

ANNEX 4

IMT REVIEW AND STUDY

**THE STUDY
ON
THE IRRIGATORS ASSOCIATION STRENGTHENING PROJECT
IN
NATIONAL IRRIGATION SYSTEMS**

ANNEX 4

IMT REVIEW AND STUDY

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ANNEX 4 IMT REVIEW AND STUDY

1. NIA - IA under IMT / Joint System Management

1.1 Current Status of NISs Under IMT

There are 44 NISs (17 IOSP II, 18 WRDP and 9 ISIP II) where IMT/JSM is intensively pursued. IOSP II and WRDP are both funded by the WB, and ISIP II by ADB. Location of these IMT/JSM NISs are shown in Figure 1.1. The IOSP II was completed in 2000, while the latter both projects were due to be finished by end 2002, but because of slippage in project implementation it is likely to be extended until 2004. Two types of IMT (based on the service area) were considered. Full turnover, referring to full transfer of management of the secondary canals and other tertiary facilities (practically the whole system) was envisaged for systems with area of 3,000 ha and below. Progressive turnover was envisioned for systems with service area above 3,000 ha. All systems have undergone repair and rehabilitation before turnover to IAs.

Table 1.1 gives a summary of IMT status under IOSP II completed in 2000. The 17 systems have 185 IMT contracts issued covering a total area of about 52,300 ha or 56% of total service area of 98,000 ha. Nine (9) out of twelve (12) systems with service area of 3,000 ha and below and two (2) systems above 3,000 ha were fully turned over. It should be further noted that the irrigation facilities of Bonga 1, 2 and 3 and Cura RIS were turned over to IAs, and are being amortized following the CIS practice. Apparently, if these systems were fully turned over (including the assets), while the other systems were not, there is a inconsistency in the application of the IMT program. The matter of putting up a clear IMT policy is critical not only in view of minimizing confusion, but also more importantly from the wider perspective of viability of both NIA and IAs.

MRIIS comprising of Districts I, III and IV and considered the largest system had only 50% of its service area with IMT, and three (3) other small systems (Baggao, IAAPIS, and Sta. Maria-Mayor) failed to complete the full turnover. Table 1.2 shows the on-going IMT status of WRDP started in 1999. As of June 2002, only three (3) out of nine (9) systems under the 3,000 ha and below have completed full turnover. These are San Pablo-Cabagan, Balanac, and Roxas-Kuya. Above the 3,000 ha, the accomplishment is also way below the targets. Only 29% of the programmed area is with IMT, 31% of the total laterals transferred, and 17% or 14 out of 81 contracts have been issued. Total IAs, which have benefited is 47 out of 170 IAs or as 27%. The slow implementation is brought about by: (a) delayed releases of counterpart funds; (b) reduced staff, particularly IDOs to implement

institutional activities; and (c) less enthusiastic support coming from ditchtenders due to labor displacement. It is to be noted that ditchtenders are terminated the moment the system has been turnover to IAs.

The ISIP II target 51 IAs in nine (9) NISs in Leyte - Region VIII, and eleven (11) IAs or 22% have entered in the JSM contracts as of ending the year 2002 as shown in Table 1.3. While, 44 IAs or 86% formed Irrigation Service Cooperatives, apart from JSM contract. The ISIP II is characterized by facilitating partially concrete lined farm ditches for effective rotational irrigation, however, the delayed procurement of contracts causes the slow project implementation and institutional development.

The recently completed IOSP II reported a considerable number of farmers, about 20% of farmers interviewed, who are not familiar with IMT. The common knowledge is simply management transfer. Duties and responsibilities of IAs, including the benefits to be received were reportedly unclear. This has been the source of irritation and frustration of some IA members, a reflection of inadequate information dissemination by NIA.

1.2 Performance of ISF Collection Efficiency

An indicator showing the change in ISF collection efficiency in between the past five (5) period average (1996 - 2000) and the year 2001 in the NISs under IMT/JSM contract is shown in Table 1.4. This table explains that there are 44 NISs under full or partial IMT/JSM contracts as the achievements of World Bank and ADB assisted projects (IOSP II and WRDP by World Bank and ISIP II by ADB). Of 44 NISs, four (4) NISs were transferred to IAs for self-management including the ownership of system facilities. Except eleven (11) NISs for which ISF collection reports are either incomplete or unavailable, eight (8) NISs show the upward trend in ISF collection efficiency, while 21 NISs are in level-off and decline.

1.3 Site Reconnaissance of Four Pilot IMT - IAs

1.3.1 Site Reconnaissance of NISs under IMT

The Study Team site reconnaissance of the following four (4) NISs: Balanac RIS, Sta. Maria RIS and Agos RIS in Region IV representing group of smaller to medium scale of NIS, and MRIIS in Region II comprising the large scale irrigation system. The main purpose of site reconnaissance is to find out the actual performance of system management by IAs, particularly the identification of the impacts and benefits of IMT brought to IAs. Interviewing the IAs and NISOs officials together with walk-through along the lateral canals that IAs operated and maintained under the IMT contract was employed to collect the information. The

contents of the questionnaire are summarized below.

Questionnaire to IMT - IAs

(1) History of IMT / Background	<ul style="list-style-type: none"> - When IMT started - Responsibility sharing between NIA and IA - ISF Sharing - NIA staff in charge - ISF collection, who collects - ISF collection efficiency - How sharing was set
(2) O&M	<ul style="list-style-type: none"> - How cost estimate is made - Construction and rehabilitation on force account basis or on a contract basis - IA participation in O&M - Labor contribution
(3) Training and Education	<ul style="list-style-type: none"> - Needs - What kind of training and/or education, so far received and to be received
(4) Cooperative	<ul style="list-style-type: none"> - Existence of cooperative - Separate or same organization with IA - Kind of activities - Membership
(5) Agriculture and Agricultural Supporting Services	<ul style="list-style-type: none"> - Agricultural production - Reasons for low production, if any - What kind of supporting services are required for increased production - Credit - Extension - Marketing - Effect of floods
(6) Unpaid ISF	<ul style="list-style-type: none"> - Reason for non-payment - Countermeasure for non-payment
(7) Water management	<ul style="list-style-type: none"> - Crop calendar - Water supply manual - Facility conditions - Water discharge measurement
(8) Effect of IMT	<ul style="list-style-type: none"> - Impact of IMT - What benefit for farmers by IMT
(9) Reference	<ul style="list-style-type: none"> - IMT Contract - By-law - Audit report

1.3.2 Results of Site Reconnaissance in Region IV

The results are described below. The location of three (3) NISs is shown in Annex 7 (Figure 2.8).

(1) Features of NISs

1) General Features

The general features of three (3) NISs are summarized below.

General Features of Three IMT - NISs in Region IV

Description	Balanac RIS	Sta. Maria RIS	Agos RIS
(1) Location			
a. Region	Region IV	Region IV	Region IV
b. Province	Laguna Province	Laguna Province	Quezon Province
c. Municipality	Magdalena, Sta. Cruz, Lumban and Pagsanjan	Sta. Maria / Mabitac	Infanta

(table continued)

Description	Balanac RIS	Sta. Maria RIS	Agos RIS
(2) Project history			
a. Construction period	1966 - 1967	? - 1960	1956-1959
b. Operation started	1967	1961	1959
(3) Irrigation area			
a. in the wet season	1,056 ha	801 ha	1,204 ha
b. in the dry season	1,040 ha	801 ha	1,239 ha
(4) Number of farmers	928 households	727 households	1,574 households
(5) Land hold distribution			
a. 2 ha and below	856 households	686 households	1,392 households
b. 2 - 5 ha	72 households	41 households	0 households
(6) Average farm size	1.12 ha/household	1.33 ha/household	0.92 ha/household
(7) Land tenure status (h.h. : households)			
a. Owner cultivator	38 ha/34 h.h.	464ha/346 h.h.	885 ha/962 h.h.
b. Tenant	813 ha/725 h.h.	497 ha/371 h.h.	75 ha/82 h.h.
c. Lessee	158 ha/141 h.h.	0	141 ha/154 h.h.
d. Certificate of land transfer	22 ha/20 h.h.	0	140 ha/152 h.h.
e. Transient	9 ha/8 h.h.	13 ha/10 h.h.	39 ha/42 h.h.
(8) Irrigators Association			
a. Number of IA	one (BRISIA, Inc.)	one (Santamasi IA)	seven (One FIA)(*)
b. IA's service area	1,040 ha	974 ha	1,280ha
c. IA members (male/female)	928 (923 / 5)	727 (624 / 103)	1,392(923 / 469)
d. Date of organized	November 21, 1990	1991	1983 - 1986 (IA)
e. Date of registered	December 3, 1990	March 4, 1992	Mar. 22, 2000 (FIA)

(*) FIA : Federation of IAs

2) Engineering Features

The engineering features of three (3) NISs are summarized below.

Engineering Features of Three IMT - NISs in Region IV

Description	Balanac RIS	Sta. Maria RIS	Agos RIS
(1) Water resources			
a. Name of river	Balanac river	Sta. Maria river / Bagumbayan river	Agos river
b. Water right	1.72 m3/sec	2.1 m3/sec	2.25 m3/sec
c. Discharge at intake (dry season ave.)	4.6 m3/sec	- m3/sec	- m3/sec
d. Ave. annual rainfall	2,492 mm/year	2,492 mm/year	5,081 mm/year
(2) Intake			
a. Type of intake	Concrete diversion dam	Concrete diversion dam	Brush dam (seasonally rehab.)
b. Catchment area at intake	66.6 km2	11.5 km2	912.6 km2
c. Design intake discharge	2.11 m3/sec	1.68 m3/sec	- m3/sec

(table continued)

Description	Balanac RIS	Sta. Maria RIS	Agos RIS
(3) Irrigation canal			
a. Main canals (lined)	13.3 km (7.0 km)	13.8 km (9.5 km)	7.7 km (- km)
b. Lateral canals (lined)	7.1 km (2.0 km)	20.0 km (11.0 km)	39.7 km (- km)
c. Sub-laterals (lined)	7.8 km (2.0 km)	0 km	0 km
d. Farm ditches (lined)	43.8 km (-)	NA	NA
e. Canal facilities	253 nos. in total	251 nos. in total	340 nos. in total
(4) Number of turnout service area	32 TSA	28 TSA	63 TSAs
(5) Drainage canals	9.3 km	10 km	20.5 km
(6) Flood prone area	190 ha (annual)	0 ha (annual)	120ha
(7) Service and access roads			
a. Service roads	8.2 km (5.0 m wide)	48 km (4.0 m wide)	22.5 km (4.0 m w)
b. Access roads	20 km (6.0 m wide)	4 km (-)	3 km (4.0 m wide)
(8) Water management by NIA			
a. WRFT	1 person	1 person	1 person
b. Gate keeper	1 person	2 person	1 person

3) Agricultural Features

The agricultural features of three (3) NISs are summarized below.

Agricultural Features of Three IMT - NISs in Region IV

Description	Balanac RIS	Sta. Maria RIS	Agos RIS
(1) Crop production			
a. Palay (dry season)	712 ha (irrigated) / 85 cavans/ha	900 ha (irrigated) / 85 cavans/ha	1,119 ha (irrigated) / 80 cavans/ha
b. Palay (wet season)	850 ha (irrigated) / 75 cavans/ha	909 ha (irrigated) / 80 cavans/ha	1,119 ha (irrigated) / 80 cavans/ha
(2) Constraints to crop production	damages to palay by rats and snail	damages to palay by rats and snail	Flood during wet season

(2) Profile of Irrigators Association (IA)

Balanac and Sta. Maria RISs are composed of single IA, while Agos RIS has seven (7) IAs which federated into a single federation. The features are summarized below.

Irrigators Association Profiles of Three IMT - NISs in Region IV

Description	Balanac RIS	Sta. Maria RIS	Agos RIS
(1) Name of the IA / FIA	BRISIA, Inc.	Santamasi IA	FARFIA
(2) History			
a. Year organized	November 21, 1990	1991	2000
b. Date of registration to SEC	December 3, 1990	March 4, 1992	December 27, 2000
(3) Number of member			
a. Total (membership rate in %)	928 (100%)	727 (100%)	1392 (88.4%)
b. Male	923	624	923
c. Female	5	103	469

Description	Balanac RIS	Sta. Maria RIS	Agos RIS
(4) IA organization			
a. Number of IA management officers	9 persons	9 persons	5 persons
b. Status	President / Vice President / Secretary / Treasurer / Operation Manager / 2-Collectors / 2 Ditch tenders Paid (Pesos ???)	President / Vice President / Secretary / Treasurer / Operation Manager / 2-Collectors / 2 Ditch tenders Paid Pesos 4,000 / month for IA Officers Pesos 200 / month for TSA leaders	President / Vice President / Secretary / Treasurer / Auditor Voluntary work
(5) IMT			
a. Type of contract with NIA	IMT contract	IMT contract	IMT contract
b. Date of initial contract	March 4, 2002	November, 2000	December 14, 2001
c. Renewal interval			
c. Ratio of ISF sharing	Every two (2) year 55% (IA) : 45% (NIA)	Every one (1) year 50% (IA) : 50% (NIA)	If necessary 40% (IA) : 60% (NIA)
(6) ISF collection			
a. Collection efficiency before IMT	50%	55% (dry) / 38% (wet) in 2001	24% (dry) / 32% (wet) in 2001
b. Present collection efficiency	70%	80% (dry) in 2002	25% (dry) in 2002
c. Number of collector	Two (2) collectors hired by IA	Two (2) collectors hired by IA	-

(3) IMT Contract

In general, the IMT contracts between the IAs and NIA in Region IV have similar forms and provisions. A copy of the contract document between Santamasi IA (Sta. Maria RIS) and NIA is shown in Attachment 1. The salient points in the contracts are:

- 1) The transition period is one-year after the date of IMT contract is set. During the transition period, NIA will assist the IA to develop its management capability and NIA is required to improve all the major irrigation facilities.
- 2) The demarcation of major and minor repair work is based on the repair cost (lower or higher than Pesos 50,000 in case of Balanac and Agos RISs) and use of heavy equipment, and NIA should assist the IA in undertaking major repair work, while the IA is entirely responsible for undertaking minor repair work.
- 3) The share of responsibility between NIA and IA covers (i) operation, (ii) repair and maintenance, and (iii) financial arrangement.
- 4) NIA is responsible for operation and maintenance of diversion dam (Balanac and Sta. Maria RISs).

- 5) NIA jointly with IA has to establish and calibrate discharge-measuring devices and prepare discharge-rating tables. NIA also train IA in recording water discharge (Balanac and Sta. Maria RISs).
- 6) The IA prepares individual ISF bills for each member and collects ISF through the TSAGs.
- 7) The IA is encouraged to collect old ISF back accounts allowing the IA to get 25% of the collected amount as incentive.
- 8) NIA gives priority to the IA and its members to work as construction laborer or contracting party in any rehabilitation and maintenance activities.
- 9) The ISF sharing may be increased in favor of the IA, provided the IA has attained a “very satisfactory” rating for two (2) consecutive years or within one (1) year of IMT (Balanac RIS).
- 10) Federation (Agos RIS) is obliged to remit first NIA’s ISF share before it can retain its ISF share. Failure to do so is enough ground by NIA to refuse delivery of water to the system in the succeeding season until the federation remits the full NIA’s share.

(4) Financial Arrangement

The financial arrangement of IAs/FIA is based on the expected revenue (collectable ISF adjusted at target collection efficiency). The expected income of IAs/FIA is estimated in the IMT contract. The agreed sharing scheme between NIA and the BRISIA, Inc. (Balanac RIS) is summarized below.

ISF Sharing Scheme in BRISIA, Inc (Balanac RIS)

Description	Dry season	Wet season	Total
Service area (ha)	1,040	1,040	2,080
Collectable area (ha)	950	875	1,825
Rate per ha	3 cav.*50kg*10 Pesos	2 cav.*50kg*10 Pesos	-
Collectable ISF (Pesos)	1,282,500	787,500	2,070,000
Collection efficiency (%)	70%	60%	-
Target collection (Pesos)	897,750	472,500	1,370,250
NIA’s share (45%)	403,987	212,625	616,612
IA’s share (55%)	493,763	259,875	753,638

Source : Balanac RIS

(5) Findings

The major findings obtained through the walk-through and discussion with officials of both the IAs/FIA and NISOs are described below.

- 1) External assistance

BRISIA, Inc. / Balanac RIS

The Balanac RIS was assisted financially by the 2nd Laguna de Bay Irrigation

Project (ADB) in 1980, and followed by the 1st and 2nd IOSP (WB) in 1990's. The diversion dam was constructed under the ADB assistance while system facilities rehabilitation including institutional strengthening was provided under IOSP. The IMT was examined under the IOSP-II intervention, finally accomplished in the year 2002. The BRIS is also being supported under the WB-assisted WRDP for system improvement.

Under the IOSP-II, NIA provided concrete lining on the main and lateral canals, some part of which were undertaken by the IA on a contract basis with NIA. NIA provided the IA with equipment and materials for the construction, and the IA members provided the labor. Earnings from the construction contract were deposited as the IA's fund.

Santamasi IA. / Sta. Maria RIS

The Sta. Maria RIS was assisted financially and technically by the ADB-assisted Laguna de Bay Irrigation Project (LBDP : 1976 - 1984). In parallel with the rehabilitation works, the farmers groups were trained to actively participate in the distribution of irrigation water. The 2nd IOSP (WB) provided the improvement of system facilities in 1996, including management training for IA. Assistance from the Countrywide Development Fund (CDF) augmented the IOSP in facilitating the concrete lining on the main and lateral canals, with the IA as the contractor. A pilot area along the Lateral Canal - A of about 468 ha was established for experimenting "volumetric pricing" under the WRDP.

FARFIA / Agos RIS

The Agos RIS was assisted financially and technically by the WRDP- assisted National Irrigation System Improvement Project (NISIP : 1977 - 1986), and followed by the 1st and 2nd IOSP(WB) in 1990's. The 1st IOSP provided concrete lining on the lateral canals. The 2nd IOSP provided concrete lining on the main canal and training support for IA management including ISF collection.

2) Process to IMT contract

BRISIA, Inc. / Balanac RIS

The BRISIA Inc. started the negotiation of IMT with NIA in the middle of 2001. The negotiation meetings were held four to five times. BRISIA Inc. presented their proposed annual income and expenditure schedule, and the negotiations on responsibility and ISF sharing between NIA and IA were

made on this basis. The major issues in the contract negotiation were: (i) repair and rehabilitation of system facilities; and (ii) required O&M fund. The IMT contract was finally concluded on March 4, 2002.

Santamasi IA / Sta. Maria RIS

It took about one (1) year to conclude the IMT contract between the IA and NIA. The IA presented their proposed annual income and expenditure schedule, and the negotiations on responsibility and ISF sharing between NIA and IA were made on this basis. The major issues in the contract negotiation were: (i) provision of concrete lining on the existing canals; and (ii) required O&M fund. The IMT contract was finally concluded on November 1, 2002. The ISF sharing between IA and NIA was initially set at 40 (IA) : 60 (NIA). This was amended to 50 : 50 in the first renewed contract.

FARFIA / Agos RIS

The IA activities started virtually in 1984, and seven (7) IAs were formally organized and made O&M contract with NIA in 1986. Two years after IOSP started, most IA leaders and members attended BLDC(Basic Leader Development Course), and Value Formation Seminar. With the inclusion of ASSC(Agricultural Support Service Center), many farmers were able to familiarize with Farmers Field Day where training on integrated pest management and rice production were given. The System Management Committee was created and commenced operation since 1998. The seven (7) IAs were finally federated in March 2000 and registered with SEC in December of the same year.

It took about one (1) year to conclude the IMT contract between the FIA and NIA. The major issues in the contract negotiation were the roles and responsibilities of both parties in the following areas: (i) definition of terms; (ii) technical arrangement in operation, repair, maintenance; and (iii) financial agreements. The IMT contract was finally concluded on December 14, 2001. The ISF sharing between FIA and NIA was initially set at 40 (FIA) : 60 (NIA).

3) Responsibility sharing

All of the system facilities, down to the sub-lateral canals, remained as properties of NIA, and only the responsibility on system management was transferred to the IA. The NIA / NISO is responsible for operation and maintenance of the diversion dam. The NIA deposes the required staff for diversion dam O&M as shown in tables of Section 1 above. All the canal

systems including main, lateral and sub-lateral are operated and maintained by IAs / FIA. All the repair expenditure has to be shouldered by IA in case of Balanac RIS and Sta. Maria RIS, while NIA is responsible for major repair works in Agos RIS. The responsibility sharing is summarized below.

Responsibility Sharing of BRISIA, Inc. / Balanac RIS

Category	Definition	Executing responsibility
Major repair work	Repair work requiring heavy equipment with an estimated cost of Pesos 50,000 or more	IA with assistance of NIA
Minor repair work	Repair work without heavy equipment and/or the cost of less than Pesos 50,000	IA

Unlike Balanac RIS, no definitions of major and minor repair work are stipulated in the Sta. Maria IMT contract. Both the NIA and IA explained that NIA is responsible for repair and maintenance works due to natural calamity, while the IA is responsible in all other works.

Responsibility Sharing of FARFIA / Agos RIS

Category	Definition	Executing responsibility
Major repair work	Damaged by certain calamity with an estimated expenditure based on Program of Works is more than P50,000	NIA
Minor repair work	Damaged by certain calamity with an estimated expenditure based on Program of Works is less than P50,000	IA

The repair cost is estimated by NIA and verified by IA. The estimated cost is discussed in the IA's BOD meeting for approval.

4) **Agricultural performance**

Balanac RIS

The average yield of palay is as low as 80 to 85 cavans/ha. This is mainly caused by rats and snail attacks and partly by poor soil conditions. Difficulties in accessing adequate farm inputs (seeds, fertilizer, and pesticide) and technical guidance are also reasons for lower yield. The lack of post harvest and marketing facilities also restricts achievement of better agricultural production. The IA members suggested provision of additional farm to market roads and installation of warehouses and drying facilities.

Sta. Maria RIS

The average yield of palay ranges from 80 to 100 cavans/ha. The DA's technician provides the IA with technical guidance on IPM. Difficulty in accessing to credit is one of the constraints to agricultural production. In 2002,

the NISO supported the IA in obtaining a loan of about 200,000 pesos from the Sta. Maria Municipality Office, and this amount became a trust fund for procuring fertilizer and making it available to members. The loan will be repaid by the IA .

Agos RIS

The average yield of palay ranges from 65 to 80 cavans/ha. The yield during the wet season is lower due to flood. Difficulty in accessing to credit is one of the constraints to agricultural production.

5) Water management and O&M

BRISIA Inc. / Balanac RIS

The IA prepares, jointly with NIA, the cropping calendar and water delivery schedule. NIA's gatekeeper operates the headwork gates in the presence of IA's representatives, while the IA's ditch tenders operate the headgates of lateral and sub-lateral canals. The implementation of planned cropping calendar is hindered by the shortage of hand tractors introduced recently instead of using draft animals (water buffalo). Some IA members claimed that the system facilities including canals are undersized for proper water management, while NIA considers the capacity of system facilities adequate. The IA, using its own members as labor, undertakes canal cleaning and desilting works prior to onset of the cropping season. The members get paid at 160 pesos per day. The IA estimated the annual cost for such activity at about 6,000 pesos in 2002.

Santamasi IA / Sta. Maria RIS

The IA, jointly with NIA, prepares the cropping calendar and water delivery schedule. NIA's gatekeeper operates the headwork gates in the presence of IA's representatives, while the IA's ditch tenders operate the headgates of lateral and sub-lateral canals. The IA undertakes canal cleaning and desilting works once every three (3) month-period using IA members. The respective TSAGs are responsible for maintaining related canals and facilities. Members who work are paid at about 100 pesos per day. The IA estimated the monthly cost at 8,500 pesos.

FARFIA / Agos RIS

The FIA, jointly with NIA, prepares the cropping calendar and water delivery schedule. NIA's gatekeeper and WRFT operate the headwork gates and the headgates of lateral canals, respectively. The IA undertakes canal cleaning and

desilting works once every three (3) month-period using IA members. The respective TSAGs are responsible for maintaining related canals and facilities.

6) Institutional activities

BRISIA Inc. / Balanac RIS

The BODs are complete and properly compensated (see table above). The IA holds regular meetings, including the monthly TSA and BOD meeting and annual general assembly meeting (GAM). The attendance rate ranges from 75% (GAM) to 95%. The IA prepares monthly reports such as minutes of meeting, audit report and billing notices. These documents are properly filed. The IA is privileged to use the NIA field office as its temporary office, free of cost, until the IA would have established its own office. The IA office does not have office equipment except miscellaneous furniture.

Santamasi IA / Sta. Maria RIS

The BODs are complete and properly compensated. IA officers receive an allowance of 4000 pesos per month while TSA leaders get about 200 pesos per month subject to attendance in the regular meetings. The IA holds regular meetings, notably monthly TSA and BOD, and annual general assembly meetings (GAM). Special meetings are held as the need arises. The attendance rate ranges from 75% to 100%. The IA prepares regular reports, including quarterly O&M, monthly collection and financial reports. These documents are properly filed. The IA has its own office in the Sta. Maria municipality. The IA office is provided with general furniture and radio communication equipment relatively capable of exchanging and receiving communications within the vicinity of the IA and NISO.

FARFIA / Agos RIS

The BODs are complete, but do not get any compensation. They work voluntarily. The FIA holds regular meetings such as the monthly TSA and BOD and annual general assembly (GAM). The attendance rate ranges from 75% to 100%. The FIA and seven (7) IAs prepare regularly documents such as quarterly O&M, monthly collection and financial reports. NIA authorizes the FARFIA to utilize its field office in Agos RIS for free as its temporary office, until the FARFIA would have established its own permanent office.

7) ISF collection

BRISIA Inc. / Balanac RIS

Two IA hired collectors collect ISF from members. Some members pay directly to the IA office. The ISF collection efficiency increased to 70% (dry season crop in 2001) from the previous 50%. Tenant farmers pay the ISF, being actual cultivators. The reasons for not paying ISF are low farm income and perceived non-delivery of water. The IA's officers are closely in touch, through repeated dialogs, with unpaid members to increase collection.

Santamasi IA / Sta. Maria RIS

Two IA hired collectors collect ISF from members. Some members pay directly to the IA office. The ISF collection efficiency increased to 80% (dry season crop in 2002) from 55% (dry) and 38% (wet) in 2001. Tenant farmers pay the ISF, being actual cultivators. Some members postpone or even neglect ISF payment meantime that palay prices are depressed. The IA's officers are closely in touch, through repeated dialogs, with unpaid members to increase collection efficiency to 100%. Penalty such as non-delivery of water is enforced for non-payment of ISF.

FARFIA / Agos RIS

The ISF collection efficiency is still low at 25% (dry season crop in 2002) even after IMT. This is due to inadequate irrigation service. The headwork of the system is brush dam type, and made up of small stones that can be easily washed away. Thus water supply is often interrupted during the wet season. The FIA requested NIA to construct a permanent dam, but this has been found to be prohibitive and not economically viable. The BODs of FIA are now planning to intensively campaign to improve the ISF collection efficiency. The FIA did not receive its ISF share from NIA to date because of low ISF collection efficiency.

8) Training

Before the IMT in three NISs, the IA members have been provided intensive training programs under the IOSP-II. The courses given were: basic leadership; systems management; financial management; operations & management; gender & value formation; irrigation management; water management; project monitoring and evaluation system (PMES); integrated pest management (IPM); and rice production & modern farming. The IA members appreciate in general the effects of these training programs given before IMT, and admit that they could not undertake IA management and system's O&M, had not these training been provided. At present, the IA members themselves identify various training needs, activities of cooperative

in particular.

9) Cooperative

The BRISIA Inc. established a cooperative (registered with CDA) as a separate organization from the IA. Overlaps in the management structure between IA and cooperative do not exist. The present members of the cooperative is only 30, while the IA has 928 members. No plans have been firmed up.

The Santamasi IA plans to establish a cooperative by the end of 2002, the objective of which is to establish marketing of agricultural products. Overlaps in the management structure between IA and Cooperative do not exist. The IA will receive a training program on cooperative from a trainer of NIA's Region IV office, who was sent to the University of Philippines (UP) for studying cooperative.

10) Impact of IMT

Observations about the on-going operations of BRISIA Inc. (Balanac RIS) and Santamasi IA (Sta. Maria RIA) gave the following impact of IMT:

- 1) The response from the public institutions, including NIA has become more positive owing to the unity of farmers. The IA perceived that it could receive quick and better public services such as the trust fund for fertilizer marketing in Santamasi IA.
- 2) The irrigation water can be delivered flexibly in accordance with the IA's own programmed cropping calendar.
- 3) The IA's management can respond quickly to any problem arising in the service area in collaboration with the NISO.
- 4) The awareness of mutual assistance among the IA members has been enhanced.
- 5) The officers and TSA leaders are encouraged to participate IA's activities owing to the regular payment of incentive covering ISF and salaries arising from construction work.

On the other hand, FARFIA in the Agos RIS has not realized the impact of IMT. It has not developed independence, and still continues to request support for the rehabilitation of system, financial, technical assistance and training from NIA. It is suspected that the IMT was prematurely introduced.

(6) Observation

Observations on the activities and performance of BRISIA Inc. (Balanac RIS)

and Santamasia IA (Sta. Maria RIS) are given below. The following may be considered positive:

- 1) Major section of irrigation canals are concrete lined under the IOSP-II, and this is considered an important factor in concluding the IMT contract;
- 2) The intensive training programs given to IA members under the IOSP II before IMT are considered effective (for IA) in managing day-to-day activities and the system O&M.
- 3) The IA leadership is likely strong, and this is believed to be the outcome of indigenous human relationship between big landowners and members.

It should be stressed, however, that the activities of both IAs are still in the development stage under the guidance of the NISO. Sustainability may thus be a potential issue, as mentioned below.

- 4) There is no direct influence of IMT insofar as improvement in income and livelihood is concerned. They merely feel that the IA can receive better public services than before IMT, however such benefit could have been available irrespective of the IMT; and
- 5) The incentive from the collected ISF seems significant for IA members. However, the present magnitude is still small and IA's financial capacity is fragile. A careful and transparent financial operation is desired, in particular fund for unexpected repair and maintenance works in future.

1.3.3 Results of Site Reconnaissance of Magat River Integrated Irrigation System (MRIIS) - District III and District IV

The results of site reconnaissance of Districts III and IV in MRIIS are described below. The location of MRIIS and two (2) Districts is shown in Annex 7 (Figure 2.5).

(1) Features of District III and District IV of MRIIS

1) General Features

The general features of District III and District IV of MRIIS are summarized below.

General Features of District III and District IV of MRIIS

Description	District III	District IV
(1) Location		
a. Region	Region II	Region II
b. Province	Isabela	Isabela
c. Municipality	San Mateo/Aurora/San Manuel/Roxas/Quirino/Burgos/ Alfonso Lista	San Mateo/ Cabatuan /Reina Mercedes /Naguillian/ Cauayan /Alicia/Angadanan

(table continued)

Description	District III	District IV
(2) Project history		
a. Construction period	1974 - 1986	1974 - 1986
b. Operation started	1985	1985
(3) Irrigation area		
a. Service area	18,770	19,890 ha
a. in the wet season	18,000 ha	17,767 ha
b. in the dry season	17,000 ha	17,804 ha
(4) Number of benefited farmers	18,752 households	15,504 households
(5) Land holding distribution		
a. 2 ha and below	12,446 households	11,469 households
b. 2 - 5 ha	4,496 households	3,518 households
c. more than 5 ha	1,810 households	306 households
(6) Average farm size	1.00 ha/household	1.28 ha/household
(7) Land tenure status (estimated)		
a. Owner cultivator	4,876 households	6,424 households
b. Tenant	5,250 households	1,856 households
c. Lessee	3,750 households	1,884 households
d. Certificate of land transfer	3,000 households	5,272 households
e. Transient	1,875 households	68 households
(8) Irrigators Association		
a. Number of IA	86	79
b. Number of CIA	11	13
c. IA members	11,875	16,974
(9) O&M Contracts		
a. IA - Type II	2	0
b. IA - Type I & II	41	25
c. IA - Stage III	1	0
d. CIA - IMT	5	9

2) Engineering Features

The engineering features of District III and District IV of MRIIS are summarized below.

Engineering Features of District III and District IV of MRIIS

Description	District III	District IV
(1) Water resources		
a. Name of river	Magat river / Siffu river	Magat river / Gaddanan/ Macanao/Nungnu rivers
b. Water right	-	-
c. Diversion WR (design/actual)	1.88 / 1.49 lit/sec/ha	1.70 / 1.60 lit/sec/ha
d. Ave. annual rainfall	1,601 mm	1,601 mm
(2) Type of intake	Concrete diversion dam	Concrete diversion dam
(3) Irrigation canal		
a. Main canals (lined)	99.02 km (1.8 km)	102.0 km (42.58 km)
b. Lateral canals (lined)	160.37 km (0.4 km)	220.0 km (15.0 km)
c. Sub-laterals (lined)	84.56 km (0 km)	820.0 km (2.0 km)
d. Farm ditches (lined)	360.4 km	361 km
e. Canal facilities	1,020 nos. in total	1,601 nos. in total
(4) Drainage canals (main+secon.)	145 km	222 km
(5) Flood prone area	-	500 ha
(6) Service and access roads		
a. Service roads	284 km (4.0 m wide)	320 km (4.0 m wide)
b. Access roads	67 km (4.0 m wide)	106 km (4.0 m wide)

(table continued)

Description	District III	District IV
(7) Water management by NIA		
a. WRFT	21 persons	22 persons
b. Operator	5 persons	8 persons
c. Ditch tenders	14 persons	36 persons

3) Agricultural Features

The agricultural features of District III and District IV of MRIIS are summarized below.

Agriculture Features of District III and District IV of MRIIS

Description	District III	District IV
(1) Crop production (average)		
a. Palay (dry season)	97 cavans/ha	88 cavans/ha
b. Palay (wet season)	82 cavans/ha	83 cavans/ha
(2) Constraints to crop production	Low price of palay	Low price of palay

(2) Progress and Present Status of IMT in District IV

1) IMT Background

The District IV started to organize the IAs in the early 1980's. The IAs were strengthened by encouraging the active participation of IA members and NIA officers in irrigation related activities. This movement was driven by WB-assisted IOSP implemented during 1988-1992 (IOSP I) and subsequently during 1993-2000 (IOSP II). The IOSP I provided repair of system facilities, and IOSP II undertook improved system operation coupled with IA development and strengthening. During these interventions, the IAs were grouped and organized into Council of Irrigators Association (CIA) along a lateral canal where the farmers would manage the systems by themselves. All of the 79 IAs in the District IV were grouped into 13 CIAs as shown below.

Name of CIA	Nos. of IA	Nos. of FIG (TSA)	Nos. of Farmers	Service Area (ha)
1. LADECO	3	46	893	1,307
2. D2b	6	60	1,367	1,686
3. D2	6	75	1,320	1,780
4. D3	7	69	1,444	1,790
5. G5 (D2C)	5	62	940	1,257
6. MACANAO	11	112	2,717	2,519
7. RMMC	6	45	1,066	1,017
8. D4	7	69	1,356	1,954
9. LAT. D	3	22	806	816
10. CEE Upper	5	48	878	929
11. CEE Lower	8	96	2,111	2,293
13. D2d	8	73	1,372	1,897
14. Pump System #01	4	32	724	645
Total	79	809	16,994	19,890

□ : CIAs under IMT

2) IMT Status

Nine(9) out of 13 CIAs in District IV entered into the IMT contract during the period April 1999 to November 2000. All of the CIAs were registered with SEC. The total service area in IMT is 14,126 ha or 71% of the entire service area (19,890 ha). The ISF collection efficiency in those CIAs has slightly increased after IMT as shown below.

Year	Crop season	ISF collection efficiency
Average before IMT (1995 - 1999)	Wet	64.8%
	Dry	58.0%
1999	Wet	74.8%
	Dry	69.4%
2000	Wet	77.1%
	Dry	74.2%
2001	Wet	80.8%
	Dry	77.3%

The organization charts of IA and CIA are shown in Figure 1.2.

(3) IMT Contract

The salient points adopted in District IV are as follows:

- 1) Two-year transition period after the date of IMT contract is set. During this period, NIA is obliged to develop the management capability of the IA, and to improve all the major irrigation facilities.
- 2) NIA is responsible for delivering water at the intake of lateral canal based on programmed area and schedule, including monitoring the discharge at the intake.
- 3) The CIA is responsible for distributing water equitably among IAs.
- 4) Major repair work, as defined, involves utilization of heavy equipment with an estimated expenditure of 100,000 pesos or more for each single repair work.
- 5) The minor repair work, as defined, involves expenditure below 100,000 pesos;
- 6) The CIA shall undertake all the minor repair and rehabilitation works;
- 7) When the repair and rehabilitation work falls under the category of major repair work and the CIA may not have capacity to undertake it without the use of heavy equipment, the CIA may request the NIA to provide the needed equipment on a rental basis.
- 8) The CIA has to prepare individual ISF bills for each member and collect ISF.
- 9) The CIA is encouraged to collect old back accounts of ISF allowing the IA to get 25% of the collected amount as incentive.
- 10) NIA should give priority to the CIA and CIA/IA members to work as construction laborer or contracting party in any rehabilitation and maintenance activities.

11) The ISF sharing may be increased in favor of the IA provided the IA has attained a “very satisfactory” rating for annual IA performance for two consecutive years.

(4) Findings

The Study Team interviewed the presidents of D2B CIA and MACANAO CIA in District IV, and BOD’s members of NDC5 CIA in District III on December 10, 2002. The major findings are described below.

1) Process to IMT contract

It took about half year to conclude the IMT contract between the IA and NIA. The major issues in the contract negotiation were: (i) rehabilitation of system facilities, in particular provision of concrete lining on the existing canals; and (ii) rate of ISF sharing between IA and NIA. Meanwhile, IA members were provided with intensive training by NIA. The rehabilitation works were limited to minor repair works and desilting except system improvement on lateral canals under IOSP II, provision of little or non-operation control devices, including long-crested weirs for water level control, proportional dividers and reduced off-take pipes. No concrete canal lining was provided. The ISF sharing was set at 50% : 50%.

2) Water management and O&M

Under the IMT contract, all the system facilities down to the sub-lateral canals remained as properties of NIA, and only the responsibility of system management was transferred to the IA/CIA. NIA operated the headgate of lateral canal and the CIA was responsible for water distribution along the lateral canal, including operation of control structures. Although the IMT contract does not give a clear-cut delineation on responsibility sharing for repair and rehabilitation works, the IA/CIA has to undertake the maintenance of lateral canal facilities, with a paid-assistance of NIA. The NIA deposes its personnel to CIA, consisting of one to two WRFT, an IDO, a water master, and an area engineer. The IDO and area engineer supervise multiple CIAs based on size of service area. A CIA employs a technical person using their fund for water management services.

In accordance with the IMT contract, the CIA conducts repair and maintenance of lateral canal facilities. The CIA bears the fuel expense in case it uses NIA’s heavy equipment. This arrangement appears temporary as NIA does not have adequate fund. The manual labor works for desilting and canal cleaning are undertaken by IA members with payment of 100 pesos per day or

with snacks and drinks depending on CIA. The maintenance works are regularly conducted on a quarterly basis.

3) Institutional activities

Membership is given to actual cultivator, irrespective of tenant, lessee and caretaker, according to BOD members¹. The officers of BOD are complete and compensated for attendance in meeting at 100 to 250 pesos per meeting. The IA holds regular meetings such as monthly FIGs, annual general assembly meeting (GAM), and special meetings as the need arises. The attendance rate varies from 70% to 90%. The IA regularly prepares reports such as quarterly O&M, monthly collection and financial reports. These documents are properly filed. The CIAs are provided with offices by NIA at its premises temporarily. A wireless radio is provided to CIA to communicate between NIA District Office and CIA, and general communication within the CIA is made through cellular phones.

4) ISF collection

The ISF rate is three (3) cavans for both the wet and dry seasons. A surcharge of 12% is added to the nominal ISF rate to cover shrinkage losses due to moisture content. Collection of ISF, as high as 90%, is paid in kind, and they are stored in the District offices. These are sold to dealers through competitive bidding.

The ISF collection efficiency has been slightly improved after IMT in some CIAs. The reasons for not paying ISF include, among other things, family problems, money requirement for education, etc. A penalty at one (1) % per month is imposed on delinquent member. The list of delinquent members is disseminated in public places to compel the members to pay their obligations. Recalcitrant members, often influential persons such as politicians, lawyers, etc., who do not pay ISF in some CIAs, contributed to low ISF collection efficiency to about 60%.

The CIAs pay 50% of collected ISF to NIA first, and the residual goes to the CIAs share irrespective of the magnitude of ISF collected. No explanation was given on the disadvantaged position of the CIA, despite the equal sharing in the contract. When the collection rate is 90%, the 40% is kept by the CIA and the un-collected 10% becomes back account to be recovered fully by the CIA. The CIA's ISF share is further allocated to 60% for CIA and 40% for IAs.

¹ This is verbal information only from CIAs' officers, and should be verified by the IA master and membership lists.

5) Volumetric ISF pricing

The first trial implementation of volumetric ISF pricing was made in Lateral D2B of District IV during the wet season of 2002. This is supported by the WB-assisted WRDP, based on a memorandum of agreement (MOA) concluded between MRIIS operation office (NIA) and CIA of Lateral D2B on November 15, 2001. The CIA pays for the total volume of irrigation water passed through the head gate of lateral canal at 0.05 pesos per cu.m. It is paid to NIA entirely, and the CIA collected internal ISF from the individual farmers through IAs for system O&M of the lateral canal. The details are described in section 4.

6) Training

Before the IMT, the IA members have been provided intensive training programs under the IOSP-II on the same subjects as those given to IMT - RIS in Region IV. The CIAs' officers evaluated that the training programs were quite effective as preconditions for IMT. Farmers desired more training programs such as livelihood development, marketing, etc.

7) Agriculture and Agro-supporting Services

The average yield of palay ranges from 80 to 100 cavans/ha. The productivity is fairly high owing to the good supply of irrigation water and gradual extension of hybrid seeds. Difficulty in accessing to credit is one of the major constraints to agricultural production. QUEDANCOR is an alternative source. However, its outreach is limited with a single office located in Santiago City, and the application process is tedious. Almost all farmers rely on private dealers as their credit suppliers, with interest rates as high as 30 - 40% per cropping season.

8) Cooperative

There is no existing cooperative which has relationship with IAs and CIAs. Almost all of the cooperatives within the service area are inactive. A CIA plans to establish a cooperative, but no programs have been firmed up.

9) Impact of IMT

The following are perceived as impact of IMT:

- (i) The LGUs have recognized CIA/IA as a potent economic group, and the response from public institutions, including NIA has become more positive owing to the unity of farmers. The CIA/IA can receive quick and better public services from these institutions after IMT.

- (ii) The agricultural production increased owing to improved water supply.
- (iii) The irrigation water can be delivered flexibly in accordance with the IA's own programmed cropping calendar.

(5) Observations

The observations on the activities and performance of IAs/CIAs in MRIIS Districts III and IV relative to impact of IMT are as follows:

- 1) The perceived impact of IMT on MRIIS D-III and IV appears to be restrained due to conflict in objectives between reduced ISF income and inability to retrench redundant personnel. If NIA cannot accelerate the implementation of its streamlining, the overall impact on reduced cost will be deferred.
- 2) With the exception of some CIAs, the ISF collection efficiency has generally not increased.
- 3) The socio-economic conditions of farmers remained unchanged particularly in terms of incomplete IA membership structure due to land tenurial issue and indebtedness of farm households to private dealers and moneylenders. The sustainability of IMT would be endangered and fragile without the mitigation of these constraints.
- 4) The incentive received from collected ISF is generally insignificant to cover adequate O& M. The amount may be a perquisite for officers in terms honoraria and salaries, but a careful and transparent financial operation is still desired, in particular for reserving fund for unexpected repair and maintenance works in future.

2. IMT Contract and Issues

Several constraints and issues are identified and described below.

2.1 Performance of IMT

Although there have been little written records, performance of IMT in terms of ISF collection efficiency has not always been impressive. The ISF collection was increased immediately after the IMT contract was implemented in Sta. Maria RIS. However, in MRIIS the effect was mixed, with some CIAs showing gradual declines. It seems that the monetary incentive increased the motivation of personnel at the initial period of IMT. However, no clear reasons for stagnation and decline have been identified yet. Except for some pump irrigation systems that were transferred to IAs together with the assets in 1980s, the implementation of all of the pilot IMT - IAs is still in the early stages, and thus it is still too early to evaluate whether or not it is successful.

It should be noted that all of the service areas under the IMT were provided with rehabilitation and/or improvement of system facilities through the assistance from World Bank and ADB. Almost all of the main and lateral canals in Sta. Maria RIS and Balanac RIS in Region IV are concrete lined, and this has remarkably improved the water management conditions. In MRIIS, on the other hand, the rehabilitation and improvement focused on the control structure and removal of silt deposited in the canal, and all the earthen canals remained unchanged without concrete lining. The irrigation systems in MRIIS is well operated with good water management, and this implies that the canal lining is not necessarily a pre-condition to the implementation of IMT.

A few of the NISs under the IMT such as Sta. Maria RIS, Balanac RIS and MRIIS are well managed by the IAs. While the IAs are functional, governance in general is far from satisfactory. The mode of governance is based on traditional social structure, and most IA management officers are large landowners, and thus it is parochial and patronage system of management in general. Their major concerns focus on transaction of the fund shared from ISF rather than managing it to reserve for future facility replacement. The present IAs' situation is fragile institutionally and financially and bound to disintegrate. Further and continuous coaching monitoring is essential.

2.2 Issues in IMT Contract Document

Having reviewed the IMT contract documents between NIA and IAs, while discussing present constraints and future prospects with IA members, several issues, crucial for sustainability of IA under IMT, were identified in the IMT contract documents.

- (1) Lack of legal framework (Legal infirmity) - The contract document does not refer to any law on which the IMT contract is based. The IMT contract is merely a kind of private business agreement between NIA and IA, and that the IA is not a socially recognized entity under existing laws. It is to be noted that the IAs are registered with SEC for the purpose of undertaking construction contract only. Considering that IAs are primarily established to achieve a social role in food production through the operation of irrigation facilities, the IAs should be recognized under appropriate laws and regulations. Indirect subsidies through the institutional development initiatives of NIA are provided to the IAs. So as to protect both the NIA and IAs from potential misappropriation of public funds, the enactment of an Irrigators Association Law to be initiated by NIA is deemed essential.
- (2) Inadequate penalty and sanctions - Penalties and sanctions are not explicit in the

contract. The IAs do not have the right to demand delivery of bulk water on time, as NIA is not obliged to do so. Similarly, NIA more often does not remit on time the ISF shares due to IAs. The delayed remittance of ISF shares is the consequence of IAs non-compliance to clearing and maintaining secondary canals.

- (3) Ambiguous responsibility sharing - The IMT contract defines the repair works of system facilities transferred to IAs into two categories: major repair and minor repair. Major repair involves expenditure more than 50,000 to 100,000 pesos and requires the use of heavy equipment, while minor repair involves work manually executed. In principle, NIA's obligation is to provide heavy equipment on a rental basis as well as technical guidance, thus all the expenditure has to be shouldered by IA. The contract provisions in this context are ambiguous, resulting in conflicts between IA and NIA. In addition, there is no definite provision on the responsibility sharing in terms of expenditure for repair works of facilities damaged by natural calamity. The responsibility sharing will have to be substantially reviewed, in particular the cost sharing when the works are beyond the physical and financial capacity of IA. This can be embodied in the proposed "Irrigators Association Law".
- (4) Inappropriate ISF sharing scheme - The IMT contract allows to change the ISF sharing scheme between NIA and IA on the condition that the IA performance is rated "very satisfactory". The IA performance evaluated by IDD is not at all related to assessment of financial viability of IA, thus the ISF sharing has to be reviewed and amended on the basis of financial analysis between NIA and IA.
- (5) Responsibility of Renewing Facilities - No provision is provided in the contract on who shall be responsible for replacement of system facilities which have overextended their physical and/or economic life-span. Unless the ownership of system facilities are transferred to IA under the Type III Contract, all of the facilities belong to NIA properties, and the management of system facilities is only transferred to IA under the IMT contract. This implies that all of the system facilities will be renewed in the future, but this will burden NIA with huge cost. The manner of future replacement involving cost sharing scheme between NIA and IA should be set up, and can be considered in the proposed "Irrigators Association Law" or under any appropriate laws and regulation related to irrigation.

The above discussions summarize the legal framework related to IA and IMT, and should be considered in the finalization of the IMT policy.

3. NIS Cost Recovery and Issues

3.1 Present Status and Issues on Cost Recovery and ISF

Under the existing law, there is no cost recovery for national irrigation systems. Instead, the IAs are obliged to pay ISF, which forms part of NIA's operating budget, and likewise the largest single source of revenue. ISF rates are based on unit area (ha) of land irrigated/benefited. Implicitly, there is subsidy involved because capital cost is not recovered. The current ISF rates per ha for surface gravity type of irrigation scheme are two (2) cavans of palay during the wet season and three (3) cavans during the dry season. Pumps are charged a higher rate of about eight (8) cavans of palay during the wet season and 12 cavans during the dry season. Valuation is based on the existing support price for palay. The payment can be either in cash or in-kind. NIA has a policy of waiving the payment of ISF, however. The 40-cavan exemption rule, exempts a farmer not to pay the ISF, if the harvest is 40 cavans and below per ha. On top of this policy, NIA gives cash rebates of 10% for payment made in cash to before the deadline.

Several issues affect the current ISF policy. First, the ISF rates are considered very low, as they were based in 1975 level and have never been adjusted upward since then. This has affected badly NIA's cash flow, and consequently O&M for systems maintenance has been neglected. Second, the 40-cavan exemption has: (a) deprived NIA of substantial ISF revenue, (b) inequitable for farmers whose harvest is slightly above 40 cavans, and (c) considered a lucrative business for abuse and collusion between NIA's field personnel and farmers. The policy has likewise affected severely the cash flow of NIA. The 10% rebate also contributed to deteriorating financial position of NIA. In addition, the payment in-kind has contributed further losses in the form of poor quality and pilferages. Compounding these problems is the low collection efficiency, which stood from 40%-50% of billed ISF over the past five (5) years. The ADB Cost Recovery Study has estimated the losses to be significant and recommended the need to amend these policies to improve the deteriorating financial position of NIA.

Relative to IMT, NIA's challenge is to formulate a cost recovery scheme, in light of its financial difficulties and continuing role to increase productivity among lowland irrigated rice farmers and consequently reduce poverty. NIA has two options: (a) to charge for the full cost of O&M, which imply upward adjustment of the current ISF rates coupled with increased ISF collection efficiency; and (b) full cost recovery for whatever capital cost spent for new and rehabilitation projects eligible for turn over to IAs. Its cost recovery policy with the on-going ADB-assisted SPISP, including the previous CISs should serve as legal precedent.

3.2 ADB's Study on ISF Alternative

In 2000, ADB conducted a technical assistance study, titled "Review of Cost Recovery Mechanisms for National Irrigation Systems" (ADB Study) for the purpose of reviewing the application of ISF to promote full recovery of O&M costs and part of the capital investment costs for NIS. This study endorsed the NIA's proposed new ISF rate of 3,292 pesos in 1998 to meet the requirement of AFMA to study ISF rates. The ADB Study estimated at 3,325 pesos per ha as a weighted average of diversion dam and reservoir systems, corresponding to 6.5 / 7.5 cavans /ha of palay, respectively, subject to palay selling price of Peso 9.5/kg. The proposed ISF rate is higher than the present rate by 1.5 cavans/ha. The ADB's Study concluded to apply the proposed ISF rate.

The ADB Study assessed the full O&M recovery cost at NIS level, on the basis of NIA's estimate in 1998, at 2,300 pesos per ha, corresponding to about 4.8 cavans/ha. This amount is more than double of the actual O&M expenditure by NIA at Pesos 1,109/ha in 1999. The breakdown of O&M expenditure is estimated as follows:

O&M expenditure item	Recommended O&M cost at NIS level (Pesos 2,300/ha)	Actual expenditure of NIS in 1999 (Pesos 1,109/ha)
a. Water scheduling and gate open	Pesos 736 (32%)	Pesos 576 (52%)
b. Canal cleaning labor	Pesos 644 (28%)	Pesos 344 (31%)
c. Gate repairs / greasing and locks	Pesos 391 (17%)	Pesos 78 (7%)
d. Hand held radios	Pesos 115 (5%)	0
e. Equipment rental	Pesos 414 (18%)	Pesos 111 (10%)
Total	Pesos 2,300 (100%)	Pesos 1,109 (100%)

Source : Review of Cost Recovery Mechanisms for National Irrigation Systems, ADB, September 2000

The above breakdown would be the basis of ISF sharing between NIA and IA in the IMT contract. The ADB Study indicated that the system O&M portion of the ISF (Pesos 2,300/ha) should be retained by the system and ear-marked for system O&M. The balance between ISF and the full cost of O&M at NIS level (Pesos 1,025/ha) would represent NIA's share of the ISF (31%).

4. Volumetric ISF Pricing

4.1 Volumetric Pricing Mechanism

4.1.1 Background of Volumetric Pricing

The concept of volumetric pricing can be traced back to the Irrigation Law issued in 1912 (Act No. 2152) that the cost sharing in irrigation systems development and management was based on the volume of water used by landowners. The cost

sharing method was, however, changed to that on an area based in the amended Irrigation Law in 1929 (Act No. 3523), presumably due to difficulty in the measurement of reliable water volume.² Since then, NIA has continued the area based ISF collection. In the course of transferring irrigation management to IA in the form of Type I, Type II and JSM, NIA has gradually adopted the direct ISF billing to IA rather than individual farmers. This was in the light of a policy that NIA is wholesaler of water services.

In the course of discussions between NIA and the World Bank on the two Bank-assisted projects of IOSP II and WRDP, the ISF sharing between NIA and IA under the IMT was fraught with inefficiencies and delays in payment of the IA share. The sharing also provided little incentive to the IA to levy its own ISF rate on the members. The World Bank suggested that farmers should be given several options for cost recovery, including sharing of ISF, such as payment of a fixed amount denominated in cavans/ha, and payment by volume of water supplied by NIA (volumetric pricing).³

In 1996, NIA launched a longer-term objective to move from the direct billing to the volumetric pricing at the head of lateral canals. This concept was incorporated in WRDP formulated in 1996. Three (3) NISs were selected as the pilot-testing systems, namely MRIIS - District IV in Region II, Sta. Maria RIS in Region IV, and Roxas - Kuya RIS in Region X, as listed below.

Name of NIS	Pilot testing lateral / IA name	Service area (ha)
1. MRIIS - District IV	Lateral D2B / D2B	1,385
2. Sta. Maria RIS	Lateral A / Santamasi IA	468
3. Roxas - Kuya RIS	MC laterals A, B & C / Patag IA	661

Source : WRDP, NIA

The pilot testing started in 2000, and continued to date. Of the three pilot NIS, the volumetric priced ISF was actually applied to CIA of Lateral D2B in MRIIS.

4.1.2 Irrigation Water Pricing

The ADB introduced a concept of “Marginal Value Productivity (MVP)” pricing in 2000, presented in the ADB’s technical assistance study “Review of Cost Recovery Mechanisms for National Irrigation Systems” (ADB Study). This is based on the assumption that water is priced at its marginal cost and used until the marginal cost is equal to the marginal benefit. The marginal benefit (or marginal product) is defined as the additional or extra quantity of production brought about by an extra unit of input, in this case cu.m. of water when the application of other inputs (labor,

² Irrigation Systems Development in the Philippines - Summary Report of the JICA Expert in Irrigation Development in the National Irrigation Administration (NIA), August 2002, JICA

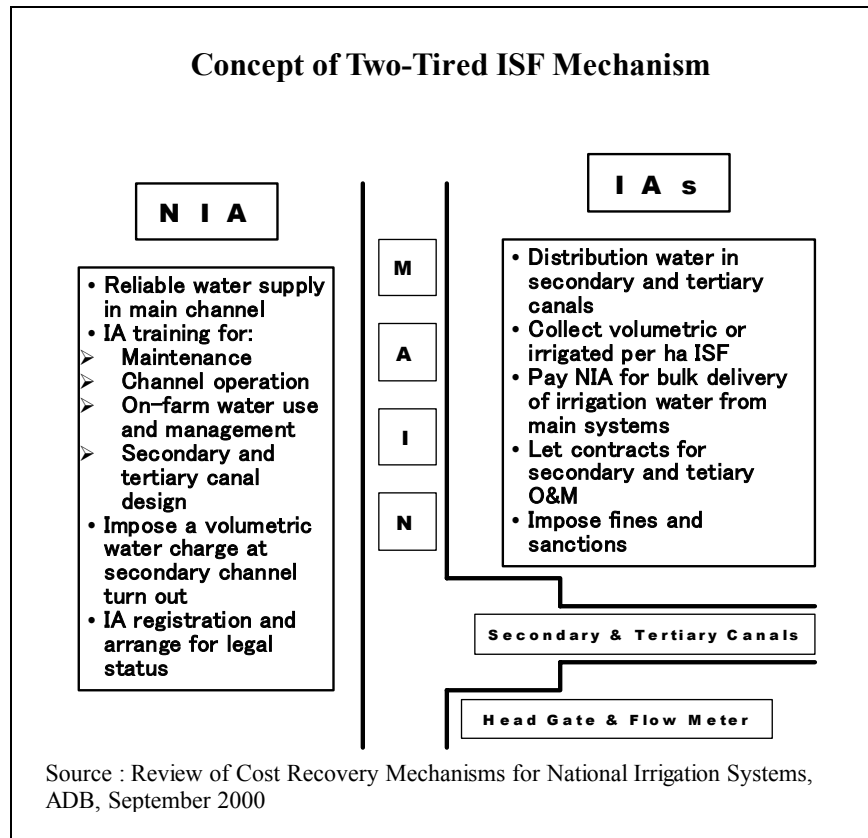
³ Aide Memoir on WRDP and IOSP II, World Bank, March 2000

land, fertilizer, etc.) remains constant. Water, as with all agricultural inputs, is subject to diminishing returns. Before the optimal level of application is reached, an increase in the number of units supplied will increase yield in progressively smaller amounts until the optimal level of water application is reached. After that point, increasing the water application will decrease production by progressively larger amounts. This relationship is expressed by second degree polynomial equation ($y = a + bx - cx^2$). Using this model, ADB Study estimated the marginal product of rice irrigation water in the Philippines, and assessed it as about 10 grams/cu.m. for the dry season palay. Using the prevailing NFA support price for dry season palay in 2000, the marginal value productivity (MVP) of irrigation water is Pesos 0.10/cu.m. (0.01 kg x Pesos 10/kg). The MVP of wet season irrigation water is likewise assessed to be Pesos 0.036/cu.m.

4.1.3 Volumetric and Two-tiered ISF Mechanism

The ADB Study suggested to introduce the volumetric irrigation service pricing with a two-tiered ISF mechanism, wherein NIA charges volumetrically at the main lateral head-gates and IAs set an internal ISF to be paid by IA members along the laterals, sub-laterals and tertiary canals to farm turnouts. The local ISF at the lateral level could either be area-based or volumetric, depending on IA and farmer-member choice. The two-tiered ISF mechanism is expressed in the following illustration.

The ADB Study suggested the implementation of this approach to irrigation service cost recovery that NIA should enter into an agreement with individual IAs, defining services, duties and responsibilities of all parties. The agreement has to cover: water delivery from where to where; how much in volume; when and what duration; cost of services (e.g. Pesos 0.10 and 0.036 /cu.m. for dry and wet seasons); billing procedures; penalties and sanctions for non-payment; etc. It also proposes to involve the political and police power support from LGUs including barangay, municipality and province.



The ADB Study estimates the volumetric revenues per ha to be about Pesos 2,180 /ha as calculated below.

Season	Water volume payable (cu.m./ha)			Unit ISF rate (Pesos/cu.m.)	Amount (Pesos/ha)
	Farm use	System losses	Total		
Dry	10,368	5,628	15,996	0.10	1,600
Wet				0.036	576
Total					2,176

Source : Review of Cost Recovery Mechanisms for National Irrigation Systems, ADB, September 2000

The estimated per ha of volumetric revenues of Pesos 2,176 is equivalent to about 4.5 cavans of palay. It suggests that this revenue collected by NIA would be used to: operate and maintain main channels and infrastructure; provide irrigation and farming systems technical support services to IAs; and promote capital build-up at the regional and systems level for emergency repairs and O&M to support IAs during periods of typhoons and other natural disasters. It also suggests that the proposed two-tired ISF would leave approximately Pesos 1,200/ha (2.5 cavans) remaining from the the Study proposed weighted average ISF of 7 cavans/ha needed for full cost recovery of sustainable system O&M, and the 2.5 cavans collected by each IA for its turnover laterals would be used by the IA to maintain and operate the lateral network. The 2.5 cavans account for 36% of 7 cavans, that is

close to the prevailing ISF sharing of 50% : 50% between NIA and IA ranging from 60 : 40 to 40 : 60.

4.2 Pilot-testing and Implementation of Volumetric ISF in MRIIS - District IV⁴

Under the World Bank assisted WRDP, the pilot on Lateral D2B of MRIIS started the canal discharge in year 2000. The measurement device installed at the head-gate of Lateral D2B are of a calibrated staff gauge type, and observed twice-daily readings of the depth of water in the canal. To ensure the accuracy of estimated water volume, the CIA president installed a water level reading device in his own office because there has been considerable variation in the depth of water in the canal during various times of the day and night. The following table shows the recorded water volume flowing into the Lateral D2B.

Crop year	Season	Planter area (ha)	Water volume (MCM)	Unit water volume (cu.m./ha)
2000	Dry	1,384	27.74	20,040
2000	Wet	1,400	23.08	16,490
2001	Dry	1,401	23.39	16,670
2001	Wet	1,407	24.38	17,330
2002	Dry	1,410	25.25	17,910

Source : Progress Report on Volumetric Pricing Pilot Test at Lat. D2B, MRIIS - District IV, March 18, 2002

A Memorandum of Agreement (MOA) was signed on November 15, 2001, and ISF collection on the basis of volumetric rate started from the 2002 dry season crops or from January 2002. The MOA is presented in Attachment - 2. The agreed rate is Pesos 0.05/cu.m or US\$ 0.001 for payment to NIA entirely, and was priced as shown below.

A. Dry 2001	
(1) Planted area	1,401 ha
(2) Total volume of water consumed based on staff gauge reading	23,390,000 cu.m
(3) Estimated required O&M cost ^(*)	Pesos 2,101,500
(4) Unit cost of irrigation water ((3)/(2))	Pesos 0.0898/cu.m
B. Dry 2001	
(1) Planted area	1,407 ha
(2) Total volume of water consumed based on staff gauge reading	24,380,000 cu.m
(3) Estimated required O&M cost ^(*)	Pesos 1,899,450
(4) Unit cost of irrigation water ((3)/(2))	Pesos 0.0779/cu.m
C. Average unit cost of irrigation water ((A+B)/2)	Pesos 0.08385/cu.m
D. Unit cost to be applied to volumetric billing (based on IMT contract ISF sharing)	Pesos 0.08385/cu.m x 50% = Pesos 0.042/cu.m = Pesos 0.05/cu.m

Note(*) : NIA's estimate

Source : Progress Report on Volumetric Pricing Pilot Test at Lat. D2B, MRIIS - District IV, March 18, 2002

⁴ Sources : (1) Progress Report on Volumetric Pricing Pilot Test at Lat. D2B, MRIIS - District IV, March 18, 2002; and (2) WRDP, Aid - Memoir of World Bank Mission, September 2002

The Bank's mission paper reported that the 2002 dry season collection of ISF on a volumetric basis was successfully completed with the achievement of current collection efficiency of 100%. The Study Team confirmed this through the interview with the D2B CIA President made in December 2002.

4.3 Assessment of Volumetric ISF Pricing

With the successful pilot - testing of volumetric ISF billing and collection in the Lateral D2B CIA of MRIIS - District IV, the NIA issued a memorandum circular (MC No. 64) dated October 21, 2002. The MC No. 64 stated that: (i) the pilot - testing on the Lateral D2B proved the potential advantageous of volumetric ISF billing to farmers and NIA; (ii) more efficient and systematic alternative cost recovery could replace the cumbersome area based ISF billing; (iii) NIA authorized to replicate the volumetric ISF billing for the rest of Districts in MRIIS; (iv) NIA encouraged to adopt the volumetric ISF pricing to all other irrigation systems with completed rehabilitation works and with existing IMT contracts; and (v) concerned irrigation system offices were advised to agree and derive the water unit rate by adopting the formula developed and used in Lateral D2B of MRIIS.

The Study Team views that the volumetric ISF pricing has entered into a realistic stage as an alternate cost recovery from the area - based paradigm. The volumetric ISF pricing is identified to have the following major advantages:

- (1) the water use efficiency is improved by farmers saving, resulting in expansion of irrigation service area by surplus water and/or in transferring surplus water to other purposes;
- (2) NIA can save the cost for handling the ISF collected in kind, resulting in allocating more fund for system O&M; and
- (3) the accountability of ISF transaction is secured, resulting in dispelling abuse and collusion between NIA's field personnel and farmers.

On the other hand, the some constraints have to be overcome in accelerating the implementation of volumetric ISF pricing. The most crucial issue is to find an adequate measuring device, which should be accurate, reliable and easy to handle. The WRDP installed a flow meter locally fabricated with cast iron and aluminum at a cost of Pesos 129,000 at Roxas - Kuya RIS. The JICA also provided six (6) sets of an accumulated water volume measuring meters for AMRIS in Region III and Santa Cruz RIS in Region V for trial running. Acceptable and low cost devices are still wanting. The next issue is the requirement of a considerable fund for repair and rehabilitation of system facilities enough to supply water to the head-gates of lateral canals both in time and quantity. In addition, NIA has to establish a uniform volumetric pricing formula acceptable to both NIA and farmers. The unit price

(regional basis) may be variable depending on the cost of water delivery by system.

In conclusion, the volumetric ISF pricing is assessed as follows:

- a. The present attempt to introduce the volumetric ISF pricing has great potential for water conservation both for NIA and irrigation water users. This should be clarified in public as the NIA is considered the largest water user.
- b. The physical and administrative steps such as provision of system rehabilitation and adequate measuring devices, institutional setting, specifically gaining the consensus of water user farmers, are crucially important and considered pre-conditions to extend the volumetric ISF pricing. The extension of volumetric ISF would need a gradual process in keeping a pace with various programs in the Action Plan discussed in the Study.
- c. Water pricing to volume based ISF would need further studies and discussions in view of various roles of irrigation water that is not used only for agricultural production but also generates socio-economic and environmental impacts.

5. Recommendation for IMT Institutional Development

5.1 Process to IMT

NIA implemented a pilot project of IMT in 17 NISs under IOSP II with assistance from the World Bank during the period 1993 to 2000.⁵ The institutional efforts focused on reorganization and strengthening of TSA groups and eventually organizing CIAs. This process was piloted in MRIIS (NDC-5) with the signing of the IMT contract in December 1998, and later replicated in 17 other NISs. The process of IMT contract implemented in the IOSP II pilot area is summarized below.

Process of IMT in IOSP II

Phase	Scope	Major Activities
Pre-mobilization Phase	Preliminary Assessment	<ul style="list-style-type: none"> - Assessment of IA performance, manpower capability, agricultural practices and system performance - Preparation of financial arrangement - Selection of lateral - Consultation workshops on planning for stakeholders

(table continued)

⁵ Sources: (1) Implementation Completion Report on Second Irrigation Operations Support Project (IOSP II), World Bank, June 2001; and (2) Completion Report - IMT Implementation Manual, Hassal and Associates, October 1998

Phase	Scope	Major Activities
Mobilization Phase	IMT Launching	<ul style="list-style-type: none"> - Consultation workshops for beneficiaries involved - OJT for working teams
	Participatory Situation Analysis	<ul style="list-style-type: none"> - Survey for farmers intention, women participation, etc. - Organization of farmers irrigation groups - Walkthrough
	CIA Organization	<ul style="list-style-type: none"> - Feedback to NIA and IAs - Setting up constitution and by-laws - Preparation of operation modality - Training for NIA - IA communication - Structures inventory and canal survey - Preparation of master list - IA reorganization - Preparation of IMT contract followed by IA consultation - Firm-up of constitution and by-law - Design and cost estimates of system improvement - Preparation of draft IMT contract by CIA - CIA Ratification of IMT contract, by-laws and system improvement work planning
Participatory Planning Phase		<ul style="list-style-type: none"> - Consolidation of IMT contract and negotiation between NIA and CIA followed by contract signing - Manpower inventory for system improvement - Setting teams in CIA for system improvement, ISF collection, construction, inspection / supervision - OJT for NIA / IA on participatory planning for system improvement - Procurement of civil work
Implementation Phase		<ul style="list-style-type: none"> - Contract administration by NIA / IA for civil works - ISF collection by IA and ISF remittance to NIA - Sharing ISF between NIA and IA - Assessment of CIA / IA attitude on IMT, ISF and association

Through the site reconnaissance of four (4) pilot IMT - IAs conducted by the Study Team described in section 1.3, the above IMT process was verified as reasonable and effective. Some recommendations are put forward to reinforce the IMT process and institutional development on the basis of results obtained from the participatory rural appraisal of six (6) pilot NISs as well as site reconnaissance of four (4) pilot IMT - IA.

5.2 System Rectification

The system rectification is the foremost pre-condition (by IAs) for entering into IMT contract, particularly in meeting the demand to provide irrigation canals with full concrete lining. This is a crucial issue for NIA being faced with serious financial problem, while NIA is mandated to gradually implement the IMT in the direction of AFMA. The description below discusses appropriate solutions for the process of system rectification.

5.2.1 System Responsibility Demarcation

The Study Team understands that there are two (2) alternatives on the scale of the service area to be transferred to IAs for their autonomous O&M. One is 3,000 ha or less, the area recommended by the World Bank⁶, and the other is 2,000 ha internally viewed by NIA. The Study Team attempted to assess the appropriate demarcation of system responsibility between NIA and IA taking into consideration the following: (a) relief of NIA from burden in taking care of system management; (b) scale of CIA enough to manage the transferred system institutionally; and (c) physical capacity of manual labor in maintaining transferred canals.

The following table shows the distribution of NISs in number and area relative to classification of NIS based on area

Distribution of Area-Classified NIS in Number (in Nos.)

Area	NIS nos.	Classification of NIS Service Area				
		<1,000 ha	1,001-2,000 ha	2001,-3,000 ha	3,001-6,000ha	> 6,001ha
Luzon	125	50	28	23	7	17
Visayas	30	10	9	4	5	2
Mindanao	41	5	4	11	14	7
Total	196	65 (33.2%)	41 (20.9%)	38 (19.4%)	26 (13.3%)	26 (13.3%)

Source : Study Team

Distribution of Area-Classified NIS in Area (in ha)

Area	NIS S. Area (ha)	Classification of NIS Service Area				
		<1,000 ha	1,001-2,000 ha	2001,-3,000 ha	3,001-6,000ha	> 6,001ha
Luzon	452,752	28,947	39,499	54,682	25,038	304,586
Visayas	73,861	6,017	14,322	9,780	22,216	21,526
Mindanao	162,397	3,283	6,346	27,513	55,300	69,955
Total	689,010	38,247 (5.6%)	60,167 (8.7%)	91,975 (13.3%)	102,554 (14.9%)	396,067 (57.5%)

Source : Study Team

The above tables show that: 144 NISs or 73% of NISs fall in those 3,000 ha and below; 106 NISs or 54% of NISs are in 2,000 ha and below; while about 28% in area are smaller than 3,000 ha; and about 14% in smaller than 2,000 ha. To relieve NIA of the burden, the area below 3,000 ha would be the appropriate size of transferring the system to IA entirely.

The following table shows the distribution of lateral canals in those service area and in number of IAs belonging to a lateral obtained from the inventory survey carried out by the Study.

Distribution of Lateral Canals (in Nos.)

Service Area per Lateral	Canal Nos.	(%)	Number of IA belong to One (1) Lateral Canal							
			Total	> 10	6 - 9	5	4	3	2	1
> 3,000 ha	34	(4%)	34	20	6	3	3	1	1	0
2000 - 2999 ha	34	(4%)	34	13	5	4	5	5	2	0
1000 - 1999 ha	89	(11%)	89	5	14	10	9	19	19	13
500 - 1000 ha	196	(25%)	196	0	3	4	20	29	48	92
300 - 500 ha	153	(19%)	153	0	0	0	1	11	35	106
100 - 300 ha	216	(27%)	216	0	0	0	0	0	23	193
< 100 ha	76	(10%)	76	0	0	0	0	0	0	76
Total	798	(100%)	798	38	28	21	38	65	128	480

Source : Study Team

On the assumption that the number of IAs forming a CIA would not be more than ten (10) for a sustainable federal organization, the maximum area serviced by a lateral would be 2,000 ha.

The following table shows the scales of canal sections on an average at canal head, subject to applying to diversion water requirement of 1.8 lit/sec/ha on an average of NISs.

Average Canal Dimension (in meter)

Canal Type	Q _{head} =5.4 cu.m/sec for 3,000 ha		Q _{head} =3.6 cu.m/sec for 2,000 ha	
	Bottom Width	Canal Height	Bottom Width	Canal Height
	(B)	(H)	(B)	(H)
Unlined earth canal	1.2	2.4	1.0	2.2
Concrete lined canal	0.85	1.9	0.75	1.6

The above canal dimensions are computed on the basis of canal designed with hydrologically most efficient, and vary depending on the various conditions such as land slope, soil characteristics and land available. Considering physical capacity of manual labor in maintaining canals such as removal of deposited soils and weeds, the canal height would not be higher than two (2) meters. In addition, canal discharge would have to be as smaller as possible for enable farmers enough to control running water. Thus, the service area not more than 2,000 ha would be appropriate.

From the above discussions, the maximum service area to be managed by a CIA/ IA under IMT would be 2,000 ha. It would practically fall into a range from 1,000 ha to 2,000 ha depending on the system layout. The system responsibility demarcation would be recommended as follows:

(1) NIA is responsible for operation and maintenance of head structure (diversion

⁶ Implementation Completion Report on Second Irrigation Operations Support Project (IOSP II), World Bank, June 2001

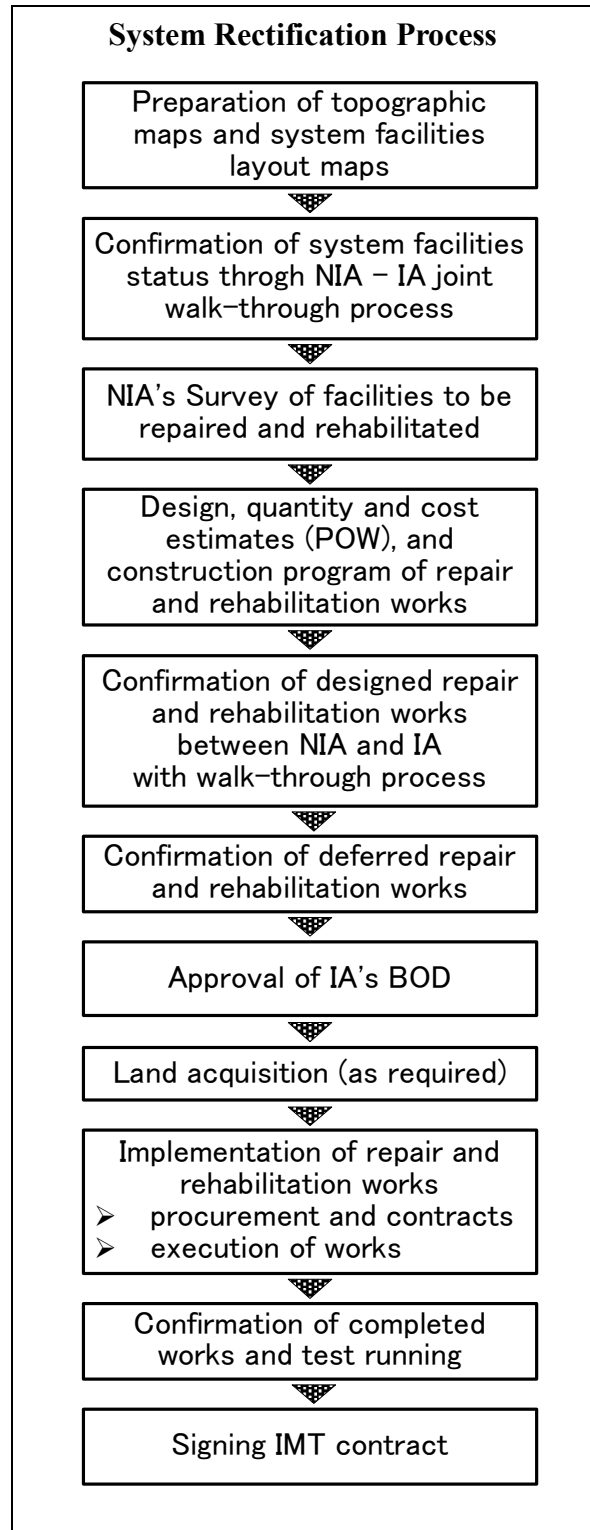
dam, reservoir dam, pump station) in general.

- (2) NIA is responsible for operation and maintenance of canals down to the point of a lateral headgate, below which the total service area would range between 1,000 ha and 2,000 ha, not exceeding 2,000 ha in general.
- (3) CIA and IA is responsible for operation and maintenance of the designated lateral in accordance with the IMT contract.

5.2.2 System Rectification Process

It is essential to rectify system facilities to allow adequate water management both by NIA and IA before transferring the management to IA. Such system rectification includes the repair and rehabilitation of control and safety structures as well as removal of deposited silt for securing required water flow area. All the process of system rectification has to be performed on a participatory basis to guide both the parties to satisfied and reasonable agreement of IMT contracts. Its process has been piloted in the implementation of IOSP II, and is elaborated with adding experience and findings obtained from the participatory rural appraisal for six (6) pilot NISs as well as the site reconnaissance of four (4) pilot IMT - IA. The system rectification process is illustrated in the flow chart and summarized below.

- (1) To identify the requirements of system rectification, both the NIA and IA confirm the status of system facilities jointly by walk-through process. The required level and quality of rectification are also determined.



The results of walk-through process are recorded on the topographic maps, facilities layout maps and various formats. Finally, inventory of system facilities is prepared. In identifying the system rectification requirements, there would be several problems. These would include: a) measures against unofficially constructed facilities by beneficiaries, turnout in most case, and b) requirement of additional facilities for better water management such as supplemental water resource development, additional water control devices and farm to market roads. The working committee formed by the representatives of NIA and IAs is responsible for consolidating rectification plan taking the scale and importance of the facilities, technical and economic viability, NIA's funding capacity, IA's maintenance capacity into account, and also through consultation workshops.

- (2) Based on the agreed plan of system rectification, NIA conduct survey and design and prepare cost estimate. IA members are desired to participate in survey and design process in such a way as providing paid-labor works for survey. Some portion of the wages would be deposited as IA fund.
- (3) Using the design drawings and layout maps of the irrigation facilities, IA and NIA reconfirm the designed repair and rehabilitation works in comparison with the conditions of existing facilities jointly by walk-through process.
- (4) To make consensus on the proposed system rectification by IA members, plan of repair and rehabilitation works are discussed by IA assembly and approved by BOD.
- (5) Land acquisition arrangement for system rectification is carried out, if necessary.
- (6) NIA executes the repair and rehabilitation works on a force account basis fully utilizing then NIA's resources (manpower and equipment) or undertakes the contract administration of civil and mechanical works contract including procurement and supervision. Upon the scale and technical level of the works, IAs are desired to participate in the contract with NIA and/or IA members are hired as workers. For this, NIA provides the IAs with technical guidance together with construction materials and equipment. In case of using contractors, IA would be hired as sub-contractor and/or IA members are employed as workers, provided that NIA prepares the conditions of contract and specifications carefully since the IAs and IA members may or do not have much experience on construction works. As mentioned above, contract benefit and a portion of labor wages would be contributed to the IA fund.
- (7) NIA has to confirm the completed work and make test - running of completed works in the presence of IAs. After the confirmation, IA and NIA conclude the IMT contract.

5.2.3 Repair and Rehabilitation Works

The system rectification as the pre-condition of IMT would be classified into the following two (2) categories:

- (1) repair and rehabilitation works provided for lateral/sub-lateral canal to be operated and maintained by IA under IMT, named “Lateral System Rectification”; and
- (2) repair, rehabilitation and improvement works provided for main/lateral canal to be operated and maintained by NIA, named “Main System Rectification”.

The concepts of system rectification are discussed in terms of level of rectification and system efficiency below.

(1) Lateral system rectification

The level of lateral system rectification would be limited to the essential works enough to perform the proper O&M by IA. Through the site reconnaissance of pilot IMT - IA areas, the concrete lined laterals are surely serviceable facilities for good O&M, as most farmers desire. However it would not be the absolute condition for IMT, since unlined laterals in MRIIS prove the adequate IMT running. The provision of concrete lining would be considered only in cases that:

- full or partial concrete lining is adequate for protecting canal facilities from heavy water leakage, serious soil erosion, etc. subject to technical and economic viability; and
- full or partial concrete lining is adequate for remarkable improvement of the entire system efficiency, resulting in expansion of service area, subject to economic viability.

Thus, the lateral system rectification would have to be focussed on the removal of deposited silt in canal, functional recovery and/or improvement of control structures, and provision of access and farm to market roads along and in-and-around the canals.

(2) Main system rectification

The objective of main system rectification is first placed on repair and rehabilitation of main system facilities ensuring the delivery of water to the headgates of laterals both in time and quantity. It would include removal of deposited silt in canal, functional recovery and/or improvement of headwork, control and safety structures, measurement devices, roads for canal O&M, etc.

Concrete lining would be considered only in the same cases as mentioned in the lateral system rectification.

5.3 Financial Capability Strengthening

5.3.1. Present Situation on NIA and IAs Financial Viability

Generating income to sustain activities has been a problem of the Irrigators' Association ever since. There seems to be a difficulty not only in the management of the financial resources of the organization but of generating income for the organization as well, probably the reasons why many organizations became inactive after NIA turned over the management of the irrigation to the IAs and after the funding institutions (NGOs, government agencies etc.) discontinue the funding for their organization. A lot of IAs are very much dependent on the funds given by these funding institutions, however, it is not forever that these IAs will be depending its financial sources from them. As of now, most IAs generate their resources mainly from the membership fees or annual dues from farmers, ISF sharing, Economic Development Fund (EDF with an average of 20% of the EDF goes to the association) given by their respective barangays and municipalities, others from the governor's office and other funding agencies.

(1) Studies conducted with regards to financial capability and management of NIA and IAs

Presented below are the studies with regards to the problems faced by most IAs, concentrating more on its issues on organization and financial management problems:

ADB Studies

Review of Cost Recovery Mechanisms for National Irrigation Systems

The ADB conducted a study on September 15, 2000 on the Review of Cost Recovery Mechanisms for National Irrigation Systems. Recommendations and issues regarding IA financial management are discussed in a table summary below:

Review of Cost Recovery Mechanisms for National Irrigation Systems	
Recommendations	Needs and other issues
Develop / harness membership participation for (a) efficient collection system of ISF fees and in (b) ISF rate setting	<ul style="list-style-type: none"> - Low attendance to meetings - IA has to harness the financial support of its farmer-members to survive - Use women as collectors of ISF fees, as proven by the UPRIS, women are proven to be good communicators and motivators especially with respect to ISF collection campaign activities.
Development of laws and financial guidelines covering the (a) organization, (b) budgeting, (c) financial recording,	Financial and organizational control of the organizations in general is weak because of the size of the organization and these

Recommendations	Needs and other issues
reporting and control, (d) internal control and audit and (e) tariff setting to be followed by the IAs for transparency and sound financial management and control	cause dissatisfaction among farmer members and non-members.
Creation of a uniform standard accounting system manual for IAs so NIA can monitor and compare the financial performance of the IAs	The difficulty of not having a uniform standard accounting system is the problem of account reconciliation between regional offices and central office.
Proper allocation of budget	Example: 20% of total IA share goes to financing IA meeting expenses
IA effective control mechanism to overcome IA fund mismanagement through efficient accounting and auditing system and reporting.	For transparency and to prevent corruption and loss of trust by members
IA effective financial management	- 81 % of the respondents were dissatisfied with the IAs financial management
Creation of income-generating activities, mergence of cooperative functions to IA for profit and capital build up, and technical training and seminars (livestock and poultry raising, handicraft making, project management etc.)	- IAs need capability-building assistance in the area of capital build-up - IAs are reluctant to save funds from their ISF revenues to venture into other income-generating activities to improve IAs financial status

The ADB's Review of Cost recovery Mechanisms for National Irrigation Systems also discussed the financial and organization status of NIA. Below are the findings, recommendations and needed policies to implement the recommendations and address NIA's viability problems:

(a) Restructuring NIA

Findings:

- NIA is principally organized as an irrigation construction agency;
- There is a need for significant strengthening of NIA's institutional development capacity at the ISO for quality driven IMT;
- NIA has too many personnel; these include: (1) 5,449 COB charged permanent staff (2) 810 COB charged temporary hire and other project charged temporary hire; (3) 5,503 project charged temporary hire and other project-charged staff 3,304 for a total of filled complement of 14,796;
- Over 80% of NIA's COB goes to finance personnel with less than 20% available for system O&M

Recommendations:

- NIA should restructure and streamline for better focus on AFMA-related activities and to reduce its COB personnel expenditures;
- With AFMA, NIA will turnover some 9,000 km of secondary canals to IAs and retain 3,800 km of main canals and headworks. NIA needs to reduce operational personnel and increase IA capacity building staff;
- To do this NIA should increase ISO staff working in IA capacity building

and reduce some of its support and supervisory staff at all levels CIO, RIO, and ISO;

- NIA should further streamline by laying off 810 COB-charged temporary hire. The PIOs have been legally devolved to LGUs under Local Government Code of 1991. The 915 PIO staff should be devolved to LGUs and paid for by GAA as are teachers, health workers, and highway engineers;
- The proposed restructuring proposal canals for reducing 181 support positions and 329 WRF Tenders in the ISOs; 359 positions in the RIOs; 586 positions at UPRIS and MARIIS and 104 positions at the CO. At the ISO level, 1,542 IDO and WRFT position should be added for IA capacity building at the ISO. The total net production is 1,165 COB-charged positions, giving NIA a cost saving of 182 million pesos/annum.

Required Policy:

- Secure funding to finance severance and early retirement incentives;
- Negotiate transfer of PIOs to LGUs with DBM and DILG
- Revise NIA restructuring Plan for greater emphasis on significant downsizing of filled positions and to strengthen NIA's capacity at the systems level to improve IA performance and functionality

(b) NIA's Financial Viability

Findings:

- ISF collection in 1999 was only 3.4 times the level of 1984, while personnel costs increased by 5.7 times; operating income increased 2.2 times while operating costs increased 4.8 times the 1984 level; income has lagged significantly behind operating costs;
- Proportion of personnel costs to operating costs has increased sharply to 87%, UP 10% FROM 1990 level
- NIA has been able to operate in spite of yearly losses from other income sources: (i) CIP amortization, pump amortization, GAA (General Appropriations Act) and MOOE (Maintenance, Operation and Other Expenses) subsidies and O&M support from IOSP II
- Operating costs were only partially financed from these funding sources; remaining cash deficit was charged to NIA's equity resulting in decline of net earnings from 1.503 billion in 1991 to a deficit of 1.062 billion in 1999;
- Current ratio was at 0.97:1.00 down from 1.14:1.00 in 1997, with debt-to-equity ratio at 0.51:1.00, up by 1% from the previous year;
- Downward trend of current ratio was due to low collection efficiency

brought about by AO 17, which reduced collection by 150 million pesos in 1998. The acceptable minimal ratio for financial health is at least 2:1;

- NIA's personnel cost comprise 87% of the entire COB; to be viable NIA must reduce COB charged personnel

Recommendation:

- Improve revenues by restructuring the 40 cavans/ha exemption to a sliding scale; this would save NIA 40.4 million pesos annually
- Eliminate ISF payment in kind; this would save NIA 25.4 million;
- Abolish 10% discount for ISF cash payment; this would save NIA 13.2 million
- Shift from water retailing to water wholesaling; this would save NIA 67.5 million pesos annually;
- scenarios to improve NIA financial performance are:
 - No changes other than the cost savings cited above with increase in AO 17 collection efficiency to 60%, this will case NIA to breakeven but maintenance of NIS will be inadequate for sustainability and NIA has never collected 60% of the area-based ISF; this scenario is judged unrealistic
 - Upwardly adjust ISF to 6.5 and 7.5 cavans for reservoir system and implement cost savings; this scenario will upgrade O&M to a level of sustainability, but will not solve NIA's financial problems as collection efficiency would have to reach 92%; considered impossible with an area-based ISF;
 - Implement volumetric irrigation cost recovery and personnel downsizing proposals; this is the only scenario that will upgrade system O&M to appropriate levels of sustainability and restore NIA's financial viability; also implement 10% management fee authorized by AO 17.

Required Policy:

- Implement all cost savings
- Implement 2-tiered ISF with volumetric cost recovery
- Implement proposed NIA restructuring proposal;
- Implement AO 17 10% management fee

Presented below is the progress of the implementation of the major recommendations given by the ADB study:

ADB-Review of Cost Recovery Mechanisms for NIA (2000) Progress of Implementation of Recommendations

Major Recommendation	Progress of Implementation
Shift to volumetric pricing and adoption of a two-tiered ISF	At present, the status and results of NIA's pilot testing of the volumetric pricing in D2B District 4 in MRIIS, Sta. Maria-Mayor RIS, Region 4 and Roxas-Kuya in Region10 has not yet been verified.
Revision of the ISF rates or implementation of EO 197	The DBM has favorably endorsed the recommendations of the ADB consultants on the implementation of the EO 197 and the 2-tiered ISF in its letter to NIA dated September 10, 2000. Furthermore the National Confederation of IAs (NCIA) endorsed to NIA the restoration of the 1975 ISF rates. And on July 13, 2001, NIA called a meeting with the NCIA, concerned NGOs and other representatives of the government agencies approved the restoration of the 1975 ISF rates and submitted to the BOD of NIA a proposal. Approval of the restoration of the BOD of NIA has not yet been verified.

ADB- Institutional Strengthening of NIA & WB-WRDP (1990&1995)

Presented in Table 17 are the recommendations and the progress of the implementations of the ADB's Institutional Strengthening of NIA and the World Bank's Water Resources Development Project.

ADB- Institutional Strengthening of NIA & WB-WRDP (1990&1995)

Major Recommendation	Progress of Implementation
Development and Implementation of a Standard Accounting Manual	The standard accounting manual was officially implemented on May 2000 with a timetable of 6 mos. COA had submitted the initial copy of NIA's financial accounting system manual on April 4, 2001 for review and final comments by NIA's controllership department. Although it was originally scheduled for 6 mos., it took almost one year for them to submit the draft copy of the manual. The status of the implementation of the Standard Accounting Manual is yet to be determined.
Computerization of NIA's (CO) Accounting System	NIA has developed a dos-based program, and the design and programming for accounting system has been completed. It was expected to be implemented on 2001 however it is yet to be determined if the program has indeed been implemented.
Computerization of the NIS Billing System	EDP unit aims to develop a billing & collection system after the completion of the General Ledger System. It is not yet verified if the EDP unit has already completed and implemented the ledger system to the IAs.
Implementation of the Standard Accounting System for Communal Systems designed by Sycip, Gorres, Velayo and Co (SGV) in 1990	SGV designed and developed a uniform accounting manual to be used by the IA. Seminars were conducted but it is not certain if the manual was implemented because during the time this report was created there are no funds for its implementation.

The on-going JICA Study on Irrigators' Association Strengthening Project
Field Survey Results for IA Strengthening Action Plan for Pilot IAs at 6 NISs

The JICA project entitled Irrigator's Association Strengthening Project in National Irrigation Systems conducted a field survey on December 2002 for the IA Strengthening Action Plan for Pilot IAs at 6 National Irrigation Systems (NIS). A problem and objective framework for the organization, operation and maintenance, and financial aspects of the selected IAs and NIS were gathered. The results of the

survey shows that the main problem of the IA aside from the lack of funding for supporting income generating activities and for O&M cost and expenses is the lack of the associations' ability to manage funds. It can be observed, based on the results, that the problem of the IAs is a never-ending cycle unless they are equipped with the ability or skill of managing their resources and funds.

The results of the survey with regards to IAs financial side are as follows:

1. No system of financial management of IAs
 - Lack of capabilities in financial management, recording, planning
 - Unavailability of financial records and documents for review and audit
 - Financial plan and budget are not formulated/prepared/planned
 - IA officers and members have limited knowledge and skills in financial planning and cooperative marketing
 - Accounting and Financial recording system is not installed
2. Source of funding and income generating activities
 - Insufficient income to sustain administrative, O&M, and other activities
 - Insufficient funds of IAs to finance the operation and benefits for farmer members
 - IAs financial instability
 - Limited/inadequate sources of fund, income and capital build-up
 - Absence of income generating plan and programs
 - Inability to prepare project proposals for fund sourcing from other groups/institutions
3. Status of collection of ISF
 - Low collection performance of IA and NIA due to farmers' negative attitude towards ISF payments because they are dissatisfied with the irrigation services due to dilapidated facilities and silted canals
 - Poor collection system of membership dues
 - Collection strategy, systems and procedures are not clearly defined by IA with members
 - Members are not paying their dues or IA officer do not collect ISF fees
4. Reviews, Evaluation and Revision of IMT Contracts
 - Clarification of the details in the contract
 - Revision of ISF sharing
 - Inclusion in the contract the specific sharing of expenses between NIA and IA for replacement, repair, and procurement of irrigation facilities and equipments

(2) NIA's Financial Status covering the period 1991-2001

Consolidated Result of Financial Performance

It can be observed in the table below that since 1991 up to 2001 NIA has been consistently suffering loses. Even before the passage of AO 17 or the socialized ISF, ISF collection from farmers is low. From 1991 to 1997 the ISF collection have been slowly improving but starting from 1998, after AO 17, ISF collection decreased and this has greatly affected NIAs collection of ISF while expenses continue to rise in the following years with the greatest operation loss in 2000. The scheme was implemented in the sense of rescuing poor farmers with smaller land, however it is said to create the base of reluctance toward the ISF payment. To amend this crisis and recover the loss gained by the national budget, the Estrada administration proclaimed through EO197 and EO218 to increase the fees and charges by 20%. And after a series of discussion with NCIAs, the ISF rate was re-adopted to 1975 rating since the first crop of 2001.

Consolidated Income Statement of NIA for the year 1991 to 2001⁷

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Operating Income											
1. Irrigation Fees	342	328	336	373	346	422	511	360	333	393	475
2. Management Fees	99	65	126	66	110	149	276	193	287	260	214
3. Equipment Rental	90	72	82	112	163	192	212	199	226	176	186
4. Interest Income	29	17	27	54	47	37	42	20	30	19	14
Total	560	482	571	606	666	800	1,041	772	876	848	889
Less: Operating Expenses											
1. Personnel Cost	498	582	536	600	672	823	1,006	1,093	1,057	1,068	1,094
2. ISF Related Expenses ⁸	40	41	33	35	35	45	54	34	32	34	33
3. O&M and Other Expenses ⁹	115	91	100	180	201	204	154	216	131	168	132
Total O&M Costs	653	714	669	815	908	1072	1214	1343	1220	1270	1259
Net Operating Inc. (Losses)	-93	-232	-98	-209	-242	-272	-173	-571	-344	-422	-370
Less: Non-Cash Expenses											
Depreciation Charge	46	45	30	289	291	252	303	286	474	489	314
Bad Debts			0	8	10	6	10	9	22	37	42
Loss on Sale of Palay	19	35	13	9	1	2	2	0	1	5	3
Total Other Charges	65	80	43	307	301	260	315	295	497	531	359
Net Inc. (Loss) for the year	-158	-312	-141	-516	-543	-532	-488	-866	-841	-953	-729

Liquidity

Despite the low collection fees over the past years, NIA is still somehow able to

⁷ Source: NIA Audited Income Statements, 1988-2001 audited. Units are in millions.

⁸ Includes ISF Discount, Collection/Viability Bonus, Collection Expenses, and Irrigator's Share

⁹ Includes Expenses excluding Personnel Services, ISF related expenses, and Non-cash expenses

finance its corporate operation because of the additional funding sources from pump and CIP amortization, government subsidies, sale of assets and other income.

Consolidated Cashflow of NIA from 1991-2001¹⁰

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Receipts Income Sources											
1. Irrigation Fees	342	328	336	373	346	422	511	360	333	393	475
2. Management Fees	99	65	126	66	110	149	276	193	287	260	214
3. Equipment Rental	90	72	82	112	163	192	212	199	226	176	186
4. Interest Income	29	17	27	54	47	37	42	20	30	19	14
Total Income Sources	560	482	571	606	666	800	1,041	772	876	848	889
Less: Expenditures											
1. Personnel Cost	498	582	536	600	672	823	1,006	1,093	1,057	1,068	1,094
2. ISF Related Expenses ¹¹	40	41	33	35	35	45	54	34	32	34	33
3. O&M and Other Expenses ¹²	115	91	100	180	201	204	154	216	131	168	132
Total Expenditures	653	714	669	815	908	1072	1214	1343	1220	1270	1259
Net Cash (Deficit)	-93	-232	-98	-209	-242	-272	-173	-571	-344	-422	-370
Add: Receipts-Other Sources											
1. Pump Amortization	2	2	1	4	1	5	5	25	3	4	3
2. CIP Amortization	54	44	51	51	77	95	126	156	153	121	141
3. Miscellaneous ¹³	79	118	67	89	49	109	155	380	192	181	293
Total Other Sources	135	164	120	144	127	209	286	561	348	306	437
V. Net Cash (Deficit)	42	-68	22	-65	-115	-63	113	-10	4	-116	67

Revenue and Expense Analysis

It can be observed in the graph below (refer to Graph 5) that the level of income was not sufficient enough to sustain the expenses incurred by NIA as determined by the negative percentage of net operating income in a span of eleven years. It wouldn't be a surprise if NIA experiences delay in payment of employee's salary, delay in release of funding, insufficient budget for operation and maintenance budget, budget for rehabilitation or procurement of new facilities and equipment etc.

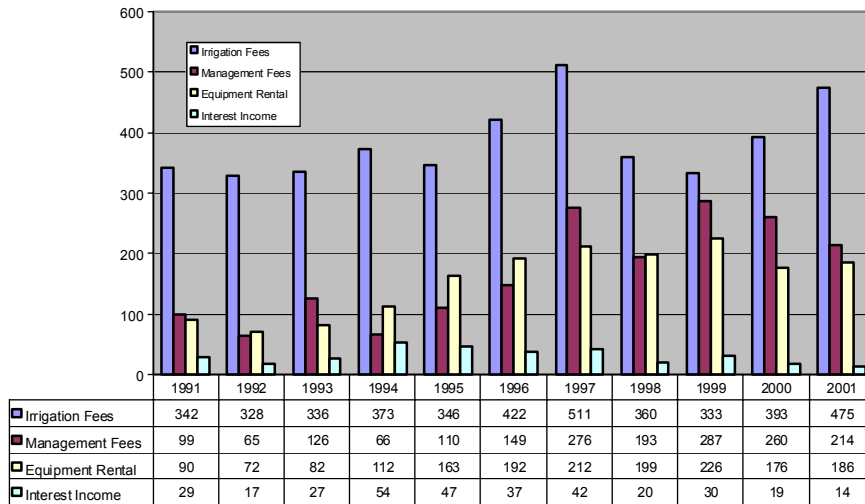
Graph 5. Analysis of the Operating Income and O&M Expenses of NIA

¹⁰ Source: NIA Audited Income Statements, 1988-2001 audited. Units are in millions.

¹¹ Includes ISF Discount, Collection/Viability Bonus, Collection Expenses, and Irrigator's Share

¹² Includes all the Expenses excluding Personnel Services, ISF related expenses, and Non-cash expenses

¹³ Includes Subsidies, Sales of Assets, and Other Income

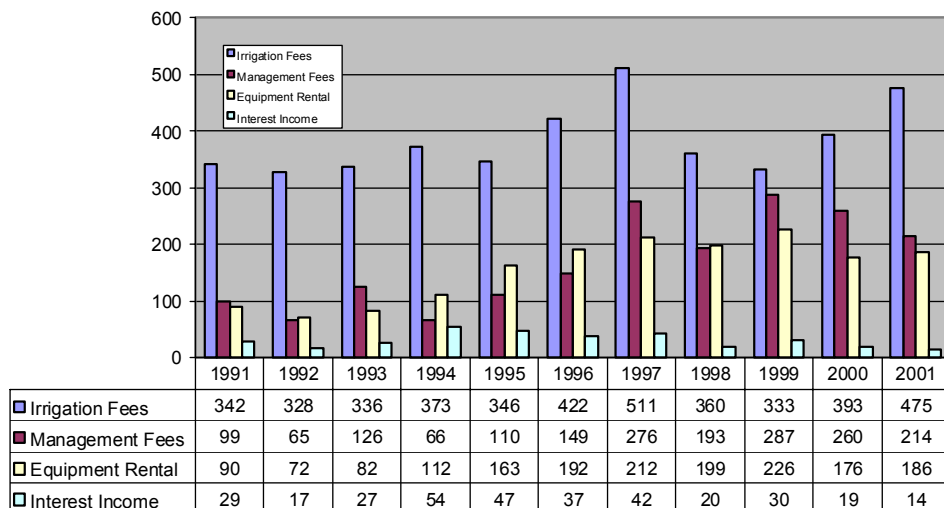


Irrigation Service Fee

It can be observed that the ISF collection from the IAs since 1991 has slowly increased with an outstanding increase in 1997. However, it can be noticed that a sudden decrease in the collection in 1998 occurred due to the AO 17. Though the AO 17 made a great effect on the mentality of farmers towards ISF payments and ISF collection, it has slowly recovered in the past few years but it is still not enough to cover the expenses of NIA.

Most of the income of NIA is gathered from the collection of ISF rates as shown by the graph below.

Graph 6. Status of Operating Income of NIA from 1991-2001

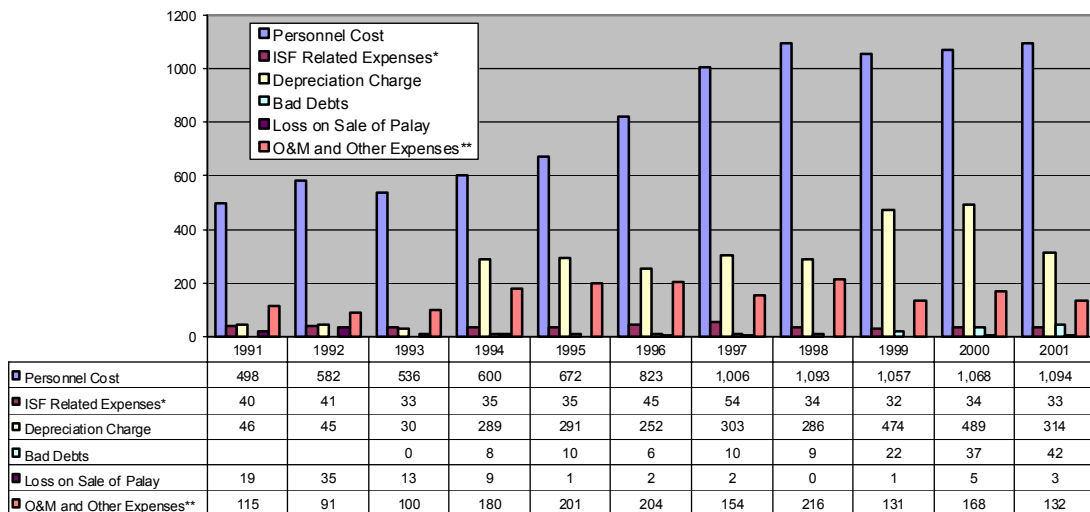


Personnel Costs

It can also be observed that the personnel cost of NIA continues to rise by more or less 5% every year as mandated by the Office of the President. From 1991 to 2001,

the personnel services expense has risen by 119%, with an increase as high as 22% from 1996 to 1997. However, the Operating Income, specifically the ISF, has no significant increase over the past years. Apart from the increase of personnel services every year, one of the major concerns is the NIA staff redundancy especially with IMT on laterals and in small systems for which the IMT contract has been signed. This has also contributed to the high cost of personnel services in which the ISF collection can no longer sustain. Nonetheless, NIA is looking into ways of decreasing staff by reassigning or displacing them and through early retirement as discussed in its streamlining plan.

Graph 7. Status of Expenditures of NIA from 1991-2001



Status of cash flow of the field offices

Below is the consolidated receipts and expenditures statement of the Field offices from 1995 to 2001. It should be noted that the cells in the table with no value means that the item have value less than a million or the report given by the Treasury Department did not reflect amount for the expenditure items such as the corporate funds and the Subsidy/Inc. O&M item. Furthermore, values shown here are not the actual values because many regions failed to declare to the accounting department the specific items for receipts and expenditures. The statement of income and expenses they submitted only include the total income, total expenses and net income. However, it is not entirely the fault of the regional offices that there are blank reports, there are some instances that NIA failed to encode the amount for specific receipts and expenditures items.

Consolidated Receipts and Expenditures of the Field Offices from 1995 to 2001¹⁴

(Million Peso)

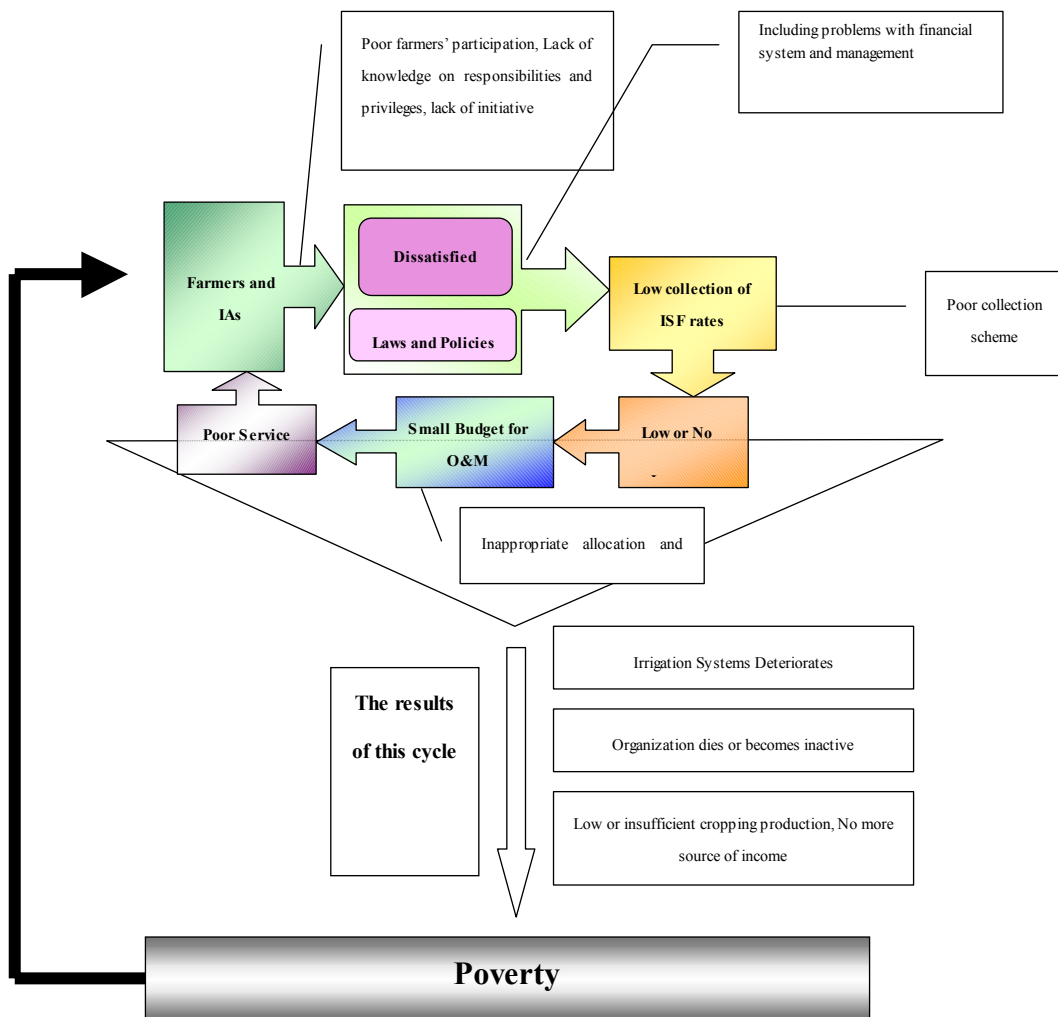
	1995				1996				1997				1998				1999				2000**				2001**							
	RIOs	ISOs	PIOs	Total	RIOs	ISOs	PIOs	Total	RIOs	ISOs	PIOs	Total	RIOs	ISOs	PIOs	Total	RIOs	ISOs	PIOs	Total	RIOs	ISOs	PIOs	Total	RIOs	ISOs	PIOs	Total				
Receipts																																
ISF		341	0	341	0	411	0	412	0	503	1	504	0	369	1	370	0	308	1	309	3	331	1	335					215	215		
Equipment Rental	11	74	69	154	14	94	74	181	19	116	82	216	36	104	58	198	20	126	61	208	8	103	60	171	12	54	18	84	12	54	18	84
CIS Amortization	8	1	18	27	32	1	23	56	0	37	26	63	0	1	50	51	51	1	24	75	1	46	24	71					54	7	61	
CIS Equity	24	1	54	79	16	4	68	88	0	8	104	112	0	4	103	108	12	7	103	122		13	73	86					12	35	47	
Pump Amortization	28	0	3	30	2		1	4			1	1		0	1	1		0	1	1									3	3		
Others		13	11	25	50	23	19	91	56	48	18	122	53	23	8	84	42	35	11	87	25	50	13	88	31	19	9	59	31	19	9	59
Total	70	429	155	655	114	533	185	832	75	712	232	1,019	89	501	221	812	125	477	200	802	37	581	174	792	62	721	262	1045	62	721	262	1045
Less: Expenditures																																
Corporate Funds	186	435	87	708	222	483	123	828	264	682	146	1,091	283	582	145	1,010	243	480	143	866					0				0			
Subsidy/Inc. O&M						34		34		77	0	77		3	1	4									0				0			
Total	186	435	87	708	222	517	123	862	264	759	146	1,169	283	585	146	1,014	243	480	143	866	167	583	154	904	194	661	153	1008	194	661	153	1008
Net Receipts	-116	-6	68	-53	-108	16	61	-30	-189	-47	86	-150	-194	-83	75	-202	-118	-3	57	-64	-130	-2	20	-112	-132	60	109	37	-132	60	109	37

(3) The Financial Problem Cycle

The main problem is not having enough funds for the operation and maintenance of irrigation canals and for the activities of the organization. Farmers are dissatisfied with the services given by NIA because they do not see their money's worth coupled with the mentality that water is free hence the reluctance to pay the ISF. In reference to Figure 1, it has indeed become a vicious cycle (more of a downward spiral) that unless the government has made good and effective policies in terms of ISF rating, sharing, financial systems, management and allocation of funds, the cycle continues and financial resources will always be a problem of the IAs and NIA. The causes of loss of income can be attributed to the high increase in personnel services, policies implemented by the government, the change in the ISF rating, allocation of funds and resources and low ISF collection rate due to the changing ISF rates and reluctance of farmers to pay the ISF. As a result, financial stability of the organization cannot be attained and consequently the organization dies or becomes inactive because of insufficient or no funds. The status of irrigation will deteriorate hence low or no cropping of goods by farmers, which could lead to poverty.

¹⁴ Source: Treasury Department of NIA

Financial Problem Cycle by IAs



(4) The recovery of crop failure and equipment

NIA is not responsible whatsoever if there are damages incurred in the crop failure due to natural disasters and the like. Very few IAs have programs for the recovery of damaged goods and materials. There are programs outside IAs jurisdiction that the farmers engage in. Individual farmers get loan from the Land Bank through the farmers' cooperatives and a part of the loan goes to the Philippine Crop Insurance Corporation (PCIC). The PCIC is a form of protection for farmers against losses due to natural disasters such as typhoon, flood, earthquake as well as plant diseases and pest infestations. Through nominal premium payments, farmers are assured that in case of loss due to natural causes, they will have money for subsequent production expenses or to repay their production loans. In case of crop failure, the PCIC shoulders the expenses of the farmers and these farmers have nothing to worry about the payment of the loan with Land Bank. But due to the problems attributed to PCIC's operation, indemnity in case of calamity is not properly

released to farmers and most farmers are not satisfied with the operation of PCIC. This is not the scope of the association or the problem of the association anymore since individual farmers engaged in this type of activity outside the IA. However, this experience might affect the collection of ISF since they cannot shell out any more money for the ISF payment.

In case of damage and repair of equipments and facilities, NIA shoulders 100% of the expenses of the damaged irrigation equipment and facilities. The IMT contract only indicates the transfer of operation and management to the IAs concerned but not the ownership of equipments and facilities.

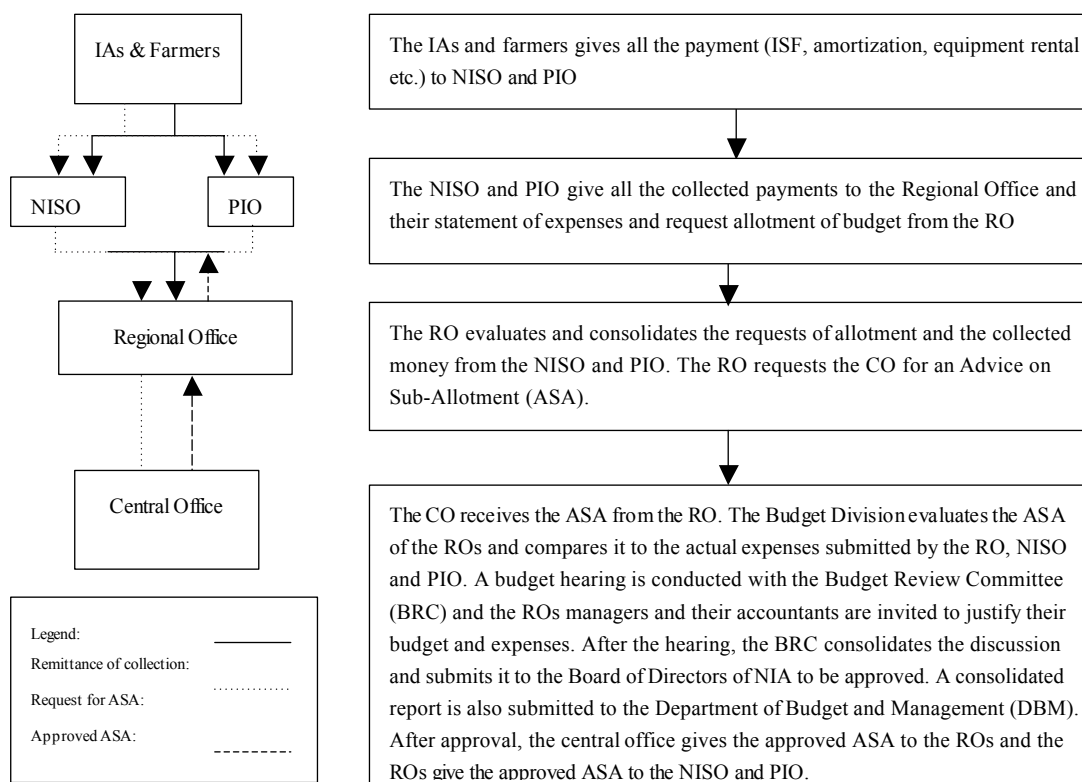
- (5) The existing procedures of monthly releases of sub-allotment advice requirements and processing of payments of IA remuneration and collection incentives

At present, the flow of request for budget allotment is shown in the flowchart below:

Flowchart of ISF payment and ASA request

¹⁵Flow of ISF Payment and request for budget allotment

Procedures:



¹⁵ Gathered from the interview with the following persons: Mrs. Corazon Garcia, MSD Senior Management Analyst; Mr. Romeo Natividad, MSD, OIC Management Audit Division; Ms. Zeny Escano, Corporate Budget Officer, Budget Division; Mr. Ariel P. Castro, Treasury Department, NIA.

All of the payments collected by the RO are deposited in a bank and they cannot use or allocate the money without the approval from the CO. If ever there are excess in the collected payments of NISO, PIO or the RO, this will go to their savings. However, it is often that NISO, PIO, and the ROs collections cannot compensate the expenses they incur.

It should be noted that in reality not all collections of the NISO and the PIO are remitted to the RO. In this sense, there should be a strict rule that all collected payments should be turned over to the ROs. NISO and PIO should wait for the COs approval and ROs release of budget. But the problem is that there are instances wherein the NISO and PIOs needed cash for their operation and due to the fact that they have no savings because of the poor collection efficiency of ISF they have no budget to use. Allocating a seed fund or a revolving fund for the NISO and PIO may be suggested to answer this problem. Furthermore, the approval of the ASA of the NISO and PIO should be decided at the regional level, not anymore by the COs because this is taking a long time for the NISO and PIO to receive the budget allotment.

It can be observed that in the flowchart, the NISO and PIO can be combined into one office. This will reduce the cost of personnel services and collection expenses of the field offices since they can now collect both the ISF and amortization fees, reducing time, effort, and expenses made in the collection. NIA, in its streamlining plan, is planning to merge NISO and PIO.

5.3.2 Recommendations for Financial Capability Strengthening

Studies related to Financial Strengthening

Discussed below are the studies and their recommendations with regards to financial capability building of the IAs in selected regions:

- (1) Irrigation Component of the CASECNAN Multipurpose Irrigation and Power Project (CMIPP-IC) under the Central Luzon Irrigation Project: Financial System Plan Under the Institutional Development Program (IDP)

The study proposes a financial management plan wherein the FIAs will be in charge of collecting ISF and payment to NIA and the management of the O&M cost. This ISF sharing scheme is the core of the Financial System Plan of CMIPP with the purposes of making the FIAs financially independent from NIA, improving the systems of collection and accounting of ISF. Below is the proposed ISF sharing

scheme:

Summary of the Proposed Progressive ISF Sharing Scheme of CMIPP-IC Financial System Plan under the IDP

Level of ISF Sharing Scheme	ISF Sharing (%)		Collection Efficiency (%)	
	NIA	FIA/COF IA	Wet Season	Dry Season
Level 1 - 70:30	100	0	30%	40%
	70	30	31-70%	41-70%
	40	60	71-100%	
	30	70		71-100%
Level 2 - 65:35	100	0	30%	40%
	65	35	31-70%	41-70%
	30	70	71-100%	
	18.3	81.7		71-100%
Level 3 – 60:40	100	0	30%	40%
	60	40	31-70%	41-70%
	20	80		71-100%
Level 4 – 55:45	100	0	30%	40%
	55	45	31-70%	41-60%
	40	60		61-70%
	10	90	71-100%	
	0	100		71-100%

If in case the FIAs have 30% collection efficiency only, the UPRIIS will not give any share to the FIAs. As a result the FIAs will be forced to have a collection efficiency of more than 30%. This will improve FIAs income and contribution of ISF to NIA. Furthermore, under this sharing system the FIA will be handling much higher income and expenses than before hence, there should be transparency in accounting and management of finances to monitor the flow of income and expenses incurred by the association. This will allow the farmers to safely guard the operation of the irrigators' association.

It is also proposed that the list of IFR and bill be combined due to problems of delayed or late even after harvest season this will reduce the cost of collection expenses plus the farmers will be obliged to pay ISF by signing on the LIPA/Bill sheet, there will be an increase in the communication between farmers and water resources facilities technician (WRFT), and TSAG leaders will be able to contribute

to the capacity building towards successful IMT. And the computerization of the irrigation fee register for effective, fast and accurate monitoring of ISF payment status of farmers through creation of a database to easily access the individual record of farmers, and automatically calculate individual back account.

(2) Water Resources Development Project: Task 9 Accounting System and Financial Management

One of the recommendations of the WRDP Task 9 is to have an efficient accounting system where the IAs should produce reports that are highly reliable, relevant, concise and prompt. This is the starting point for a sound financial management. The timely production of reports and records is crucial so as not to lead the users to unreliable and misleading financial information that would lead to poor organizational management and ultimately the institution's downfall. NIA should develop an accounting manual to ensure uniformity of recording and reporting of financial transactions in the Central Office (CO) and all the field offices. NIA should also develop an integrated approach to its planning and budgeting system with the approved long-range plans as the basis for short-range plans. Improve cash management, receivable management, payee inventory management, and fixed assets management.

(3) WRDP and IOSP-2 World Bank Review Mission (September 2000)

ISF Sharing

The mission emphasized that the IMT contract of farmers should be modified to provide all options for the farmers. These options will include cost recovery mechanisms such as sharing of ISF, payment of a fixed amount denominated in cavans/ha and payment by volume of water supplied by NIA (volumetric pricing). The status of volumetric pricing conducted by the WRDP is still in progress and is yet to be concluded if this system is indeed advantageous for the farmers. Furthermore, the contract will leave the option open to farmers to change from one option to another over time after discussion and agreement with NIA.

O&M Fund

Lack of maintenance of canals is a general problem of the entire irrigation sector and delayed maintenance or neglect quickly leads to the deterioration of canal conveyance capacity which in time would require rehabilitation and funding. If this is avoided in the first place, misallocation of funds for the rehabilitation of the neglected canal would not happen, there will be no shortage of funds, and funds will be used for better purposes. It was pointed out that a new approach to maintenance

be formulated to address the problem of funding for the maintenance of canals and this should be included in all of the IMT contracts. The idea is to allocate a portion of the IA's share of ISF for maintenance. This will only be used as a minimum fund for maintenance and will be supplemented, if necessary, by the farmers through voluntary labor of farmers or additional fund from the IA's share of ISF collection. This will happen if NIA will create a mandate or change the bylaws of the IAS and incorporate these into their contracts or create a supplementary contract.

However, it is quite confusing that the IAs have to allocate a portion of the ISF collection on top of what is already included in the O&M budget of the IAs, and this seems to be somewhat redundant. Furthermore, NIA has allotted payment for personnel services of the farmers for the maintenance of the canal and it would be much better to ask the farmers for voluntary canal cleaning and maintenance. Instead of allocating personnel cost, funds allocated for labor will be placed to the IA's funds for the purposes of improving the organization or the irrigation system or to be used as capital for the conduct of income-generating activities. This will not only reduce the cost of labor and services but it will also be a source of funding for farmers. The necessary incentive should be discussed by NIA to encourage the farmers for voluntary canal maintenance.

The status or progress of these studies is yet to be determined. Some recommendations were not implemented due to financial and budgetary constraints. Although most of the studies look into the financial systems of the IAs and NIA, it is not sufficient to just look into the financial statements to determine the viability of these organizations, there are other factors to be considered such as the attitude and mentality of farmers or their socio-economic, or cultural backgrounds; their actual living conditions; the status and relationship of the members and officers; the condition of crop production and community and so on. These may directly or indirectly affect the management of the whole organization. It would be excellent if recommendations on the financial capability of IAs from these studies would be first implemented and evaluated and be based on the actual conditions of the farmers to come up with an improved or a more realistic and systematic approach to the IAs pressing problems.

5.3.3 Other recommendations

Financial Management

A survey was conducted to identify the problems facing by the IAs today and come up with solutions or recommendations to address these issues and problems, concentrating on the financial issues and problems. Table 21 presents the field

survey results on IA Strengthening Action Plan for Pilot IAs and 6 NISs conducted. It is taken with liberty that some recommendations were suggested to respond to the needs and issues with regards to the financial problems lifted from the results of the survey.

The JICA Study on the IA Strengthening Project in NIS - Field Survey Results on IA Strengthening Action Plan for Pilot IAs at 6 NISs (2002)

Recommendations	Needs and other issues
<ol style="list-style-type: none"> 1. Financial Management Training and Seminar 2. Creation of uniform standard system of financial management: standard system of accounting, bookkeeping, recording, reporting, budgeting etc. 3. Creation or review of guidelines, manuals, policies, rules and regulations. 4. Creation of templates or master document to be followed by the IAs for documentation, reporting, recording, archiving etc. 	<p>Low financial management capacity of IA</p> <ul style="list-style-type: none"> - Lack of capabilities in financial management, recording, planning. - Unavailability of financial records and documents for review and audit. - Financial plan and budget are not formulated/prepared/planned. - IA officers and members have limited knowledge and skills in financial planning and cooperative marketing. - Accounting and Financial recording system is not installed.
<ol style="list-style-type: none"> 1. Inclusion of cooperative functions to IAs 2. Creation of income-generating activities for capital build-up, income and fund sourcing, and generating profit for the organization 3. Sustainable livelihood training programs 4. Discourage lending of money to farmers who will use it for personal purposes 5. Project Management Skills Enhancement or Training 6. Networking Seminar 7. Training on proper allocation of budget and cost savings techniques 8. Monitoring and Evaluation of IA financial activities 9. Effective system of ISF fee and membership collection - (100%) efficiency rate 10. Proper allocation of funds and budget transparency 	<p>Necessity of Income Generation Functions</p> <ul style="list-style-type: none"> - Insufficient income to sustain administrative, O&M, and other activities. - Insufficient funds of IAs to finance the operation and benefits for farmer members. - IAs financial instability - Limited/inadequate sources of fund, income and capital build-up. - Absence of income generating plans and programs. - Inability to prepare project proposals for fund sourcing from other groups/institutions
<ol style="list-style-type: none"> 1. Effective system of ISF fee and membership collection 2. Encourage member empowerment, participation and support in IA activities through assignment of specific tasks and roles or responsibilities. Give the responsibility of collecting the ISF fees to women since they are able to communicate well with the people and has the charm to motivate members in paying their dues (as what UPRIS experienced). 3. Value formation 4. Strict implementation of rules and regulations and penalty (Example: members who will not pay ISF rate on time will be tasked to clean the canals without labor fee, streets etc or do civic activities for free) 	<p>Increase ISF Collection</p> <ul style="list-style-type: none"> - Low collection performance of IA and NIA. - Poor collection system of membership dues. - Collection strategy, systems and procedures are not clearly defined by IA with members. - Members are not paying their dues or IA officer do not collect ISF fees
<p>IA should take the initiative in reporting or negotiating this to NIA (this will lessen NIA's expenses for monitoring)</p>	<p>Modification of IMT Contract</p> <ul style="list-style-type: none"> - Review, Evaluation and Revision of IMT Contracts. - Clarification of the details in the contract

(1) Financial Recording and Reporting

As discussed earlier, the starting point for a sound financial management is the accurate and quick production of financial reports. Financial reports are one of the bases of the IAs financial viability. Most of the IAs decisions are based on the

reports and reporting of their finances because it gives the organization data for analysis and trend setting. It does not only provide information for the budget allocation to increase income for the IA, but information for RO and CO on the status of the IA as well for allocation of necessary funding for the IA. It is also used as basis for monitoring and evaluation of the performance of the IA by the different agencies and institutions. Furthermore, there is a transparency among the farmer members on where their share goes through regular reporting in the general assembly of the financial status of the IA. This establishes trust among the IA and contributes to the efficiency of ISF collection.

Included in the financial recording and reporting are the production of final reports such as the balance sheet, income statement or statement of revenues and expenses, cash flow statement, portfolio report which includes loan report of the organization, declaration of assets and liabilities. Receipt of the transactions made between the IAs and the members, and IAs with the NIS, RIOs should be incorporated also..

A standard form or report template should be created to be followed the IAs nationwide for easy comparison and analysis of the financial status of the IAs.

(2) Financial Control and Auditing

There are many instances where IAs funds were dissolved because members keep on borrowing the money for personal use without returning it. Policies, laws and penalties with regards to finances should be clear and be strictly implemented. Auditing of the finances done by the organization and NIA should be conducted regularly for accurate reporting of resources and monitoring of fund use. Below are the items for the income and allowable expenses:

Income and Allowable Expenses:

Fund Sources:	
1. ISF Share:	Back Account Current Account
2. Membership Fees/Annual Dues	
3. Contract Work Earnings	
4. Fines and Penalties	
5. Interest Income – from bank deposits	
Expense Items	
1. Travel of IA Officers – actual transportation and per diems outside system’s service area on official travel (allowed and approved)	
2. Office supplies	
3. Office equipment	
4. Training expenses – IA share in NIA initiated training	
5. Salaries and wages of employees of Federation and IA	
6. Honoraria set and approved by General Assembly	

(3) Budgeting

Proper budgeting or allocation of the funds and resources should be discussed with the members of the IAs. This involves identifying the priority needs of the organization, projects and activities where the funds will be allocated.

(4) Organization

There still exist many IAs whose officers do not stick with the roles and responsibilities assigned to them. There are instances where the president functions both as treasurer and auditor even if there is a treasurer and auditor. This arouses suspicion among the farmer members with regards to the president's intention for functioning as such. There are some organizations that have managers but when asked what the function of a manager is, they cannot come up with a job description. The label "manager" is still used by the organization simply because of tradition. It has been a part of their electoral proceedings for so many years that they do not question its functionalities anymore. It is recommended that the roles of the officers be identified and evaluated to clarify its functions in the organization and to erase confusion among the members. It might come to a point that the organization must change its structure depending on the needs and challenges of the organization. The restructuring of the organization can either be done through needs analysis of the association or through simple brainstorming or focused group discussions (FGD) with the farmer representatives.

The problem of laxity and the mental attitude of farmers should be focused also. There are farmers who still believe that water is a social good and not as an economic good. Most IAs still depend the management of the irrigation systems to NIA. Membership participation should be encouraged especially in the sharing of responsibilities of maintaining and cleaning the canal. Participation of members is probably the key to IAs capacity strengthening and success.

(5) Utilization of Female Members

It is probable that a touch of a woman would make collection easier and faster. It is believed that women are good communicators and has the pleasing ability of making men do what they say. Since most women in the fields only perform light activities, it is recommended that the responsibility of collecting the ISF from farmers (majority of which are males) be given to the women.

(6) Review of Policy and IMT Contracts

The WRDP and IOSP 2 Review Mission Report has emphasized that the IMT contract of farmers will be modified to provide all options for the farmers. These

options will include cost recovery mechanisms such as sharing of ISF, payment of a fixed amount denominated in cavans/ha and payment by volume of water supplied by NIA (volumetric pricing). The status of volumetric pricing conducted by the WRDP is still in progress and is yet to be concluded if this system is indeed advantageous for the farmers. Furthermore, the contract will leave the option open to farmers to change from one option to another over time after discussion and agreement with NIA.

It should also be included in the IMT contract the financial planning for cases where there is damage in the goods and materials. As discussed earlier there is no IA program for this kind of problem. IAs do not oblige the farmers to pay the ISF since there is a mandate that for crop failure or situations where the farmer only yielded 40 cavans per ha. NIA or the IA cannot shoulder the expenses incurred by the farmers because it is beyond the association's control for crop failure. So the problem remains. Farmers who continue to experience crop failure and low production of palay or goods would not be able to contribute for the improvement of the irrigation system and may in a way contribute to the burden of IAs and NIA. It is recommended that a kind of program be introduced to answer this dilemma.

To address this issue, it is recommended that the IAs create an allotment of budget for "bayanihan aid/fee" this could be done through creation of a new tariff generated by the IA. The conditions on tariff contribution will be approved by the farmers in a general assembly. The purpose of this bayanihan fee is to help the farmers with crop failure or help the association gather funds in case a disaster happens. This bayanihan fee will be deposited in a bank other than the IA account or deposited in a cooperative bank and will be used only for cases that will be agreed upon by the association.

(7) More than an Irrigators' Association

Most of farmers organization always depend on funding institutions for funds. It is suggested that the Irrigators' Association should have a continuous source of income for it to survive. There are several IAs where they are trying to incorporate into their system the functions of a cooperative organization. They have become more than just an Irrigator's Association. This is the trend occurring to many of the farmers' organization. They have evolved into an income-generating organization that does not rely only on the ISF share and tariffs they collect from the farmers but have sustainable means of livelihood.

Aside from the O&M of irrigation systems the function of the IACo is to improve the farming business and uplift the economic and social way of life of farmers.

They grant loans for production and providential purposes to its members, and to encourage thrift and saving mobilization among the members for capital build up.

i) Creation of funds

The IACos will have the ability to generate income through sustainable livelihood development. Sample of livelihood are livestock or poultry raising, use of palay and crops by-products to make bags, slippers, hats or decorative/novelty items, carabao/hog dispersal and the like, rice marketing, sari-sari store etc.

ii) Grant production loans

If ever the IACo would be start relending, they can grant loans to farmers will little interest.

It is important not only for NIA but also to all concerned agencies to discuss this issue, because the organization introduced here is the feature of “cooperative” already and the issue is dealt with by DA and DAR more than NIA. The first step NIA have to pursue is to absorb the know-how of coop operation by tying up with or outsourcing this issue to other agencies with expertise as referred to by the table below:

Precedents of Good Know-How on Fee Collection and Organization Management (Case Study on Farmers Cooperative)

This table presents an outline of the St. Rose of Gamu Credit & Development Cooperative, Inc. Isabella Province, Region II, as exemplifying a potential direction for collecting fee and income generating body.

The Cooperative was established in Municipality of Gamu in 1987 and currently has about 900 members.

1. Collection system employing foreigners

In Philippine communities as a whole, there is a tendency to prevent exposure of shortcomings to outsiders (and particularly people from other countries) and to push good points fully to the fore instead. The St. Rose of Gamu CDCI makes effective use of this tendency in its scheme for collecting debts. The cooperative was founded by a Belgian priest in 1987, and went on to build up the CBU amount, which was then only 4,000 pesos, to 6 million pesos. The priest personally accompanied the collectors on calls to collect debts in arrears, and the retrieval rate was close to 100 percent until he left the diocese in 1993. Although the bishop initially proposed the establishment of the cooperative, he played only an advisory role and never took any official position in it.

2. Exclusion of political intervention

To exclude political interference, the cooperative was organized from a Catholic group and receives absolutely no assistance from agencies of the Philippine government. The only official aid it receives is from the Belgian local government as part of official development assistance (ODA).

3. Avoidance of centralized power

For a wide-area development of cooperatives, the Diocese of Ilagan Development Council was inaugurated in 1990 and set up a league-type federation with jurisdiction over said diocese, which spans 37

municipalities. The parent cooperative is the St. Rose of Gamu CDCI. At present, it has subordinate cooperatives in a total of 11 municipalities. Although the head of the parent cooperative usually also serves as head of the federation, the BODs of member cooperatives are not allowed to fill this post. The manager of the parent cooperative currently heads the federation.

4. Incentives for collectors

At an early stage after the founding, the debt collectors were positioned as key members of the administrative department and given incentives for collection work. At present, they receive a monthly wage of 4,000 pesos.

5. Sufficient extensibility for the cooperative and circulation of benefit

Normally, credit cooperatives are permitted to extend credit only to members. The inclusion of the word "development" in the name enabled a more varied activity. To heighten the circulation of benefit, the cooperative lobbied the Isabella diocese to allow the succeeding priest as well to play an advisory role. Even today, the priest in charge of the diocese advises the cooperative.

6. Monitoring system

Because there are members in 11 municipalities, a liaison officer stationed in each barangay is in charge of checking qualifications and monitoring activities after the provision of funding. The main items for checking are the authenticity and truthfulness of documents submitted for application, the existence of collateral, and the risk of relocation after receipt of the loan. The liaison officer is also in charge of collecting repayments, and can receive incentive pay of 50 pesos per month (a hike to 100 pesos is currently under consideration).

7. Foresight in the preparation of guidelines

The guidelines prepared by the cooperative with the advice of the priest incorporate all of the points noted above.

Table 1.1 Status of IMT Under IOISP II, December 2000

Name of System	Service Area (ha)	Number of IAs	Number of IAs with IMT Contract	Covered Area (ha)	Number of Farmers Served	Percent of Covered Area to Service Area
1 Bonga 1*	298	1	1	298	1,064	100
2 Bonga 2*	674	1	1	674	1,271	100
3 Bonga 3*	202	1	1	202	310	100
4 Cura**	431	4	4	431	663	100
5 Baggao	2,067	2	1	707	1,218	34
6 IAAPIS	2,308	3	1	489	843	21
7 MRIIS***	75,944	259	154	37,178	27,902	49
8 Agos	1,435	7	1	1,435	4,100	100
9 Sta. Maria-May	1,773	2	1	974	1,264	55
10 Cantingas	310	3	3	310	388	100
11 Barit	2,260	5	5	2,260	4,520	100
12 Matogdon	530	1	1	530	870	100
13 Pongso	714	5	1	714	1,438	100
14 Maranding	4,808	6	6	4,808	4,738	100
15 Malasila	4,006	4	4	4,006	3,851	100
TOTAL	97,760	304	185	55,016	54,440	56

Source: 1. Implementation Completion Report, Irrigation Operation Support Project II, (IOISP II) December 2000

2. Regional Submissions

* IA provided 30% equity and amortizes the cost of pump at 1.5 cavans/ha/year. The IA also reimburses the cost of electricity paid by NIA every end of harvest season.

** Four IAs have federated and amortizes the cost (construction and rehabilitation) of system

*** Comprised of Districts I, III and IV (Total of 17 systems under the project)

Table 1.2 Status of IMT Under Water Resources Development Project As of June 2002

System	Service Area (ha)	Program Targets					IMT Area (ha)	Accomplishment			
		IMT Area	Number of laterals	Number of contracts	Number of IAs	Number of members		Number of laterals	Number of contracts	Number of IAs	Number of members
Category 1*											
1 Tumauni	3,673	3,615	21	10	10	2,659	570	2	2	2	620
2 Magapit	10,914	9,321	25	13	13	5,783	2,708	3	2	2	
3 MRIIS D-2	23,241	23,241	103	15	104	16,238	9,319	37	6	37	6593
4 Camiling	8,580	814	6	4	4	662	202	2	1	1	202
5 Baco-Bucavao	6,327	1,103	7	6	6	822	442	4	1	1	377
6 Batang-Batang	3,020	1,142	7	7	7	754	257	1	1	1	137
7 Jalaur Proper	8,839	2,540	13	8	8	1,045	252	1	1	1	133
8 Mlang	3,220	2,981	24	2	2	1,670	2,981	22	2	2	1670
9 Andanan	5,550	3,500	16	16	16	1,238					
Sub-Total	73,364	48,257	222	81	170	30,871	16,731	72	16	47	9732
Accomplishment (%)							29	31	17	26	32
Category 2**											
10 Lower Chico	1,856	1,856	7	2	5	2,658					
11 Solana	2,777	2,777	8	1	1	1,735					
12 Baua	2,494	1,253	21	1	10	1,484					
13 San Pablo-Cabagar	1,308	1,308	11	1	7	1,663	1,375	11	1	7	1663
14 Balanac	1,300	1,040	5	1	1	928	1,040	5	1	1	928
15 Pagbahan	1,083	1,083	3	1	1	100	175	1	1	1	100
16 Sibalom-Tigbauan	2,120	2,020	11	4	4	1,798					
17 Dipolo	1,600	1,600	13	3	3	719	125	4	1	1	194
18 Roxas-Kuva	1,011	1,011	6	2	2	455	1,011	6	2	2	455
Sub-Total	15,549	13,948	85	16	34	11,540	3,726	27	6	12	3340
Accomplishment (%)							29	31	38	35	29
TOTAL	88,913	62,205	307	97	204	42,411	20,457	99	22	59	13072
Accomplishment (%)							29	31	21	28	31

Source: Progress Report, June 2002, WRDP Project Office, NIA Regional Submissions

* Above 3000 ha, considered as progressive turn-over

** 3000 ha and below, considered as full turn-over

Table 1.3 Status of JSM under ISIP II

Name of	Service Area	Status of JSM			Status of ISC		
		Nos. of IA	IA nos.	JSM (%)	Nos. of ISC	ISC nos.	(%)
		1 Bao	1,917	6	1	17%	6
2 Maini	1,760	5	1	20%	5	5	100%
3 Tibak	1,630	5	2	40%	5	4	80%
4 Binahaan	1,801	6	1	17%	6	6	100%
5 Binahaan	1,410	4	1	25%	4	3	75%
6 Lower	1,200	5		0%	5	3	60%
7 Guinaron	646	4		0%	4	4	100%
8 Daguita	850	5		0%	5	4	80%
9 Bito	1,411	11	5	45%	11	11	100%
Total	12,625	51	11	22%	51	44	86%

Data source : SMD -

Note (1)ISC : Irrigation Service

(2)An additional sub-svstem named "Marabong River TS" is omitted

Table 1.4 Status of ISF Collection Efficiency in NISs under IMT / JSM

Region	S. No.	Name of NIS	Service Area (ha)	IMT/JSM Targete Are		IMT/JSM Contracte		Av. ISF C. E.(96-00)		ISF C. E. in 2001		Change	Project
				Area (ha)	(%)	Area (ha)	(%)	Current	Incl. Back	Current	Incl. Back		
1	1	Bonga 1	298	298	100%	298	100%	System facilities transferred to IAs and amortized					IOSP II
1	2	Bonga 2	674	674	100%	674	100%						IOSP II
1	3	Bonga 3	202	202	100%	202	100%						IOSP II
1	4	Cura	431	431	100%	431	100%						IOSP II
2	5	Baggao	2,067	707	34%	707	100%	56%	64%	73%	115%		IOSP II
2	6	IAAPIS	2,308	489	21%	489	100%	59%	63%	100%	111%		IOSP II
2	7	Tumauini	3,673	3,615	98%	570	16%	36%	39%	68%	73%		WRDP
2	8	Magapit	10,914	9,321	85%	2,708	29%	44%	54%	22%	30%		WRDP
2	9	Lower Chico	1,856	1,856	100%	0	0%	NA					WRDP
2	10	Solana	2,777	2,777	100%	0	0%	NA					WRDP
2	11	Baua	2,494	1,253	50%	0	0%	66%	70%	92%	97%		WRDP
2	12	San Pablo-Cabagar	1,308	1,308	100%	1,375	105%	54%	66%	56%	57%		WRDP
MRIS	13	MRIS District 1	21,797	12,440	57%	12,440	100%	49%	58%	57%	62%		IOSP II
MRIS	14	MRIS District 2	23,241	23,241	100%	9,319	40%	52%	66%	47%	56%		WRDP
MRIS	15	MRIS District 3	23,442	13,382	57%	13,382	100%	63%	70%	62%	65%		IOSP II
MRIS	16	MRIS District 4	19,890	11,356	57%	11,356	100%	62%	78%	78%	93%		IOSP II
3	17	Camiling	8,580	814	9%	202	25%	9%	21%	12%	15%		WRDP
4	18	Agos	1,435	1,435	100%	1,435	100%	23%	45%	25%	70%		IOSP II
4	19	Sta. Maria-Mayor	1,773	1,773	100%	974	55%	55%	59%	40%	41%		IOSP II
4	20	Cantingas	310	310	100%	310	100%	18%	23%	24%	24%		IOSP II
4	21	Baco-Bucayao	6,327	1,103	17%	442	40%	54%	78%	83%	95%		WRDP
4	22	Batang-Batang	3,020	1,142	38%	257	23%	NA					WRDP
4	23	Balanac	1,300	1,040	80%	1,040	100%	NA					WRDP
4	24	Pagbahan	1,083	1,083	100%	175	16%	31%	34%	42%	42%		WRDP
5	25	Barit	2,260	2,260	100%	2,260	100%	NA					IOSP II
5	26	Matogdon	530	530	100%	530	100%	44%	70%	39%	49%		IOSP II
6	27	Jalaur Proper	8,839	2,540	29%	252	10%	23%	36%	28%	46%		WRDP
6	28	Sibalom-Tigbauan	2,120	2,020	95%	0	0%	25%	46%	32%	65%		WRDP
7	29	Mlang	3,220	2,981	93%	2,981	100%	19%	42%	22%	40%		WRDP
8	30	Pongso	714	714	100%	714	100%	46%	97%	23%	34%		IOSP II
8	31	Andanan	5,550	3,500	63%	0	0%	59%	70%	44%	53%		WRDP
8	32	Bao	1,917	1,917	100%	1,917	100%	45%	91%	26%	41%		ISIP II
8	33	Mainit	1,760	1,760	100%	1,760	100%	47%	70%	18%	30%		ISIP II
8	34	Tibak	1,630	1,630	100%	1,630	100%	NA					ISIP II
8	35	Binahaan North	1,801	1,801	100%	1,801	100%	36%	77%	19%	60%		ISIP II
8	36	Binahaan South	1,410	1,410	100%	1,410	100%	NA					ISIP II
8	37	Lower Binahaan	1,200	1,200	100%	0	0%	NA					ISIP II
8	38	Guinarona	646	646	100%	0	0%	NA					ISIP II
8	39	Daguitan	850	850	100%	0	0%	NA					ISIP II
8	40	Bito	1,411	1,411	100%	1,411	100%	53%	46%	49%	52%		ISIP II
9	41	Dipolo	1,600	1,600	100%	125	8%	42%	176%	46%	103%		WRDP
10	42	Maranding	4,808	4,808	100%	4,808	100%	NA					IOSP II
10	43	Roxas-Kuya	1,011	1,011	100%	1,011	100%	88%	112%	97%	116%		WRDP
12	44	Malasila	4,006	4,006	100%	4,006	100%	14%	30%	27%	65%		IOSP II

Data source : SMD - NIA

- Note (1) ISF Collection Efficiency (C. E.) Current = Current Year ISF Collected / Current Year ISF Collectible
(2) ISF Collection Efficiency (C. E.) Incl. Back = (Current Year + Back account ISF Collected) / Current Year ISF Collectible
(3) IMT contracted under WRDP as of June 2002
(4) JSM contracted under ISIP II as of January 2003
(5) NA : Data incomplete or not available

NIS LOCATION MAP

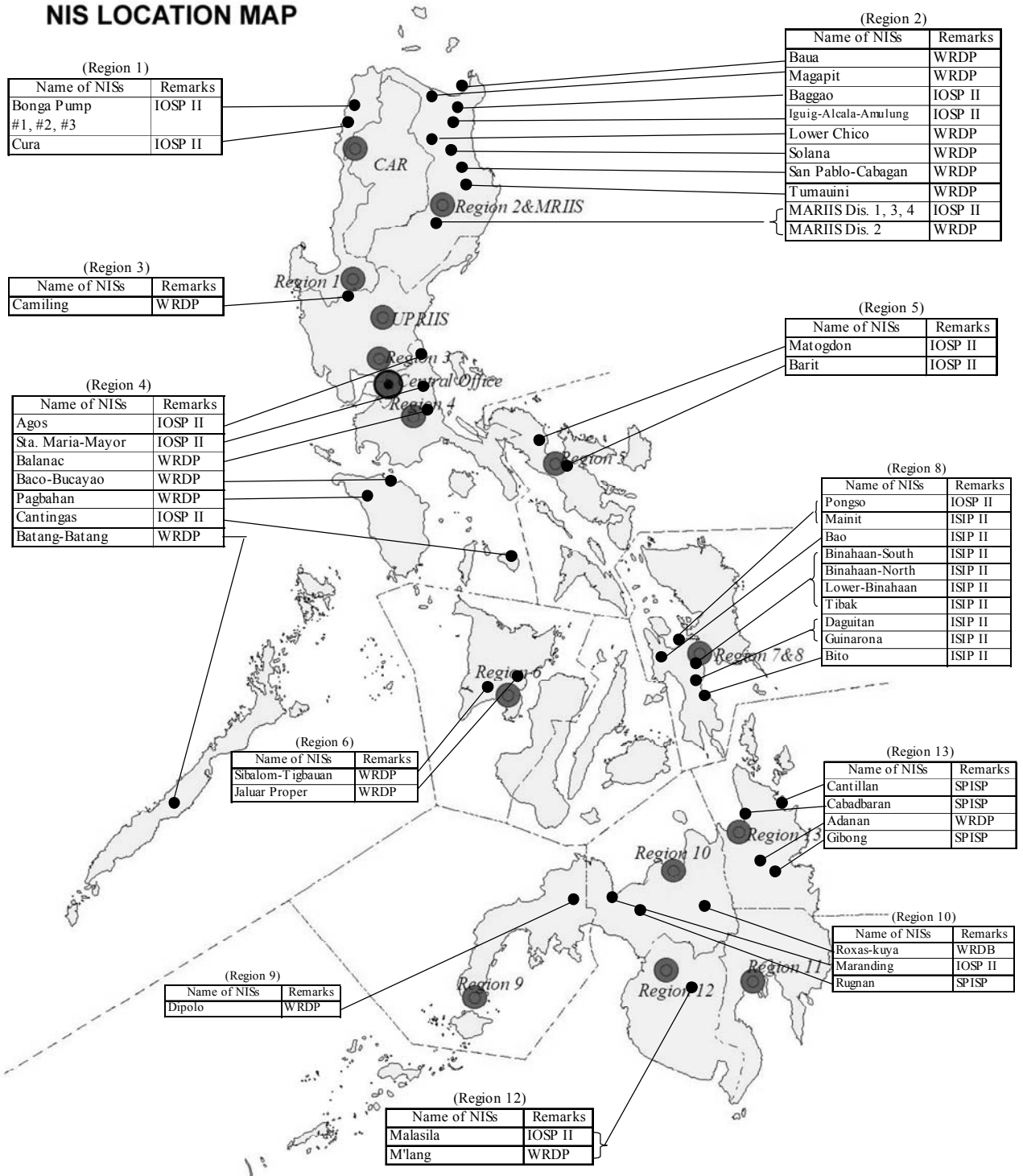
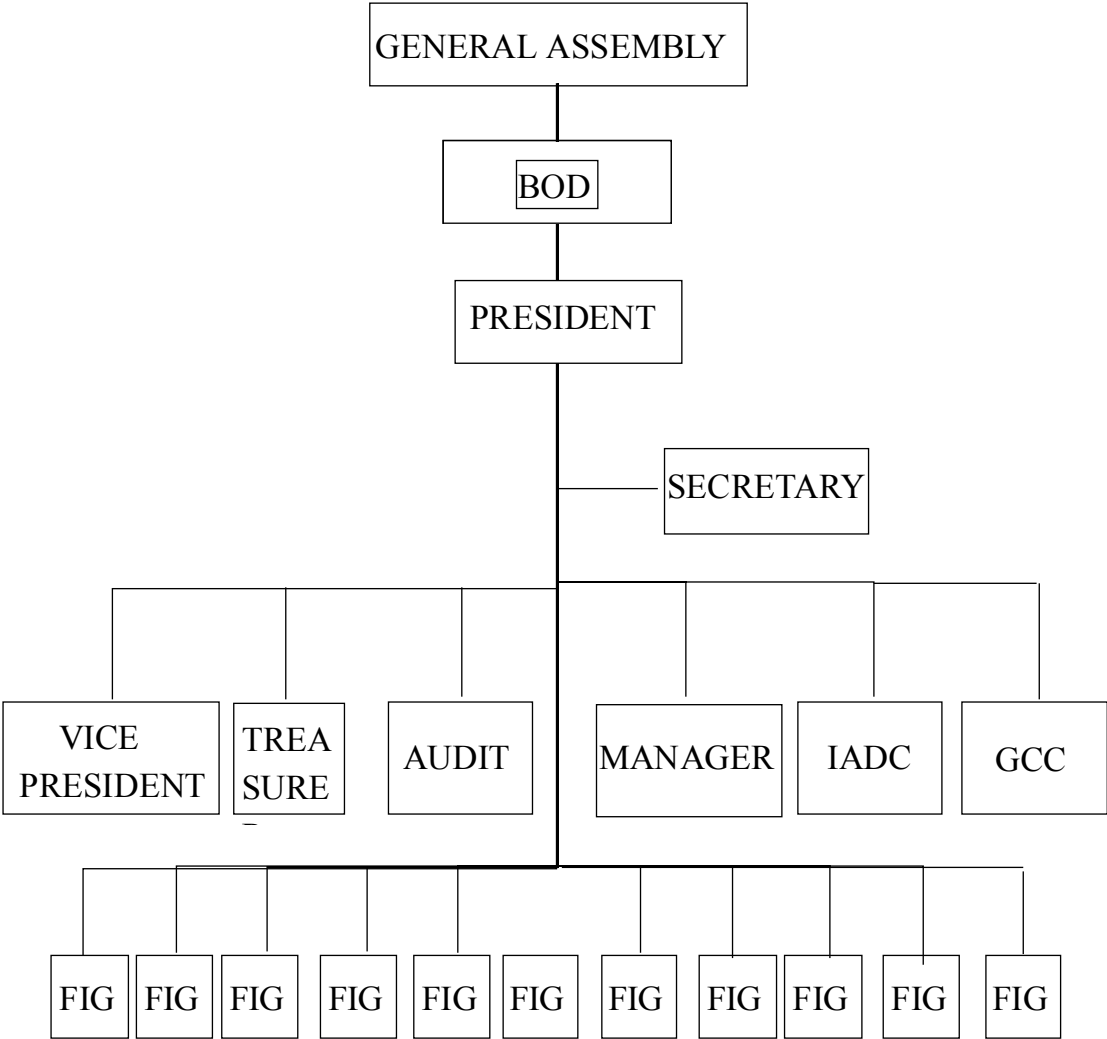


Figure 1.1 Location of IMT / JSM NISs

Figure 1.2 Organization Chart of IA and CIA of District IV of MRIIS



Attachment 1
IRRIGATION MANAGEMENT TRANSFER CONTRACT
SANTA MARIA MABITAC SINILOAN
IRRIGATORS' ASSOCIATION, INC. (SANTAMASI IA)

KNOW ALL PERSONS BY THESE PRESENTS:

This MEMORANDUM OF AGREEMENT, executed and entered into this 1st day of November, 2002 at Malico, Mabitac, Laguna by and between:

The NATIONAL IRRIGATION ADMINISTRATION (NIA), a government-owned and controlled corporation with principal office at NIA Building, Epifanio delos Santos Avenue (EDSA), Diliman, Quezon City, and represented herein by Irrigation Superintendent Emmanuel S. Sunga of the Sta. Maria River Irrigation System with office at Brgy. Malico, Mabitac, Laguna and hereinafter referred to as the NIA.

- and -

The STA. MARIA MABITAC SINILOAN IRRIGATORS' ASSOCIATION INC., duly registered with the Securities and Exchange Commission (SEC) with Registration No. 000910 with principal office at Brgy. Bagong Pook, Sta. Maria, Laguna, and represented herein by Mr. Bienvenido A. Caday, who is authorized in his capacity as President of SANTAMASI IA.

WHEREAS, the SANTAMASI IA signified its desire and intention to manage, and maintain the Sta. Maria River Irrigation System;

WHEREAS, the SANTAMASI IA, has shown its unwavering cooperation by attending all activities sponsored by NIA to prepare the FIA officers and members for IMT.

WHEREAS, the NIA, as Administrator, Manager, Operator and Maintener of all National Irrigation Systems of the Philippines pursuant to its mandate granted by RA 3601 as amended by PD 552 and PD 1701, is promoting the management takeover of Irrigators' Association (IA) on the Operation and Maintenance (O&M) of these systems, wholly or partially;

WHEREASE, the NIA signifies its willingness to hand over the management, operation and maintenance of the Sta. Maria RIS pursuant to its IMT Program to facilitate its

objectives of building IA capacity and reducing the O&M cost;

WHEREAS, the SANTAMASI IA, has passed all the preparatory organization, training and participatory planning and consultations, as required in the IMT Program;

NOW THEREFORE, for and in considerations of the foregoing premises, the NIA agrees to transfer the irrigation management, operation and maintenance of the Sta. Maria River Irrigation System upon signing of this IMT contract by these presents do hereby agree and stipulate the following:

IMT TERMS AND CONDITION

I. DEFINITION OF TERMS

1. Irrigation Management Transfer (IMT) – refers to the processes involved in the takeover of the NIA in the operation and maintenance of NIS, wholly or partially, depending on the size of the system. In this agreement, the SANTAMASI, will takeover the management, operation and maintenance of the system from the SMRIS of NIA.

2. Sta. Maria River Irrigation System – refers to the whole portion of Main Canal from the station including the sub-laterals and irrigation structures, like:

CANAL	STATION		TOTAL LENGTH	LINED (KM.)	EARTH (KM.)
	FROM	TO			
SMMC	0+000	6+640	6.640	3.428	3.212
MMC	0+000	7+200	7.200	6.102	1.098
Cambuja Checkgate	0+000	0+600	.600	-	.600
Indosina Checkgate	0+000	1+716	1.720	.550	1.17
Pague Checkgate	0+000	1+000	1.000	-	1.000
Tagalag Checkgate	0+000	0+200	.200	.080	.120
Lateral A	0+000	7+450	7.450	6.861	.589
Lateral B	0+000	1+805	1.805	1.205	.600
Lateral C	0+000	2+310	2.310	.540	1.770
Masinao Checkgate	0+000	0+170	0.170	.040	.1300
Lateral D	0+000	0+560	.560	.300	.260
Lateral E	0+000	1+480	1.480	1.145	.335
Lateral E1	0+000	0+892	.890	.265	.625
Lateral F	0+000	1+800	1.800	-	1.800
TOTAL			33.825 kms.	20.516 kms	13.309 kms.

3. Transition Period – it is the period which the capability of SANTAMASI IA in managing the system is developed through the assistance of NIA during which shall improved the major irrigation facilities defined in a pre-agreed Program of Work (POW). The transition period agreed by both parties in this contract is one (1) year and the corresponding responsibilities of each party are defined in Annex 1, which is specifically made as part of this agreement.
4. Major Facilities – refers to any of the following: Main Canal, lateral and drainage canal, service roads, headgate, siphon, drop with road crossing or thresher crossing, end check.
5. Terminal Facilities – refer to any of the following: Turnout, main and supplementary farm ditches and terminal or farm drainage.
6. Old Back Account – means all unpaid irrigation service fees (ISF), which are collectible before the effectivity of this IMT. The amount of this account shall be established by NIA on the date of the signing of this contract.
7. New Back Account – means all unpaid ISF billed and become collectible after the effectivity of this IMT Contract.
8. Emergency Repair and Maintenance – refers to restoration work necessary to be completed without delay in order to continue the operation for particular season and/or to save standing crops. An example is a breach gap on the canal embankment caused by overtapping resulting from force majeure/surface run-off along hillside or impediments of flow on cross regulators that will disrupt operation if not immediately repaired.
9. Service Area – refers to the area served by irrigation water within the system.
10. Recoverable or Expansion Area – refers to the additional hectares identified to be served by Sta. Maria RIS upon completion of the rehabilitation and repair work.
11. Benefited Area – refers to the number of hectares in a given season that was actually irrigated and produced 40 cavans or 2 tons/ha or more.
12. Collectible Irrigation Service Fees (ISF) – is the total amount of ISF due to NIA and computed based on prevailing rates and benefited area.

13. NIA Share – refers to the portion of the collected ISF correspondingly due to NIA.

II. TECHNICAL ARRANGEMENT OPERATION

A. OBLIGATIONS OF NIA

1. In charge on the operation and management of dam
2. Monitor the water distribution at lateral A together with the IA to make sure that project in “volumetric pricing” can be implemented considering its requirements.
3. Assist IA in all technical matter.
4. Prepare jointly with IA the Operation Plan for the whole system which includes cropping calendar, programmed area, water requirement and delivery schedule.
5. Establish and calibrate discharge-measuring points with IA and prepare discharge-rating tables. Train the IA in observing the measuring points and utilizing the rating tables.
6. Provide regular feedback to IA regarding reactions or comments of farmers operation
7. Assist IA in formulating and implementing rules and regulations
8. Provide IA the masterlist of farmers and parcellary map of the system.

B. OBLIGATIONS OF SANTAMASI

1. Prepare the Operation Plan for the system jointly with the NIA one month before the initial delivery of water every cropping season.
2. Manage and monitor the water distribution the main canal and lateral of SMRIS except the headgate of the lateral A which the volumetric pricing was connected.
3. Monitor and distribute irrigation water within the coverage of the system.

4. Monitor and record discharge data on all agreed measuring points within the system. Submit these data to NIA and provide feedback on water delivery status.
5. Be aware on the headgate discharges and farming activities.
6. Initiate establishing and calibrating discharge points. Protect flow measuring devices from vandalism and make sure observation data are gathered regularly.
7. Monitor and record discharge data on all agreed measuring points with the system. Submit these data to NIA and provide feedback on water delivery status.
8. Distribute water equitably and safeguard the water rights of all farmers members.
9. Submit operation status reports including farming activities, list of irrigated and planted areas using (LIPA) using forms provided by NIA.
10. Provide feedbacks to NIA regarding comments and suggestions of farmers on operation and maintenance.
11. Formulate operation related policies, rules and regulations including appropriate sanctions for violators.
12. Update regularly the masterlist of water user by Turn-out Service Area Group (TSAG) for every cropping season or as often as necessary.

III. TECHNICAL ARRANGEMENT: REPAIR AND MAINTENANCE

A. Obligations of NIA

1. Prepare repair and maintenance plan jointly with the IA for the whole system
2. Provide a maintenance guidelines for various irrigation facilities.
3. Plan a regular monitoring for the implementation of repair and maintenance.
4. Undertake repair and maintenance based on plan earlier prepared jointly by NIA and SANTAMASI IA for the system of Sta. Maria.

B. Obligations of SANTAMASI IA

1. Conduct regular meetings of the SANTAMASI IA Board of Directors (BOD) to discuss the status of implementation of repair and maintenance works, identify problems, formulate solution, agree on areas for improvement, and reprogram activities when necessary.
2. Formulate and enforce maintenance policies, rules and regulations including appropriate sanctions for violators.
3. Assist the NIA in the repair and maintenance activities on major repair works.
4. Conduct a minor and routine repair.
5. Prepare and implement an annual repair/maintenance program and reserve an appropriate fund for this.

IV. FINANCIAL ARRANGEMENT

A. Obligations of NIA

1. Provide the SANTAMASI IA a complete list of farmers and parcellary map of the system.
2. Provide a copy to SANTAMASI IA of Irrigation Fee Registry (IFR) of individual farmers to update and maintain.
3. Prepare the ISF bill based on LIPA and deliver promptly to the SANTAMASI IA.
4. Monitor regularly the progress of ISF collection and provide assessment feedback to the SANTAMASI IA
5. Conduct regular and spot audits of SANTAMASI Collectors and Book of Accounts to ascertain whether established accounting policies and regulations are followed properly or not. Inform the SANTAMASI IA officers on any finding in these regular and spot audits.
6. Issue official receipts for all remittances submitted by SANTAMASI IA or its members to the NIA.

7. Reconcile ISF record with SANTAMASI IA regularly.
8. Deliver promptly the share of the SANTAMASI IA from ISF collections.

B. OBLIGATION OF SANTAMASI IA

1. Prepare seasonal financial plan and budget for the IA based on operation plan and repair and maintenance plan immediately after these plans become available.
2. Maintain an updated book of accounts that is always accessible to the NIA for its regular and spot audit.
3. Maintain and update individual IFR for recording and monitoring ISF payments made by members.
4. Receive the seasonal IASF bill from NIA
5. Prepare individual ISF bill for each farmer and consolidate these corresponding to each TSAG. Transmit these individual and consolidate bills to each TSA.
6. Collect ISF payments immediately and always update the IFR for every collections made.
7. Remit ISF collections in cash to NIA regularly and disseminate collection progress to farmer members.
8. Submit collection report regularly and disseminate collection progress to members.
9. Formulate financial policies, rules and regulations to properly allocate the ISF share of the SANTAMASI IA to its prepared financial plan and budget, giving utmost importance and priority to operation and important obligations.

C. SHARING ARRANGEMENT

The sharing arrangement agreed by both parties is 40% of the collectible ISF for the SANTAMASI IA and 60% for the NIA. The collectible ISF is computed based on planted and benefited area and the prevailing ISF rate corresponding to the cropping season. Sharing shall be based on accumulated collections every cut-off-date of ISF payments for

cropping season.

SANTAMASI IA has the following records as basis for financial computation and sharing estimates:

1. Profile of SANTAMASI IA

➤ Total Service Area	-	974
➤ Number of TSAG	-	28
➤ Number of member	-	727
➤ Length of canals, km	-	33.825
➤ Number of IA	-	1
➤ Number of BOD members	-	28
➤ Registration Number	-	000910
➤ Date of Registration	-	3/04/92

2. Present NIA personnel deployed at Sta. Maria RIS

➤ Irrigation Superintendent	-	1
➤ Cashier	-	1
➤ Water Resource Facilities Technician	-	1
➤ Acting Storekeeper/Security Guard	-	1
➤ Clerk Processor B	-	1
➤ Driver Mechanic	-	1
➤ Gatekeeper/Deputized Collectors	-	3
➤ Utility	-	1

3. Existing rules and operation policy in SMRIS ISF Rate (based on AO17)

➤ ISF Rate:	Wet Season	Dry Season
	(Cav./ha)	(Cav./ha)
2 hectares and below	1	1.5
2.1 hectares up to 5 ha.	2	3
5.1 hectares and above	3	4.5

➤ Price of palay/kilo: P10.00/kilo as per agreed by NFA

➤ Cut-off-Date

Wet Season - Every 31st of December
 Dry Season - Every 30th of June

➤ To be collected in a year:		Amount
Existing Service Area	974 hectares	P1,282,500.00
2 hectares and below	922 hectares	P1,152,500.00
2.1 ha. up to 5 ha.	52 hectares	P
5.1 ha. and above	0	0
130,000.00		
➤ Target Collection Efficiency:		100%
➤ Target Cropping Intensity:		200%

V. GENERAL PROVISION

1. All “old back accounts” shall be continuously and earnestly collected by the IA and shall be treated in this agreement separately and shall follow the sharing scheme of NIA as defined by Memorandum Circular No. 11 s. 1998 in the IA shall be entitled to a twenty five percent (25%) collection incentive for any amount collected from old back account and duly remitted to NIA.
2. The SANTAMASI IA shall provide a ready access to NIA on all its records relative to its management and operation of the Sta. Maria RIS.
3. The Treasurer and authorized collectors of the SANTAMASI IA shall be duly bonded by surely agency acceptable to NIA.
4. All major repairs on the main and lateral canal which damaged by certain calamity like typhoons, floods are NIA will be responsible for the repair.
5. All major repairs on the canal made by the animals or people are SANTAMASI is the responsible for the repair.

VI. SPECIAL PROVISION

1. All remaining rehabilitation works and system improvements defined on the Program of Works jointly prepared by the NIA and IA for the whole system

shall be constructed and completed by NIA or by any funding institution of the province during and after the transition period.

2. NIA shall give priority to the SANTAMASI IA and IA members to work as construction laborer or contracting party in any rehabilitation and maintenance activities programmed within the system that could be undertaken by labor intensive methods.
3. Seasonal performance evaluation on the O&M of Sta. Maria RIS shall be jointly undertaken by the SANTAMASI IA and NIA following a pre-agreed set of performance indicators and evaluation format, referred to in this Agreement as “The SANTAMASI PERFORMANCE EVALUATION” and attached as Annex 2 and specifically made part of this Agreement.
4. NIA authorizes the SANTAMASI IA to utilize its field office at Bagong Pook without cost, until the SANTAMASI IA could have established its own office.
5. The sharing scheme defined in this Agreement may be changed to increase the SANTAMASI IA share upon the request is premised on the attainment of “Very Satisfactory” rating on the annual performance of SANTAMASI IA in the O&M of the STA. MARIA RIS in one (1) year of IMT. The evaluation is based on the Annual Performance Evaluation Scheduled as Annex 2 and specifically made part of this Contract.

VI. DISPUTE AND JURISDICTION

In the event of any dispute, suit or action between the contracting Parties hereto, as to any matter arising out of or relating to this Contract that cannot be amicably settled by both parties themselves, such dispute shall be submitted to any court of law in the municipality or city having jurisdiction thereof.

VII. EFFECTIVITY

This Contract shall take effect immediate upon signing of this Contract by both parties and approval of the Regional Irrigation Manager of NIA.

IN WITNESS WHEREOF, the parties hereunder affixed their signatures this 1st day of November, 2000 at the Municipality of Sta. Maria, Province of Laguna.

Attachment 2
MEMORANDUM OF AGREEMENT ON THE IMPLEMENTATION
OF VOLUMETRIC IRRIGATION SERVICE FEE

KNOW ALL MEN BY THESE PRESENTS:

This Agreement executed and entered into this 15th day of November, 2001 at Cauayan, Isabela, Philippines, by and among:

NATIONAL IRRIGATION ADMINISTRATION, hereinafter referred to as NIA, a government-owned and controlled corporation created existing under and by virtue of R.A. 3601 as amended by PD 552 with principal office at the NIA Building, E. delos Santos Avenue, Quezon City, Philippines, represented in this Agreement by Engr. Antonio A. Ramos, Operations Manager, NIA-MRIIS who is duly authorized to bind it in this Agreement;

- and -

D2b Council of Irrigators Association, hereinafter referred as D2B CIA duly organized and existing under and by the virtue of the laws of the Philippines with principal office at Rizal, Alicia, Isabela, represented herein by its President PLACIDO E. SIMON, who is duly authorized to bind it in this Agreement;

WITNESSETH THAT:

WHEREAS, the NIA and the CIA signed this agreement on VOLUMETRIC BILLING to jointly operate and maintain D2b CIA through the implementation of volumetric ISF;

WHEREAS, in the implementation of the volumetric ISF all the parties agree that the role of NIA is likened to a wholesaler of the irrigation water and the CIA as retailer for distribution to their respective members;

WHEREAS, the CIA coverage as follows: D2b=0+000-15+050; D2b-1=0+000-5+040; D2b-1a=0+000+0+900; D2b-1a ext'n =0+000-0+818; with a total length of 21.808 kms.; covering a service area of 1,686 hectares.

NOW THEREFORE, for and in consideration of the foregoing premises, the parties

hereby agree to perform the following:

ARTICLE I

OBLIGATIONS OF NIA

1. To prepare program of work and implement rehabilitation/repair of said POW
2. To explain to CIA the details on volumetric ISF scheme, ISF mechanism, service billing procedure, etc;
3. To train and assist, as required, farmers in system management, financial management and other related aspect to strengthen the CIA;
4. To deliver in bulk and timely manner the requires volume of irrigation water from the diversion work to D2b headgate in accordance with the cropping schedule jointly set by the CIA;
5. To set volumetric ISF rate per crop season/crop year as agreed jointly with the CIA;
6. To waive volumetric scheme of ISF payment in the event that the agreed water delivery schedule is not followed;
7. To properly observed public transparency in accounting of collected volumetric ISF;
8. To plan and provide capacity building programs to ensure the smooth attainment of the objectives of the Agreement;
9. To closely monitor and record daily discharges at Lat D2b headgate;
10. To assist the CIA in proper distribution of irrigation water within CIA coverage;
11. To arbitrate disputes between CIA and their farmer members.

ARTICLE II

OBLIGATION OF COUNCIL OF IRRIGATORS ASSOCIATION

1. To pay recorded and billed volumetric ISF in cash or in kind as per schedule below:
 - a. Full payment on or before May 31 and November 30 for Dry Crop and Wet Crop respectively in a weekly basis;
2. To keep O&M records as required by NIA;
3. To hold General Assembly Meeting at least twice/annum to explain the system management scheme and to arrive at consensus decision on all matters/issues taken;
4. To develop cropping calendars and O&M priorities in a full consultative participatory manner with farmer members and NIA;
5. To follow total quality post management (TQPM) practices and organic farming procedures;

6. To closely coordinate with NIA in the planning, implementation, monitoring and evaluation of the activities subject to this Agreement;
7. To conduct repair and maintenance of irrigation structures and canal embankment as often as necessary;
8. To properly and timely conduct cleaning and clearing of canals including cutting of grasses, removal of debris and disposal of silt and other materials that obstruct the normal water flow, within the D2b CIA;
9. To submit weekly farming activities and to properly monitor and distribute irrigation water. Keep daily discharge at D2b headgate.

ARTICLE III

MISCELLANEOUS PROVISIONS

1. NIA and the CIA hereby commit to improve the organizational structure, policies and procedures of the D2b CIA for effective management of their service area and the attainment of CIA sustainability;
2. To enable to meet its obligation under this Agreement, the D2b CIA may establish rules and regulations provided they are not in conflict with the rules and regulations or policies of the NIA or that of the government;
3. NIA and CIA hereby agree to have a mutual transparency in budget implementation, records and financial accounts. Towards this end, each may examine budget adjustments, records and financial accounts of the other for the purpose of improving the system management scheme;
4. Rate of volumetric billing for ISF will be based on the derivation of unit cost of water per cubic meter (P/m^3) as per NIA existing ISF rate and government support price of palay. In the event that there will be an increase or decrease in the NIA ISF rate and government support price then the unit cost of water per cubic meter will conform on the new existing rate. (See appendix "A")

ARTICLE IV

DISPUTES AND JURISDICTION

In the event of any dispute between the NIA and the CIA on any matter arising not stipulated in this Agreement which cannot be amicably settled by the parties themselves, the dispute shall be submitted to a Court of Law in the Municipality having jurisdiction therein.

ARTICLE V

AMENDMENT FOR REVISION

This Agreement or any of its provisions is subject to amendment or revision upon mutual agreement of the parties, anytime during it's effectively

ARTICLE VI

EFFECTIVITY

This Agreement shall take effect upon signing of the parties concerned and shall be valid until terminated by mutual agreement of the parties.

IN WITNESS WHEREOF, the parties have affixed their signatures this 15th day of November, 2001 at Cauayan City, Isabela, Philippines.

NATIONAL IRRIGATION
IRRIGATORS
ADMINISTRATION

COUNCIL OF
ASSOCIATION

BY: ANTONIO A. RAMOS
Operations Manager

BY: PLACIDO E. SIMON
CIA President

WITNESSES:

MARIANO G. DANCEL
District Manager, District IV

AMADOR D. DULIG
NCIA President

NOTED:

VICENTE A GALVEZ
Regional Irrigation Manager

ACKNOWLEDGEMENT

Republic of the Philippines }
Province of Isabela }
Municipality of _____ }

Before me this _____ day of _____ 2001 personally approved;
_____ in his capacity as NIA-MRIIS Operations Manager with
Community Tax Certificate No. _____ issued on _____; at
_____; in his capacity as President of the _____
Council of Irrigators Association with Community Tax Certificate No. _____
issued on _____ at _____; all known to me the
same persons who executed the foregoing instrument and they acknowledgement to me that
the same is their free act and deed, and that of the corporation/entity which of them
respectively represents.

Witness my hand and notarial seal on the date and at the place first above written.

Doc No. _____
Page No. _____
Book No. _____
Series of _____

NOTARY PUBLIC