

***ANNEX F***

***Institutional Development Plan***



**THE STUDY ON JALOUR IRRIGATION SYSTEMS  
AND RURAL AREA DEVELOPMENT PROJECT**

**ANNEX F  
Institutional Development Plan**

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## **1. INTRODUCTION**

This Annex presents the existing institutional arrangements for the operation and maintenance (O&M) of the Jalaur proper and Suague RIS (JSRIS), selected as the priority project area in the Master Plan for the Jalaur Irrigation Systems and Rural Area Development Project in the Republic of the Philippines. In addition, the present conditions of NIA's JSRIS office and the farmers' organizations in the two RIS are also reviewed.

This Annex also presents the proposed institutional development plan which envisages to resolve the weak institutional and technical problems of the IAs through the two-phased approach to the institutional strengthening of the IAs and the rehabilitation of existing farmers' cooperatives. The two-phased approach to institutional strengthening of the IAs will be adopted to give ample time to develop their technical skills and acquire necessary financial resources. The realization of this plan is essential to the attainment of the main objective and thrust of NIA's Institutional Development Program to turn over the O&M responsibility for sections of the two RIS to the IAs for the sustainability of the O&M practices and better cash flow situation of the farmers.

## **2. PRESENT CONDITIONS**

### **2.1 NIA's Institutional Development Program**

#### **2.1.1 Objective and Policies**

The main objective of NIA's Institutional Development Program is to improve and sustain the O&M of the RIS through the active participation of the IAs. This objective is to be achieved by implementing the shared management strategy by turning over sections of the RIS to the IAs for them to operate and manage. In this way, the IAs are given an opportunity to own sections or the whole irrigation system through an affordable amortization scheme similar to the communal irrigation system.

This program has adopted some basic policies for its implementation:

- (i) Organization of the IA by NIA staff such as Water Resources Facilities (WRF) Technicians, Farmer Irrigators Organizers (FIOs) and/or Institutional Development Officers (IDOs) for an irrigation area served by one or more water controls such as lateral headgates.
- (ii) Organization of turnout service area group (TSAG) in every area served by one turnout, and each TSAG is headed by a chairman.
- (iii) The TSAG chairmen comprise the IA's Board of Directors (BOD), who elect the IA officers from among themselves. The IA officers act as chairmen of four (4) standing committees: (a) membership, education and training, (b) service, (c) finance, and (d) audit and inventory.
- (iv) The IA officers are provided with formal training on leadership, technical and financial aspects of the IA operations,
- (v) The IAs are registered as a non-stock and non-profit organization with the Securities and Exchange Commission (SEC),
- (vi) The IAs are envisaged to progressively assume the O&M of the RIS through three types of institutional arrangements embodied in the different O&M contracts as per Memorandum Circular No. 41, series of 1990 and amendments thereof.
- (vii) The NIA's RIS office is tasked to coordinate with other government agencies and NGOs for the proper agricultural support services to the IAs.

#### **2.1.2 Components and Implementation Arrangements**

This program consists of five main components: (i) organization of farmer-beneficiaries within a hydrologically defined area into an IA, (ii) training of IA officers on basic leadership, system management and financial management, (iii) turning over O&M responsibilities to the IAs, (iv) provision of agricultural support services in coordination with other government agencies and NGOs, and (v) federation of the IAs.

Actual program implementation is assigned to the RIS office, under the supervision of the Regional Irrigation Manager through the Institutional Development Division (IDD) and Systems Management Division (SMD). The IDD is involved in addressing issues on IA organization, training and sustainability of the O&M work, while the SD is involved in plan formulation and implementation, and policy and rules enforcement.



### **2.1.3 Program Status in the Jalaur proper and Suague RIS**

In the Jalaur proper and Suague RIS (Fig. F.2.1), the implementation of this program has resulted in the formal organization of 20 IAs from 1982 to the present time. Nineteen of them are involved in Type I O&M contract (canal maintenance) and 4 IAs in Type II contract (system operation and ISF collection), as further discussed below.

## **2.2 Jalaur proper and Suague RIS**

### **2.2.1 Jalaur-Suague RIS Office**

The operation and maintenance (O&M) of the Jalaur proper and Suague RIS is presently placed under the responsibility of the Jalaur-Suague RIS (JSRIS) office, which is headed by an Irrigation Superintendent and situated in the municipality of Pototan.

#### **(1) Organization Structure and Functions**

The organization of the JSRIS office consists of six main sections such as Institutional Development, Administrative, Equipment and Project Implementation, Collection, Jalaur proper O&M Personnel, and Suague RIS O&M Personnel as shown in Fig. F.2.2 with the corresponding number of positions. The first three sections provide institutional, financial and other technical support to the field O&M staff in discharging the functions of the office.

As mandated, the JSRIS office is responsible for the following functions in the two RIS:

- i) Formulate and implement guidelines on water management and O&M practices;
- ii) Maintain primary and secondary canals, drainage, diversion and other facilities such as service road;
- iii) Prepare and implement the cropping calendar of the RIS in coordination with the IAs and farmers, and appropriate agencies;
- iv) Coordinate with other agencies concerned with food production for agricultural development in the RIS;
- v) Prepare and administer the institutional development program for organization and training of the TSAGs and subsequently the IAs;
- vi) Perform billing and collection of irrigation service fees (ISF) for water users; and
- vii) Maintain pertinent records and submit required reports.

The responsibility of the JSRIS office basically consists of 4 functions: water management and O&M practices, ISF collection, organization and training of the IAs, and coordination with concerned agencies for provision of agricultural support services.

#### **(2) Staffing**

A total of 33 and 13 O&M personnel from Jalaur-Suague RIS Office are presently assigned to Jalaur proper and Suague RIS, respectively, as summarized below.

(Unit: Number)

RIS	Plantilla position for Engineer	Plantilla position for WRF Technician	Plantilla position for WRF Operator B	Plantilla position for WRF Tender B	Total
Jalaur proper	2	7	1	23	33
Suague	1	1	1	10	13

The WRF Technicians (Water Masters), WRF Operators (Gatekeepers) and WRF Tenders in each RIS are under the supervision of the Engineers, who are tasked to perform various O&M functions of the JSRIS office as discussed in Annex E.

In the consultation meeting with IAs and RIS field personnel by the Study Team, it has been found that 33 WRF Technicians and Tenders are designated as ISF collectors in their respective divisions whether or not Type II contract with the IA exists, in addition to their original job descriptions (Ref. Annex E).

Four IDOs (one of whom is a Utility Worker) take the direct responsibility of facilitating the activities of the IAs such as renewal of the IA contracts with NIA, holding of the IA's Board of Directors (BOD) meeting, follow-up of the IA contract remunerations, and the resolution of IA members' problems on water delivery and distribution and canal maintenance. The IDOs also assist the O&M staff in the conduct of information campaign for ISF collection and payment. Each IDO is assigned for 3 to 7 IAs.

The IDOs are all contractual employees, and their contracts are renewed annually based on the available budget of the JSRIS office. Presently, the IDOs have no proper database on the IAs due to lack of computers for data processing, planning and monitoring activities, and inadequate logistical support (transport and communication equipment) for regular field visits. The IDOs have also very limited coordinative activities for agricultural support services to the IAs due to lack of skills on planning and management of integrated rural area development.

### (3) Training Facilities

The existing NIA Regional Training Center in the JSRIS office compound in Pototan includes a conference and training room, audio room, mess hall and bed rooms for trainees. With a floor area of about 730 sq.m., the center was constructed during the Jalaur River Multi-Purpose Project (JRMP) principally for the training of NIA personnel, but has also served as an important venue for IA training.

Presently, only the conference and training room can be utilized for NIA-IA meetings and training activities due to nonfunctional comfort rooms, poor drainage system, roof leakages and low flooring that gets easily flooded during heavy rains. No budget is currently allocated for its operation and improvement.

### (4) Equipment and Vehicles

The results of inventory of equipment and vehicles of the JSRIS office are shown in Table F.2.1. These include 18 units of construction equipment, 2 units of survey instruments, 31 units of office equipment, a radio communication base, and 29 vehicles. Of the total 81 equipment and vehicles, 67 are operative but the average age of these operative units is about 10 years.

In general, the existing communication, training and transport equipment are inadequate for effective institutional development activities of the IAs by the IDOs and proper O&M practices in the two RIS of the Project, considering that they are partly used for other RIS being supervised by the JSRIS office.

## 2.2.2 Irrigators' Associations (IAs)

### (1) Location, Irrigation Service Area and Farm Area of the IAs

The location of the existing 20 IAs in the Jalaur proper and Suague RIS respectively, as shown in Fig. F.2.1, covers 7 municipalities and 78 barangays (Ref. Table F.2.2).

Presently, the total irrigation service area and farm area of the IAs in the two RIS are 11,720 ha and 10,685 ha, respectively (Table F.2.2). About 9% of the ISA are still not covered by the IAs. The present irrigation service area includes the upstream areas of the two RIS which use irrigation water illegally, covering an area of approximately 44 and 39 ha in the Jalaur proper and Suague RIS, respectively.

### (2) Organization and Functions of the IAs

All the IAs in the two RIS have been formally registered with the Securities and Exchange Commission (SEC) between 1982 and 1992, where 70% of them organized during the latter four years, as shown in Table F.2.3. Presently, only about 48% of the 7,850 total farmers are registered members of the IAs. Efforts to expand the IA members are constrained by the difficulty of encouraging farmers to become members due to inadequate and irregular supply of irrigation water for reasons cited in Annexes D and E. In the most recent consultation meeting of the Study Team with the IAs, the data gathered indicate that the active IA members are only 61%.

Based on records of the Jalaur-Suague RIS office, the IAs organized in the early 1980s were facilitated by WRF Technicians, while the IAs organized between 1989 and 1992 were assisted by area-specific and trained Farmer Irrigator Organizers with technical guidance by the IDOs.

These IAs have almost similar organizational structure as described in Fig. F.2.3 with three hierarchical levels comprising of: (i) the Board of Directors (BOD), (ii) the IA Officers and four committees, and (iii) the TSAG.

The lowest level is the TSAG which is made responsible for canal maintenance (Type I contract) and water distribution, and collection of irrigation service fees (ISF) for those belonging to the IAs with Type II contract. The present average number of TSAG members is 15, while its average farm area is about 33 ha (Ref. Table F.2.3). The number of TSAG in each IA ranges from 1 to 24. Almost all the TSA groups, however, have presently no functional service committee to carry out the Type I contract including the proper distribution of irrigation water.

At the second hierarchical level are the IAs which generally represent the TSAGs in planning and evaluation conferences/meetings, and enter into Type I (maintenance) and Type II (system operation and ISF collection) contracts with the NIA. They are generally responsible for the implementation of the IA plans and the management of IA's day-to-day activities.

The highest level of the organization is the IA Board of Directors (BOD) which acts as the policy-making and governing body of the IA. The number of BOD members is normally the same with the number of TSAGs in each IA.

### (3) Organizational Status of the IAs

Most IAs are faced with low participation of their members in water management, O&M work and ISF collection because of inadequate organizing strategy that neglected to develop the value of group interest among the members. Presently, five IAs in the Jalaur proper RIS have less than 50% of their registered members in active status, while another

six have between 52% to 71%. Only four IAs have maintained over 87% to 100% active members in the Jalaur proper RIS.

The five IAs in the Suague RIS have almost similar percentage of active members, ranging from 62% to 69%.

The SMEWBAT IA is covered by three divisions of the Suague RIS. Geographically, this IA is located partly in the RIS division 1 (348 ha) and partly in the RIS division 2 (67 ha). In terms of ISF collection, the IA is covered partly by RIS division 1 and partly by RIS division 4 (Ref. Table F.2.2) since the WRF Technician of division 4 is made responsible for ISF collection on 133 ha in SMEWBAT IA. This arrangement hinders the IA to assume greater responsibility for O&M and ISF collection due to the difficulty in coordinating with different NIA field staff. This is also difficult for the current O&M staff in the RIS division I to carry out more effective water management and O&M activities.

A comparison of the number of active members and total registered members of the 20 IAs is shown in Table F.2.3

Cooperation among members is identified as the most dominant constraint to the IA development as shown in Table F.2.4. This has been attributed mainly to the lack of discipline of individual members, and inadequate organizing strategy (based on the results of participatory rural appraisal (PRA) and consultation meeting with the IAs).

#### (4) Financial Status of the IAs

Membership fee, annual due, private contribution and remuneration from the O&M contracts (Types I & II) are the main sources of finances for the IAs according to their by-laws. The status of IA finances is shown in Table F.2.5 and summarized below with the main sources.

RIS	Total amount (pesos)	No. of IA	Source of finances (no. of IA)			
			Type I contract	Type II contract	Membership fee	Annual dues Contribution
Jalaur proper	28,179	5	5		2	
Suague	30,000	4	4		2	
Total	58,179	9	9		4	

The remuneration from Type I contract, however, is the only primary source of finances for the 9 IAs with average savings of about 6,500 pesos at present. The other IAs have no savings. The lack of alternative sources of capital for the IAs has made them financially weak to sustain the O&M work.

#### 2.2.3 Farmers' Cooperatives

Fifteen farmers' cooperatives currently exist in 5 IA areas in the Jalaur proper RIS and 2 IA areas in the Suague RIS. These cooperatives are essentially barangay-based cooperatives whose members are mainly those farmers residing in their respective barangays. The services of these cooperatives such as provision of crop loan, pre- and post-harvest facilities and consumer store have been limited to their members within the covered barangays. About 30% to 90% of the members of these cooperatives are IA members (Ref. Table F.2.6).

Most of these cooperatives, however, are both financially and technically weak. While all have been able to avail of agricultural loans from the Land Bank of the Philippines (LBP), they are mostly faced with overdue and unpaid debts due to the very low repayment rates from their members. Technically, many of their officers have

inadequate training and skills in cooperative and financial management, while practically all the cooperatives have not gone through the proper organizing process. Thus, many members have become inactive after receiving crop loan from the cooperatives, and also neglected to meet their debt obligations.

In the other IA areas with no existing farmers' cooperatives, between 70% and 90% of the IA members go to the private traders/millers and input suppliers for financial support for their agricultural activities and other family needs (particularly for children's educational expenses).

#### 2.2.4 Institutional Arrangements for the Systems' O&M

There are presently two types of institutional arrangements for the O&M of the two RIS as contained in the following O&M contracts granted by the JSRIS office to the IAs:

- (i) Type I (maintenance) contract - which covers mainly grass cutting and clearing for the entire length of the supply canal contracted every 45 days when the height of vegetation is more than 15 cm. at a cost of 1,400 pesos per 3.5 km.
- (ii) Type II (system operation and ISF collection) - which includes the development and implementation of cropping calendar and water delivery/distribution schedule, management of water delivery/distribution from the main/lateral canals to the turnouts, and ISF collection.

##### (1) Type I (maintenance of irrigation canals) contract

Nineteen of the 20 IAs are currently implementing Type I contract. The length of canals maintained by the IAs is about 116.2 km, representing 69% of the existing total length of main and lateral canals as shown below.

RIS	No. of IA contracted	% of contracted IA to total IA	Length of canal* contracted (km)	Total length of main and lateral canal (km)	% of contracted canal to total canal length
Jalaur proper	14	93	83.333	130.3	64
Suague	5	100	32.866	37.8	87
Total	19	95	116.199	168.1	69

Source: Table F.2.7; \*includes main and lateral canals.

Actual implementation of Type I contract, however, is presently carried out through three different schemes: by involving the IA members only, by hiring labor who are non-IA members, and by a combination of IA members and hired labor, and involves mainly canal clearing and grass cutting. The number of contracted IAs employing these schemes is shown below.

RIS	Implementation scheme for Type I contract (no.)			Ave. monthly remuneration of Type I contract (pesos)
	IA only	Hired labor only	Both IA and hired labor	
Jalaur proper	6	2	7	2,370.50
Suague	0	1	4	2,629.20
Total	6	3	11	2,438.60

Source: Tables F.2.7 and F.2.8

In the consultation meeting with the IAs by the Study Team, it was found that the most common reason for hiring labor is the lack of time of IA members for canal clearing

and grass cutting due to land preparation, planting and harvesting activities on their respective farms. The financial remuneration for Type I contract is also considered low and thus gives little incentive for IA members to get involve on this work, as shown in the above table. Even the 6 IAs which carry out the contract only by themselves have been relying mainly on the BOD members. No functional service committee, which is responsible for Type I contract execution by virtue of the IA by-laws, exists at present.

(2) Type II contract (system operation and ISF collection)

Four of the 20 IAs are presently involved in Type II contract implementation. The total service area of the four contracted IAs is 1,670 ha, which represents about 14% of the total irrigation service area of the two RIS, as shown below.

RIS	No. of IA contracted	% of contracted IA to Total IA	ISA* of contracted IA (ha)	% of which to total ISA	Benefited area** of contacted IA in 1996 (ha)	
					Wet cropping	Dry cropping
Jalaur proper	3	20	1,150	13	937	752
Suague	1	20	548	18	520	520
<b>Total</b>	<b>4</b>	<b>20</b>	<b>1,698</b>	<b>14</b>	<b>1,457</b>	<b>1,272</b>

Source: Table P.2.7; \*irrigation service area (ISA); \*\*benefited area means area with a harvest of more than 40 cavans of paddy/ha.

Under the contract, the 4 IAs have the following functions in relation to system operation:

- (i) to formulate and implement operations plan on the authorized cropping schedule and water delivery and distribution schedule one month before the start of the next cropping season in coordination with the NIA-JSRIS office,
- (ii) to disseminate information on cropping schedule and water delivery schedule to the members, and
- (iii) to manage water allocation from main/lateral canals to different TSA effectively and equitably.

In the consultation meeting with the IAs by the Study Team, it was found that only the dissemination of information on cropping schedule and water delivery schedule, and the operation of turnouts have been generally done by the IAs, mainly the IA president or TSA chairman. But, many IA members and farmers in the study area are not aware of the schedules and the persons responsible for the operation of turnouts.

The insufficient water supply for land preparation and planting of paddy, and the lack of financial resource for the same activity have been identified by the IAs as two most dominant reasons for the non-acceptance or adoption of cropping calendar by the IA members. Only 6 of the 20 IAs confirmed that their members have followed the cropping calendar, as shown in the table below.

RIS	IA judgment on acceptance cropping calendar		Two most important reasons for non-acceptance of cropping calendar (no.)			
	Yes	No	Financial problem for preparation of paddy	Insufficient water for preparation of paddy	Expected high benefit of advance planting	Others, specify
Jalaur proper	4	11	1	10		
Suague	0	5	3	2		
Total	4	16	4	12		

Source: Table F.2.9

Type II contract also requires the 4 IAs to act as ISF collectors and undertake the following functions:

- (i) to distribute ISF bills to each farmer-member of the IA with benefited area (i.e., with harvest of more than 40 cavans per ha),
- (ii) to collect ISF and remit the same to the NIA every Fridays within the contracted period, and
- (iii) to assist the NIA in the verification assessment of farm lots requested for exemption from payment of ISF.

While the IA by-laws assign the responsibility of ISF collection to the finance committee, the 4 contracted IAs rely on the BOD members to execute the Type II contract due to non-functionality of the finance committee. The NIA collectors (WRF Technicians and Tenders) also continue to collect the ISF in the areas of the contracted IAs, indicating the institutional weakness of the IAs.

As clarified in the Master Plan Study, incentives are given to the IAs for ISF collection that exceeds 50% of the current accounts of benefited area in the IA coverage area based on five levels of collection. This present level of collection efficiency covered by incentives is found by the IAs to be quite high and difficult to achieve with low irrigation efficiency due to damaged and poorly functioning facilities and with poor water management and O&M practice (Ref. Annex E). These factors have caused low paddy yields and weakened the financial position of IA members. The two most important reasons for non-payment of ISF by the IA members are shown in Table F.2.10 and summarized below.

RIS	Financial need for education of children	Financial need to pay for credit to traders	ISF not collected by NIA strictly	Crop failure due to flood & pests/diseases	Insufficient budget for next crop	Low production due to insufficient water received	Low production due to delayed delivery of water
Jalaur proper						1	2
Suague				2		1	
Total				2		1	2

Note: 1 means highest order of significance.

Most of the IA officers consulted have expressed the willingness to implement the Type II contract, particularly those with Type I contract only, but proper training, technical guidance and information materials are needed to support them for the contract work as shown in Table F.2.11.

For both Type I and Type II contracts, effective implementation is constrained by the non-functionality of appropriate committees and inactive participation of IA members due largely to lack of training, unclear definition of IA activities and benefits, and the cash flow problem of the individual members.

### **2.2.5 General Condition of Agricultural Support Services**

The institutions providing agricultural support services to farmers in the project area are generally in place. For extension services and training on farming practices, the Municipal Agricultural Offices (MAO) of the seven LGUs concerned are the main support institutions. The MAO have agricultural technicians who are assigned to specific barangays for their extension work. However, there is no established linkage between the MAO technicians and the IAs, thereby limiting the technical assistance on farming received by the IA members. The MAO also reported to have no adequate logistics for the mobility of their technicians in the field, and lack of training for their technicians on improved farming technologies (Ref. Annex C).

Agricultural credit is presently provided by both the formal lending institutions such LBP, rural banks, lending investors and NGOs, and the informal sources such as private traders, millers and input suppliers. Farmers' access to government's credit program is the main problem due to the unpaid loan accounts, poor repayment capacity of farmers' cooperatives, and restricted credit windows of the cooperatives (Ref. Annex G).

The Department of Agriculture (DA) has provided post-harvest facilities to the farmers through the cooperatives such as mechanical dryers, warehouses, and rice mills. Presently, technical assistance to these cooperatives is placed under the responsibility of the MAO. Private traders also operate post-harvest facilities in the project area. The existing rice mills and warehouses are estimated to have excess capacity which is more than enough to absorb the monthly production of paddy. Access to these facilities is a major constraint for the farmers and IA members due to their weak financial position and high indebtedness to private traders/millers (Ref. Annex G).

### **2.3 Consultation Meeting with the IA Officers**

The Study Team conducted a consultation meeting with the officers of the 20 IAs from October 1 to 25, 1997 to reflect the IA problems and needs in the institutional development plan. The three most serious institutional and technical problems of the IAs at present, as shown in Table F.2.4, are as follows:

- (i) Insufficient irrigation water supply,
- (ii) Lack of financial resources, and
- (iii) Low price of paddy, particularly during harvest period.

The IA officers also identified the lack of cooperation among members, lack of training of members, lack of technical know-how on farming, and poor road condition as compounding those three main problems. To solve them, the recommended solutions of the IAs are as follows (Ref. Table F.2.12):

- (i) Improvement of irrigation system to have sufficient water supply,
- (ii) Provision of credit for crop production and other basic household needs (such the education expenses of children),
- (iii) Education, training and extension for farmers, and
- (iv) Improvement/construction of farm-to-market roads.



## 2.4 Participatory Rural Appraisal (PRA)

PRA has been conducted in 19 IA areas from October 17 to 29, 1997 to facilitate IA-level planning based on the needs of IA members and non-IA members, and formulate IA-level O&M plan for the two RIS. The PRA sessions have been attended largely by small owner cultivators, leaseholders, tenants and farm workers with less than 1.0 ha in size. During these sessions, the participants have identified the inactiveness of the IAs as the main institutional problem.

The main causes of the inactive IAs are as follows:

- (i) Role of members is limited to cleaning and maintenance activities around their respective farm vicinity,
- (ii) Lack of cooperation among members in O&M work,
- (iii) Lack of interest due to inability to benefit from irrigation,
- (iv) Lack of communication,
- (v) Lack of training and education, and
- (vi) Lack of understanding of roles and responsibilities of members and officers.

The recommended solution of the farmers in the PRA sessions is to strengthen the IAs through the following measures:

- (i) Constant reminder to farmers of their obligations as IA officers and members,
- (ii) Conduct of training activities on value formation,
- (iii) Transformation of the IA into a cooperative,
- (iv) Provide additional benefits to IA members,
- (v) Undertake continuous education and information campaign and
- (vi) Acceptance of farm workers in the IA (specifically cited in one PRA).

Both the identified problems and recommended priority solutions of the PRA have been presented to RIS- and municipal-level public consultation seminars in mid-November 1997. In the seminars, the proposed prospective plans prepared by the Study Team were also presented.

The participants comprising of the Municipal Mayors, Barangay Captains and other local officials, representatives of national government agencies (NIA, DENR, NEDA, etc.), local government unit offices (MAO) and non-government organizations, IA and farmers' cooperative officers, and other farmer groups have generally accepted the proposed plans by the Study Team which were found to be consistent with the recommended solutions of the PRA.

## 2.5 Constraints to Institutional Development

### 2.5.1 Irrigators' Associations

The institutional and technical weakness of the IAs is the main constraint to development due to the IA weak financial position, and unclear definition of IA activities and benefits. The contributing factors to these two main causes as shown in Fig. F.2.4 include the following:

- (a) causes of weak financial position
  - limited source of capital due to IA charter restriction,
  - low price of palay and other crops due to absence of organized system of marketing crops and absence of IA committee on post-harvest processing and marketing;

(b) causes of unclear IA activities and benefits

- absence of IA/TSAG working committees due to absence of training for IA members caused by limited budget of the NIA for IA training, and absence of IA office to hold regular meeting and training and keep records,
- poor database on the IA such as the exact irrigated farm area, etc., and
- inadequate strategy for IA organizing arising from limited role given to the IA members and non-participation of farm workers.

### 2.5.2 National Irrigation Administration

The capacity of the Jalaur-Suague RIS (JSRIS) office is also presently constrained by institutional and technical weakness due to the following contributing factors:

- (i) lack of training and experience of the institutional development officers (IDO) on community organizing, cooperative development and inter-agency coordination;
- (ii) unclear delineation of functions of the IDO and water resources facility (WRF) technician and tender (WRFT/WRF tender), and
- (iii) weak planning and monitoring system due to insufficient management information system and lack of skills on data collection and analysis.

Compounding this weakness is the lack of technical competence of the O&M staff who are assigned directly to the two RIS, as clarified in Annex E (water management and O&M practice). The concentration of the IDO activities on the facilitation of regular BOD meeting, the renewal of IA's O&M contract, and the reactivation of the TSAG and the updating of TSA members leaves little time for the IDOs to carry out regular on-site education and training of the IA members. Their inadequate skills in inter-agency coordination also deprive the IAs of the benefits from integrated agricultural support services and technical assistance.

### 3. INSTITUTIONAL DEVELOPMENT PLAN

#### 3.1 Basic Development Concept

The main purpose of institutional development plan is to resolve the institutional and technical weakness of the IAs through the two-phased approach to the institutional strengthening of the IAs and the rehabilitation of existing farmers' cooperatives. The two-phased approach to institutional strengthening of the IAs will be adopted to gradually build their technical skills and improve their members' financial position in order to enable them to manage and own sections of the irrigation system through the envisioned partial system management as discussed in Annex E. The rehabilitation of existing farmers' cooperatives is meant to re-start the agricultural loan for crop production and group buying/selling of paddy, and drying, storing and milling of paddy to increase the farm income of their members, many of whom are also IA members, from the high value-added benefits of the integrated paddy production, processing and marketing.

The institutional strengthening of the IAs and rehabilitation of farmers' cooperatives will be carried out simultaneously in the Phase I (first four years of the Project) to establish a strong complementation of functions and resources between these two farmers' organizations. The cooperatives will provide loan and post-harvest processing services to the farmers, while the farmers will entrust the paddy to be produced by them to the cooperatives for direct group selling, for drying, storage and selling, or for drying, storage, milling and selling of paddy. This complementation of functions and resources will be established through a memorandum of agreement (MOA) between the IAs and farmers' cooperatives to increase farmers' income that would allow them to fully and promptly pay the ISF for the improvement of the O&M of irrigation system.

The simultaneous but separate strategy of strengthening the IAs and rehabilitating the farmers' cooperatives takes into account the present government institutional set-up which mandates NIA to assist the IAs and the local government units (LGUs) through their respective Municipal Agricultural Offices (MAOs) to assist the farmers' cooperatives based on the 1991 Local Government Code. This strategy is also in direct response to the requirements set by JICA.

Phase I shall cover the following activities for institutional strengthening of the IAs:

- (i) activation of the IA/TSAG committees,
- (ii) development of continuing education program through the establishment of relevant education clusters for each IA to carry out regular on-site training for all the IA members,
- (iii) formation of working groups under the IA service committee to undertake the proper and periodic O&M activities under the Type I and Type II contracts on a rotational basis,
- (iv) establishment and maintenance of the IA records management system, and
- (v) construction and management of the IA office.

Phase I will also involve the rehabilitation of the existing farmers' cooperatives as discussed in the improvement plan of agricultural credit in Annex G to provide loan and post-harvest processing services to their members, and to directly engage in bulk buying of farm inputs, group buying/selling of paddy. The provision of post-harvest processing services will be carried out through the establishment of business tie-ups of these cooperatives with private owners (normally big landowners) and National Food Authority (NFA) for the access of their members to existing post-harvest facilities such as drying yard, warehouse and rice mill. These services will also be extended to the IAs in the project area through the MOA mentioned above. Procurement of new facilities will be postponed until the Phase II wherein the cooperatives are expected to have acquired the needed financial resources to replace the inferior and obsolete facilities.

In the IA areas with no existing cooperatives, women service cooperatives (WSC) will be established in the Phase I to also provide agricultural loan to the IA members for crop production and group buying/selling of paddy. The WSC will handle the group buying/selling of paddy for the IAs, due to the non-stock and non-profit status of the IAs.

Phase II (beginning on the fifth year of the Project), the institutionally and technically strengthened IAs will undertake the following activities:

- (i) partial system management to sustain O&M activities and reduce O&M cost on the part of the government by increasing the incentives to the IAs through ownership of the sections of the irrigation system, and
- (ii) federation of the IAs for each RIS to achieve more effective system-wide water management and O&M practices.

The farmers' cooperatives to be rehabilitated in the Phase I will be encouraged to manage and control an integrated rice business in the project area through the procurement and operation of the most needed post-harvest facilities such as solar dryers and rice mills. The services of these new facilities will also be extended to the IAs in the project area.

## **3.2 Institutional Strengthening of the IAs**

### **3.2.1 Activation of the IA/TSAG Committees**

The four (4) standing committees of the IAs and their respective TSAGs will be fully activated to improve and sustain their organizational activities such as water management and O&M practices and ISF collection, etc. through intensive training and technical guidance for the first 5 years of the Project by the proposed locally-based NGOs and consultant on institutional development to be recruited under the Project. The 4 committees of the IAs/TSAGs to be activated are the following:

- (i) Service committee,
- (ii) Finance committee,
- (iii) Membership, education and training committee, and
- (iv) Audit and inventory committee.

At the IA level, each committee will have two (2) permanent members from every member-TSAG to effectively and regularly implement its respective functions as stipulated on their by-laws. The total members of each committee will be twice the number of the TSAGs comprising one IA. For instance, if the IA is consist of 4 TSAGs, each committee will be composed of 8 members including the committee chairman. The two permanent members from the TSAG for each committee will be responsible for the organization of the pertinent committee at the TSAG level. In order to ensure that all TSAG members will participate in the TSAG group activities, each of the 4 TSAG committees similar to those mentioned above will be comprised of one-fourth of the total members of the TSAG. All the members of the four committees at both the IA and TSAG levels will be given the proper training and regular on-site advice by the NGOs and institutional development consultant.

The monthly meetings of the IA committees as defined in the IA by-laws will be regularly conducted to monitor and evaluate the progress of the activities of each committee and to act promptly on any problems related to water management and O&M works, etc. However, the TSAG committee meetings will be done more frequently from the present once a month to twice a month (or bi-monthly) meeting to enable greater interaction and exchange of ideas and experiences among the TSAG committees. Every month, the first TSAG committees' meeting will be carried out at the same time to discuss the progress and problems related to their respective activities in order to identify a joint

course of action. The second TSAG committees' meeting will be held separately for the individual assessment of the activities of each committee, the development of concrete action plan, and the preparation of necessary reports. The present general order of business in each meeting will be adopted, but the management of meeting will be further improved by giving on-the-job training to the committee chairmen in order to cover all the pertinent agenda of the meeting in one to two-hour meeting. All the committee meetings at both the IA and TSAG levels will be properly scheduled to enable the NGOs and NIA's IDOs to observe and provide advice whenever necessary, and will be permanently held in the IA office, as discussed below, to ensure proper safekeeping of minutes of meetings and other records.

### **3.2.2 Development of Continuing Education Program**

The perennial problem on limited budget for IA training will be addressed by the development of continuing education program referred to in Tables F.3.1 to F.3.3. The consultants and NGOs to be recruited under the Project will prepare or assist the IAs in preparing the required training manuals and materials including the O&M manual. The manuals/materials will be used for the training of all the IA members and will cover the following:

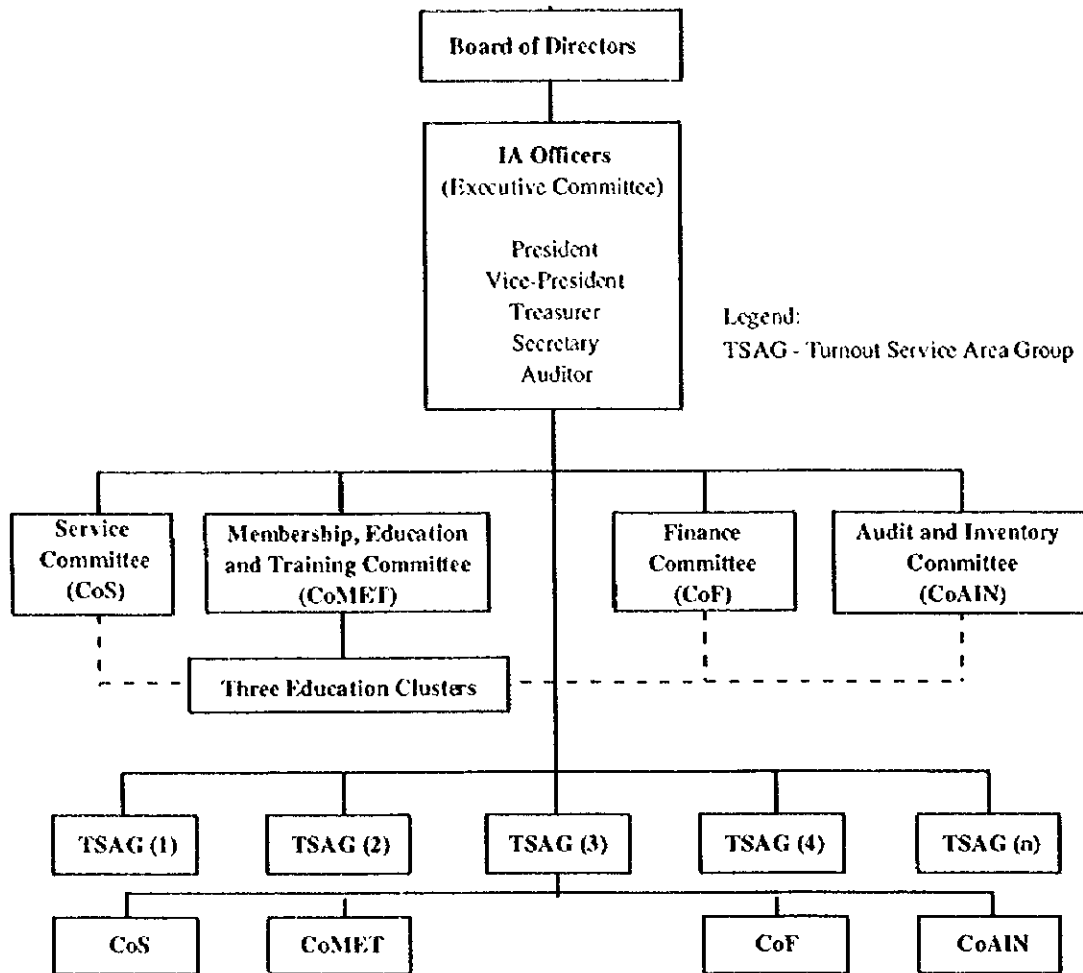
- (i) participatory management and organizational development,
- (ii) water management and O&M practices including ISF collection,
- (iii) agricultural extension of improved farming practices,
- (iv) financial accounting and management,
- (v) general property management, etc.

To support the continuing education program, three (3) education clusters will be established for each IA to coordinate the planning and implementation of the training programs for the IA members in Phase I as on-the-job training for the cluster members, and to undertake and sustain regular on-site group education sessions for all IA members beginning in Phase II. Each of the 3 clusters will be assigned to coordinate or implement the education program for a specific area of concern, as follows:

- (i) Organizational development and participatory management,
- (ii) Water management and O&M practices, and ISF collection, and
- (iii) Agricultural extension on improved farming practices.

Each cluster will consist of 3-5 progressive IA farmer-members to act as community trainers/resource persons after attending the proper training from the consultants and NGOs to be recruited under the Project. The members of the education cluster for area (a) will be selected from the members of the IA/TSAG committee on membership, education and training. The members of the education cluster for area (b) will be chosen from the members of the IA/TSAG committees on service and finance. The members of the cluster for area (c) will come from the contact farmers to be involved in the development of techno-demo farms as discussed in Section 5.6.1. At the TSAG level, the establishment of education clusters will be an option for the TSAGs. The three education clusters will be placed under the supervision and guidance of the IA committee on membership, education and training as shown in the proposed improvement of the IA organization structure below.

## Proposed Improvement in the IA Organization Structure



Publication of simple newsletters on improved farming practices, water management and O&M practices, etc. will also be prepared in local dialect and then disseminated to all IA members regularly every quarter by the education clusters with the proper assistance of NIA, NGOs and consultants under the Project and in cooperation with MAOs and research institutes.

Regular on-site group education sessions shall be scheduled before and after the cropping season by the IA committee on membership, education and training to allow all members to benefit from the program.

### 3.2.3 Organization of IA Working Groups for Rotational O&M Activities

In order that all IA members could participate in the O&M activities under Type I and Type II contracts during the Phase I, while at the same time attend to their individual farming operations, four (4) working groups will be organized for each IA to undertake the regular canal maintenance on a quarterly rotational basis. Every quarter, one working group will be assigned to maintain the canals within the IA area under the Type I contract and to undertake system operation under the Type II contract.

The organization of working groups will be done at the TSAG level. The members of the TSAG will be equally divided into 4 O&M working groups so that all IA members will be involved in the O&M activities. The IA committee on service will be responsible for the actual scheduling and supervision of the O&M activities by the working groups.

These working groups will be given intensive on-the-job training for five years by NIA's O&M engineers and O&M consultants under the Project as shown in Table F.3.2 to prepare them in the implementation of partial system management in Phase II.

### **3.2.4 Development of Records Management System of the IAs**

A simple records management system for the IAs will be developed in a joint collaborative effort between the IAs, NIA and NGOs in conformity with the proposed monitoring system to be set up at the NIA-JSRIS office. This records management system will compose of collection and recording of field data on farming activities, water management and O&M practices including ISF collection, and recording and updating of membership education and training, proceedings of meetings, and financial statements. The members of the IA committee on membership, education and training will be trained by NIA's IDOs and NGOs with the technical assistance of the institutional development consultant under the Project to operate and maintain the IA records management system.

The collected and recorded data will be regularly transmitted by the IAs to the JSRIS office through the proposed wireless radio to be provided to these organizations, on a weekly or monthly basis. The wireless radio will be set up in each proposed IA office, and linked to a radio base station at the JSRIS office. These data will serve as a basis of the IAs in the preparation and implementation of their annual plans, as well as the JSRIS office in the preparation of cropping calendar, water delivery and distribution schedule, etc.

### **3.2.5 Construction and Management of IA Office**

20 offices will be constructed for the existing IAs in the project area to provide a permanent venue for the IA meeting and training, the safekeeping of IA data and other information, and small storage room for farm inputs. Each office will measure about 70 m<sup>2</sup>: 50 m<sup>2</sup> for meeting/training venue and data safekeeping and 20 m<sup>2</sup> for input storage. Basic office equipment consisting of tables, chairs, steel cabinets and wooden blackboards will also be provided to the IAs.

The IA committee on audit and inventory will be responsible for the proper and regular maintenance and safety of the IA office. This committee will assign a security officer for each week from its members to oversee the general safety of the IA office and its facilities.

The IAs, through the support of the LGUs concerned, will be responsible for land appropriation for the site of IA office. A MOA governing the responsibilities of the IAs and the terms of amortization for the construction cost will be mutually agreed upon by the IAs and JSRIS office based on the ability to pay of the IAs.

### **3.2.6 Clarification of IA Boundary Area and Administrative Responsibility**

The following activities will be carried out by NIA's JSRIS office to clarify the boundary areas and administrative responsibilities of the concerned IAs:

- (i) boundary mapping of the IA coverage area to define the exact location and size of farm lots of the IA members for accurate evaluation of benefited area to increase the collection of ISF,
- (ii) adjustment of the TSA boundaries in conformity with the construction of new turnouts for a more manageable size of 20 to 30 members (or about 30 ha), wherein the number of TSAG is envisaged to increase from the present 271 to more than 300 in the future, and

- (iii) clarification of the boundary and administrative responsibility of SMEWBAT IA in the Suague RIS through the following:
  - adjusting the boundary of SMEWBAT IA (division 1) to cover the 67 ha which are presently within division 2 of the Suague RIS, and
  - transferring the administrative responsibility of ISF collection on 133 ha in SMEWBAT IA from the WRF Technician of division 4 to the WRF Technician of division 1.

### **3.3 Rehabilitation of Farmers' Cooperatives**

In Phase I, the rehabilitation of the 15 existing farmers' cooperatives will be carried out by the Project through the NGOs and consultants (institutional development, and credit and small enterprise development) based on the improvement plan of agricultural credit discussed in Annex G. These cooperatives will give preference of credit lending to their farmer-members who are also IA members to meet their urgent financial need for crop production, and group buying/selling and processing of paddy based on the authorized loanable amount. In addition to the provision of agricultural loan to their members, these cooperatives will undertake the following activities in Phase I:

- (i) bulk buying of farm inputs,
- (ii) group buying and selling of paddy, and
- (iii) group buying, drying, milling and selling of paddy.

Activities (i) and (ii) will be directly done by the cooperatives, while activity (iii) will involve the establishment of business tie-ups between these cooperatives and the private owners (usually big landowners) or NFA. A MOA will be signed between the cooperatives and the private owners/NFA for the utilization of the facilities by the cooperative members.

A more intensive management and technical training program will be given to these cooperatives including the MAOs' cooperative development officers by the concerned consultants and NGOs under the Project as shown in Table 5.5.1, covering the following topics: institutional strengthening, cooperative development and management, and post-harvest processing and marketing. The MAOs' cooperative development officers will also act as trainers and technical advisers to the farmers' cooperatives after they have attended the proper training, especially after the implementation phase of the Project.

In Phase II, the financially rehabilitated farmers' cooperatives will be encouraged to operate and manage an integrated rice business through the procurement of their own post-harvest facilities in accordance with the improvement plan of post-harvest processing and agricultural marketing as discussed in Annex G.

### **3.4 Development of Women Service Cooperatives (WSC)**

In Phase I, the WSC will be developed by the NGOs under the Project in the IA areas where no farmers' cooperatives exist to provide credit to other IA members mainly for crop production and paddy trading. Female members of the IAs will comprise these new cooperatives in order to reduce the work load of the male members with the IA activities and their farm operations. Presently, very few of the 288 female members are IA officers, thereby giving them more opportunities to manage the new cooperatives.

This component will comprise of the following activities:



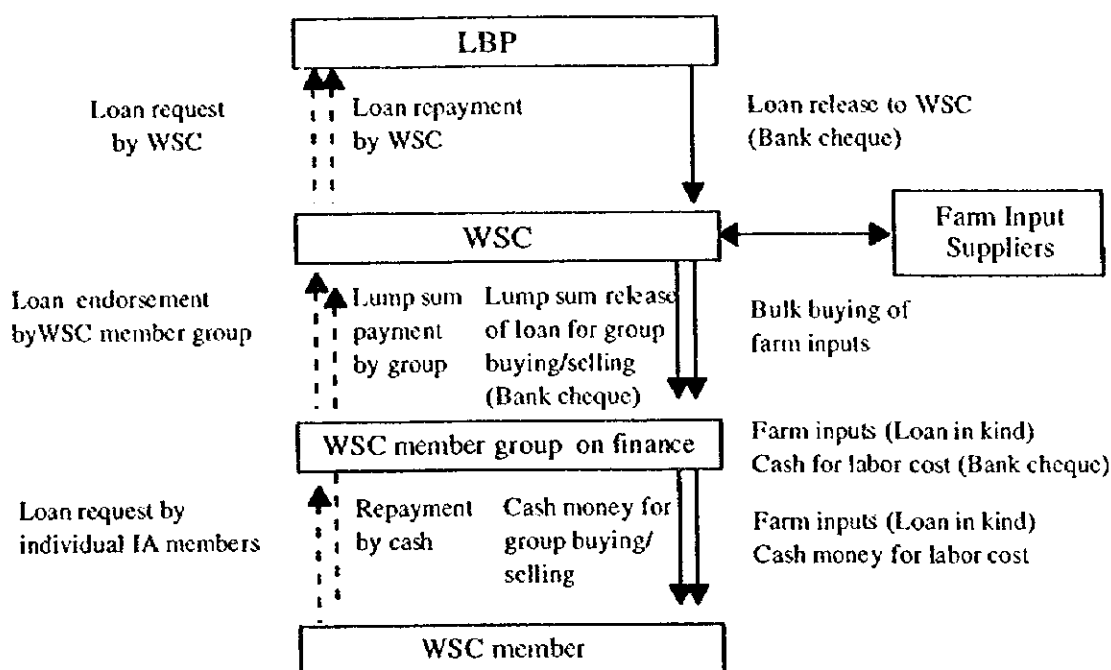
### 3.4.1 Membership Education

Six WSC will be organized in the six divisions of the Jalaur proper RIS with no farmers' cooperatives to provide credit to other IA members within their coverage area. Prospective members of the WSC will be trained by the NGOs and consultant on credit and small enterprise on the various subjects of cooperative development and management as shown in Table 5.5.1 including the requirements and procedures for WSC registration with the CDA and for credit availment from the LBP. Specialists from CDA and LBP will also be invited to educate the WSC members on their respective policies and programs related to agricultural credit.

### 3.4.2 Credit Lending for Production and Group Buying/Selling of Paddy

At the initial stage of the project, the farmers will need a considerable amount of credit for crop production and group buying/selling of paddy. To address this need, the WSC will avail of agricultural loan from LBP to finance the requirements of farmers for the following two purposes: (i) bulk buying of farm inputs and labor cost, and (ii) group buying and selling of paddy.

The credit system will be based on a group loan requiring the endorsement of the WSC member group on finance, based on the following general process:



The loan procedures to be adopted under this credit system are as follows:

- i) The loan is limited only to the two purposes identified above, and the loan ceiling is set at the prevailing cost of paddy production per ha in the project area.
- ii) To receive a loan, the IA members will fill up a loan request form to be submitted to their respective IA finance committee. This committee will evaluate the accuracy and completeness of the loan requirements, and endorse the loan request to the WSC based on a group loan. The IA members who

apply for group loan will be jointly and severally responsible for repayment of the loan for defaulting members.

- iii) For the loan for farm inputs and labor cost, the IA member-loanees will meet with the IA committee on post-harvest processing and marketing to estimate the farm input requirements of the group together with the required loan amount. The MAO technicians will be invited by the respective IA to provide technical advice on appropriate fertilizers and agro-chemicals to be used.
- iv) For the loan for group buying/selling of paddy, the IA member-loanees will meet with the IA committee on post-harvest processing and marketing to estimate the total volume of paddy to be sold together with the required loan amount based on the prevailing official farm price for paddy.
- v) The LBP will provide the loan to the IA member-loanees on a lump sum basis through the WSC.
  - For the loan for farm inputs and labor cost, the WSC will purchase farm inputs to the suppliers and the IA member-loanees will receive the farm inputs in kind from the suppliers. Payment to the farm inputs will be paid by the WSC in bank cheque or cash. The labor cost component of the loan will be released by the WSC to the IA member-loanees in cash. These information will be furnished to the IA committee on finance for the proper monitoring of loan utilization and repayment of member-loanees.
  - For the loan for group buying/selling (and possibly processing) of paddy, the WSC will release the loan on a lump sum basis through the IA committee on finance and the IA member-loanees will receive the loan from the WSC in cash based on the plan for group buying/selling of paddy to be prepared by the IA committee on post-harvest processing and marketing for each cropping season.
- vi) The member-loanees will repay their loans to the IA committee on finance. In turn, this committee will repay the group loan in lump sum to the WSC and the LBP will receive such loan repayment from the WSC. In this way, the LBP will not collect the loan repayment from individual IA member-loanees.

The operation of the WSC's group loan will adopt the following requisites:

- i) The IA member-loanees should completely understand the operation of the group loan, and the procedures and requirements for obtaining the loan. The IA committee on finance together with the WSC and LBP should organize an orientation seminar on this matter for its respective member-loanees to explain the group loan operation of the WSC and the LBP procedures.
- ii) The by-laws of the WSC should clearly specify the group loan operation and procedures, and define the rights and duties of all the IA members who are intending to avail of its credit lending program and the penalties in case of default.
- iii) The LBP should grant a loan to the WSC with an interest rate lower than the normal market rate to give a reasonable operational budget to the WSC for administrative activities such as distribution, follow-up and collection of loan repayment. Inasmuch as the IA committee on finance will render administrative support to the WSC (i.e., preliminary evaluation of loan application, collection of loan repayment from individual IA member-loanees), the WSC should set a certain percentage of the interest earnings from the group loan to be given to the IA committee on finance to cover the

administrative cost. The by-laws of the WSC should specify this percentage of the interest earnings for the IA committee on finance.

### **3.5 Partial System Management**

The strengthened IAs will implement the partial system management in Phase II through a MOA between NIA and the IAs. In this way, the IAs will have an opportunity to establish ownership over the sections of the system which they will operate and manage. The proper amortization schedule based on the capability of the IAs will be prepared by NIA and the concerned IAs in accordance with the existing policy of NIA. In this new arrangement, the main responsibilities of the IAs and NIA will be as follows:

#### IA level

- to operate and maintain the system's improved headgate in the coverage area,
- to manage irrigation water delivery from the headgate to the turnouts,
- to monitor the distribution of water to the farm through the turnout by TSAGs,
- to disseminate information on updated cropping calendar and water delivery and distribution schedule to the TSAGs,
- to collect ISF from the TSAGs for prompt payment of amortization to NIA, and
- to support, coordinate and monitor the O&M of irrigation canals and facilities done by the TSAGs in the coverage area.

#### TSAG level

- to operate and maintain the turnouts and check structures in the coverage area, to manage the distribution of irrigation water from the turnouts to the farms of individual members,
- to inform the members about the cropping calendar and water distribution schedule,
- to collect ISF from TSAG members, and remit the payment to the IA finance committee, and
- to maintain other facilities such as portions of lateral canals and service road in the coverage area.

#### NIA-JSRIS O&M staff

- to operate and maintain the main canals, drainage, and diversion dams,
- to manage the timely and proper delivery of water at the diversion points to the lateral headgates of the different IAs,
- to conduct regular monitoring of water management and O&M work being done by the IAs,
- to collect amortization payment from the IAs,
- to provide training and technical support to the O&M activities of the IAs, and
- to facilitate the coordinated delivery of agricultural support services for the IAs.

The NIA's IDOs will train and assist the IAs to prepare and implement a simple O&M plan which will be the basis of its O&M works. This plan will contain the cropping calendar, water delivery and distribution schedule, ISF collection and O&M activities to be carried out by the IAs in conformity with the NIA-JSRIS office's general O&M plan for each RIS.

### **3.6 Federation of the IAs**

All the IAs in each RIS will be organized into an IA federation. The IA presidents will form as the BOD of the IA federation, and draft the federation by-laws. Once the by-laws are approved, the BOD members will elect the federation officers (president, vice-president for administration, vice-president for operations, treasurer, secretary and auditor) among themselves. This federation will be registered with SEC as per established procedure and requirements. The IA federation will operate at the RIS level for two main functions:

- (i) to manage the system-wide coordination and management of water delivery/distribution and O&M works within the system, and
- (ii) to respond to the needs of the IA members for integrated support services for farm inputs, post-harvest facilities and marketing through establishment of coordinative linkages with the LGU's MAOs, DA, etc.

### **3.7 Institutional Development of NIA**

#### **3.7.1 NIA-JSRIS Staff Training**

Three types of NIA personnel will be trained by the project to ensure the effective water management and O&M works: (i) the JSRIS O&M staff and IDOs assigned to the two RIS (ii) the JSRIS office support staff (billing clerks, planning engineers, etc.), and (iii) the regular personnel of the Institutional Development Division (IDD) and System Management Division (SMD) of NIA Region VI Office who have supervisory functions over the JSRIS office.

The specific training for these personnel is presented in Tables F.3.1 to F.3.3. The new implementation approach to institutional development and the arrangement for partial system management will be emphasized in the training.

#### **3.7.2 Renovation of NIA Regional Training Center, Pototan**

The NIA Regional Training Center located in Pototan municipality will be renovated and furnished with training equipment (Table F.3.4). The renovation works will cover roofing (trusses, roof and accessories), concreting (beams, columns, floor slabs and forms), replacing broken wooden windows by steel windows, and filling materials.

#### **3.7.3 Computerization of Database Management**

Computers will be provided to the NIA-JSRIS office for systematic recording of basic information on water users (IA/ISC members and non-members), preparation of ISF billing and collection documents, processing of gathered data on river water discharge and intake water discharge, etc. as shown in Table F.3.4 for the improvement of the existing water management and O&M performance. Training of NIA-JSRIS personnel on the computer operation and management will also be carried out as shown in Table F.3.2.

#### **3.7.4 Improvement of Communication and Transport System**

Communication equipment and vehicles will be provided to NIA-JSRIS office for the use of O&M staff and IDOs in their field activities. These are as follows (Table F.3.4):

<u>Items</u>	<u>Number</u>
1. Portable hand-held radio transceivers (NIA:21, IA:20)	41
2. Pick-up vehicles (O&M staff and IDOs)	3
4. Motorcycles (WRF Technicians)	41
Total	85

### 3.7.5 Technical Assistance

#### (1) Consultants

This component will recruit consultants to render technical advice and training to the IAs/ISCs, NIA-JSRIS staff, LGU-MAO and contracted NGOs in the areas of institutional development, credit and enterprise development, irrigated agriculture, water management, and O&M of irrigation systems for a total of 264 man-months. These consultants are as follows:

	<u>No. of man-months</u>
i) Institutional development	48
ii) Credit and small enterprise development	36
iii) Irrigated agriculture	60
iv) Water management	60
v) Operation and maintenance of irrigation system	60
Total	264

These consultants will be recruited through a consulting firm, and made together with the engineering services for detailed design and construction supervision of civil works of the Project.

#### (2) NGOs

Four locally-based NGOs will be recruited by the Project to render services for the institutional strengthening of the IAs, the rehabilitation of farmers' cooperatives and the development of WSC for a total period of five years. Each NGO will dispatch 4 community organizers and 2 cooperative development facilitators who will take temporary residence in the IA areas assigned to them for closer and regular contacts with the IA members. Initial contract with the NGOs will cover only two years, and renewable for another three years depending on their satisfactory performance and the level of IA development.

The IA area assignment of the NGOs is as follows:

RIS	Area assignment	No. of IAs	No. of NGO
Jalaur proper	1. Divisions 1, 2 & 3	4	1
	2. Divisions 4, 5, 6, & 7	6	1
	3. Divisions 8, 9, 10 & 11	5	1
Suague	4. Divisions 1, 2, 3 & 4	5	1

The NGOs will be selected based of the following key criteria:

- (i) Registered with the Securities and Exchange Commission or the Cooperative Development Authority;
- (ii) Be able to provide audited financial statements for the past 3 years at the time of selection;
- (iii) Have been in operation for at least 10 years at the time of selection;

- (iv) Have worked with farmers, farm workers and women in irrigated agricultural areas;
- (v) Have a minimum of 10 qualified members with at least 5 years' experience in working with farmers, farm workers and women in irrigated agricultural areas in community organizing and cooperative development;
- (vi) Be able to field a minimum of 4 qualified and trained community organizers (COs) and 2 cooperative development facilitators (CDFs) on schedule; and
- (vii) Be able to establish an office with full-time supervisory and support staff in the project area.

Preference shall be given to NGOs already operating near the project area, particularly those that have been operating there for a long period of time. The procedure for selecting NGOs will be as follows:

- (i) Invitations to "express interest" will be sent by the Project (NIA-JSRIS office) to NGO network bodies (e.g., Iloilo Code NGO, Ilonggo, PHILDHARRA) and to other NGOs currently operating in the province.
- (ii) A short list of interested NGOs, comprising not more than five per RIS, will be established by the Project in consultation with the financing institution and the Project Steering Committee.
- (iii) The Project will invite the short listed NGOs to submit proposals. Each proposal will cover the following:
  - experience of the NGO in community organizing and cooperative development with farmers, farm workers and women groups in irrigated agriculture;
  - results achieved in the institutional, social and economic development of such groups;
  - extent of work in irrigated agriculture sector in the province;
  - profile of members/staff and administrative backup support, including detailed curriculum vitae of recommended staff for the Project; and
  - proposed work and financial plan for the assignment.
- (iv) Proposals will be evaluated by the Project in consultation with the funding institution.
- (v) Contracts will be awarded initially on a two-year term and subsequently renewed for another three-year term by the Project. Progress of the NGO will be monitored by the Project and the Project Steering Committee.

## 4. IMPLEMENTATION ARRANGEMENTS

### 4.1 Project Organization and Management

#### (1) Executing Agencies related to Project Implementation

The implementation of the Project is divided into three stages: (i) pre-construction period including detailed design and tender administration, etc., (ii) construction period involving the full implementation of the Project, and (iii) sustainability period involving the O&M of irrigation facilities by the IA/ISC, etc. The executing agencies for all these stages are as follows:

Development Stage	Major Activities	Lead Agencies	Cooperating Agencies
Pre-construction	D/D, tender administration, preparation of O&M manual and training materials, start up of training program, construction of IA office and NIA training center	NIA	
Construction	Construction works, irrigated agriculture development, water management and O&M practice, institutional development of the IAs and NIA, agricultural support services, watershed management, etc.	NIA, LGUs (7 Municipal Governments) through the MAO, DENR	DA, Provincial Government through the PAO, WESVIARC, LBP, DAR, CDA, NGO
Sustainability	O&M of irrigation facilities and continuous management of business activities by the IAs	IAs, NIA	MAO, PAO, DA, LBP

The NIA will be the overall lead implementing agency for the implementation of the Project. The other agencies which will take the lead role and cooperating role for the implementation of specific prospective plans of the Project are shown in Fig. F.4.1 in conformance with their present mandated functions.

As for the implementation of irrigated agriculture development plan, the LGUs of the concerned 7 municipalities will be the lead agency and the NIA, DA and PAO will be the cooperating agencies.

In the implementation of improvement plans of irrigation and drainage facilities and rural infrastructure, and water management and O&M practices, the NIA will be the lead agency. The provincial and municipal LGUs will be the cooperating agencies.

The NIA and LGUs will be the lead agencies for the implementation of the institutional development plan with the support of NGOs to carry out the institutional strengthening of the IAs and the rehabilitation of existing farmers' cooperatives, respectively. The DAR will be the cooperating agency to accelerate the implementation of CARP in the project area. The NIA and LGUs through the NGOs will also be the lead agencies for the implementation of the improvement plan of agricultural support services, and DA, CDA and LBP will be the cooperating agencies.

As for the implementation of the watershed management plan, the DENR will be the lead agency and the LGUs and NIA will be the cooperating agencies.

Proper cooperation and coordination among the implementing agencies will be ensured by the establishment of the multi-agency Project Steering Committee (PSC) and

Project Technical Committee (PTC). A MOA will be executed by the implementing agencies which define their respective authorities and responsibilities in the Project.

(2) Project Organization and Management

The proposed organization of the Project is divided into three groups: (i) Project Management Office to be operated through the NIA Jalaur-Suague RIS (JSRIS) office, (ii) Project Steering Committee, and (iii) Project Technical Committee, as shown in Fig. F.4.2. This organizational set-up is essential to pool the resources and skills of all the agencies concerned for the effective and systematic implementation of the Project.

(a) JSRIS office

This office will act as the Project Management Office which will be responsible for the supervision, monitoring and evaluation of the implementation of the prospective plans of the Project. The major functions of this office will be as follows:

- i) Prepare and implement the annual work and financial plan of the Project,
- ii) Coordinate with other concerned agencies for the implementation of the different development/improvement plans,
- iii) Follow-up and release budget requests on time with the concerned units of NIA and other agencies such as NGOs and MAO,
- iv) Supervise, monitor and evaluate the Project implementation, and
- v) Submit regular monthly, quarterly and annual progress reports to the Project Steering and Technical Committees, NIA Regional and Central Office, funding institutions, etc.

The six sections of the JSRIS office will carry out their present mandated functions, and the proposed functions for the new Water Management Section and Operation and Maintenance Section as referred to in Annex E. The JSRIS office will also supervise and coordinate the activities of the Technical Assistance (consultants and NGOs). Sufficient administrative support to the proposed Project Steering Committee and Project Technical Committee by the JSRIS office shall be ensured for the effective and proper operations of such committees.

(b) Project Steering Committee (PSC)

A multi-agency PSC will be established to serve as the policy making group of the Project to be consist of the following:

<u>Agency/Representative</u>	<u>Position in the PSC</u>
Provincial Governor of Iloilo	Chairman
NIA Regional Irrigation Manager, Region VI	Co-Chairman
DA Regional Director, Region VI	Member
DAR Regional Director, Region VI	Member
DENR Regional Executive Director, Region VI	Member
NEDA Regional Executive Director, Region VI	Member
Municipal Mayors (7) concerned	Member
LBP Regional Manager, Region VI	Member
NGO Representative	Member
NIA JSRIS Irrigation Superintendent	Member

The PSC will meet every quarter for the entire duration of the Project, or as the need arises as requested by the Chairman or any member of the PSC. The functions of the PSC are as follows:



- i) Review and approve the annual work and financial plan submitted by the JSRIS office,
- ii) Formulate, improve and approve policies and procedures on the implementation of the Project, and
- iii) Acknowledge the progress reports of the Project, etc.

The proposed chairmanship position of the PSC for the Provincial Governor of Iloilo takes full cognizance of the LGUs' important role in the Project implementation such as the development of irrigated agriculture, improvement of agricultural extension services to the IAs, cooperative development, maintenance of rural infrastructure, etc. This greater role of the LGUs (provincial and municipal governments) in the Project is essential to support their new mandate under the 1991 Local Government Code. The JSRIS office will provide the secretariat services to the PSC for the proper recording of the quarterly meeting of the PSC.

**(c) Project Technical Committee (PTC)**

The PTC will also be established to provide technical support to both the PSC and the JSRIS office, particularly on matters related to the implementation of the prospective plans of the Project. This group is essential for the smooth and timely execution of the Project in view of the proximity of the offices of its proposed members to the project area. The proposed members of the PTC are as follows:

<u>Agency/Representative</u>	<u>Position in the PTC</u>
NIA JSRIS Irrigation Superintendent	Chairman
Provincial Agriculturist, LGU-PAO	Member
PARO, DAR	Member
PENRO, DENR	Member
MAO, LGU (7)	Member
NGO (4)	Member
LBP Provincial Manager	Member
IA Representative (4)	Member

The main functions of the PTC will be the following:

- i) Review the major technical plans contained in the Project's annual work and financial plan, and endorse the reviewed plans to the PSC for approval,
- ii) Provide technical advice on requests of the JSRIS office, IAs, etc. on a regular basis,
- iii) Render monitoring support to the JSRIS office with respect to the performance of the PTC members' respective staff to be designated to the Project, etc.

The JSRIS office will provide secretariat services to the PTC meeting. The PTC meeting will be scheduled every month to render more effective technical support to the PSC and the JSRIS office.

**4.2 Implementation Schedule**

The implementation of the institutional development plan is scheduled to be divided into two phases based on the basic development concept discussed in Section 3.1, as shown in Table F.4.1:

- (i) preparatory phase which will involve the setting up of the required physical facilities, Project organizations and management systems for the proper starting up of the IA institutional strengthening, and
- (ii) implementation and sustainability phase which will involve the implementation of partial system management and the federation of the IAs.

The gradual implementation of the plan is essential to give ample time for the IAs to develop their technical skills and acquire the necessary financial resources from the improvement of farmers' income and hence capacity to pay the ISF.

The first phase is scheduled on the first 4 years of the Project to carry out the renovation of the NIA Regional Training Center which will be the main venue for training of the IAs, NIA staff and MAO personnel. The IA offices will also be constructed at this phase for the development of records management system and regular in-situ training and meeting of the IAs. The required training equipment will also be procured to make the NIA training center and IA offices fully operational for the scheduled institutional development activities such as the strengthening of the IAs, rehabilitation of farmers' cooperatives, and development of women service cooperatives.

Establishment of the proposed Project organizations such as the Project Steering Committee and Project Technical Committee, activation of IA committees, development of IA education clusters and preparation of monitoring and evaluation system are also essential to be carried out during this phase to provide sufficient guidance and extension services to the IAs, NIA and other agencies involved in the Project. Technical assistance will also be provided by recruitment of consultants and locally-based NGOs to prepare training material and carry out the training of the IAs, NIA staff and MAO personnel for first 5 years of the Project.

The second phase is scheduled to start on the fifth year of the Project by which time most of the IAs would have been institutionally and technically strengthened, and will carry out the partial system management and the federation of the IAs for each RIS. The farmers' cooperatives are envisioned to procure and manage their owned post-harvest facilities to control the integrated rice business in the project area.

In the second phase, the IA committees and education clusters are expected to carry out the continuing education development program for the members at the TSAG level through the guidance of the consultants, NGOs, NIA staff, MAO personnel, etc. This approach will prepare the IAs/ISC to sustain the training and extension activities after the construction period.

#### **4.3 Implementation Cost**

The total cost of implementing this plan is estimated at about 141.6 million pesos for the Phase I and Phase II of the Project, as shown in Table F.4.2. The sustainability period of Phase II is expected to bear no cost to the Project, since the IAs will sustain the planned institutional activities. The breakdown of this cost is summarized below:

**Proposed Implementation Cost ('000 pesos)**

Items	Phase I	Phase II	Total
1. Renovation of NIA training center/IA office construction	8,825	8,825	
2. Procurement of equipment/facilities	15,650	15,650	
3. Training (cost of training materials)	4,400	8,945	13,345
4. Technical assistance	41,250	54,330	95,580
5. Irrigators' Association Development Fund (IADF)	8,200	8,200	
<b>Total</b>	<b>78,325</b>	<b>63,275</b>	<b>141,600</b>

# Tables

**Table F.2.1 Inventory of Existing Equipment and Vehicles of the JSRIS Office**

Items	Quantity	Year Acquired	Operable	Inoperative (Needing repair)
<b>A. Equipment</b>				
<b>1. Construction</b>				
Case backhoe loader	1	1992	1	
Furukawa loader	1	1987		1
Furukawa backhoe loader	1	1987		1
Sumitomo excavator	1	1992	1	
Mitsubishi excavator	1	1978	1	
Fiat Allis bulldozer	1	1984	1	
Champion grader	1	1995		1
Mitsubishi grader	1	1987		(For disposal) 1
Komatsu grader	1	1984	1	
Sumitomo crane	1	1978	1	
Fuso dumptruck	2	1975	1	1
Hino cargo truck	1	1984	1	
Hino cargo truck	1	1986		1
UNO air compressor	1	1992	1	
Komatsu electric generator	1	1979	1	
Seimetsu welding machine	1	1979	1	
Kawasaki grass cutter	1	1997	1	
Sub-total	18		12	6
<b>2. Survey</b>				
Transit	1	1978		1
Dumpy level	1	1978		1
Sub-total	2		0	2
<b>3. Office equipment</b>				
Computer set	2	1997	2	
Triumph typewriter	14	1979	14	
Olivetti typewriter	2	1980	1	1
Mosler steel safe	1	n.a.	1	
Carrier aircondition	2	1995	2	
Sony aircondition	1	1995	1	
Freeder	1	1980		1
Slide projector	1	1980	1	
Panasonic karaoke	1	1990	1	
Musicmate public address along	1	1990	1	
Olivetti adding machine	2	1977	2	
Canon camera	2	1994		2
Kodak camera	1	1995		1
Sub-total	31		26	5
<b>4. Communication</b>				
Neutec transmitter-receiver	1	1994.0	1	
<b>Total</b>	<b>52</b>		<b>39</b>	<b>13</b>
<b>B. Vehicles</b>				
Nissan patrol	1	1981		1
Nissan pick-up	1	1985	1	
Cherokee station wagon	1	1980	1	
Toyota pick-up	1	1983	1	
Toyota pick-up	1	1996	1	
Suzuki motorcycle	2	1980	2	
Suzuki motorcycle	2	1984	2	
Kawasaki motorcycle	20	1990	20	
Sub-total	29		28	1
<b>TOTAL</b>	<b>81</b>		<b>67</b>	<b>14</b>

Source: Data provided by the Jalaor-Suague RIS Office, NIA

n.a. not available

Table F.2.2 Location and Farm Area of Irrigators' Associations (IA)

RIS Division	IA name	Municipality	Barangay	RIS service area (ha)	IA farm area (ha)	
					Total	Cultivated
Jabalayzar	SISADA	Dingle	Dawis, San Jose, Sumbuan [3]	8,820	8,031	7,172
			Alburgay, Bongloy, Pandan, Tanglawan [4]	254	234	240
	BAFZAT	Pototan	Bataan, Cawayan, Zarzaga [3]	512	512	512
			Barasan, Callan, Cateagan, Depitan, Pabiluan, Tubaran, Tumsum land (part) [7]	714	705	722
	JPE-2	Pototan		892	891	900
	JPE-3	Pototan				
	JADD	Pototan	Dawis (part), Dagsol (part), Jambalod (part) [3]	572	572	572
	J-JIN	Pototan	Igang (part), Jhibse (part), Jemahab (part), Naga (part) [4]	375	375	375
	POZA	Pototan	Arcos (part), Naga (part), Dagsol (part), Bongan	594	594	448
	JABAFI	Zarzaga	Jalad Norte (part), Jalad Sur (part) [6]	160	136	62
	CIDU	Pototan	Jalad Norte (part), Jalad Sur (part), Balad 1, Balad 2 (part) [4]	748	748	748
Dagsol (part)						
LOJAPRO	Zarzaga	Calumbayan, Dagsol Centro (part), Dawis Norte, Dawis Sur, Inaglangan Centro (part)				
		Inaglangan Norte, Inaglangan Sur (part) [8]	755	755	680	
CAMI	Barotac Nuevo Dumanigas	Dagsol (part)				
		Gines, Inaglangan Centro (part), Inaglangan Sur (part), Sumbang, Suangan, Talibong, Tubaran	634	635	635	
BAMAPA	Dumanigas	Cabataan, Acant, Manpan, Pagulayo (part) [4]				
		Balabag, Pagulayo (part), Maquina (part) [4]	373	331	331	
MACAPA	Dumanigas	Maquina (part), Cayos, Palad [3]	410	270	270	
		Calas, Cansilayan (part), Kasama [3]	788	788	788	
PACCAPUSO	Dumanigas	Cansilayan (part), Pagulayo (part), Piliac, Sulangan [4]	411	400	257	
			44			
Pumping irrigation						
Suagay	JEBADA	Mina	Singay (part), Mina East, Mina West, Badungon (part), Amiray, Tolupuan [6]	2,442	2,624	2,233
			Jempuan East	346	346	346
AGDABASICA	Mina	New Lucena	Badung, Dawis [3]	608	436	436
			Agmanapitan (part), Badungon (part), Dala (part), Singay (part), Casalsagan [5]	593	560	550
SMEWBAT-2	SUAGUE-3	Pototan	Dala (part), Cabalaguan, Lumay,	67	67	67
			Gunakas, Igang (part), Lomba, Pung, Rumbung, Tumsum Ilog [9]	542	542	542
DIV. 4 SUAGUE	SMEWBAT-3	Mina	Agmanapitan (part)	509	507	454
			Arumans (part), Calaguichan (part), Pung (part), Salung (part) [5]	133	133	133
Pumping irrigation						
Total				11,720	10,685	9,405

Notes: 1. Data on RIS service area derived from NIA-ISIS Office.

2. Data on municipality and barangay and farm area covered by the IAs derived from consultation meetings with 20 IA officers.

3. SMEWBAT IA total farm area is 543 ha.

**Table F.2.3 Number of IA Members, BOD Members and TSAGs**

RIS division	IA name	Year registered with SEC	No. of total farmers	No. of total IA registered members	No. of total IA active members	No. of BOD members	No. of TSAG	No. of women members TSAG	IA	BOD
Jabur, propper			5,900	2,407	1,449	204	200	14	132	207
1	SINADA	1983	270	143	125	12	12	0	8	22
	BAPZAT	1982	440	298	135	24	24	0	9	n.a.
2	JP-2	1990	610	333	147	22	22	0	17	39
3	JP-3	1990	460	199	141	21	**21	0	7	27
4	JADD	1989	310	204	144	13	13	1	17	24
	JAJIN	1983	210	57	57	8	8	1	8	10
5	POZA	1991	360	116	78	9	***9	1	10	20
	JABABA	1992	100	43	20	5	****	2	2	5
6	CIUD	1990	420	181	49	14	14	0	0	17
7	LOJAPRO	1991	450	104	63	13	13	0	0	n.a.
8	CAMP	1990	390	253	222	24	23	1	27	n.a.
9	BAMAPA	1984	240	77	71	8	****8	2	10	15
	MACAPA	1991	340	90	47	8	8	0	2	2
10	CANRONCA	1992	640	177	118	11	11	2	7	13
11	PAGCAPUNO	1991	640	132	42	13	13	3	8	13
	SMEWBAT-1	1983	1,950	1,378	866	71	71	7	63	81
	JEBADA	1983	410	297	200	14	14	0	7	13
	AGDABASICA	1990	370	207	128	17	17	3	13	22
	SMEWBAT-2	1980	440	330	221	16	16	1	19	25
	SMEWBAT-3	1991	290	183	117	11	11	0	10	23
Total			7,850	3,785	2,315	275	271	21	195	286

Notes: BOD - Board of Directors

TSAG - Turnout Service Area Group

SEC - Securities and Exchange Commission

\* represents the total number of IA members, BOD members and TSAGs for SMEWBAT.

\*\* original number of TSAGs is 24 for JP-3.

\*\*\* original number of TSAGs is 14 and 4 for POZA and JABABA.

\*\*\*\* original number of TSAGs is 10 for BAMAPA.

Sources: Data on year registered with SEC, total number of farmers and registered IA members, and number of TSAGs derived/verified from NIA-JSRIS.

Data on number of BOD members, and women members derived from consultation meeting with 20 IA officers.

Table F.2.4 Three Most Serious Constraints/Problems to IA Development

RIS division	IA name	Lack of financial resources	Lack of cooperation among farmers	Weak leadership/managerial skills	Lack of technical know-how on farming	Low seed quality	Absence of post-harvest facilities	Insufficient irrigation water supply	Poor road condition	Low price of produce in market	Absence/lack of extension services	Others
Jajar, proper												
1	SISADA	3						2		1		
2	BAIPZAT	3						1		2		
3	JP-2							1		3		
4	JP-3				2			1		3		
	JADU		2					1			(*)	
	J-JIN							1			(**)	
5	HOLZA	1	2									
	JABAFI	1	2									
6	CIDD							1	3	2		
7	LOIAPRO	2	3					1				
8	CAMP	2						1				
9	BAMAIYA	2						1				
	MACAPA	2	3					1				
10	CANKONGA				3			1	2	2	(***)	
	PAGCAPUSO	2						1				
SUBSIV												
1	SMEWBAT-1	1						2		3		
	JEBADA							2	1	3		
2	AGDABANICA	1						2			(****)	
	SMEWBAT-2							2				
3	SUAGUE-3	1						2				
	DIV. 4 SUAGUE	3	1					2				
4	SMEWBAT-3							2				
Overall rank		2						1		2		

Notes: (\*) Poor implementation of water delivery schedule

(\*\*) Lack of education of farmers and farm machineries (power tiller, harvester, thresher)

(\*\*\*) Lack of development facilitators

(\*\*\*\*) Laziness of farmers

Data derived from consultation meeting with 20 IA officers.



**Table F.2.5 Present Financial Position of the IAs**

RIS division	IA name	Amount (pesos)	Source				
			Type I contract	Type II contract	Membership fee	Annual due	Other
<b>Total proper</b>		28,179	5		2		
1	SISADA BAPZAT	0 0					
2	JP-2	2,000	X		X		
3	JP-3	0					
4	JADD J-JIN	0 8,000	X				
5	POZA IABAFIA	0 0					
6	CIDD	0					
7	LOJAPRO	0					
8	CAMP	11,900	X				
9	BAMAPA MACAPA	279 6,000	X X		X		
10	CANROSCA	0					
11	PAGCAPUSO	0					
<b>Suague</b>		30,000	4		2		
1	SMEWBAT-1 JFBADA	10,700 2,500	X X				
2	AGDABASICA SMEWBAT -2	16,000	X		X		
3	SUAGUE 3	0					
4	DIV. 4 SUAGUE SMEWBAT-3	800	X		X		
<b>Total</b>		<b>58,179</b>	<b>9</b>		<b>4</b>		

Note: Data derived from consultation meeting with 20 IA officers

**Table F.2.6 Organizational Status of Existing Farmers' Cooperatives in the Project Area**

RIS division	IA name	No. of cooperatives	Average age (years)	Services provided to members	% of IA members in the cooperatives	Remarks
Iloilo province	SINADA	7				
	BAPZAT	1	9	crop loan	41	Inactive due to low repayment rate of loan by members; with outstanding loan accounts with LBP
	JP-2					
	IP-3	3	7	crop loan	61	Papa and Tunkon Island MPCs are reported to be active and functional
	JABD					
	UJIN	1	7	crop loan	33	IA officers have little knowledge about the financial status of Naga MPC
	POPA	1	6	crop loan, pre- & post-harvest facilities	54	Bangco MPC has 60% loan repayment rate and only about P3000 pesos outstanding account with LBP
	TABABA					
	UJDD					
	LOJAPRO					
	CAMP					
Sagay	BAMAPA					
	MACAPA	1	5	crop loan	50	Cayo MPC has been inactive since 1995 due to its unpaid loan with LBP
	CANROSCA					
	PAGCAPUSO					
		8				
	SMEWBAT-1					
	TEBADA	3	5	crop loan	30-40	Baling MPC has a high repayment rate of 70% and is ranked in the top 20 MPCs in the country
	AGDABASICA					
	SMEWBAT-2					
	SUAGUE-3	5	5	crop loan, consumer store, hand to stock, thresher	40-90	Although all MPCs have been reported to be inactive, Guinawas and Pola MPCs are reported to be still providing crop loan to members
	DIV. 4 SUAGUE					
SMEWBAT-3						
<b>Total</b>		<b>15</b>	<b>6</b>			

Notes: Data derived from consultation meeting with 20 IA officers

LBP - Land Bank of the Philippines

MPC - Multi-purpose cooperative

**Table F.2.7 Types of Existing IA O&M Contracts with NIA**

RIS division	IA name	Type I contract					Type II contract		
		IA with contract	Canal section	Length of canal (km)	Monthly remuneration (pesos)	Contract effectivity	IA with contract	Contract effectivity	No. of times to receive incentives
Jalaur pasper		14		83.333	33,187.20				
1	SISADA	x	LC-A	3.258	1,288.00	Oct-90	x	1997	
	BAPZAT	x	MC, LC-C, C1	9.413	3,765.20	May-85			
2	JP-2	x	LC-D1, D2, D2a, E1	9.405	3,616.00	May-91			
3	JP-3	x	LC-F	4.880	1,952.00	Apr-92			
4	JADD	x	LC-H	3.654	1,465.60	Jan-85			
	J-JIN	x	LC-G1, G2	4.220	1,688.00	Oct-90			
5	POZA	x	LC-G	3.785	1,514.00	Oct-92			
	JABAF A						x	1997	
6	CIDD	x	LC-H, J, K	5.920	2,368.00	Oct-91			
7	LOJAFRO	x	LC-I, I2, I3	6.498	2,592.20	Sep-91			
8	CAMP	x	LC-E, E3	9.183	3,673.20	Nov-90	x	Nov-91	
								1992 wet crop	
9	BAMAPA	x	LC-E5	3.550	1,420.00	Dec-87			
	MACAPA	x	LC-E5a, E5a1	5.270	2,308.00	Sep-91			
10	CANROSCA	x	LC-E4, E4a	5.000	2,000.00	Jul-92			
11	PAGCAFUSO	x	LC-E4, E4b	8.825	3,530.00	Apr-92			
Suague		5		32.866	13,146.00		1		
1	SMEWBAT-1	x	MC, LC-A, B, B1	7.735	3,094.00	Jun-89	x	1997	
	JFBADA	x	LC-A	4.220	1,688.00	Jun-89			
2	AGDABASICA	x	MC, LC-B1	6.271	2,508.00	Sep-90			
	SMEWBAT-2								
3	SUAGUE 3	x	LC-B2, B3, B3a	9.052	3,620.80	Sep-90			
4	DIV. 4 SUAGUE	x	LC-B5, B	5.588	2,235.20	Nov-92			
	SMEWBAT-3								
Total		12		116.192	46,333.20		4		

Notes: Data derived from consultation meeting with 20 IA officers, and verified with NIA-JSRIS office.

Type I contract - canal maintenance

Type II contract - system operation and ISF collection

MC - main canal

LC - lateral canal

**Table F.2.8 Implementation Schemes for Type I Contract by the IAs**

RIS division	IA name	Implementation scheme for Type I contract		
		IA only	Hired labor only	Both IA and hired labor
<b>Labour project</b>		<b>5</b>	<b>2</b>	<b>7</b>
1	SISADA BAFZAT			x x
2	JP-2	x		
3	JP-3			x
4	JADD J-JIN		x	x
5	POZA JABAFI			x
6	CIDD			x
7	LOJAFRO	x		
8	CAMP	x		
9	BAMAPA MACAPA	x		x
10	CANROSCA	x		
11	PAGCAFUSO		x	
<b>Suague</b>		<b>0</b>	<b>1</b>	<b>1</b>
1	SMEWBAT-1 IFBADA		x	x
2	AGDABASICA SMEWBAT-2			x
3	SUAGUE 3			x
4	DIV. 4 SUAGUE SMEWBAT-3			x
<b>Total</b>		<b>5</b>	<b>3</b>	<b>11</b>

Notes: Data derived from consultation meeting with 20 IA officers

**Table F.2.9 Acceptance of Authorized Cropping Calendar by the IAs**

RIS division	IA name	IA response		Most important reason for non-acceptance of cropping calendar			
		Yes	No	Financial problem for preparation of paddy	Insufficient water for preparation of paddy	Expected high benefits of advance planting	Others
<b>Jalaur proper</b>		6	11	1	10		
1	SISADA BAPZAI	w/d w/d					
2	IP-2		w/d		x		
3	IP-3		w/d		x		defective facilities
4	JADD J-JIN		w/d w/d		x x		
5	POZA JABAPA	w w/d	d		x (d)		
6	CIDD		w/d		x		
7	LOJAPRO		w/d		x		
8	CAMP	w	d		x (d)		
9	BAMAPA MACAPA		w/d w/d	x			
10	CANROSCA	w/d					
11	PAGCAPUSO		w/d		x		
<b>Suaguc</b>		0	5	3	2		
1	SMEWBAT-1 JEBADA		w/d w/d	x	x		delayed water delivery
2	AGDABASICA SMEWBAT-2		w/d	x			
3	SUAGUE 3		w/d	x			
4	DIV. 4 SUAGUE SMEWBAT-3		w/d		x		
<b>Total</b>		6	16	4	12		

Notes: Data derived from consultation meeting with 20 IA officers.

w - wet cropping

d - dry cropping

Table F.2.10 Two Most Important Reasons for Non-Payment of ISF by the IAs Last Year (1996)

RIS division	IA name	Financial need to pay for education of children	Financial need to pay credit from traders	ISF not collected by NIA strictly	Crop failure due to flood and pests/diseases	Insufficient budget for next crop	Low production due to insufficient water received	Low production due to delayed delivery of water
<i>Julait pas-pet</i>								
1	SISADA BAFZAT	2	1	1	2			
2	IP-2	2					1	
3	IP-3				1		2	2
4	IADD IJIN						2	1
5	POZA JABAEA	2					1	2
6	CIDD				2		1	
7	LOTATRO	2					1	
8	CAMP						1	
9	BANAPA MACAPA						1	2
10	CANROSCA				2		1	1
11	PAGCAPUSO				1		2	1
<i>Suaguc</i>								
1	SMEWBAT-1 JEBADA	2	1	1				
2	AGDABASICA SMEWBAT-2	2				2	1	
3	SUAGUE 3				1			
4	DIV. 4 SUAGUE SMEWBAT-3				2		1	
<i>Overall rank</i>					2		1	2

Notes: Data derived from consultation meeting with 20 IA officers.

**Table F.2.11 Willingness and Preparedness of the IAs for Type II and III Contracts**

FIS division	IA name	Type II contract				IA requirement to be prepared for contract	Type III contract					
		IA willingness		IA preparedness			IA willingness		IA preparedness		IA requirement to be prepared for contract	
		Yes	No	Yes	No		Yes	No	Yes	No		
<b>Major Project</b>		10	2	1	11			3	0	0	3	
1	SISADA							x			x	1, 2, 3
	BAPZAT	x		x		(*)		x			x	1
2	IP-2	x			x	1, 3						(*)
3	IP-3	x			x	1, 3						(*)
4	IADD		x									(*)
	IJIN	x			x	1, 3 (*)						(*)
5	POZA	x			x	1 (*)						(*)
	JABAYA											(*)
6	CIDJ		x		x	(*)						
7	LOJAFRO	x			x	1, 2, 3 (*)						
8	CAMP							x			x	1
9	BAMAPA	x			x	1 (**)						
	MACAPA	x			x	1 (*)						
10	CANKROSCA	x			x							
11	PAGCAYUSO	x			x	1						
		3	1	1	3	1, 3 (*)	1	0	0	1		1, 3 (*)
<b>Suagoe</b>												
1	SMEWBAT-1							x			x	1, 3 (*)
	JEBADA	x			x	1 (*)						
2	AGDABASICA		x		x	(*)						
	SMEWBAT-2											
3	SUAGUE-3	x		x								
4	DIV. 4 SUAGUE	x			x	1 (*)						
	SMEWBAT-3											
<b>Total</b>		13	3	2	14		4	0	0	4		

Notes: Data derived from consultation meeting with 20 IA officers

(\*) IA requires the irrigation/drainage canals and facilities to be rehabilitated and improved prior to contracting.

(\*\*) IA requires the WRF Technician/Teacher to perform regular and systematic supervision of system operation.

For requirement of the IAs to develop their capabilities for contract execution: 1 - Training, 2 - Technical assistance, 3 - Information dissemination.

Table F.2.12 Three Most Important Development Needs of the IAs

RIS division	IA name	Sufficient irrigation water supply	Flood control facilities	Drainage facilities	Post-harvest facilities, specify	Vehicles for farm inputs and product marketing	Price and market information	Farm-to-market roads	Electricity supply	Communication facilities	Credit	Education/extension/training for farmers
Jakarta Prov												
1	SINADA	2									1	3
	BAIZAT	1						3			2	
2	JP-2	1									2	3
3	JP-3	1									2	3
4	JADD	1									2	3
	J-JIN	1									2	3
5	JOZA	1									2	3
	JABAFI	1									2	3
6	CIDD	1									2	
7	LOJAPRO	1									2	
8	CAMP	1									2	
9	BAMAPA	1									2	
	MACAPA	3									1	2
10	CANOSCA	1						2			2	
11	PAGCAPUSO	1									2	3
Suagui												
1	SMEWBAT-1				1 (*)	3					2	
	JERAD A	1						2			2	3
2	AGDABASICA	1									2	3
	SMEWBAT-2										2	
3	SUAGUE 3	1									2	
4	DIV. 4 SUAGUE	1						2			2	3 (**)
	SMEWBAT-3										2	
Overall rank		1						1			2	2

Notes: Data derived from consultation meeting with 20 IA officers.

(\*) Mechanical dryer, warehouse and rice mill.

(\*\*) Better water management services from N/A.



Table F.3.1 Training Plan for Institutional Strengthening and Cooperative Development

Development Stage	Description	Year																				
		1	2	3	4	5	6	7	8	9	10											
Preconstruction Phase	Recruitment and dispatch of consultants (4 M/M)*1																					
	Recruitment and site assignment of a NGO																					
	Detailed design																					
	Renovation of NIA Regional Training Center																					
	Establishment of IA office																					
	Procurement of training equipment and materials																					
	Establishment of Project Steering Committee and Project Technical Committee																					
	Establishment of the IATSAAG committees																					
	Formation of education classes in each IA																					
	Construction / rehabilitation of facilities																					
Training Program	1. Institutional Strengthening																					
	1.1 Basic course on community organizing																					
	1.2 Organizational development and management																					
	1.3 Participatory planning and decision making process/method																					
	1.4 Information dissemination materials writing																					
	1.5 Extension establishment and networking																					
	1.6 Record system management																					
	1.7 Management of continuing membership education program																					
	1.8 Benefit/progress monitoring and evaluation																					
	2. Cooperative Development and Management																					
2.1 Pre-membership education seminar																						
2.2 Cooperative organization and management																						
2.3 Credit borrowing/structuring and management																						
2.4 Capital build up and expansion																						
2.5 Financial management (accounting and control)																						
2.6 Managing business linkage (buying and selling)																						
3. Post-Harvest Processing and Marketing																						
3.1 Planning and management of integrated post-harvest processing																						
Method of collection and hauling																						
Trucking, drying and warehousing arrangements																						
Task definition and monitoring procedure																						
3.2 Agricultural marketing																						
Price and market monitoring/information																						
Group buying and selling																						
Bulk buying of farm inputs																						
3.3 Operation and management of post-harvest facilities *4																						
Technical Assistance																						
1. Facilitation in group planning workshops, seminars, etc.																						
2. Proceedings documentation for dissemination to IATSAAG																						
3. Regular technical advice																						

Notes: \*1. Two consultants: (1) Institutional Strengthening, IS (46 M/M) and Credit and Enterprise Development, CED (36 M/M)  
 \*2. NIA Regional Training Center, Polotan  
 \*3. Field refers to the IA coverage areas in the Jalaur proper and Saugue RIS  
 \*4. Consistent on the technical and financial capacity of the farmers' cooperatives to buy and manage its own facilities.  
 \*5. MAOs, cooperative development officers (CDOs) will also act as trainers after attending the proper training from the consultant and NGOs.  
 \*6. A group of big paddy rice traders in Ilkko province.  
 \*7. IA will take the lead role for the continuous education program of its members in the sustainability period.

Table F.3.2 Training Plan for Water Management and O&M Practice, and ISF Collection

Description	Trainee	Trainer	*1 N/A Training Center	*2 Field and Office (OJT)	Project Implementation Year														
					1	2	3	4	5	6	7	8	9	10					
Detailed Design Construction of Project Facilities O&M Manual - Preparation of Draft O&M Manual by consultant (O&M Expert : 6 M/M) - Review and Finalization of O&M Manual by consultant (O&M Expert) through the actual activities. Acquisition and Implementation of Irrigation facilities / Installation of Measuring Devices Rehabilitation of N/A Regional Training Center Establishment of Computerized System Procurement of Equipment and Instrument for the Training	Hydrologist (N/A) Irrigation Engineer (N/A) Operation Engineer (N/A)	Consultant *3 (Irrigation Engineer : 60 M/M)	0	0															
	Irrigation Engineer (N/A) Operation Engineer (N/A) Agricultural (N/A) M.A.O. Municipality	Consultant *3 (Irrigation Engineer : 60 M/M)	0	0															
	Operation Engineer (N/A) Irrigation Engineer (N/A) Operation Engineer (N/A)	Consultant *3 (Irrigation Engineer : 60 M/M)	0	0															
	Hydrologist (N/A) Irrigation Engineer (N/A) Agricultural (N/A) Operation Engineer (N/A)	Consultant *3 (Irrigation Engineer : 60 M/M)	0	0															
	Operation Engineer (N/A) WRF Technician (N/A) WRF Operator (N/A) IA	Consultant *3 (O&M Expert : 60 M/M) Operation Engineer (N/A) *4	0	0															
O&M Practice *5 (1) Operation Work - Operation of Water Control Structures / Measuring Water Discharge (Inlets gate, Sluice gate, Head gate, Check and Turnout)	Operation Engineer (N/A) WRF Technician (N/A) WRF Operator (N/A) IA	Consultant *3 (O&M Expert : 60 M/M) Operation Engineer (N/A) *4	0	0															
	Maintenance Work - Maintenance of Water Control Structures - Desilting (Canals, Diversion Dam, Settling Basin) - Other Maintenance (Service Road, Other Facilities)	Consultant (O&M Expert : 60 M/M) Maintenance Engineer (N/A) *4	0	0															
ISF Collection *5 (1) Collection and Billing Receipt (Database Management) (2) Collection Practice	Billing Clerk (N/A) Custodian (N/A & IA) Cashier (N/A) IDO (N/A) Billing Clerk (N/A) Custodian (N/A & IA) Cashier (N/A) IDO (N/A)	Consultant (O&M Expert : 60 M/M) Maintenance Engineer (N/A) *4	0	0															
	Billing Clerk (N/A) Custodian (N/A & IA) Cashier (N/A) IDO (N/A)	Consultant (O&M Expert : 60 M/M)	0	0															
	Billing Clerk (N/A) Cashier (N/A)	Consultant (O&M Expert : 60 M/M)	0	0															

Notes : \*1 N/A regional training center, Pakistan  
 \*2 Field : Actual field (darker proper RIS and Sluice RIS), Office : JSRIS Office  
 \*3 Consultant assigned for technical assistance in the Project  
 \*4 Operation and Maintenance Engineer will be also a trainer for WRF Technicians, Tender & Operator and IA O&M staff after training by consultant.  
 \*5 Frequency of training : 1 day a week for the Water Management ; 5 days a week for the O&M practice and ISF collection

Table F.3.3 Training Plan for Agriculture Development

Project Implementation	Period I (Design & Tender Administration)	Period II (Construction)	Period III (Sustainability)	Year											
				1	2	3	4	5	6	7	8	9	10		
Training for Agricultural Sector	(1) Development and build-up stage for activation of extension services														
	(2) Self-empowerment stage														
Consultant	Preparation of Training and Monitoring/Evaluation Manual														
	Staff and Farmers Training														
Training Program	Monitoring/Evaluation														
	Assignment Period of Consultants (Agricultural Expert)														
1 Farming Technology	Paddy rice Crop diversification Land preparation Seed treatment/Seedling Fertilization Pest/disease control Weed control Snail and Rat control Farm mechanization Organic farming Post-harvest Monitoring/Evaluation	Trainer (number of trainee)	Method/Process	Location											
				Training center	Field	1	2	3	4	5	6	7	8	9	10
2 Extension Activity	Group organizing Leadership Pamphlets Preparing	Specialists of DAPPAO and research. Consultant(s)	Seminar, Workshop, Research farm, Techno-demo farm	○											
					Specialists of DAPPAO and research. Consultant(s)	○									
3 Seed Production	Technical service Seed inspection Seed distribution	ATs of MAO (80) Agriculturals of NGO and NIA Contact Farmers (300) Ordinary farmers (6,400)	Specialists of DAPPAO and research. Consultant(s)	Techno-demo farm Field school Field tour Group discussion	○										
						ATs of MAO Consultant(s)	○								
3 Seed Production	Technical service Seed inspection Seed distribution	ATs of MAO (80) Contact Farmers (300)	Specialists of DAPPAO and research. Consultant(s)	Seminar, Workshop	○										
						ATs of MAO Consultant(s)	○								
3 Seed Production	Technical service Seed inspection Seed distribution	ATs of MAO (30) Seed Grower (80)	Specialists of DAPPAO and research. Consultant(s)	Seminar, Workshop, Research farm, Techno-demo farm	○										
						ATs of MAO Consultant(s)	○								

**Table F.3.4 Proposed Equipment and Facilities for Training, Communication and Transportation**

Description	Number	Description	Number
<b>I. Strengthening of NIA</b>		<b>II. Strengthening of the IAs</b>	
<b>A. Training and Communication Equipment</b>		<b>A. Office Equipment</b>	
1. Overhead Projector	1	1. Working table (long), 2 for each IA	40
- Screen with tripod	1	2. Working chairs (20/IA)	400
- Transparency maker	1	3. Steel cabinet	20
- TP marking kit	1	4. Wooden blackboard	20
2. Slide Projector with Screen	1	<b>B. Communication Equipment</b>	
3. Audio Set with Power Amplifier	1	1. Portable Hand-Held Radio Transceiver	20
- Speaker	1	<b>III. Upgrading of MAO Agricultural Extension Services</b>	
- Tripod	1	<b>A. Communication Equipment</b>	
- Audio rack	1	1. Karaoke	15
4. Cassette Deck	1	2. White Board with Pens	14
- Dynamic microphone	1	3. Camera Set	7
- Microphone stand (Floor)	2	<b>B. Transport Facility</b>	
- Microphone stand (Table)	2	1. Motorcycles	35
- Connecting cables	1 roll	<b>C. Techno-Demo Farms</b>	
5. Video Camera with Recorder	1	1. Moisture meter	15
- VTR	1	2. Soil test kit	20
- Color monitor	1	3. Input supply, ha	360
- TV/VTR rack	2		
- Cables	1 roll		
6. Camera and Accessories	2 sets		
- Camera case			
- Standard, macro, wide and zoom lens			
- Close-up lens			
- Filter			
- Speed and macro speed light			
- Tripod with case			
- Carrying case			
- Exposure meter			
- Battery for camera			
- Battery for exposure/speed light			
7. Electric Mimeographing Machine	1		
8. Stencil Scanning Machine	1		
9. Bookbinding machine	1		
10. Xerox Copier	1		
11. Electric Fan	4		
12. Portable Hand-Held Radio Transceiver	21		
13. Computer Set with Accessories	2		
14. Steel Cabinet	4		
<b>B. Furnitures and Fixtures</b>			
1. Table (Training Center/JSRIS office)	10		
2. Chair (Training Center/JSRIS office)	40		
3. Air Conditioner			
- Package type	1		
- Window/wall type	3		
<b>C. Transport Facilities</b>			
1. Mini Bus (Training Center)	1		
2. Pick Up (O&M Staff and IDOs)	3		
3. Motorcycles (O&M Staff)	41		

Table F.4.1 Proposed Implementation Schedule

Components and Activities	Year									
	1	2	3	4	5	6	7	8	9	10
	Period I (Pre-construction)		Period II (Construction)			Period III (Sustainability)				
<b>INSTITUTIONAL DEVELOPMENT OF THE IAs</b>										
<b>&lt; PHASE 1 - Preparatory phase &gt;</b>										
1. Institutional strengthening of the IAs										
1.1 Activation of the IACTSAG committees										
1.2 Development of continuing education program										
1.3 Organization of IA working groups for national O&M activities (Types I & II contracts)										
1.4 Development of records management system										
1.5 Construction and management of IA office										
1.6 Clarification of IA boundary area and administrative responsibility										
2. Rehabilitation of Farmers' Cooperatives										
2.1 Loan restructuring										
2.2 Institutional strengthening										
2.3 Expanded credit lending										
2.4 Group buying and selling of poultry										
2.5 Establishment of business tie-ups for post-harvest facilities*										
3. Development of Women Services Cooperatives										
3.1 Membership education										
3.2 Credit lending for bulk buying of farm inputs and group buying and selling of poultry										
<b>&lt; PHASE 2 - Implementation and sustainability phase &gt;</b>										
1. Partial System Management										
1.1 Training and education of IA officers and members (commenced) *1										
1.2 Drafting of MOA between IA and NIA										
1.3 Signing of MOA										
1.4 Implementation of partial system management *2										
2. Evaluation of the IAs										
<b>INSTITUTIONAL DEVELOPMENT OF THE NIA</b>										
<b>&lt; PHASE 1 &amp; 2 &gt;</b>										
1. NIA-JSRIS Staff Training										
1.1 Region VI & JSRIS TDO personnel										
1.2 Region VI & JSRIS support personnel										
1.3 JSRIS O&M personnel										
2. Reorganization of NIA Regional Training Center, Palawan										
3. Computerization of database management (NIA-JSRIS Office)										
4. Improvement of Communication and Transport System (NIA-JSRIS Office)										
5. Technical Assistance										
<b>STRENGTHENING OF MUNICIPAL AGRICULTURAL OFFICES (MAO)</b>										
<b>&lt; PHASE 1 &amp; 2 &gt;</b>										
1. This activity will be continued by the IAs under the continuing education program development.										
2. Prior to the partial system management, the IAs will implement Type I & II contracts as discussed in Annex E.										
3. Procurement of needed post-harvest facilities will be considered by the cooperatives in the Phase II.										
4. Leading organizations for the implementation.										

Notes: \*1 This activity will be continued by the IAs under the continuing education program development.  
 \*2 Prior to the partial system management, the IAs will implement Type I & II contracts as discussed in Annex E.  
 \*3 Procurement of needed post-harvest facilities will be considered by the cooperatives in the Phase II.  
 \*4 Leading organizations for the implementation.

Table F.4.2 Proposed Implementation Cost (1/2)

Items	Unit	Quantity	Unit Cost (pesos)			Year			Total (pesos)
			1	2	3	4	5		
1. NIA Training Center and IA Office									
1.1 Renovation of NIA Regional Training Center, Petacan	m <sup>2</sup>	730	2,500	1,825,000					1,825,000
1.2 Construction of IA Office 70 m <sup>2</sup> x 20 IAs	m <sup>2</sup>	1,400	5,000	7,000,000					7,000,000
2. Procurement of Equipment/Furnitures									
2.1 Training and communication									
a) NIA	L.S.		995,000	995,000					995,000
b) IA	L.S.		210,000	210,000					210,000
c) MAO	L.S.		575,000	575,000					575,000
2.2 Office equipment & furnitures									
a) NIA	L.S.		200,000	200,000					200,000
b) IA	L.S.		310,000	310,000					310,000
2.3 Transport facilities									
a) NIA	L.S.		7,580,000	7,580,000					7,580,000
b) MAO	L.S.		2,800,000	2,800,000					2,800,000
2.4 Techno-demo farms									
a) IA	L.S.		264,000	264,000	528,000		528,000		2,980,000
3. Training*1									
3.1 Training of IDOs/Region VI-IDD staff & MAO staff	trainee-days*2	1,640	50	18,000	18,000		7,500		61,500
3.2 Training of IAT/SC Officers & Members	trainee-days*3	438,780	50	2,042,500	2,042,500		2,971,500		12,999,500
3.3 Training of Farmers' Cooperatives	trainee-days*2	5,400	50	101,150	101,150				202,300
3.4 Training of Women Service Cooperatives	trainee-days*2	2,160	50	40,500	40,500				81,000
4. Technical Assistance									
4.1 Consultants	man-months	174	120,000	4,800,000	4,800,000		3,840,000		20,880,000
4.2 Engineering Services	man-months	90	670,000	12,730,000	13,400,000		10,720,000		60,300,000
4.2 NGOs*4	man-months	1,440	10,000*5	2,880,000	2,880,000		7,880,000		14,400,000
5. IADF			8,200,000						8,200,000
<b>Total</b>			<b>52,331,150</b>	<b>23,810,150</b>	<b>24,407,500</b>	<b>20,947,000</b>	<b>19,499,500</b>		<b>141,599,300</b>

Notes: \*1 Cost required for training materials

\*2 25% of the training devoted to on-the-job/field application of skills acquired from classroom training; no cost for on-the-job training

\*3 25% of the officers' training devoted to on-the-job/field application and 50% of the members' training; no cost for on-the-job training

\*4 Each of the four NGOs to be contracted by the project will assign 4 community organizers and 2 cooperative development officers.

\*5 Includes monthly salary and daily subsistence allowance in the project area.

**Table F.4.2 Proposed Implementation Cost (2/2)**  
**- Cost of Equipment and Facilities -**

Items	Quantity	Unit Price (pesos)	Total Price (pesos)
<b>1. Institutional Development of NIA</b>			
<b>1.1 Training &amp; Communication Equipment</b>			
Overhead projector with accessories	1 set	50,000	50,000
Slide projector with screen	1 set	45,000	45,000
Audio set with amplifier, speaker, etc.	1 set	30,000	30,000
Cassette deck, microphone, etc.	1 L.S.	9,900	9,900
Video camera with recorder and rack	1 L.S.	90,000	90,000
Camera and accessories	2 sets	50,000	100,000
Electric mimeographing machine	1 pc.	50,000	50,000
Stencil scanning machine	1 pc.	50,000	50,000
Bookbinding machine	1 pc.	30,000	30,000
Xerox copier	1 set	135,000	135,000
Electric fan	4 pc.	1,500	6,000
Portable hand-held radio transceiver	21 pc.	10,500	220,500
Computer set with accessories	2 sets	80,000	160,000
Steel cabinet	4 pc.	4,500	18,000
Sub-total			<u>994,400</u>
<b>1.2 Furnituress and Fixtures</b>			
Table (Training Center/JSRIS office)	10 pc	3,000	30,000
Chair (Training Center/JSRIS office)	40 pc.	500	20,000
Air conditioner			
- Package type	1 pc.	90,000	90,000
- Window/wall type	3 pc.	20,000	60,000
Sub-total			<u>200,000</u>
<b>1.3 Transport Facilities</b>			
Mini bus *1 (Training Center)	1	2,200,000	2,200,000
Pick up vehicle *1 (O&M staff and IDOs)	3	700,000	2,100,000
Motorcycle (O&M staff)	41	80,000	3,280,000
Sub-total			<u>7,580,000</u>
<b>2. Institutional Strengthening of the IAs</b>			
<b>2.1 Office Equipment</b>			
Working table (long), 2 / IA	40 pc.	2,000	80,000
Chair, 20 / IA	400 pc.	300	120,000
Steel cabinet, 1 / IA	20 pc.	4,500	90,000
Wooden balckboard, 1 / IA	20 pc.	1,000	20,000
Sub-total			<u>310,000</u>
<b>2.2 Communication Equipment</b>			
Portable hand-held radio transceiver	20 pc.	10,500	210,000
<b>3. Upgrading of MAO Agricultural Extension Services</b>			
<b>3.1 Communication Equipment</b>			
Portable audio set for field activities (karaoke)	15 set	15,000	225,000
White board with stand and pens	14 pc.	10,000	140,000
Camera set	7 sets	30,000	210,000
Sub-total			<u>575,000</u>
<b>3.2 Transport Facility</b>			
Motorcycle	35	80,000	2,800,000
<b>3.3 Techno-Demo Farm Inputs/Instruments</b>			
Cereal moisture meter	15 pc.	15,795	236,925
Soil test kit	20 pc.	18,252	365,040
Input supplies (seed, fertilizer, agro-chemicals)	1 L.S./ha	6,500	2,376,000
Sub-total			<u>2,977,965</u>
<b>Total *2</b>			<u><b>15,647,365</b></u>

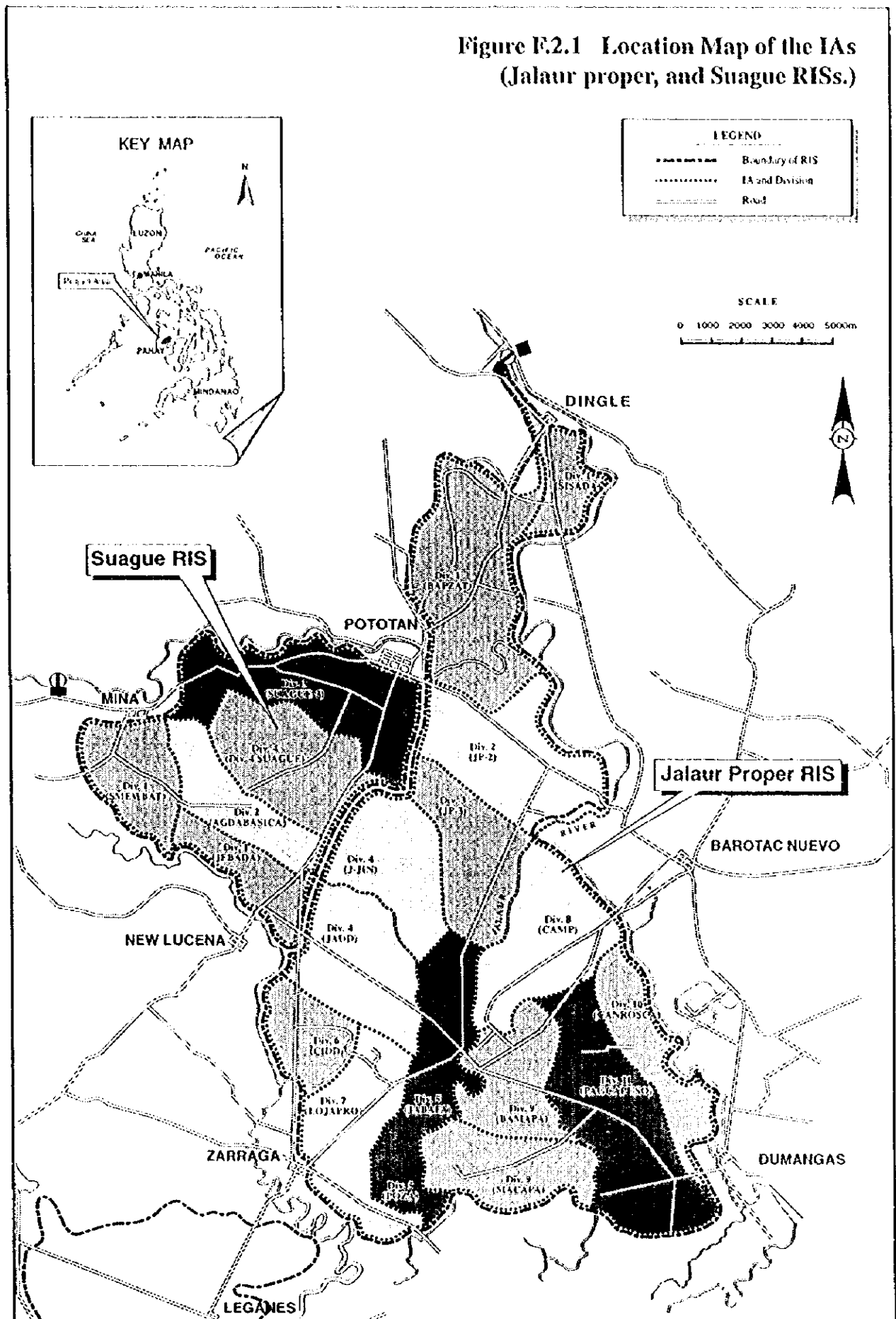
Note: \*1 Including spare parts

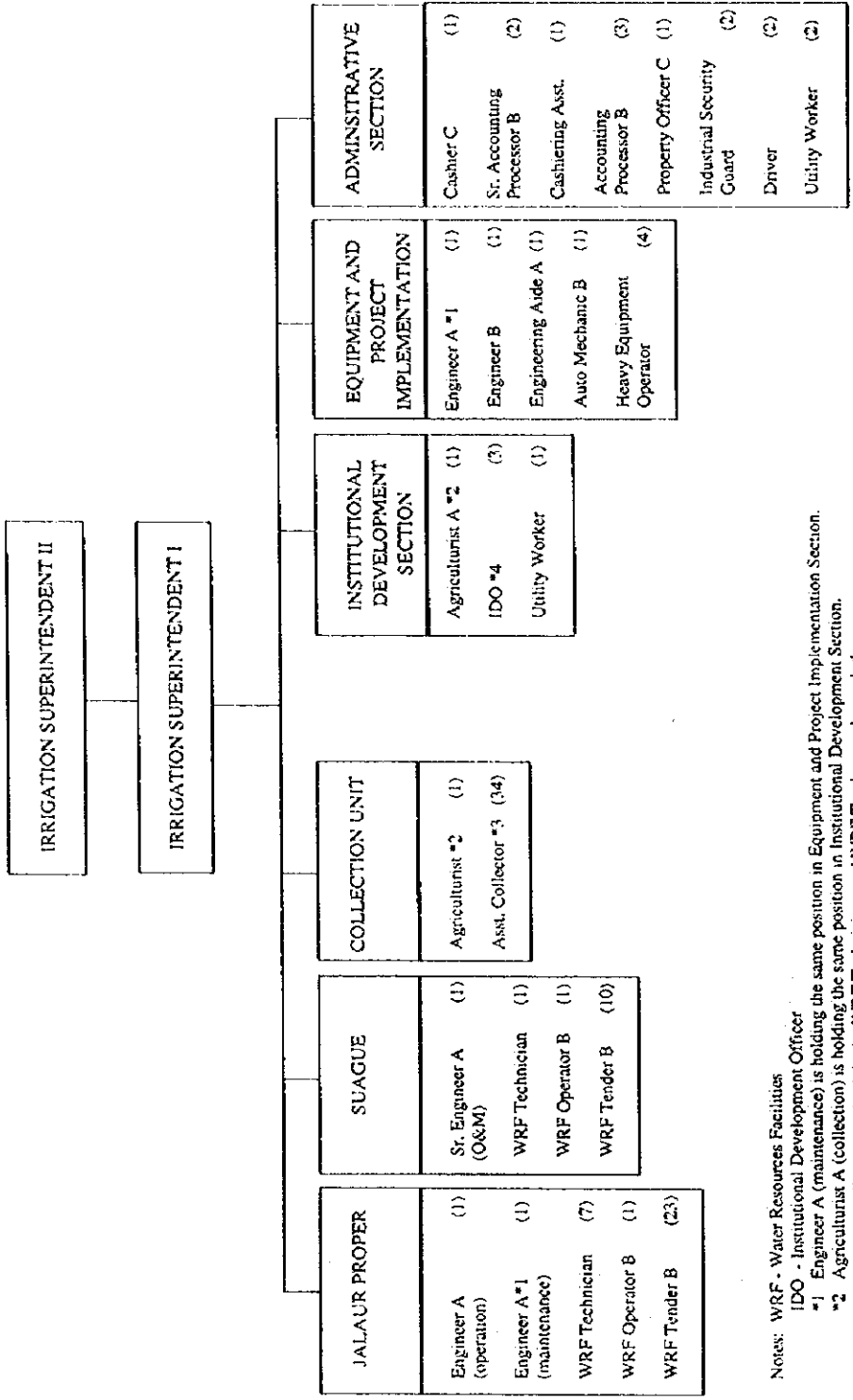
\*2 Total cost rounded to 15,650,000 pesos

## **Figures**



Figure E.2.1 Location Map of the IAs (Jalaur proper, and Suague RISs.)





Notes: WRF - Water Resources Facilities  
 IDO - Institutional Development Officer  
 #1 Engineer A (maintenance) is holding the same position in Equipment and Project Implementation Section.  
 #2 Agriculturist A (collection) is holding the same position in Institutional Development Section.  
 #3 Assistant collectors are mainly the WRF Technicians and WRF Tenders, and one clerk.  
 #4 Two IDOs are assigned in the Jalaour proper RIS and the other IDO is assigned in the Suague RIS.  
 The Utility Worker in the Institutional Development Section is designated as IDO to augment the 2 IDOs in the Jalaour proper RIS.

Figure F.2.2 Present Organization Structure of the JSRIS Office (Office sections and Jalaour proper and Suague O&M units)

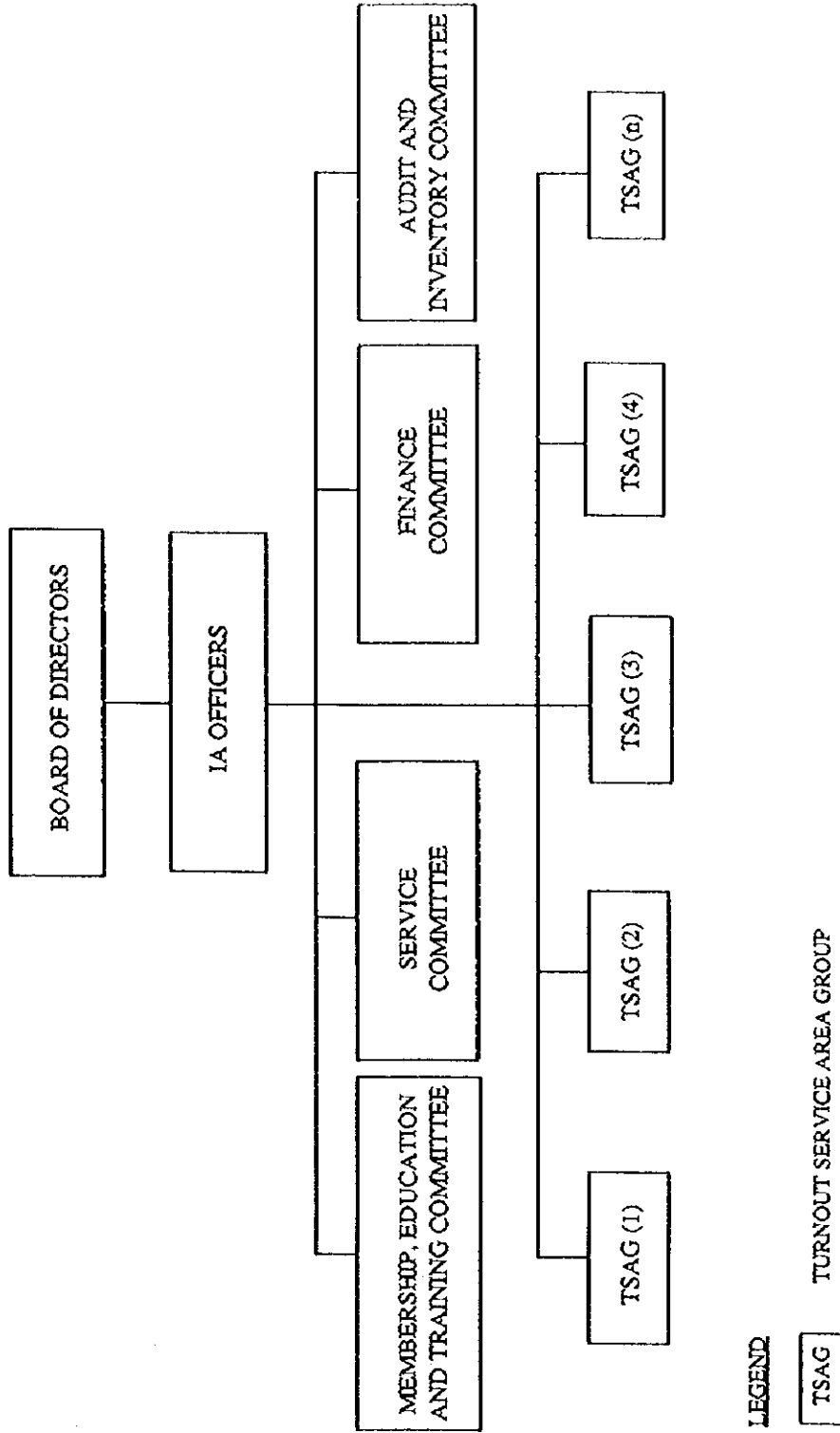


Figure F.2.3 Present Organization Structure of the Irrigators' Associations

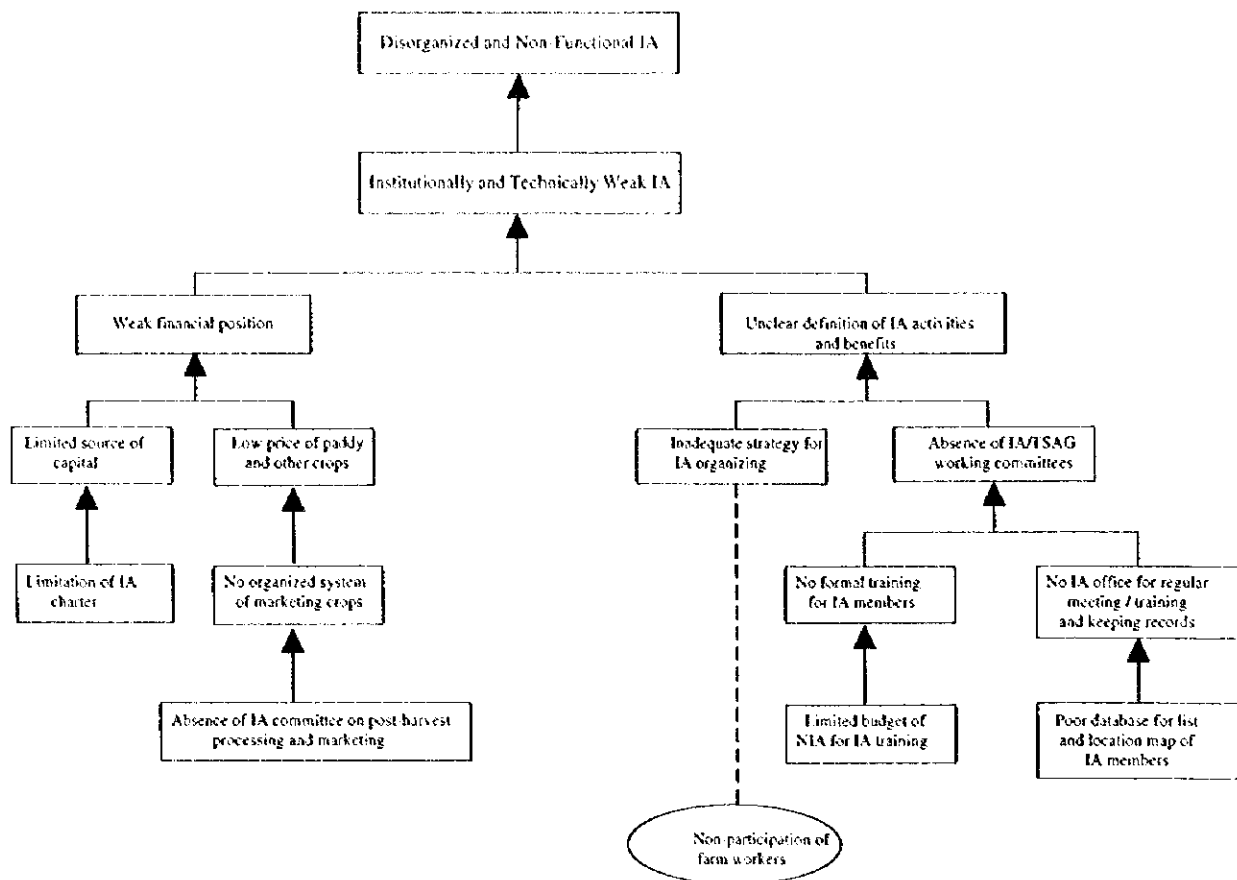


Figure F.2.4 Main Causes of the IA Institutional and Technical Weakness

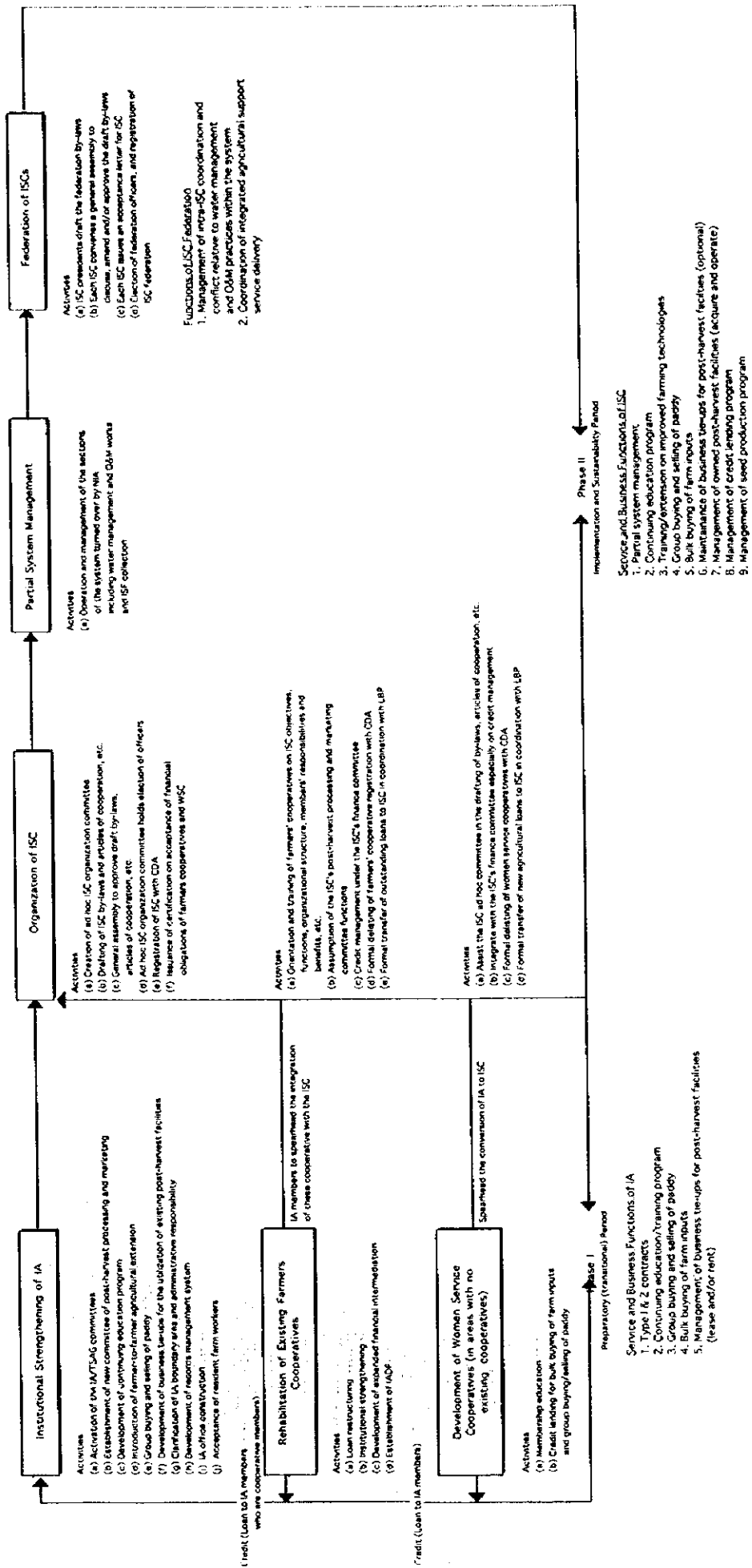
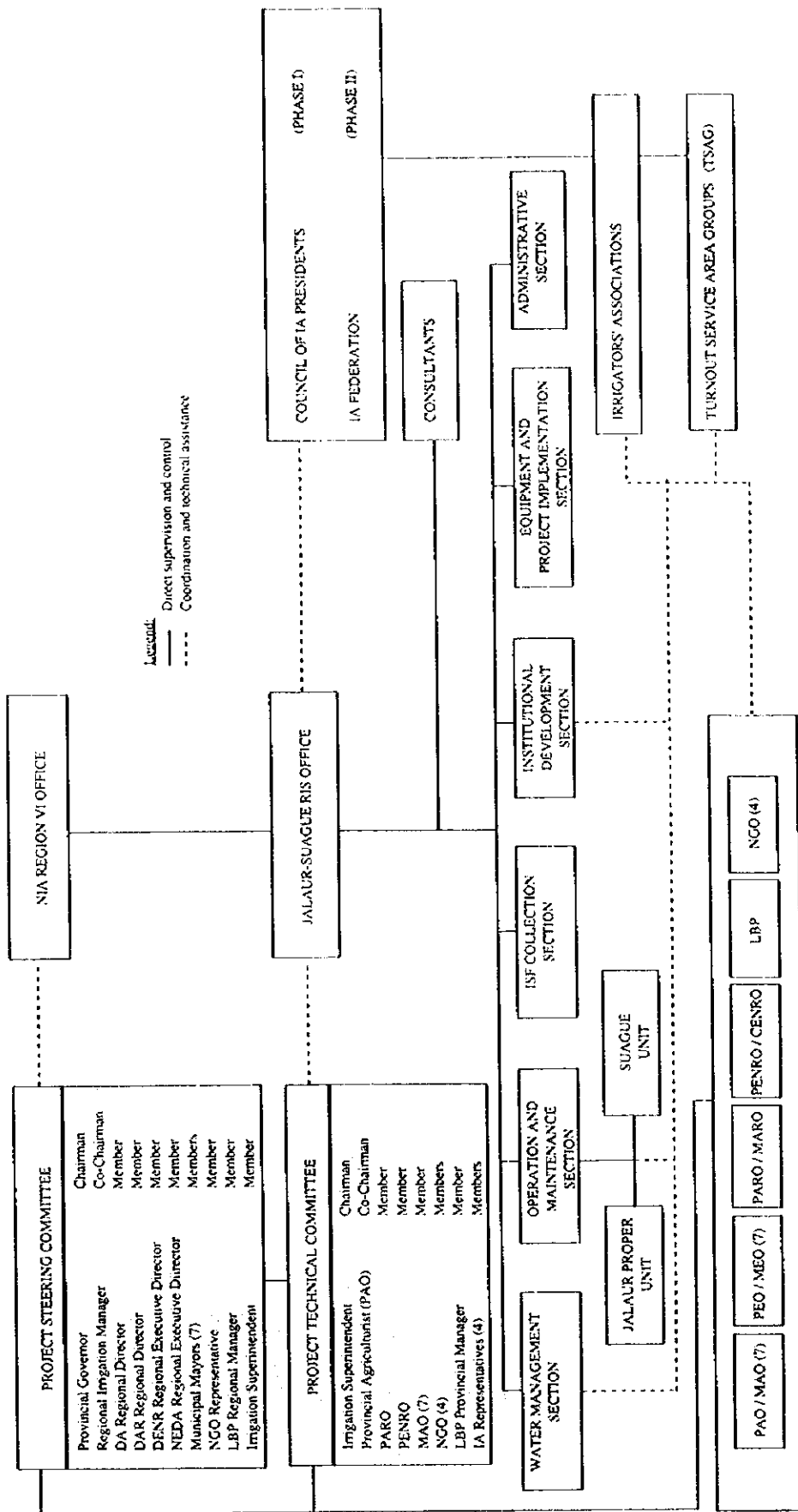


Figure F.3.1. Proposed Institutional Development Plan for the IAs

PROSPECTIVE PLANS	IMPLEMENTING AGENCIES	
	Lead Agencies	Cooperating Agencies
Irrigated Agriculture	Municipal Governments	Provincial Government of Iloilo DA Region VI Office NIA Region VI / JSRIS Office
Rural Infrastructure, Irrigation and Drainage	NIA Region VI / JSRIS Office	Provincial Government of Iloilo Municipal Governments
Water Management and O&M Practices	NIA Region VI / JSRIS Office	Municipal Governments
Institutional Strengthening of the Irrigators' Association*1	NIA Region VI / JSRIS Office Non-Government Organizations	Municipal Governments DAR Region VI Office
Rehabilitation of farmers' cooperatives/ Development of women service cooperatives	Municipal Governments Non-Government Organizations	NIA-JSRIS Office DA-CDA Office Land Bank of the Philippines
Institutional Strengthening of NIA Region VI / JSRIS Office*1	NIA Region VI / JSRIS Office	
Agricultural Support Services	NIA Region VI / JSRIS Office Non-Government Organizations	Municipal Governments DA Region VI / CDA Office Land Bank of the Philippines
Watershed Management	DENR Region VI Office	Municipal Governments NIA Region VI / JSRIS Office

Note: \*1 Contained in the Institutional Development Plan

**Figure F.4.1 Proposed Prospective Plans and Implementing Agencies**



- Notes:
- NIA - National Irrigation Administration
  - DA - Department of Agriculture
  - DAR - Department of Agrarian Reform
  - DENR - Department of Environment and Natural Resources
  - LBP - Land Bank of the Philippines
  - PENRO - Provincial Environment and Natural Resources Office
  - NEDA - National Economic and Development Authority
  - NGO - Non-Government Organization
  - PAO - Provincial Agricultural Office
  - MAO - Municipal Agricultural Office
  - PEO - Provincial Engineer's Office
  - CENRO - Community Environment and Natural Resources Office
  - IA - Irrigator's Association
  - MEO - Municipal Engineer's Office
  - PARO - Provincial Agrarian Reform Office
  - MARO - Municipal Agrarian Reform Office

Figure F.4.2 Proposed Project Organization