAGEMENT AND ISF COLLECTION

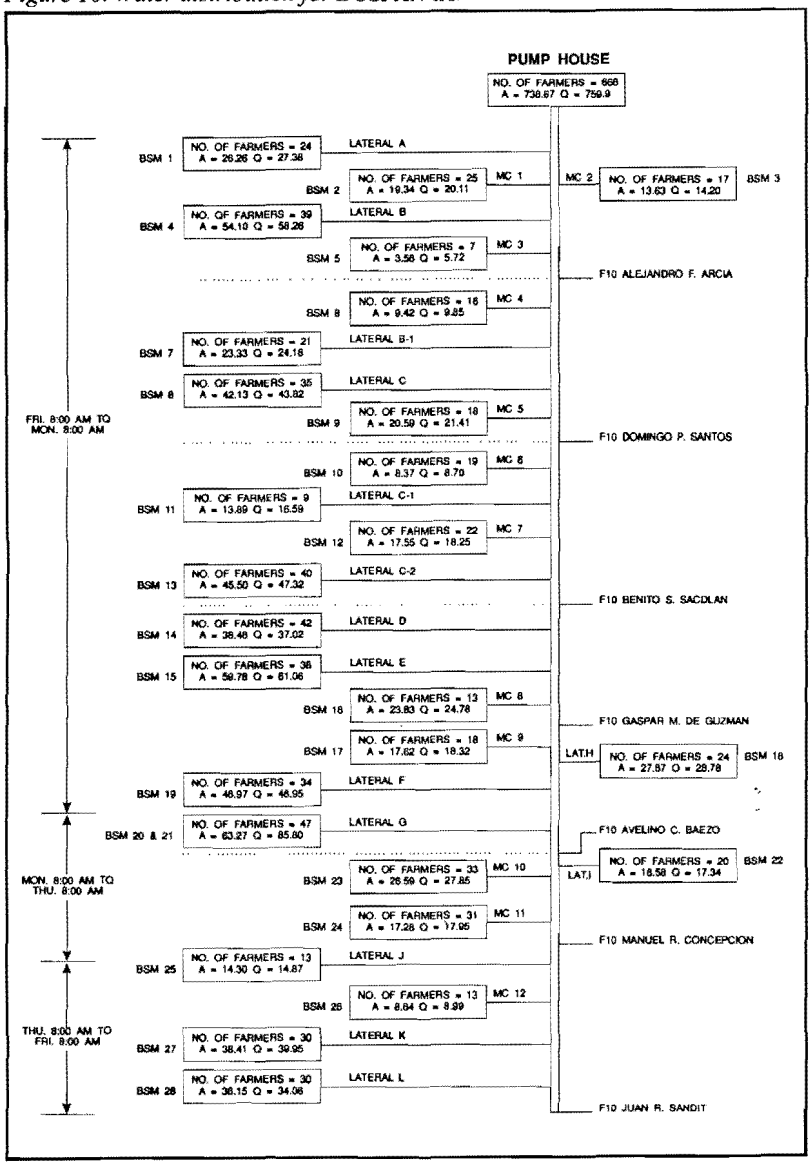
In accordance with IA regulations, every member is required to pay the following fees:

i. an initial membership fee of 10 pesos;

ii. annual dues of 5 pesos;

iii. an Irrigation Service Fee equivalent to 5.5 and 5 cavans (275 and 250 kg of unmilled rice) for dry and wet seasons, respectively, (the government price per kilogram is adopted as a cash equivalent). The ISF rates adopted by BUSPAPN IA were based on the minimum rate computed by NIA so that the IA will be able to pay O&M cost

Figure 10. Water distribution for BUSPAN IA.



including the power bill and obtain a minimal surplus at 80 percent collection efficiency.

The membership fee for each member was collected upon submission of membership applications, while the annual dues were collected during the first month of each year. Irrigation Service Fees were collected twice a year during the harvest period for wet- and dry-season crops. Two weeks before harvest, the IA Accountant prepares group bills for each BSM. This is distributed to the Treasurer of each BSM, who collects the ISF from each member. All fees collected at BSM levels by the BSM Treasurers are remitted to the IA Treasurer. The IA treasurer then deposits all collections in the bank. In 1984, as a safeguard for all fees collected, the IA opened a savings and time deposit account with a government banking institution. The IA Treasurer and the Accountant are required to prepare and submit a monthly financial statement on the collections and transactions of the IA. These are presented and discussed at every meeting of the Board of Directors.

In the initial year of operation (1984), BUSPAN IA netted a total profit of 134,000 pesos. By December 1989, the IA had a total account balance of 620,460 pesos (US$22,000). Part of the accumulated funds is earmarked for the purchase of a new pump in case of adverse eventualities. The IA is also presently engaged in the cooperative movement. About 200,000 pesos were invested in the cooperative to assist farmers in the form of loans with very low interest. By December 1989, the cooperative where the IA is affiliated had a total net worth of 3,000,000 pesos (US$107,000).

Today, during informal gatherings, BUSPAN IA officers and members like to tease NIA officials and employees on how the latter were able to brainwash them. Farmers say the NIA personnel are now sitting pretty, while the IA bears all the hardship and headaches in running the Pump Irrigation System. But they also reply quickly that they are only joking. They have realized that without their participation NIA would have always had a hard time in satisfying its farmer clients. They have seen NIA try its best and they knew of some untoward incidents in the past, when even a farmer was killed over water disputes. Today, even though there are sacrifices made, and to be made, every officer and member of the IA is happy. They always have one joke to crack at the NIA, "Do you want the IA to teach NIA lessons in how to increase collection efficiency?"

CHAPTER 5

Impacts and Results

THE TURNOVER OF management from NIA to the farmers and the establishment of the BUSPAN Irrigators' Association brought about noticeable positive results in management performance. There were visible and partly unexpected changes as a result of the management turnover to the IA. Compared to the NIA management from 1972 to the dry-season crop of 1984, BUSPAN IA has registered marked changes in the areas of operation, maintenance, cropping intensity, power consumption and collection rates of Irrigation Service Fees. Starting with the wet-season crop of 1984, BUSPAN IA developed itself as a typical model of what an Irrigators' Association should be so that it became worthy of being publicized in various Philippine magazines. BUSPAN IA demonstrated to others, the importance of being a united group, with cohesiveness and an ability to resolve conflicts, and above all, the ability to stand on its own feet.

OPERATION AND MAINTENANCE

Discipline, the importance of instituting which was learnt by its members in the previous seminars conducted by NIA, played a major role in O&M activity. During the NIA management, its personnel, working day and night, could hardly irrigate the downstream and low-lying areas of the main canal and laterals due to farmer interference with the operation. Today, farmers located in downstream areas have little to complain about. Because of cooperation among them, the most downstream area can be irrigated in a single day. The field of maintenance is another area which shows impressive changes. In most cases, a NIA Ditchtender would complete cleaning a 3.5-km canal in about two months, whereas BUSPAN IA has demonstrated its ability to clean the entire length of main canal and laterals (33 km) including

farmditches, in less than two days. The spirit of *Bayanihan* (group work in the Tagalog dialect), had been reactivated by the Association. Over 90 percent of all officers and members participate in every maintenance activity scheduled monthly by the IA.

CROPPING INTENSITY

Table 12 below shows a comparison of cropping intensities between NIA and IA management periods. They are roughly the same. Although not substantial, on account of inconsistencies in systems' records, there was nevertheless a slight improvement in the irrigated area.

Table 12. Irrigated area and cropping intensity.

Year	Official service area (ha)	Irrigated/ benefited area (ha)		Cropping intensity	Remarks
		Dry	Wet		
1982	731	651	670	181	Under NIA management
1983	731	649	649	178	Under NIA management
1984	731	649	677	181	Dry (NIA). Wet (IA)
1985	731	677	654	182	Under IA
1986	731	661	664	181	- do -
1987	731	665	664	182	- do -
1988	731	665	665	182	- do -
1989	731	667	667	182	- do -

Immediately after the IA took over in 1984, there was an increase of 28 ha in the irrigated area (677–649). The varying changes in the data on seasonal cropping intensity can be attributed to the following factors:

i. removal of portions of roadways, residential lots, etc., from actual areas being tilled;

ii. discovery of additional areas — most farmers never expose the truth about the exact area of the land they have tilled. This problem is common in the gravity flow systems and also at BUSPAN;

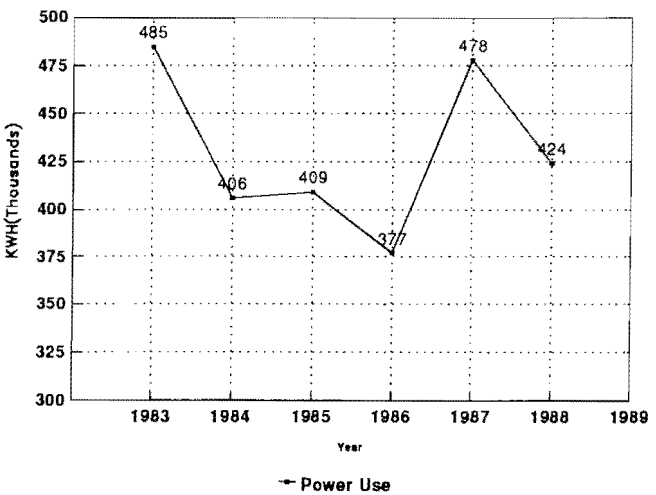
iii. land conversion — some areas are being converted into housing subdivisions and industrial sites.

At present, BUSPAN is in the process of checking questionable data on land area irrigated by its IA. It has requested NIA to teach them practical methods and techniques for land measurement. BUSPAN suspects that approximately 100 ha of irrigated area is not included in the figures. Once the ongoing area checking activities are completed, BUSPAN is sure that the cropping intensity will increase considerably.

POWER CONSUMPTION

One of the significant changes resulting in the takeover of management by the Irrigators' Association is the large reduction in power consumption as shown in Figure 11.

Figure 11. Power consumption by NIA and BUSPAN IA 1984–1988.



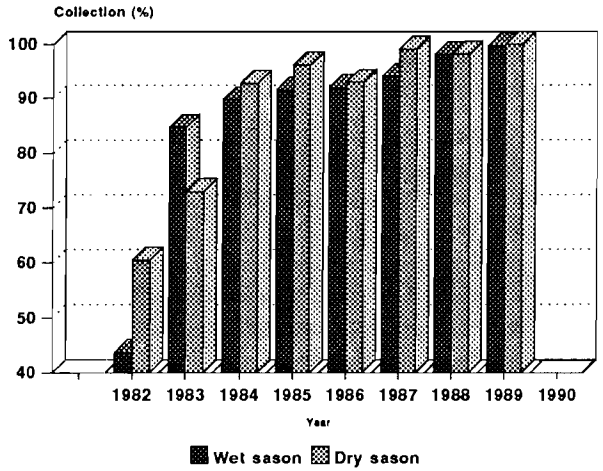
During the NIA management, farmers never bothered if they saw water overflowing rice dikes and being wasted in the drains. They contended that because they were paying irrigation service fees they could take all the water they needed. Today, it is a totally different story. By teaching them simple water-management practices, such as closing of rice field openings if the rice field is already full of water, and not allowing water to flow into drains, BUSPAN IA was able to save considerably on power consumption. Comparing the 1983 and 1984 consumptions, it was found that the IA was able to save 79,000 kwh. Farmers often remind their co-farmers about water wastage. They are now more conscious of water conservation in order to save on electricity costs of water pumped. In 1987, on account of the late rainfall, they operated the pumps in the wet season as though it was a dry season. They were even able to save 7,000 kwh compared to the 1983 consumption. The total cost of electricity consumed plus other operational costs for every cropping season is provided by NIA to each of the IAs of the three Pump Irrigation Systems, annually. The Irrigators' Associations then compute the ISF rates that will be sufficient to cover the total operational cost plus a certain surplus.

IRRIGATION SERVICE FEE COLLECTION

Another very significant change is the tremendous increase in the collection of Irrigation Service Fees. During the period that the system was still under the supervision of NIA, the average collection efficiency attained was 50 percent. Figure 12 (p. 59) shows the comparative collection performance under the NIA and the IA managements.

As shown in this figure, starting in 1984 when BUSPAN IA took over the management of the system, the collection efficiency never went below 90 percent. It attained a 100 percent collection rate in 1989, and is trying to maintain it at that level. One foreign visitor commented that it was really a fantastic thing to happen. He was unable to figure out how, that, in spite of the high operation and maintenance cost and the increase in Irrigation Service Fee rates, the farmers were willing and able to take over the management of the Pump Irrigation System and still increase the efficiency of fee collection as well.

Figure 12. Irrigation Service Fee collection, BPEPIS, 1982-1989.



Source: NIA collection 1982.
BUSPAN IA collection 1984-1989.

Some of the factors that could be attributed to this situation are the following:

i. *System of collection.* The IA sets the date and time of ISF collection. They call this *lagom bayad*, meaning mass payment in the Tagolog dialect. Each season, all farmers proceed to a designated place and pay their ISF, thereby saving on time and effort for the collector. This system is also being practiced in the gravity-flow area.

ii. *Collection incentives.* A 10-percent collection incentive is given by the IA to any BSM group that can collect 100 percent of the current collectibles. Additional incentives are given for collecting from back accounts.

iii. *Collection Strategy.* An approved Board decision to take over the farm operation of a delinquent member recently took effect. As agreed upon, the IA took over the farm operation of the lot of a delinquent

member (with a signed statement of approval) and after deducting all operations costs including the arrears or part of it, the remainder was issued to the delinquent member. Still another strategy employed is the group visiting of all the IA officers and the BOA. At lunch time, they proceed to the house of the erring member and out of Filipino tradition, the member is forced to prepare meals or snacks for the group, which makes him incur additinal expenses.

iv. *Sense of awareness and proper orientation.* Since the start of the need for self-sustainability or viability, NIA had been vigorously campaigning for farmer payment of ISF. NIA was informing farmers how fortunate they were. They were told they were harvesting two crops per year because of irrigation, while other farmers were unable to do so. The ISF collected or to be collected from them, was used or was to be used in developing or constructing irrigation facilities in areas that had no irrigation systems yet.

v. *Sense of concern and responsibility.* Farmers are aware that they are using electricity for the operation of their pumps. They must collectively pay the total cost of power. They developed the initiative and willingness to pay the ISF since they realized they were benefiting from the irrigation system and were solely responsible for its maintenance.

There are several changes worth mentioning. At present, farmers seldom interfere in the operation of their system. If they do, they inform the Committee on service of their needs for it to make the necessary adjustments. Many farmers in all sectors now know almost everybody else. Earlier, heated arguments about water disputes or even fist fights that could lead to loss of life had often occurred. Today, it is common for farmers to request one another to stand as sponsors in the baptisms or weddings of their children. As a result of their coordination, water is distributed much more equitably to all farmers, resulting in increases in individual crop yields.

The results and impacts of the BUSPAN IA success story do not end in Bulacan Province. Publications in various Philippines magazine, telling stories of the accomplishment of Bulacan farmers continue to reach places as far away as 500 km north and south of Manila. As a result, BUSPAN IA officers, FIOs and members, together with the NIA Region Three staff, are

often either invited to go to those places or are visited at their headquarters by various farmers or officials seeking interaction with them. Reports of management takeovers by other Irrigators' Associations that had interacted with BUSPAN have elated the Bulacan group, with the attendant feeling of happiness for a job well done and a mission accomplished. Some of the irrigation systems that were turned over to Irrigators' Associations, which had interacted with the Bulacan BUSPAN group are the following:

i. Libmanan – Cabusao Pump Irrigation System in Bicol Province;

ii. Bonga Pump No. 1 and 2 in Ilocos Norte Province;

iii. Guimba Groundwater Pump Irrigation System in Nueva Ecija Province;

vi. Solana – Tugeugarao Pump Irrigation System in Cagayan Province; and

v. Iguig – Amulong Pump Irrigation System also in Cagayan Province.

Another larger impact is the nationwide dissemination of the FIOP model. Having attained encouraging results in its implementation in AMRIS, the NIA top management decided to implement FIOP in all National Irrigation Systems. In mid-1988, a rehabilitation project was started in all National Irrigation Systems in the twelve regions of NIA called the Irrigation Operation Support Project(IOSP), which includes the accelerated formation of Irrigators' Associations as one of its major components. Relying on the successful experiences in AMRIS, NIA decided to implement FIOP as the organizing approach in all National Irrigation Systems. This new project involves the recruitment and training of numerous farmers for organizing participation in rehabilitation and later in management.

This facilitated another precedent in the life of BUSPAN farmer organizers. The entire Regional Institutional Development staff of Region Three, all AMRIS staff, all FIOs and officers of BUSPAN IA were invited as resource speakers during the training for this project. They traveled to region Four in Laguna Province and Region Five in Bicol Province in Luzon. They took an airplance to Region Six in Iloilo city in the Visaya Cagayan Oro. One of the farmer organizers said that he could not believe what was happening. He never expected in his lifetime, that someday he would be able to fly in an airplane. Yet it did happen. The entire Region Three staff was invited to give

lectures on FIOP implementation in various regional offices. The BUSPAN and other IA officers and FIOs interacted with the recruited FIOs in the predeployment training of FIOs in other regions. They shared experiences and gave lectures on how the IAs can manage systems and farmers' problems with co-farmers. They answered questions and encouraged the IAs to take over management of irrigation systems.

CHAPTER 6

Conclusions

THE EXPERIENCE OF implementing the Farmer Irrigator Organizing Project (FIOP) in the Philippines has demonstrated encouraging results that have led to a wider application of the process nationwide. The FIOP approach, which played a positive part in the development of active Irrigators' Associations in National Irrigation Systems of NIA had proven the following:

i. That farmers, given the respect and responsibility to which they are entitled, possess the skill, knowledge, and diplomacy to be *equal partners* with local government officials and international development agencies in the irrigation business.

ii. A farmer irrigator as an organizer of water–users' groups can, not only be more *economical* for agencies such as NIA, but be very *effective* as well, compared with the approach of employing a professional community organizer. The direct organizing cost per hectare is obviously less. But more importantly, the FIO, being a respected resident in the area, knows the practical problems and sentiments of the farmers. He liaises effectively between NIA and the farmers, and remains in the area to assist in the long-term viability of the Irrigators' Associations.

iii. The FIO has advantages over professional organizers in the areas of *integration* and *contact building, leader identification* and *familiarity* of the irrigation system. He knows the noncooperative or problematic farmers in the community. He can develop strategies to convince the farmers of the necessity to be cooperative and encourage them since he knows their weaknesses and sentiments.

iv. *Selection* and *screening* of prospective FIOs were very crucial to the success of the organizing process. Personal characteristics like integrity, credibility, leadership potential and willingness to work,

played a very important role in organizing the farmers into an Irrigators' Association.

v. The *predeployment training* helped a lot in developing the effectiveness of the FIO. This was reinforced by the very *close supervision and monitoring* by the FIO Supervisor, and by the frequent meetings conducted to assess the problems and progress in organizing.

vi. The "*human touch*" approach employed by the FIOs, the FIO Supervisor and all other NIA personnel involved, played a very important role in the success of the project. Respect for people, patience, desire for success, determination and interest for the IA formation were the characteristics of all personnel who joined together in the implementation of the Farmer Irrigator Organizing Project.

vii. The *rehabilitation*, coupled with the *frequent visits* of the FIOs to the farmers, manifested the true commitment of NIA to assist them. This motivated the farmers to join the Association and seemed to shorten the lead time for the formation of Irrigators' Associations.

viii. The approach used by the FIO of starting with a small number of farmers as *contact persons* and discussing with them their needs and problems seemed to be a good strategy for organizing IAs.

ix. The *moral* and *financial support* of NIA, the sincere *commitment* of the project management team, and *well-motivated* and *trained* FIOs, all contributed to the success of FIOP.

x. Finally, the full *support* and immediate *response* of the *NIA top management* were very instrumental in the success of FIOP, particularly in the involvement of the *farmers* in the rehabilitation and improvement of the irrigation system.

CHAPTER 7

Parting Words of One Irrigation Manager to Others

A GREAT MANY developmental, scientific, social, institutional or even research projects have been implemented to improve irrigation and rural welfare in general. Many of them have been successful but a great number have failed. The success or failure of a project sometimes depends much on the person or persons directly involved in the execution of the project. Some are of the opinion that the person who is in charge can make or unmake a project, meaning, that the success or failure of any undertaking depends mainly on the leader. In the implementation of FIOP and behind its success, there were a great number of factors or "keys." These "keys" cannot yet be found written in any book. These can be found in the testimonies of persons implementing a project. In the case of the Farmer Irrigator Organizing Project these "keys" are the following.

i. *Character*. This is one of the most important traits needed. An honest, open, and friendly approach by project staff in dealing with people, especially the farmers, played a crucial part in the early formation of BUSPAN IA. The close relationship between the farmers and the NIA management developed in such a manner that each gained the trust and confidence of the other.

ii. *Sincerity*. Fulfillment of promises and commitments gained the total and unending support of the BUSPAN farmers. The granting of valid requests of farmers motivated them to provide unpaid labor. This was true not only in BUSPAN, but in the other Irrigators' Associations of AMRIS as well.

iii. *Taking risks*. Not all people can do this. But as demonstrated in AMRIS, it played an important role in the speedy formation of Irrigators' Associations. The immediate response to their needs

restored their trust and confidence in NIA and this played a part in achieving a much-increased collection efficiency. Farmers knew that the Chief of the System had acted on their behalf. They knew that he had taken immediate action to grant their valid demands prior to a formally approved program of work and funding support. They were ready to support and back him up anytime, whatever the consequences.

iv. *Say "no" with a smile.* Not all farmers' requests can be granted. There are requests that are for personal benefits and not for social merit. Saying "no" with a smile, together with a pat on the farmers' shoulders, and giving assurances of further contact will avoid hurting their feelings. Explaining openly that there are other priorities, and that funds are inadequate, helps to make farmers understand such situations.

v. *Socializing.* This is one weakness of the farmers. Often being among the lowest class of society, they feel very proud when top government official associate with them. After field inspections, dialogues, meetings and so on, there needs to be socializing between the farmers and the agency people. The NIA officials from the Regional Irrigation Director, the Chief of System, to the Ditchtenders see to it that they allocate some of their time for this. They drink wine or beer with the farmers who appreciate it deeply. However, there may be a disadvantage to this. The NIA officials found themselves standing as sponsors in the weddings, baptisms or confirmations of farmers' children. This can be a big drain on their time and pockets. They became godfathers of various sons and daughters of farmers. This is the *kumpare* system in the Philippines. Although it may be expensive, it is a pleasure and honor to be a godfather. This certainly enhanced the relationship between the farmers and the NIA officials.

vi. *Positive thinking.* This plays an important part in the success of any project. "If others can do it, surely, we also can do it." This was the perception of all FIOP implementors when it was piloted in AMRIS. Every project and farmer leader must possess this spirit. This type of encouragement by the NIA officials to BUSPAN IA, gave the latter the courage to take over the management of the Pump Irrigation System.

vii. *Put your heart into it.* In most cases, managers find little time or pay little attention to projects that are outside the scope of their qualifications. For example, civil engineers tend to look for, and then see jobs in a narrow way, such as that it is only a matter of construction. Architects tend to deal only with the planning and designing of houses and buildings, etc. This kind of "professionalism" is happening in irrigation development not only in the Philippines but also in other countries. Managers of irrigation systems who are mostly civil engineers, look after the construction and rehabilitation of irrigation facilities and pay little attention to or give little interest in institutional activities, such as the development of effective Irrigators' Associations. At most, they delegate such activities to subordinates, for attending meetings or having dialogues with the farmers. Hence, they tend to be unaware of actual "sociotechnical" situations and problems. They may not be able to find solutions, which often require some local knowledge. This should not be the case. Managers of irrigation systems should put their hearts into whatever activities that effect the well-being of their systems, whether it be construction, rehabilitation, fee collection or institutional matters. If irrigation managers do this, they are likely to succeed in any undertakings for the benefit of the farmers.

The abovementioned traits are only a few that managers in the irrigation business need to possess. If they do not like meeting people, especially farmers, then they must try to learn and adjust themselves. Top management of irrigation agencies should do all they can to cultivate these attitudes among their staff, perhaps through staff selection, training, and incentives, but most of all through personal example. Irrigation is the farmers' business. If you need to accomplish something relative to irrigation, meeting and mixing with the farmers are unavoidable. To all my colleagues who might be involved in similar projects and undertakings my parting words are "YOU CAN DO IT."

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Republika ng Pilipinas
PAMPANSANG PANGASIWAAN NG PATUBIG
(National Irrigation Administration)
Lungsod ng Quezon
MC # 48: s. 1981

MEMORANDUM CIRCULAR

TO: ALL REGIONAL IRRIGATION DIRECTORS, PROJECT AND OPERATIONS MANAGERS, IRRIGATION SUPERINTENDENTS, AND OFFICERS IN CHARGE OF NATIONAL IRRIGATION SYSTEMS

NATIONAL IRRIGATION ADMINISTRATION

SUBJECT: SUPPLEMENT GUIDELINE FOR PUMP OPERATION IN NATIONAL IRRIGATION SYSTEMS

Due to the high cost of fuel and power it is hereby directed that for every wet or dry cropping season the pump must commence operation only when the collection of the current irrigation service fees due to NIA reach a minimum of 90 percent.

Current irrigation service fees refer to the irrigation service fees corresponding to the last cropping season, i.e., if the ensuing pump operation is intended for dry season crop, current irrigation service fees correspond to the dry season crop harvested immediately preceding the last wet season crop. On the other hand, in case the ensuing pump operation is for the wet season crop, current irrigation service fees correspond to the wet season crop harvested immediately preceding the last dry season crop.

The deadline for the evaluation of the 90 percent collection performance should be one (1) month before the start of each cropping season (wet or dry, as the case may be). The cropping season calendar should be in accordance with MC No. 31-A, S. 1978 as amended by MC No. 72, S. 1979.

Please disseminate the foregoing information to farmers concerned and to as wide an area as possible for the information and guidance of the irrigation end users.

Strict compliance is hereby enjoined.

(Sgd.) FIORELLO R. ESTUAR
Administrator

November 6, 1981.

BIO - DATA

Name: ..... Nickname: .....
Address: ..... Sex: .....
Age: ..... Birthday: .....
Educational attainment: ..... Occupation : .....
Other sources of income: .....
Religion: ..... Civil status: .....
Name of wife : ..... Age: .....

Names of children	Age	Occupation
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....

Number of years in farming: ..... Tenurial status: .....
Number of farm helpers: ..... Total farm size: .....
Place/Location of farm: .....

Membership in organizations:

Name of training	Position	Inclusive year
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....

Training attended:

.....
.....
.....
.....

Awards received (if any):
Name of training

.....
.....
.....
.....
.....

Other skills/characteristics: .....
Hobbies: .....
Status of health: ( ) with sickness
( ) normal
Status in writing:
( ) good
( ) average
( ) poor
Status of ISF payment:
( ) regular payment
( ) irregular payment
( ) not paying
Are you ready to serve in your barangay as a Farmer Irrigators' Organizer (FIO)?
( ) Yes ( ) No
Are you ready to attend training conducted by NIA for farmer organizers?
( ) Yes ( ) No
Please write below the projects/activities in which you participated which were spearheaded for the benefit and progress of the barangay.

.....
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.....
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.....

All information written is true.

.....
Signature of Farmer

Recorded:

.....
Interviewer

FIO NEIGHBOR'S INTERVIEW

Name of FIO Candidate: .....
Name of Neighbor: .....

1. Do you know the candidate (state name of FIO)? .....
2. Is he a resident of this barangay? .....
3. How long has he lived here? .....
4. What was his highest educational attainment? .....
5. What is his present source of income/occupation? .....
6. What are the activities he is now engaged in? .....
7. Is he good in dealing with other people? .....
8. What were his major accomplishments for the barangay? .....
9. Does he have enemies? .....
10. Does he have any health problems
    which will adversely affect his work as FIO? .....
11. Is he a member of organizations here?
    If yes, does he perform his duties? .....
12. Does he have experience in leading an organization or the barangay? .....
13. What is his economic status in life? .....
14. Are his opinions accepted in a meeting? .....
15. Does he have experience in conducting meetings? .....
16. In case he gets selected as a FIO, do you think
    he will accept it and does he have time for this work? .....
17. In case he gets selected as a FIO, will he be accepted by
    the people in this barangay? If yes, what are the reasons? .....

Status of health:
( ) with sickness
( ) normal

Ability to write:
( ) good
( ) average
( ) poor

Status of ISF payment:
( ) regular payment
( ) irregular payment
( ) not paying

Are you ready to serve in your barangay as a Farmer Irrigators' Organizer (FIO)?

( ) Yes ( ) No

Are you ready to attend training conducted by NIA for farmer organizers?

( ) Yes ( ) No

Please write below the projects/activities in which you participated which were spearheaded for the benefit and progress of the barangay

.....
.....
.....
.....
.....
.....
.....
.....
.....

All information written is true

.....
Signature of Farmer

Recorded:

.....
Interviewer

MEMORANDUM OF AGREEMENT
BETWEEN
NATIONAL IRRIGATION ADMINISTRATION (NIA)
AND
BUSPAN IRRIGATORS' ASSOCIATION, INC.
(BUSPAN IA)
KNOW ALL MEN BY THESE PRESENT:

This Memorandum of Agreement entered this 8th day of June, 1984 at the Municipality of Bustos, Province of Bulacan, by and between:

The NATIONAL IRRIGATION ADMINISTRATION (NIA), a government-owned and controlled corporation duly existing under Republic Act No. 3601, as amended by Presidential Decree No. 552, with principal office at NIA Bldg. Complex, EDSA, Quezon City, represented by the NIA Assistant Administrator for Operations, BENJAMIN U. BAGADION, who is duly authorized to represent it in this contract, hereinafter referred to as NIA;

and

The BUSPAN IRRIGATORS' ASSOCIATION, INC., an association organized and registered with the Securities and Exchange Commission, Registration No. 119382, with principal office at Liciada, Bustos, Bulacan, represented by the President, MR. DANILO R. ZUNIGA, who is duly authorized to represent it in this contract, hereinafter referred to as BUSPAN IA;

WITNESSETH

Whereas, the NIA owns and manages the Bustos-Pandi Extension System (BPE) which includes the pump, canals and structures built for irrigation purposes;

Whereas, the Buspan Irrigators' Association, Inc. wishes to operate and manage the Bustos-Pandi Extension System, and to fully own the said system after token of payment (amortization) has been completed;

Whereas, the NIA has decided to turn over the operation and management of said pump system to Buspan IA, and its full ownership after the amount of 0.5 cavan per hectare per year, for a total area of 650 ha, within a period of 25 years, as a token payment for the expenses in the construction of the Bustos-Pandi Extension System, has been completed and/or fully paid.

WITNESS:
(Sgd.) FEDERICO L. GENDRANO
Regional Irrigation Director

(Sgd.) SERGIO D. MARIANO
Vice-President

(Sgd.) LEONARDO S. GONZALES
Irrigation Superintendent V

(Sgd.) LINO S CAPISTRANO
Secretary

BUSPAN IRRIGATORS'
ASSOCIATION, INC. BY:

(Sgd.) DANILO R. ZUNIGA
President

NATIONAL IRRIGATION
ADMINISTRATION BY:

(Sgd.) BENJAMIN U. BAGADION
Asst. Administrator for Operations

APPROVED:
(Sgd.) CESAR L. TECH
Administrator

Whereas, the NIA and Buspan IA, mutually agreed on the following:

I DUTIES AND RESPONSIBILITIES OF NIA:

1. To temporarily shoulder/advance the monthly expenses on power cost used in the operation of the pump, maintenance of transmission line and salaries of pump operator, which will be paid by Buspan IA at the end of each cropping season; though, if and when the IA already has enough funds, the said monthly expenses shall be paid by the IA;

2. To provide the IA President the bills of the monthly expenses on power cost, maintenance of transmission line and salaries of pump operator, the total amount of which will be paid by the Buspan IA, 15 days after harvesting;

3. To provide the IA President the total amount of bill for the token of payment (25 kg of dried and clean *palay*/ha), 15 days after harvesting (dry season) yearly, for 25 years;

4. To furnish the IA a copy of the statement of old back accounts on Irrigation Service Fee (ISF) of farmers benefited by the Bustos-Pandi Extension Pump System before turnover of the system's O & M to the IA;

5. To provide the Buspan IA the incentive of 25 percent of the total collection on ISF (old back accounts), starting from the effectivity of the contract;

6. To provide/conduct trainings for officers and members of the Buspan IA necessary for the proper system's management and IA development;

7. To continuously supervise, through the Supervising Water Management Technologist (SWMT), the Buspan IA in the system's operation and other related activities of the IA which NIA is capable of doing;

8. To provide the Buspan IA the official receipts (IA receipts) to be used in the collection of old back accounts and current accounts of farmers within the system's service area; and

9. To audit the IA receipts, book of accounts and financial statements of Buspan IA if an when the need arises, and provide the assistance called for.

NATIONAL IRRIGATION ADMINISTRATION BY:

(Sgd.) BENJAMIN U. BAGADION
Asst. Administrator for Operations

APPROVED:
(Sgd.) CESAR L. TECH
Administrator

BUSPAN IRRIGATORS' ASSOCIATION, INC. BY

(Sgd.) DANILO R. ZUNIGA
President

WITNESS:
(Sgd.) FEDERICO L. GENDRANO
Regional Irrigation Director

(Sgd.) SERGIO D. MARIANO
Vice-President

(Sgd.) LEONARDO S. GONZALES
Irrigation Superintendent V

(Sgd.) LINO S CAPISTRANO
Secretary

II. DUTIES AND RESPONSIBILITIES OF THE BUSPAN IRRIGATORS' ASSOCIATION, INC.

1. To pay NIA the amount advanced on power cost, maintenance of transmission line, salaries and other fringe benefits of pump operator, at the end of every cropping season;
2. To set and inform NIA on the ISF rate per hectare to be collected from farmers/irrigated/benefited by pump system;
3. To pay NIA the construction cost (token of payment) of BPE at the end of dry cropping season each year, within 25 years, on or before May 31 of every year;
4. To manage the operation and mainteuance of the pump system, as well as the distribution of irrigation water from the main canal to laterals and farm ditches;
5. To maintain the cleanliness of canal networks within the service area of BPE;
6. To bill and collect current accounts of farmers benefited by the Bustos-Pandi Extension System;
7. To collect old back accounts of farmers benefited by the Bustos-Pandi Extension System and remit the same to the NIA Collecting Officer every Friday, or as soon as the collection reaches P1,000.00, for issuance of NIA official receipt. Any amount of old back accounts collection that has not been remitted to NIA shall remain the IA's obligation and the concerned farmer as back accounts;
8. To assign/designate a bonded collector to collect Irrigation Service Fees (current and old back accounts) from farmers benefited by the Bustos-Pandi Extension System;
9. To coordinate with NIA personnel on problems that may arise on the management of Bustos-Pandi Extension System which is beyond the capacity of the IA to decide; and
10. To present the IA receipts, records and book of accounts for NIA's audit.

III. OVERALL CONDITIONS/PROVISIONS

1. All old back accounts will no longer earn interest effective the date of turnover of the system to the Buspan IA, on agreement that the IA will continuously collect the said

WITNESS:
(Sgd.) FEDERICO L. GENDRANO
Regional Irrigation Director
(Sgd.) SERGIO D. MARIANO
Vice-President
(Sgd.) LEONARDO S. GONZALES
Irrigation Superintendent V
(Sgd.) LINO S CAPISTRANO
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BUSPAN IRRIGATORS' ASSOCIATION, INC. BY:
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President

NATIONAL IRRIGATION ADMINISTRATION BY:
(Sgd.) BENJAMIN U. BAGADION
Asst. Administrator for Operations

APPROVED:
(Sgd.) CESAR L. TECH
Administrator

accounts from farmers covered by the Bustos-Pandi Extension System. All payments of old back accounts collected by the Buspan IA from the date this agreement comes into effect, will earn an incentive of 25 percent of the total collection for the IA, the remaining 75 percent to be given to NIA;

2. NIA has the right to temporarily suspend the pump operation when the Buspan IA fails to pay the amount advanced by NIA on power cost, transmission line maintenance, salaries of pump operator, during the preceding harvesting season, except when the reason for the failure is the damage of 75 percent of crops due to typhoon and other calamities;

3. The Buspan IA cannot transfer the management of Bustos-Pandi Extension System to any person or organization/ association, without prior authorization from the NIA Administrator;

4. All rehabilitation and repair works to be done on the system's facilities and structures shall be the obligation of the IA, though, if the said rehabilitation works is beyond the IA's budget, this may be financed by the NIA upon request of the IA on the agreement that the expenses to be incurred will be paid to the NIA by the IA, without interest, on an installment basis and on conditions that will be agreed upon by both parties, until the whole amount is fully paid;

5. NIA will issue to Buspan IA the certificate of ownership of the Bustos-Pandi Extension System, after the latter has fully paid the token of payment (amortization) for the construction cost of the pump system, as stated in this Memorandum of Agreement, as well as other obligations of the Buspan IA to NIA, if there are any. The said certificate of ownership will be duly approved by the NIA Administrator; and

6. NIA will continuously supervise the Buspan IA in the management of the Bustos-Pandi Extension System.

IV. SPECIAL CONDITIONS/PROVISIONS:

1. Inasmuch as the Buspan Irrigators' Association assisted in the collection of old back accounts since January, 1984, NIA will provide the IA the equivalent 15 percent of the total amount collected on old back accounts from January, 1984 to May 31, 1984;

WITNESS:
(Sgd.) FEDERICO L. GENDRANO
Regional Irrigation Director

(Sgd.) SERGIO D. MARIANO
Vice-President
(Sgd.) LEONARDO S. GONZALES
Irrigation Superintendent V
(Sgd.) LINO S CAPISTRANO
Secretary

BUSPAN IRRIGATORS' ASSOCIATION, INC BY:

(Sgd.) DANILO R. ZUNIGA
President

NATIONAL IRRIGATION ADMINISTRATION BY:

(Sgd.) BENJAMIN U. BAGADION
Asst. Administrator for Operations

APPROVED
(Sgd.) CESAR L. TECH
Administrator

2. NIA will be responsible for the repair of the pump in case it ceases to function properly from wet season, 1984 to dry season, 1984-85. The IA will be responsible for the repair of the pump after this period;

3. NIA will replace the pump's bearing and bushing after the dry season, 1984-85;

4. The NIA shall continuously rehabilitate/ construct all works started and programmed for Bustos-Pandi Extension System before the effectivity of this contract. All machineries and equipment to be used in these works shall be provided by NIA while the IA will shoulder the costs of oil and crude oil. NIA, though, cannot pursue the implementation of such rehabilitation/construction works, as some unavoidable circumstances may arise;

5. NIA shall provide the amount of ten thousand pesos (P10,000.00) to be used by the Buspan IA for operation and maintenance expenses for the wet season, 1984. The said amount will be paid by the IA to the NIA after the said cropping season, without interest; and

6. The Buspan IA shall be given the right to use a part of Working Station #1, as the IA's office.

WITNESS:
(Sgd.) FEDERICO L. GENDRANO
Regional Irrigation Director

(Sgd.) SERGIO D. MARIANO
Vice-President

(Sgd.) LEONARDO S. GONZALES
Irrigation Superintendent V

(Sgd.) LINO S CAPISTRANO
Secretary

V. CONTRACT AMENDMENTS:

Each of the two parties may request an amendment to any part of this contract, during its term, in accordance with the necessity for the amendments, as may be agreed upon by both parties.

BUSPAN IRRIGATORS' ASSOCIATION, INC. BY:

(Sgd.) DANILO R. ZUNIGA
President

VI. TERMINATION OF THE CONTRACT:

Each of the two parties may request the termination of this contract during its term, for reasons of failure of one party to comply with its obligations or of violation of any of the provisions, as stated in the contract, upon notice served by the party requesting its termination 30 days prior to the termination. However, the amount spent by NIA on power cost, maintenance of transmission line, salaries of pump operator shall first be paid by the Buspan IA to NIA before the contract be terminated.

NATIONAL IRRIGATION ADMINISTRATION BY:

(Sgd.) BENJAMIN U. BAGADION
Asst. Administrator for Operations

APPROVED:
(Sgd.) CESAR L. TECH
Administrator

VII. EFFECTIVITY OF THE CONTRACT:

This contract shall take effect at the start of wet season, 1984 or June 1, 1984, after the approval of the NIA Administrator.

IN WITNESS HEREOF, both parties have hereunto set their hands this 8th day of June, 1984 at Bustos, Bulacan.

NATIONAL IRRIGATION ADMINISTRATION BY:

(Sgd.) BENJAMIN U. BAGADION
Asst. Administrator for Operations

APPROVED:
(Sgd.) CESAR L. TECH
Administrator

BUSPAN IRRIGATORS' ASSOCIATION, INC. BY:

(Sgd.) DANILO R. ZUNIGA
President

WITNESS:
(Sgd.) FEDERICO L. GENDRANO
Regional Irrigation Director

(Sgd.) SERGIO D. MARIANO
Vice-President
(Sgd.) LEONARDO S. GONZALES
Irrigation Superintendent V
(Sgd.) LINO S CAPISTRANO
Secretary

Republic of the Philippines
Senate
Manila

COMMITTEE ON AGRICULTURE AND FOOD

Date : Thursday, August 3, 1989

Time : 9:00 a.m.

Place : Room 404
Executive House Bldg.
Manila

Present : Hon. Agapito A. Aquino, Chairman
Hon. Heherson T. Alvarez, Member

Representatives :

Sen. Joseph E Estrada	-	Mr. Jon Cuate
Sen. Erneste M Maceda	-	Mr. Meijindi Bakil
Sen. John K. Osmena	-	Mr. Jupert Remelle
Sen. Vincente T Paterno	-	Ms. Kathy Noran
Sen. Santanina T Rasul	-	Mr. Rufino Eslae Jr.
Sen. T Guingona Jr.	-	Mr. Ramil Felix
Sen. Juan Enrile	-	Mr. Gerald Barteleme

Guests
Mr. Jose del Rosario, Jr., Administrator, NIA
Mr. Cablayan, Orlando, NIA
Mr. Rustico Tagarda, Philippines Association of Small Farmers
Mr. Ben Cruz, Chairman, SANDUGUAN
Mr. Luis Paterno, SANDUGUAN
Mr. Ben Arenas, Jr., SNADUGUAN
Mr. Nicanor Manginduyes, AMA
Mr. Danilo Zuniega
Mr. Antonio Guansing, ANBUSPA

Committee Secretary: Mr. Arthur Atilas

Committee Stenographers:
Ms. Lourcos AV Laquety
Ms. Cielito B de Guzman
Ms. Maria O'Mayor
Ms. Odensy Jarencio

At 9:18 a.m. the Chairman of the Committee on Agriculture and Food, Hon. Agapito A. Aquino called the meeting to order.

THE CHAIRMAN. May we start the meeting with a short prayer from Atty. Batrelabae.

P R A Y E R....

THE CHAIRMAN. Good morning everybody!. We are conducting a hearing today with the subject matter of irrigation. Of course, these are semigroups who would like the free use of water and there are those who believe that free use of water will only lead to non-maintenance of a lot of irrigation facilities that may lead to economic losses and so on. So, we are here to listen to everybody.

Meanwhile, I'd like to call the roll; representing Sen. Estrada is Joe Cueta. Is. Sen. Estrada coming because this is his bill?

MR. CUETO. Mayroon siyang appointment,

THE CHAIRMAN. Okay. Mr. Romolle representing Sen. Osmena; Ms. Kathy Moran representing Sen. Paterna, Atty; Rufino Eslao, representing Sen. Basul; Atty. Bartelabao; representing Sen. Enrile; and Ramil Felix representing Sen. Guingona.

Okay, We'd like to welcome our guests today. So far, we have the Administrator of the new, the brand new fresh Administrator of National Irrigation, Mr. Jose del Rosario, Jr., welcome; Mr. Orlando Cablayan, also of NIA; Mr. Rustice Tagarda, Philippines Association of Small Farmers, Mr. Cruz, the famous Mr. Cruz of SANDUGUAN; Mr. Louie Paterna, also of SANDUGUAN; and Mr. Arenan, also of SANDUGUAN, Mr. Manginduyas of AMA, SANDUGUAN; Mr. Danilo Zuniego, Pandi Irrigators' Association. Mayroon pa tayong sa Irrigation, darating pa.

Now, there are two ways we can proceed with our meeting. We can start either with Mr. Cruz or with Mr. del Rosario. I believe, Mr. del Rosario has a presentation:

MR. DEL ROSARIO. Yes, Sir.

THE CHAIRMAN. Is the presentation visual or oral?

VOICE. Both?

MR. DEL ROSARIO. Mr. Chairman

THE CHAIRMAN. Yes

MR. DEL ROSARIO. We will be presenting it via slide. We have some transparencies prepared.

THE CHAIRMAN. Okay. So Mr. Cruz, do you prefer that we listen first to NIA?

MR. CRUZ. Yes, I think so.

THE CHAIRMAN. Okay, let's listen to NIA make its presentation regarding the irrigation status in the Philippines

MR. DEL ROSARIO. Thank you, Sir, Chairman.

We have distributed the briefing materials for you to be able to follow the transparencies. We have in the first transparency, the functions, objectives and powers of the National Irrigation Administration and these are to investigate and study the available water resources in the country, primarily for irrigation purposes. And among the functions of NIA is to plan, design, construct, improve irrigation projects; to operate and maintain the national irrigation systems that we have constructed; and we have the authority to supervise the operation, maintenance and repair of all communal and pump irrigation systems that have been constructed.

One of the other functions or main functions of NIA is also to charge and collect fees from the beneficiaries of water from all irrigation systems constructed by or under the administration of NIA. Such fees or administration charges as may be necessary to cover the cost of operation, maintenance and insurance and to recover the cost of construction within a reasonable period of time can be collected to the extent consistent with government policy. We would just like to highlight some of these because they have some implications on the issue at hand which is to recover funds or portions thereof spent for the construction or rehabilitation of communal irrigation systems.

Now, NIA, has under its jurisdiction, three types of irrigation systems:

The first includes the national irrigation systems which are generally 1,000 hectares or more in area and are constructed, operated and maintained by NIA. These systems are either the reservoir schemes like Pantabangan and Angat, or diversion type schemes which are the most common ones, and pump irrigation systems.

We also have communal irrigation systems which are generally less than 1,000 hectares and are constructed by NIA with the participation of the farmers. The operation and maintenance of these systems are, however, the responsibilities of the Farmers Irrigators' Associations. The farmers, in turn, amortize the construction cost of these communal irrigation systems. So ultimately, these communal irrigation systems shall become the properties of the communal Farmers Irrigators' Associations.

We also have pump irrigation systems which generally refer to communal pump systems and these draw water from rivers and also from groundwater. Similarly, these communal pump irrigation systems are being amortized by the farmers, so the pump systems become their own.

The area of National Irrigation Systems which are operated and maintained by NIA is more than 600,000 hectares, as of December 1988; the extent of communal irrigation systems is 484,000 ha; that of pumps 152,000 ha. So the aggregate of the two communal irrigation systems — these are the pumps and the regular communals — is more than 800,000 ha out of a potential irrigable area of 3.1 million ha. So at the moment, we have developed so far, about 46 percent of the total potential or irrigation in the country.

Now, we would like to define irrigation service as one which must be valued according to the benefits derived by the beneficiaries, and we would like to associate it with electricity and domestic water supply. It provides farmers the opportunity to earn more from the cultivation of the land because with irrigation, productivity is increased significantly, and the service of irrigation is given to individual identifiable farmers. Irrigation service fees are payments for the service of bringing water to the farmlands at the right quantity and at the right time to promote increased production. So, we would like to stress, Mr. Chairman, that irrigation service is given directly to the individual

farmers unlike roads which are to the whole cross section of the population. We can identify the beneficiaries of the irrigation service.

Now, with regard to the bill of Sen. Alvarez...

MR. DEL ROSARIO.

... with regard the bill of Sen. Alvarez, which suggests that all those owning less than three hectares will be exempted from irrigation fees, we have here the form giving size distribution in selected national irrigation systems in the country and this would represent practically all national irrigation systems and we found out that the average size of landholding is 2.27 hectares.

However, about 57 percent of farmers own less than 3 hectares, while 43 percent own 3 or more hectares of land. These are the average farmholdings.

Now, with regard to the construction of projects, the National Irrigation Administration draws its funds from equity or government contributions from foreign lands and grounds; from corporate funds of the agency, drawn from its internal root generating and the government subsidizing for communal irrigation projects.

And presented here are the figures, which we have spent so far.

Now, the next exhibit would show how the various areas of lands have contributed to the development of irrigation projects. I would like to point out here, especially for the years 1985, '86, and '89, that the NIA drew from its corporate funds these amounts in order to support the construction of projects when these are reduced infusion of capital for irrigation.

You may notice that under the column of "equity," there is a reduction in the amounts given for irrigation development. So, we had to draw from the internal resources of NIA for investment.

The next exhibit would show where NIA disburses its funds for its recurrent costs, particularly for operation and maintenance, and these are from irrigation fee collection, management fees imposed on the projects, the rentals we collect from the lease of our equipment, and then amortization from communal and pump systems, and from other sources, like the sale of idle assets.

When what we have collected by way of irrigation fees is compared with the actual operation and maintenance costs incurred by the National Irrigation Systems found in the next Table, you will notice, Mr. Chairman that the NIA has been chipping in a sizeable amount in order to be able to operate and maintain the facilities, because the irrigation fee collections have been far short of what we are spending for operation and maintenance.

The next Table shows how much it costs to operate the three types of irrigation systems. You will notice here that the most expensive type of irrigation systems to operate are the pump irrigation systems because of the prohibitive cost of electricity.

The next type to be considered would be the reservoir type because we have to maintain the high dams. However, these systems have more assured sources of water. The cheapest type would be the diversion type system, which costs only about 340 pesos per ha at the moment and this will rise to 377 pesos per ha in 1992.

However, I would like to point out here the area coverage of each of these types of systems.

Now, the total annual current expenditures of NIA show that operation and maintenance for the systems comprise a little more than 60 percent of the total costs. The rest is spent for investigation of projects, construction of projects design and so on.

The next figure shows the income distribution of NIA and it would show here that collection from irrigation fees comprises 39 percent of the total income. The others have shares ranging from 9 percent for amortization of communal projects to 17 percent for equipment rental.

So, the main bulk of the source for operation and maintenance is still coming from irrigation service fees.

The next Table shows how much benefit the farmers in irrigated areas draw from irrigation development. This presentation shows the gross value of production between irrigated and rain-fed farms on a per-hectare basis and the net return.

You would notice, Mr. Chairman, that a farmer in irrigated farms would be deriving three times the benefit for the whole year that a farmer in rain-fed farms would derive for the same period. So, irrigation here is a key input to increased incomes.

May I invite your attention to the next Table, because this would compare the statistics on the different farming systems. We have here three columns — National Irrigation Systems, the Communal Irrigation Systems and the Rain-Fed Farms.

The National Irrigation Systems are owned by the government, through NIA while Communal Systems are owned by the farmers.

The responsibility for operation and maintenance of National Irigation Systems rests with the government, while that for Communal Irrigation Systems rests with the farmers. The development cost per hectare, of course, varies because the facilities in National Irrigation Systems are more complete.

I would like to call your attention, however, to the area and number of farmers served under each category. There are more farmers benefiting from Communal Irrigation Systems than from the National Irrigation Systems, and there are still more farmers not benefited by irrigation facilities.

And, again, we have presented here a comparison of the net income per year, per hectare for the different farmers. You would notice here that the greatest advantage has gone to the farmers served by the irrigation service fees scheme, and these are:

The first one — If the government provides the operation and maintenance budget, we strongly feel that irrigation systems performance will deteriorate.

It would be a high risk due to the delayed releases of funds for timely operation and maintenance.

Mr. Chairman, we would like to point out that normally, releases from the budget for practically all activities are made in March or April or even May, and for irrigation service or for agricultural production, or rice production for that matter, we cannot wait for the releases in March, April or May; because our dry-season crop which is really the higher yield crop is during the months of January, February and March.

THE CHAIRMAN: Of course, you can change your fiscal year to start July 1.

MR. DEL ROSARIO: But the releases may, however, still come in March, April and May. And then if we rely on budgetary appropriations for operation and maintenance, once the systems are damaged by typhoons and other calamities, we would be very susceptible to service disruption, because we would have to rely on the budgetary appropriations and releases of the payers' facilities. And the observation is that whenever there are budgetary cut-backs, they start mostly with cut-backs in operation and maintenance.

Again, if irrigation service fees support operation and maintenance, we would have better assurance for sustained operations, and then there is a higher degree of performance on the part of the National Irrigation Administration because of the commitment and accountability to the farmers who are the beneficiaries who are paying irrigation service fees, and then there would be ready fund sourcing for typhoon damages and calamities.

THE CHAIRMAN. At this stage, may we recognize the presence of Senator Alvarez who is principal coauthor of the other bill in consideration.

We would like to also welcome Mr. Antonio Guansing, President of ANBUSPA Irrigators' Association, Mr. Bobby Malabanan of the Office of Senator Alvares; and Benjie Arenas. I already called Benjie. Malakas ha sa amin, you are listed twice.

Please proceed.

MR. DEL ROSARIO. Thank you, Mr. Chairman. Another issue and concern that we have identified is the increase in government expenditures. If operation and maintenance will be budgeted, it will compete for funds from an already limited resource which otherwise could be used for the development of rented farms or other priority projects of the government.

We have observed also that if we were to abolish the payment of irrigation service fees in the National Irrigation Systems, this would benefit only farmers in the irrigated areas, particularly of the National Irrigation Systems, and this would exclude giving assistance to the rented farms, and we would notice that this would further widen the gap between the incomes of the farmers in irrigated and rented farms, because if you abolish the irrigation service fee, it would be reducing the production cost on the part of the irrigated farmer, Mr. Chairman.

THE CHAIRMAN. Of course, we will reserve our comments until the presentation is finished. I see Mr. Cruz shaking his head already.

Mr. CRUZ. Yes, Sir,

THE CHAIRMAN. But we will first finish the presentation.

MR. DEL ROSARIO. Now, we fully recognize the objectives of the bills and they will promote higher incomes to the farmers. We have made here a couple of recommendations to help the farmers, and these are: the expansion of irrigation service to the rented farms and ONM subsidy which should rather be diverted to develop the rented areas.

Another recommendation is for the provision of comprehensive packages of agricultural services, support services like extension credit, farm-to-market roads, and the like, in both irrigated and rented farms for more equitable distribution of government attention and subsidies, and then the provision of production inputs in the rented areas to help the farmers who are benefited with irrigation.

We have not shown these provisions in the transparencies; we, however, have further recommendations and these are to benefit the irrigated farmers; one of these recommendations is to look into the possibility of reducing power rates and electricity rates for the pump irrigation systems.

As you have noted in the tabulation, it is the farmers who are charged with the highest costs because of the prohibitive energy cost for running the pumps.

Then we would strongly recommend the expanded participation of the farmers in the maintenance of the irrigation facilities in order to lower maintenance costs. This would redound to reduction in operation and maintenance costs. This would, however, require the organization of farmers for them to be able to participate in the maintenance of the facilities.

Another recommendation, Mr. Chairman, is to look into the subsidy in the maintenance of service roads which are located along irrigation canals. For your information, NIA is the one maintaining these service roads which are on the banks of the irrigation canals. While it is true that we are using them mainly for maintaining the facilities, it is common knowledge that these roads are not only for the use of NIA, but for the whole rural population, and maybe if the maintenance of these roads can be treated as similar to that for barangay roads, this would cut down the requirements for operation and maintenance. That ends our presentation, Mr. Chairman.

THE CHAIRMAN. Okay. Thank you, Mr. Del Rosario. Thank you also for being concise with the report.

Of course, we do not necessarily agree with everything that is presented, and this is where, may be, at this point, we will entertain questions.

If I may please refer to the manual, please refer to the relevant page so that as we go through any question, hindi tayo pabalik-balik.

So, I suppose, regarding NIA's powers, functions and objectives, siguro naman wala tayong question diyan.

Types of irrigation development — Okay, it is a presentation of where they are now.

Status of irrigation development — Okay, it is a presentation of where they are now.

Nature of irrigation service — Okay. It is more of a definition.

With regard to farm size presentation and financing of NIA, I suppose, there is no question. Releases and availability of capital outlay, current costs, ayan: may be we can start with page 8.

As far as recurrent costs, operation and maintenance and sources of funds are concerned, do you have roughly (?) amounts regarding "a," "b," "d," and "e?" Can we have an idea of the amount of irrigation and gas collections? Is this 2,251 million pesos a year?

MR. DEL ROSARIO. Yes, Mr. Chairman, in 1988...