APPENDIX K Farmers' Organization

K.1 Present Situation of Farmers' Organization

1) Rationale

The Philippines has many village-based or barangay organizations which were formed and sustained through the years for some purposes. Composed of people belonging to a defined geographic area brought together for a common interest or objective, community organizations were formed to pursue a common goal or to achieve an identified set of objectives. Generally, they were formed by certain government agencies to undertake an activity in a locality. Others rely on these organizations for materials and labor for local projects.

In the early 1970's when a national cooperative movement was launched, farmers as well as fishermen and other rural entrepreneurs were encouraged to form cooperative society, named Samahang Nayon, to pursue economic development initiatives. Samahang Nayon has engaged in administering trade activities, transportation enterprise and other successful businesses like rural banking, marketing and insurance. However, many other cooperative agencies weakened and eventually disintegrated into oblivion. The setbacks suffered by certain cooperative groups could easily be attributed to their undoing and other causes such as; i) lack of understanding of group objective's and the members' roles and responsibilities, ii) lack of activities attractive to member's interest, iii) shortage of funds and iv) inadequate government support in forms of incentives.

2) Irrigator's Association (IA)

According to the NIA's manual on "Participatory Approach", an Irrigator's Association (IA) will be formed eight to nine months before the construction of the proposed irrigation facilities by NIA. Out of 19 CISs, 10 were already formed by IAs in the Study area. One Irrigation Community Organizer (ICO), two Irrigation Organization Workers (IOWs) and one irrigation technician were fielded to support post construction activities of IAs under the NIA's Participatory Approach Program. The IAs are registered to the Security and Exchange Commission (SEC) as a non-stock, non-profit corporation whose main purpose is to utilize irrigation water in optimum (refer to Table K-1-1).

Seven to eleven Board of Directors (BODs) in an IA were elected by vote. The President, Vice President and other managerial officials are selected from among the BOD. Some BOD are receiving salary and some are exempted from payment of association dues, but most of them are contributing to IA management in a voluntary manner. The competence of the managerial officers is usually defined by the regulations and bylaws, although it suggests much differences from the origin.

The IA has several sub-committees, each headed by a sub-committee chairman. These sub-committees are: i) agriculture and irrigation management sub-committee, ii) membership, education and training sub-committee, iii) finance and management sub-committee and iv) audit and inventory control sub-committee. In the Study area, the Vice President of IA automatically becomes the chairman of the membership, education and training sub-committee while the treasurer and auditor of IA are automatically appointed as the chairman of finance and management sub-committee and audit and inventory control sub-committee, respectively.

3) Agricultural Cooperative

In the Study area, a total of 23 agricultural cooperatives were being organized and registered with the Bureau of Agricultural Cooperatives and Development (BACOD). These cooperatives have a total membership of 4,056 or 11% of the farmers in the area.

Most of these cooperatives were newly established since 1988 and they are seeking their proper way, but they are still in the dark due to the lack of technical know-how. One measure of cooperative's effectiveness is its ability to borrow from financial institutions. Among the 23 cooperatives, only 10 are credit-worthy and borrowing from the banks and utilizing it for crop production (refer to Tables K-1-2 to K-1-3).

A notable cooperative movement nearby the Study area is the venture by the People's Livelihood Foundation (PLF) headed by Mr. Bernabe Buscayno who is well known in the country as "Kumander Dante". When PLF started in Capas Municiparity in August 1988, it was composed of 504 farmers-members, six barangays and 1,019 hectares of palay fields. Today, PLF has grown with 2,239 farmer-beneficiaries (for palay production), 43 barangays and about 3,628 hectares under its wing. It has expanded its services to municipalities beyond Capas.

The organization of PLF is very simple. Every barangay elects a farmer leader and a woman representative. It has a farm technician and two full-time technicians. They are the people's conduit to PLF. PLF is now training agricultural technicians under its own program and expense. The Technology Resource Center acts as a consultant and helps PLF with loans from Land Bank and other matter like computerization. PLF's loan granted from Land Bank, Tarlac amounted to 10 million pesos in the wet season, 1989, which overpassed the second cooperative borrower by 9.8 million pesos. Thus, the successful performance of PLF suggests the necessity and profitability of the cooperative.

4) Barangay Agrarian Reform Committee (BARC)

The BARC is a barangay level body organized by DAR to: i) participate in and support the CARP implementation, ii) mediate, conciliate or arbitrate agrarian conflicts and issues brought to

it for resolution and, iii) perform other functions delegated by DAR Secretary or the Presidential Agrarian Reform Council. It is composed of 11 members with representatives of farmers and farmworker-beneficiaries and non-beneficiaries, agricultural cooperative farmer organizations, barangay council, NGOs and land owners, as well as DAR, DA, DENR and LBP representatives in the area.

Upon the declaration of the Executive Order No. 229, BARC is tasked to be the buffer of CARP. The CARP implementors are trying their best to organize BARC in every barangay. In the Study area, 63 barangays out of 74 have already organized BARC, but the significance of BARC is not yet fully penetrated into all the farmer-beneficiaries yet, because most of the farmers are palay cultivators and they have already received the Emancipation Patent (EP) under the enactment of PD. 27; hence non-beneficiaries under CARP do not have strong interest about this new organization.

Table K-1-1 Institutional Situation of 19 CIS

Name of CIS	Membership*	Area Covered(ha.)**	IA Formed*	NIA's Support
Bamban	352	751	o	IOW
San Pedro	105	120	x	-
Malonzo	118	240	o	IOW
Bangcu	80	700	x	-
Susuba-Cut-Cut	66	40	x	-
Telabanca	121	389	o	IOW
Sta. Rita	43	115	o	IT***
Marita	41	100	o	IT***
San Martin	73	240	o	IT***
Baluto	188	600	o	Partially
Lilibangan	116	240	o	-
San Bartolome	64	350	o	ICO****
San Isidro	80	450	x	Partially
Lucong	750	2,000	o	IT***
Magao	152	620	o	ICO****
Tinang	189	200	o	-
Sto. Rosario	71	150	o	IT***
Sta. Monica	220	740	o	IT***
Caluluan	41	80	o	IT***
Total	2,870	8,125		

Notes :
- * -- As of March, 1990
- ** -- Potential area included
- *** -- ICO subject to two (2) CIS
- **** -- IT subject to six (6) CIS

Abbreviations :
- IOW -- Institutional Organization Worker
- IT -- Irrigation Technician
- ICO -- Institutional Community Organizer

Source : Agro-institutional survey conducted by the Study Team

Table K-1-2 Existing Cooperatives

Name of CIS	Existing Cooperatives	Membership	Capital (P 1,000)
Bamban	Culubasa MPC	46	23
San Pedro	-	-	-
Malonzo	-	-	-
Bangcu	Culubasa MPC	46	23
Susuba-Cut-Cut	Samaka MPC	30	115
Telabanca	-	-	-
Sta. Rita	-	-	-
Marita	-	-	-
San Martin	-	-	-
Baluto	Calius Gueco MPC	54	96
	Baluto MPC	71	27
Lilibangan	-	-	-
	Castillo MPC	80	45
San Bartolome	-	-	-
San Isidro	-	-	-
Lucong	Lucong Irrigator's Ass'n. of Cpn. Inc.	720	360
	Sta. Cruz MPC	44	15
	Telabanca San Miguel MPC	75	125
	Cpn. Integrated Farmers Mkt'g. Ass'n.	188	94
Magao	Magao MPC	41	51
Tinang	Tinang MPC	132	500
Sto. Rosario	Sto. Rosario MPC	40	20
Sta. Monica	Sta. Monica I MPC	72	32
	Sta. Monica II MPC	200	100
Caluluan	Caluluan MPC	120	60
Total	15 Cooperatives	1,959	

* -- As of September, 1989

Source : Agro-institutional survey conducted by the Study Team

Table K-1-3 Agricultural Cooperatives in the Study Area As of September, 1989

Name of Cooperative	Registration Date	Barangays	Number of Members	Area Covered (Hectares)	Remarks
BAMBAN					
1) Culubasa Multi-purpose Cooperative, Inc.	August 25, 1988	Culubasa	46	277	Proposal requesting solar dryer has been prepared.
2) Malonzo Multi-purpose Cooperative, Inc.	September 20, 1988	Malonzo	45	150	
CAPAS					
1) Lawy Multi-purpose Cooperative, Inc.	April 18, 1988	Lawy	91	857	Financial status P 45,000. Granted P 764,000 from LBP, Crop Loan
2) O'donnel Multi-purpose Cooperative, Inc.	May 16, 1988	O'donnel	103	288	Financial status P 8,000. Granted P 494,770 from LBP, Crop Loan
3) Cultural Minorities (AETAS) Multi-purpose Cooprative, Inc.	March 18, 1988	Sta. Juliana	100	52	Financial status P 5,000. Granted P 650,770 from UNDP Crop such as gabi and banana. Eqpt. Ani. Dispersal Loan
4) Sto. Domingo Multi-purpose Cooperative, Inc.	June 13, 1988	Sto. Domingo II	58	210	Financial status P 5,000
5) People's Livelihood Foundation	October 17, 1988	43 barangays	2,239	362,080	Financial status P 15,239,200 P 20 million loan from LBP
CONCEPCION					
1) Baluto Multi-purpose Cooperative, Inc.	February, 1989	Baluto	71	213	Financial status P 27,122.50
2) Castillo Multi-purpose Cooperative, Inc.	-	Castillo	80	240	Financial status P 45,351.50
3) Calius Gueco Multi-purpose Cooperative, Inc.	June 18, 1988	Calius Gueco	54	162	P 65,478 from LBP production loan
4) Murcia (San Agustin) Multi-purpose Cooperative, Inc.	May 20, 1988	San Agustin	77	231	P 499,200 from LBP production loan
5) Sta. Cruz Multi-purpose Cooperative, Inc.	-	Sta. Cruz	44	54	P 270,089 from LBP production loan
6) Talimundoc San Miguel Marketing Cooperative, Inc.	May 20, 1985	Tal. San Miguel	75	225	Common property of 600 sq.m land,office, warehouse for fertilizer, 1 unit thresher, 0.5 ton scale
7) Magao Multi-purpose Cooperative, Inc.	December 23, 1985	Magao	41	123	Financial status P 51,975, Common property of 600 sq.m land, a warehouse, a ricemill, 0.5 ton scale
8) Sta. Monica I Multi-purpose Cooperative, Inc.	August 9, 1988	Sta. Maria	72	216	Financial status P32,885, Common property of 1,000 sq.m land, a warehouse, a thresher, 0.5 ton scale
9) Talimundoc Marimla Multi-purpose Cooperative, Inc.	August 17, 1988	Tal. Marimla	55	165	Financial status P 44,059
10) San Juan Multi-purpose Cooperative, Inc.	August 12, 1988	San Juan	83	246	Financial status P 44,059 P 300,000 from PLF crop loan.
11) Concepcion Seed Growers Multi-purpose Cooperative, Inc.	August 31, 1988	12 barangays	26	134	Seed production
12) Caluluan Multi-purpose Cooperative, Inc.	June 22, 1988	Caluluan	120	360	P 85,961 from LBP production loan
13) Con. Integrated Farmers Mktg. Assn. (Corazon de Jesus Multi-purpose Cooperative, Inc.)	June, 1988	Corazon de Jesus	188	600	Common property of one ha. land, office, 500 sq.m warehouse and 4 units of mechanical dryers
14) Sta. Rosa Multi-purpose Cooperative, Inc.	September 5,1988	Sta. Rosa	64	180	P 483,928 from LBP production loan
15) Tinang Multi-purpose Cooperative, Inc.	December 15, 1987	Tinang	132	237	P 403,363 from LBP production loan
16) Sta. Monica II Multi-purpose Cooperative, Inc.	June 27, 1988	Sta. Monica	200	600	-
Total			4,056	367,980	

K.2 Profile of Major CISs

BAMBAN_CIS

Bamban CIS has a total area of 1,490 hectares which involve 9 barangays with about 500 beneficial farmers. Most of the farmers are palay cultivators and some farmers are practicing mix planting with palay and sugarcane. Since the CIS is located in upstream of the Bamban River, about 830 hectares both in the wet and dry seasons are irrigated. However, in some area where irrigation water can not reach in the dry season, the farmers are planting diversified crops such as eggplant, cucumber, etc.. The CIS takes the responsibility for manage and adjustment for the intake facilities of other CISs located in downstream of the River.

The officers of the IA consists of a president, an asst. president, a treasurer and four(4) board of directors who are elected by vote among the members. Besides, there exist eight farmers appointed as the association-due-collector. The vote election is held in every January. Association due levied on the beneficiaries on the purpose of operation and maintenance of the irrigation facilities is one cavan/crop/ha. of palay and labor contribution for the cleaning/stemming of irrigation ditches. The privileges given to the officers of IA is an exemption from the payment of association due. The due collectors are able to receive a salary at 10% of the collection.

Strong interest about the cooperative movement can be observed among the officers and they have vigorous intention to NIA to provide them business seminar which deals with know-how for cooperative forwarding and selling. The bulldozers for the construction of brush dam and post-harvest facilities especially for warehousing and storage are listed up as their felt needs items.

SAN_PEDRO_CIS

The main canal of San Pedro CIS is irrigated by Bamban River and the canal is installed in parallel with that of Bamban CIS. This situation is resulting from former water conflict with Bamban CIS. Since the water conflict has ceased, they are longing to be incorporated in Bamban CIS.

As of now, there are no ICO or IOW being dispatched from NIA. San Pedro CIS with a 120 Ha. of service area is covered by one Barangay, namely San Pedro and the beneficial farms involved in the CIS are about 100. The 100 farms are classified into two; 33 farms of the originated farms in the barangay and the branched farms from these originated farms.

Association charge of one cavan/farm/harvest is collected only from 33 originated farms, while the branched farms

contribute to the originated farms in order that they can furnish the due charge in due date. A Barangay Secretary is responsible for collection of association charges, which are given to a water tender as the remuneration towards his daily water management. In case of calamity with the frequency of five to six times a year, the farmers are obliged to reconstruct brush dam at the price of 20 - 50 pesos/farm in cash, which is cost for hiring a bulldozer of some private contractors in Nueva Ecija. Rental charge of a bulldozer is 500 pesos per hour, which is 80 pesos cheaper than that of NIA's at 580 pesos per hour.

Cleaning and weeding of irrigation ditches is performed by a mass work at three times a year in the beginning of cropping season. Since the barangay members are made up of strong kinship, high participatory rate is being attained. Barangay Agrarian Reform Council (BARC) headed by the Barangay Captain is responsible for the mass work (Bayanihan).

Some farmers are trying cooperative selling of palay, however they sell it only to middle man because they can rent money without statuary contract. The interest of loan is at one cavan/400 pesos with loaning period of three to four months, but generous action is taken even when the borrower could not afford to pay back in due time.

BANGCU_CIS

Bangcu CIS has 728 hectares of total area, of which 500 hectares are being irrigated both in the wet and dry season. The intake and drainage facilities were constructed by DPWH in 1985. Due to poor road conditions, it is very hard to access to the CIS even in the dry season.

There exists about 150 farmers in the CIS beneficial area, and their land holding area is averaged at 2.5 hectares. Besides, five farmers also have sugarcane averaged at 4 hectares. Among 150 farmers, only about 80 farmers are inhabitants of the barangay namely Barangay Bangcu, while the remnant (72 farmers) are farmers from the nearby barangays such as San Pedro and Banaba. The 30 farmers are the second-house holders.

Five croppings in two years are available with an average yield of 76 cavans per hectare per cropping. The CIS has no water delivery schedule and only a few farmers are following a cropping calendar which is classified by the cultivator of palay. There are no amortization payment to NIA, and in case of damage only 0.5 cavan/crop/ha. of palay is collected by a water tender who is responsible to maintain the brush dam by means of hiring bulldozers (600 pesos/hr.). Weeding and cleaning of irrigation ditches are undertaken twice a year by the beneficiaries' mass work with about 50 pesos of penalty for non-participant.

As of now, the interest about the cooperative movement is not observed. Marketing of farm inputs and outputs are being operated

individually, and their deepest concern is the farm to market road with the total length of 5 km.

SAN_MARTIN_CIS

The CIS has been just turned over to irrigators' association (IA) in June, 1989. The potential area of 280 hectares is locating in both side of Bamban river wherein the left reaches of 240 hectares are owned by initial IA members of 73, while the right reaches of 40 hectares are cultivated by the potential members who are expected to be the member in the future. According to latest member list, the total IA members are counted at 95.

The CIS including four intake facilities and four main canals are managed by the members so far, but they are intending in near future, to employ two water tenders who are responsible for establishing water delivery schedule and cropping calendar and for managing day-to-day water deliveries. The 11 board of directors consisting of five managerial positions and five sectorial positions are elected in every February by vote. Usually, the candidates are not run before the election, so a voter can select one aspiring personal from total IA members on the election day. In this manner, 11 board of members who have ranked top 11 are newly appointed.

Since the members of IA are united in strong kinship, the water conflicts are easily solved through the discussion among the IA members. In turn, actual communication with other CIS has never made before. For a long time, the community was run in self-compliant manner, and this is the one of the biggest constraints which prevent the committees from cooperative movement.

LILIBANGAN_CIS

The CIS covers 240 hectares of potential area and all the land are fully irrigated in the wet seasons. In the dry season, however, irrigated area by the CIS itself is counted at only 90 hectares, and the 110 hectares are mainly depending upon ground water provided by 50 units of individual pumps. The remaining 40 hectares are cultivated with cash crops such as mungo, eggplant and corn which are sold to the market.

Of these crops, eggplant is a profitable source of income for the inhabitants. After harvesting eggplant, they forward it to Manila where they sell their production to private traders at the price of 80 pesos per bag (23 kg. content) under the contract which has expired in 1987. Likewise, the eggplant is regarded as profitable crop in the area and the eggplant planters are increasing year after year. In this year 1989, eggplant planters are counted at 20 farms with 20 hectares of total planted area. An average yield of eggplant is 500 bags per hectare. Besides, watermelon is also planted increasingly, and bringing about

favorable profit to planters.

The CIS involves only one barangay named Lilibangan and the number of farmers-beneficiaries is 116 with 4.0 hectares of average land holding area. The Irrigators' Association (IA) have not yet been registered in SEC but in FSDC. The four farmers are assigned as water tender, and mass work for canal cleaning and repairing of brush dam is performed twice a year at the beginning of the cropping season. Penalty for non-participants is at 100 pesos.

The irrigation water from Bamban River comes to the CIS via San Martin CIS passing through 2 km of canal No. 1 or 2.5 km of canal No. 2. In the decade of 1930s, the area had another water source from Balico Creek which is now utilized as a main water source of Magao CIS. At that time, a few hacienderos owned about 300 hectares of this area which were completely irrigated even in the dry season. A main diversion dam and several canals from Balico Creek have never operated, and destroyed since the emancipation of lands under PD. 27 has performed. From that time on, the rehabilitation of these facilities is strongly requested to NIA.

LUCONG CIS

The CIS covers nine barangays namely; Pitabunan, Sta. Maria, Talimondoc San Miguel, Corazon de Jesus, Sto. Cristo, Sta. Cruz, Cafe, Culatingan, Malupa and Bangcal. The beneficiaries are establishing an IA namely; Lucong Irrigator's Association of Concepcion, Inc. which is organized and registered with the Security and Exchange Commission as non-stock, non-profit Corporation whose main purpose is to utilize God-given gift of irrigation water source from the Lucong River.

The original incorporators of the IA were the hacienderos of Concepcion which includes only eight families. The IA was established and registered in April 1953. It was patterned after the needs of the prevailing constitution at that time. A salient feature of the constitution and by-laws of the association were voting right which was based on the numbers of hectares they own and not as individual members.

At the onset of the declaration of Martial Law and with the subsequent proclamation of PD. 27, the whole character of IA took a new turn. With the implementation of PD. 27, all these hacienderos lost their holdover. The new members in the person of tenant-beneficiaries came into being and presented numerous problems on how to control the huge number of members to follow the water distribution schedule of IA.

At present, the CIS with a registered membership of 750 farmers covers 2,250 hectares of irrigable area but actually 2,000 hectares in the wet season and 1,200 hectares in the dry season are irrigated. The CIS is now subdivided into nine zones

wherein each zone elect their own representative for Board of Directors (BOD). These representatives will elect among themselves the officers of the association. The powers, duties and responsibilities of both the members and officials are clearly defined under the constitution and by-laws.

Seven water tenders who are nominated by BOD are responsible for water management. In order to perform impartial delivery, they are asked to prepare water delivery schedule by parcel in every cropping season. Accordingly, they are requested to check adequate water requirement by parcel and generate suitable ideas for optimum water utilization of the total beneficial area.

TINANG_CIS

Being covered by Hacienda Luisita and Dominican Farm, the CIS is surrounded by sugarcane land on its north side. Tinang CIS is irrigating about 250 hectares of palay field, and the remainder of 600 hectares are being planted with sugarcane. The Pritil dam which are constructed on the Tabun Creek in 1923 is still operating under the non-supported maintenance from the Government.

The emancipation of Dominican farm with the average of 200 hectares is the most attractive argument in the CIS. As of now, most of lands which have been targeted under PD. 27 were emancipated to the farmer beneficiaries and some of them have already finished their pay-back to the Land Bank. However, there still exist a lot of farm workers who don't have their own land. According to the President of the CIS, approx. 160 farmer candidates for the Dominican land are already waiting for the emancipation, even though the Dominicans are willing to release it to only 50 beneficial farmers. The tenant farmers who work at the subject land is estimated at about 50.

As mentioned above the most of lands are newly emancipated by land owners under the PD. 27, an average land holding area per farmer is nearly constant at 2.0 hectares, and even a maximum land holding area is counted at 3 hectares. The CIS includes a cooperative namely, the Tinang Multi-Purpose Cooperative Inc. with 135 of associated members, which are registered to SEC in 1987. The cooperative is undertaking the trial of crop diversification: asparagus, lowland potato and sweet potato are trialed as the aspiring crops.

Five irrigation committee members and the same number of water tenders are responsible for handling the water management of the CIS, each of whom is in charge of one irrigation sector. Although, the five committee members are engaging their task voluntarily, the water tenders are to be received from the beneficiaries at one fourth cavan (equivalent to 12.5 kg.) of palay per farmer.

The 189 of the CIS members are mostly palay cultivators who

can produce the palay at 80-90 cavans/hectare in the wet season, and 85-95 cavans/hectare in the dry season, respectively. Almost all the farmers are carabao owners with 2-6 heads in average. Among the 540 families in the Barangay, 53 families are engaging sugarcane production.

STO._ROSARIO_CIS

The CIS includes three barangays namely, Sto. Rosario, Parulong and Corazon de Jesus with 200 hectares of potential area of which 150 hectares are irrigated both in the wet and dry seasons. The yield of palay is ranging from 80 to 90 cavan/ha in the wet season and from 90 to 100 cavans/ha in the dry season, respectively.

The nine board of directors inclusive of a president, an asst. president, a treasurer are elected by vote in every September, who are responsible for managing irrigation facilities and subject association with a total beneficiaries of 71 and 1.5 hectares of land holding area in average. The beneficiaries are asked to pay back to NIA at 340 pesos/ha/year from 1989, but who are not asked to pay for the services to be received from the board of directors; viz. the directors are volunteers. Four water tenders appointed by the directors can receive 0.5 cavan/ha/crop.

Group selling of palay has just started from 1989, however the favorable result would not be expected, because due to poor farm to market roads, the main markets are still remitted and the number of middle men who are intervening in the marketing structure are still constant; they are only saving the money for transportation from farm to market, which had been levied on them at four to five pesos per cavan. Farm gate price of palay in the wet season up to the year 1988 was far below at 1.0 to 2.0 pesos/kg compared to other CIS due to poor road conditions mentioned above, but the price in the dry season is nearly the same at 4.10 to 4.20 pesos/kg.

STA._MONICA_CIS

Sta. Monica CIS with total potential area of 740 hectares has an actual palay area of 300 hectares in the wet season. In the dry season, the paddy area expands to 740 hectares due to decrease of flooded area. Thus, the CIS's biggest problem is the large acreage of inundation in the wet season. The CIS includes only one barangay, namely; Sta. Monica.

Unstable land use incurred from inundation in the wet season prevents the CIS from rotational management of irrigation water in accordance with the water delivery schedule. The irregular water management which is undertaken by two water tenders always brings about the water conflict among the beneficiaries. To solve these conflicts, the BODs of IA are planning to employ another water tender. The two water tenders are periodical

workers who are hired at 0.25 cavan/hectare/cropping of remuneration during the period of May to February (10 months).

Among 250 total farmers, 220 are the members of IA with the average land holding area ranging from 1.0 hectare at the minimum to 17 hectares at the maximum, and 3.0 hectares in average. The IA members are asked to pay at 100 pesos/ha/crop for the operation and maintenance of the CIS, however, the collection rate shows only at 15%, because especially in the dry season, approximately 600 has. of land are irrigated by the irrigation pumps (100 units) which are owned individually by the farmers. The depth of wells is averaged at 40 feet.

Sta. Monica Cooperative with the same members as that of IA is being organized but substantially, it was inherited from Samahang Nayon. Several trials on group selling of palay have been challenged by the cooperative, but these activities have never born fruit yet. In fact, their failure is greatly attributable to lack of marketing know-how and defect of institutional entity.

K.3 Profile of Major Cooperatives

Tinang Multi-Purpose Cooperative

Barangay Tinang is situated approximately 3.5 kilometers from Concepcion town proper with boundaries consisting of barangay Sta. Rosa in the north, Talimundoc San Miguel in the south, Mabilog in the west and Parulong in the east. Tinang is accessible to various modes of transportation through dirt and gravel roads. Farm areas in Tinang are relatively flat and fertile, its soil type is characterized as silty loam. These conditions provide farmers the opportunity to grow palay and sugarcane crops. Rainfall distribution in Tinang is under the first type of climate which has two pronounced seasons; dry from November to April and wet from May to October.

Tinang has a total farm area of 756 hectares which are tilled/cultivated by 172 farmers. Out of this total, 170 hectares are planted with palay while the other 586 hectares with sugarcane. Land Bank of the Philippines Concepcion Field Office (hereinafter mentioned as LBP) financed about 130 hectares for palay production and 96 hectares for sugarcane production. The LBP landed estates under Ma. Luisa de Leon has a total area of 352 hectares with a total ARR of 1,934,600 pesos.

The farmer beneficiaries' (FB) farm has an average size of 2.46 hectares. Average yield is placed at 95 cavans per hectare for palay and 80 piculs per hectare for sugarcane. They are using traditional working animals (carabaos) or rent agricultural machineries for their land preparation.

Before the formation of the Tinang Multi-purpose Cooperative, the FB has a tight financial schedule. At the beginning of the cropping season, they would seek financial assistance from LBP, Rural Bank or other lending institutions and/or individuals. Their loans would be used to cover their farm and family expenses. However, based on their farm business analysis, the farmers find themselves empty-handed after harvest season mainly because of their indebtedness.

The average income of FB per cropping season amounts to about 2,300 pesos, of which 80% equivalent to 1,800 pesos is eaten up by the family expenses, land amortization dues, interest charges, debt repayments to usurers and other miscellaneous expenses. Farmers are forced to sell their produce to loan sharks/palay traders who dictate the prices of palay which is usually at its lowest level. When next cropping season comes, the FB has to look forward for another loan to support his subsistence, like a vicious cycle that has to be broken. The introduction of other sources of income could improve the income of the farmers.

Information about the cooperative is summarized as follows;

- Registration Date : December 15, 1988 - BACOD
- Registration No. : RC No. RFIII - FF0159
- Number of Members : 132 (Initial Members=79)
- Authorized Capital Stock : 500 Thousand Pesos
- Present Capital Build-Up : 112 Thousand Pesos
- Subscribed Stock : 100 Thousand Pesos

Talimundoc San Miguel Cooperative

Talimundoc San Miguel is located approximately six kilometers from Concepcion town proper. The place is accessible to various modes of transportation through dirt and gravel roads. Its soil type is characterized as sandy loam. It has a total farm area of 449 hectares which includes only LBP landed estates with 207 existing FBs.

The farmer-beneficiaries' farm has an average size of 2.5 hectares, which can produce 95 cavans of palay per hectare. For their land preparation, they use traditional working animals or avail the services of individuals with agricultural machineries. Farmers in this area usually rely on the assistance of private lenders for their financial needs. When harvest season comes, the financier is ready to harvest the crops of the farmer. This cycle is continuous all year round. The average net income of the FBs per cropping season amounts to 2,300 pesos.

With the strengthening of the Coop, farmers in the locality are hoping for a brighter future. Gradually, they are coming to be free from the bondage of the usurers/loan sharks who take advantage of their situation.

At present, the Coop financed the production needs of the FBs in the area at lower interest rates than that of the private lenders. Officers and members were given orientation seminar and training regarding the management of their funds. This is already a big step on their part in which they can improve the socio-economic conditions of their constituents.

Information about the Coop is shown below:

- Registration Date : May 20, 1988
- Registration No. : RC No. RFIII - FF0101
- Number of Members : 71
- Authorized Capital Stock : 125 Thousand Pesos
- Subscribed Stock : 25 Thousand Pesos

Sta. Monica Multi-purpose Cooperative

Barangay Sta. Monica is situated approx. seven kilometers from Concepcion town proper. Farm areas are fertile with sandy loam coverage. With these conditions, farmers have the

opportunity to grow palay which is the predominant crop planted in the area.

Sta. Monica has a total farm area of 547 hectares which includes only LBP landed estates with 221 of existing palay irrigators. The average land holding area of FBs is about 2.5 hectares with 95 cavans of average production yield per hectare. The farmers use working animals or avail the services of individuals with agricultural machineries.

To cover the farm and family expenses of a small farmer, he normally seeks the aid from the private lenders. These financiers offer their assistance at an interest rate that makes it difficult for the farmer to recover. When harvest season comes, most of their proceeds go to the financier and the farmers find themselves empty-handed after harvest time.

After the establishment of the Coop, this situation is gradually improved. So far, the Coop has an income of 19,800 pesos, which are resulting from the soft loan from the Coop with lower interest rate than that from the private lenders.

Information about the Coop is shown below:

- Registration Date : June 27, 1988
- Registration No. : 03-06-0102
- Number of Members : 62
- Authorized Capital Stock : 500 Thousand Pesos
- Subscribed Stock : 33 Thousand Pesos

Bagong Samahang Magsasaka ng Sta. Cruz, Inc.

Barangay Sta. Cruz is located approx. 2.5 kilometers from Concepcion town proper. Farm areas are relatively fertile and flat. The place is accessible to various modes of transportation. Rainfall distribution in Sta. Cruz is under the first type of climate which has two pronounced seasons; viz. dry season from November to April and wet season from May to October. It has a total farm area of 294 hectares which includes only LBP landed estates.

The predominant crop which is grown in the area is palay. The average farm size of farmers is 2.5 hectares with 95 cavans per hectare of average yield. Farmers rely so much on individual lenders for their family and farm expenses.

To alleviate the living conditions of these farmers, the People's Economic Council of Tarlac, a non-governmental organization and LBP are spearheading the move to train, organize and extend financial assistance to the agrarian reform farmers. With an aim to improve the socio-economic conditions, the farmers grouped themselves and formed the Samahang Magsasaka ng Sta. Cruz, Inc. The LBP provided the financial needs of the farmers through production loans. With their perseverance in achieving

the noble task of uplifting their economic welfare, farmers can now have a positive outlook in life.

Summary of the information about the Coop is shown below:

- Registration Date : December 9, 1987
- Registration No. : 146857
- Number of Members : 42
- Capital Shares : 15,150 pesos

Sta._Rosa_Multi-purpose_Cooperative

Sta. Rosa through the San Juan route, is approx. 5.5 kilometers from Concepcion town proper through dirt and gravel roads. While enroute Capas highway is a good road, it is 9 km. away from Concepcion. Said barangay is bounded by barangay Sto. Nino in the north, Voice of America in the west, barangay San Juan in the east and Capas, Tarlac in the south. It is accessible to various modes of transportation. Rainfall distribution is under the first type of climate which has two pronounced seasons: dry from November to April and wet from May to October.

Farm areas in Sta. Rosa are sloppy in general and its soil type is characterized as clay loam. With this type of soil, farmers are provided with the opportunity to plant sugarcane, palay (if irrigated), root crops, fruit trees and corn.

Of the total farm area, 315 hectares are planted to palay, 170 hectares to sugarcane, 10 hectares to mungo and 15 hectares to corn. LBP has initially financed about 167 hectares for palay production and 66 hectares for sugarcane. The average farm size which is 2.5 hectares can yield 80 cavans per hectare for palay and/or 60 piculs per hectare for sugarcane. They use traditional draft animals or rent agricultural machineries for their land preparation.

Prior to the organization of the Sta. Rosa Multi-purpose Cooperative , the farmers were in a tight financial assistance from private lending institutions which usually charge higher interest rates. These loans had been used to defray their farm and family expenses for the duration of the planting season. After harvest, farmers were still found to be empty-handed because of the heavy indebtedness to these private lenders who monitor them from the time they harvest until the productions were sold. About 80% of the farmers' gross income is eaten up by his family expenses, interest charges and debt repayments. With these factors, the farmer is forced to sell his produce to palay traders who in turn dictate the prices of palay which is usually at its lowest level. When the next cropping season comes, the farmer has to look again for another loan to support his subsistence.

With the organization of the cooperative, the farmer member can now readily avail of the needed financial assistance for his farm expenses. It is the utmost objective of the LBP to alleviate the living conditions of farmers and it is for this reason that the LBP is supportive to the members of the cooperative in their agricultural endeavor.

The Coop's basic information is summarized below:

- Registration Date : September 5, 1988 - BACOD
- Registration No. : RC No. RFIII - FF0282
- Number of Members : 120
- Authorized Capital Stock : 125 Thousand Pesos
- Subscribed Stock : 30 Thousand Pesos

Murcia Multi-purpose Cooperative

Barangay San Agustin, which was formerly known as Murcia, is bounded by barangay Tinang in the north, Estrada, Capas in the south, Talaga, Capas in the west and voice of America in the east. It is approx. 11 km. from the Concepcion town proper.

The farm area in the barangay is generally upland and rolling, with soil type of heavy clay. The farmers are thus provided with the opportunity to plant palay (if irrigated), sugarcane and fruit trees. Of the total area, 70 hectares is planted to palay and 380 hectares to sugarcane.

Since most of the landholdings are not yet under the Land Reform Operation, the farmers were not given the privilege to seek financial assistance from LBP. However, with the formation of the Murcia Multi-purpose Cooperative, Inc., these farmers were able to finance their farm expenses through the loan extended by the Coop. This was the initial credit accommodation extended to the barangay from LBP.

Prior to this financial assistance from the LBP, the farmers were getting their loans from private lenders who charge exorbitant interest rates which leave them still heavily indebted to these loan sharks after the harvesting period. However, they would still be forced to borrow for the next cropping season to defray the farm expenses and family needs.

With the organization of the Coop, the farmers can now readily avail of the assistance from the Coop. It is the primary objective of the LBP, hand in hand with the Coop, to alleviate the living conditions of the members.

The Coop's general information is summarized as follows:

- Registration Date : May 20, 1988
- Registration No. : RC No. RFIII - FF0197

- Number of Members : 79 (Initial Members=68)
- Authorized Capital Stock : 500 Thousand Pesos
- Present Capital Build-Up : 24 Thousand Pesos
- Subscribed Stock : 47 Thousand Pesos

Calius_Gueco_Multi-purpose_Cooperative

Calius Gueco is one of the barangays located just two kilometers away from the Bamban River control. The farm area is relatively flat and its soil is classified as fine sandy loam, which is suitable for palay production. However, the farmers utilize deep well irrigation due to the incomplete construction of the Bamban River control. This control becomes the primary problem of farmers during rainy season which usually inundates their plantation.

Of the total farm area, 147 hectares are placed under the Land Reform Operation with 38 farmer-beneficiaries. All of these farms, excluding eroded and silted areas, are planted to palay with an average yield of 85 cavans per hectare. Each farmer owns an average size of 2.5 hectares.

The Calius Gueco Multi-purpose Cooperative was primarily formed out of necessity for the farmers' survival. The Coop wants to get rid of the private lenders who charge high interest rates in order to help farmers out of their heavy indebtedness. LBP extended loans to the cooperative which in turn relend them to members for the sustenance of their farm expenses.

General information about the cooperative is shown below:

- Registration Date : June 10, 1988
- Registration No. : RC No. RFIII - FF0211
- Number of Members : 32
- Authorized Capital Stock : 96 Thousand Pesos
- Subscribed Stock : 16 Thousand Pesos

Culubasa_Multi-purpose_Cooperative

Barangay Culubasa is located in the municipality of Bamban, Tarlac, which is just two kilometers away from the Bamban town proper enroute the McArthur Highway. Bamban has 13 landed estates with 765 hectares and 427 farmer beneficiaries.

In barangay Culubasa, the members of the cooperative have an average farm size of 1.9 hectares of sandy loam type of soil which is suited to palay for irrigated areas, while non-irrigated areas, especially along the highway, are planted to grapes and other root crops. About 50% of the total farm areas is planted to palay which usually yields an average of 80 cavans per hectare.

Prior to the formation of the said cooperative, the farmers

were forced to seek assistance from the private lenders and/or to rural banks and other financial institutions. At present, the cooperative is engaged in the trade of farm inputs aside from relending to members out of loans extended by the LBP.

General information about the Coop are as follows:

- Registration Date : August 25, 1988
- Registration No. : RC No. RFIII - FF0274
- Number of Members : 45
- Authorized Capital Stock : 500 Thousand Pesos
- Subscribed Stock : 25 Thousand Pesos

K.4 Situation of CARP

Under the name of Republic Act No. 6657, the Comprehensive Agrarian Reform Program (CARP) was started with the final completion targeted in 1997. Although, agrarian reform toward the palay and corn cultivators are nearly finished under Marcos Regime's PD. 27, the emancipation of other lands categorized as Program B to Program D under the CARP are confronting the serious problems in the Study Area. The following are the two major problems of Program B facing in the area (refer to Table K-4-1).

Dominican Land

The DAR has placed under compulsory acquisition a 200 hectares sugarcane estate in the area owned by the Dominicans, but an 11.3 million pesos difference separates the amount wanted by the religious order and the assessment made by the DAR officials.

Dominicans wanted 75,000 pesos per hectare or a total of 125 million pesos for their 200 hectare estate, but assessments made by DAR officials placed the property's value at only 3.7 million pesos. The Dominicans have been operating the sugarcane by hiring farm workers. The 150 hectares of the 200 hectares estate was covered by CARP, but Dominican considered 50 hectares of the remainder is useless and decided to have them covered by CARP. The determination of the final amount to be paid the religious order is now in the court of the Secretary. The influential Catholic Bishops' Conference of the Philippines decided in May, 1988 to other for the CARP all agricultural lands owned by bishops and parishes.

Cojuangco Land (Hacienda Luisita)

The DAR is willing to pay 18,000 pesos per hectare for agricultural property of the family of President Aquino although the government assessors have placed its value only at 7,400 pesos per hectare. The Cojuangco wanted about 33,000 per hectare for their estate... located outside of the 6,443 hectares of Hacienda Luisita ... but the government assessors valued the land at around only 7,400 pesos per hectare. The 18,000 pesos per hectare was near the "middle ground" between what the Cojuangco wanted and the assessment made by the Government.

Only 352 hectares out of 5,000 hectares have actually been marked for compulsory acquisition because a portion of the property had been covered by a previous government land reform program. A large portion of the Cojuangco estates had already been covered by PD. 27, the land reform decree covering rice and corn farms under former president Marcos. Cojuangco included the portion of their estates already under PD. 27 in the list of their agricultural properties when they registered under Listasaka, the Government's land owner registration program. The PD. 27 farms technically belonged to the Cojuangcos because they have not been paid for the land yet by the Land Bank of the Philippines. The inclusion of the PD. 27 farms in the Listasaka con-

fused DAR officials and made them include the property among lands earmarked for compulsory acquisition in the area, the first region to fall under the scheme. Claim folders covering the 352 hectares processed for compulsory acquisition have already been submitted to DAR, which will determine the final amount to be paid the Cojuangcos for their land.

K.5 SOLVe

The Sacobia Outreach Livelihood Venture (SOLVe) is an outreach program of Sacobia Development Authority (SDA) intended for selected depressed Barangays in the province of Tarlac. The SOLVe Program seeks to support qualified and deserving farmers through the provision of livelihood skills training, seed capital and working capital, promoting a favorable economic condition in the community. Specifically, the Program aims to i) provide additional source of family income, ii) promote agricultural production, and iii) develop/educate/train target residents into associations/organizations oriented towards a highly participative and problem-solving communities and the development of skills pertaining to technical and managerial capabilities of livelihood based projects.

SOLVe's initial target clientele are residents from five identified depressed barangays of each of the seventeen municipalities of Tarlac. With the effective implementation of its program, SOLVe radiates its outreach venture to other depressed Barangays in Tarlac. The major components of the SOLVe program are summarized as follows:

- Livelihood Skills Training
  This component aims to conduct intensive skills training to beneficiaries who shall have formed themselves into associations/organizations focusing on the development of their technical and managerial skills pertaining to livelihood endeavors, such as agriculture or aquaculture.

- Livelihood Venture
  This component gears toward the provision of seed capital to beneficiary-cooperators belonging to the associations/organizations who have undergone livelihood skills training. These include livestock (swine, cattle, goat) raising, poultry (broiler, table-egg, duck) productions and crop (vegetable, rice, corn, rootcrops) production, among others.

The SOLVe Program will provide the funds to finance the livelihood projects. Repayment schemes are programmed in terms of the capacity of the beneficiary. Individuals who may avail of SOLVe's program should have the following qualifications:

i) The applicant has no outstanding obligation
ii) He/she is a bonafide resident of the area for at least five years.

iii) He/she is recommended by the Barangay Executive Committee.
iv) He/she has no pending criminal case.
v) He/she has the capacity to manage the proposed projects.
vi) The proposed project is within one kilometer radius of the barangay and is accessible to transportation and water facilities.

A Program Project Directorate composed of the Undersecretary for Presidential Management Staff (PMS), Executive Director of Sacobia Management Authority, and the Governor of Tarlac, formulate, review and recommend policies related to the implementation of the program. The Managing Director of SOLVe reviews and evaluate project plans and implementation of projects, approves identified project sites and project proposals relevant to the program. The SOLVe Program Management Office oversees the implementation and operation of the projects under the program.

Table K-4-1 Issuance of Emancipation Patents As of December 31, 1989

Tarlac : District III Municipality/Barangay	Number of EPs Issued					No. of Farmer Recipients					Area Covered (Hectares)				
	Target	Accomplishment		Balance		Target	Accomplishment		Balance		Target	Accomplishment		Balance	
		No.	%	No.	%		No.	%	No.	%		Area	%	Area	%
CAPAS															
Cut-Cut	15	12	80	3	20.0	7	6	85.7	1	14.3	30.3	26.2	86.5	4.1	13.5
BAMBAN															
Malonzo	12	8	66.7	4	33.3	8	8	70	0	30.0	23.9	20.6	85.9	3.3	14.1
Bangcu	4	-	-	4	100	3	-	-	3	100	10.5	-	-	10.5	100
San Pedro	55	43	78.2	12	21.8	23	18	78.3	5	21.7	37.0	27.2	73.5	9.8	26.5
Culubasa	50	44	88	6	12.0	38	32	84.2	6	15.8	68.7	64.4	96.6	4.3	3.4
CONCEPCION															
Sta. Rosa	83	70	84.3	13	15.7	40	33	82.5	7	17.5	60.0	45.1	75.1	14.9	24.9
Tinang	170	162	95.3	8	4.7	119	115	97	4	3.0	245.2	235.2	95.9	10	4.1
Corazon de Jesus	23	16	69.6	7	30.4	17	13	76.5	4	23.5	30.1	23.9	79.4	6.2	20.6
Sto. Rosario	47	43	91.5	4	8.5	23	17	74	6	26.0	19.0	17.1	90.0	1.9	10.0
Sta. Monica	18	14	77.8	4	22.2	13	11	84.6	2	15.4	24.1	20.9	86.6	3.2	13.4
Caluluan	49	42	85.2	7	14.8	32	28	81.2	4	18.8	45.4	35.9	79.1	9.5	20.9
Sta. Rita	35	29	82.8	6	17.2	23	15	65.2	8	34.8	11.1	9.7	86.9	1.4	13.1
San Martin	9	-	-	9	100	7	-	-	7	100	15.6	-	-	15.6	100
Magao	8	-	-	8	100	5	-	-	5	100	12.0	-	-	12	100
Balutu	127	115	90.6	12	9.4	83	75	90.4	8	10	176.0	163	92.6	13	7.4
San Bartolome	85	77	90.6	8	9.4	55	46	63.8	9	36	94.1	87.4	92.9	6.7	7.1
San Isidro	5			5	100	5			5	100	12.0			12	100
Total	795	675	85.0	120	15.0	501	417	83.2	84	16.8	915	776.6	84.8	138.4	15.2

Remarks :

1. Targets were based on available EP Final Survey Plans duly approved by the Land Management Bureau, DENR - Region III and were received by the DAR-PARO, San Miguel, Tarlac as of December 31, 1989.

2. Targets were effective scope as to the number of lots to EP generation vis a vis number of farmer recipients and area covered. Excluded are road lots, irrigation canals/dikes, other lots described as non-rice and corn. Example, sugarcane land among others and their corresponding areas.

3. Balances were due to the following :

   i) Pending EPs to transfer actions, area discrepancies and boundary disputes.
   ii) Unregistered EPs due to non-availability of technical documents, encumbrances or under levy.

Source : Provincial EP Generation Unit
DAR - PARO, San Miguel, Tarlac, Tarlac

K.6 NIA's Effort in Tangalan

The Tangalan Integrated Service Association Multi-Purpose Cooperative, Inc. (TISAMPCI), is now noted as the showcase of institutional development which was initially established as an irrigator's association and gradually shifted to a multi-purpose cooperative.

The Tangalan Integrated Service Association, Inc. (TISA) at Tangalan, Aklan was originally organized by Farm System Development Corporation (FSDC) during the NIA-FSDC tie-up program in 1978. NIA has initially provided the CIS with the improvement of the main canals and the construction additional structures, like pipelines amounting to P55,000.00. The second improvement undertaken in 1986 dealt with improvement of diversion works, increase of intake diameter, construction of additional canals and upgrading of canal structures with a total cost of P931,000.00. Thus, the IA expanded the irrigable area from 197 ha to 223 ha creating 465 IA members.

A new experiment of NIA has started in 1988. NIA has expanded its services to provide the IA with a warehouse and office building for the association in order that the IA could store its products and conduct business transaction which now stands in a lot purchased by the IA amounting to P86,000.00. Through active leadership of the IA officers and members, the services and privileges of other concerned agencies, such as the Intitutionalized Procurement Program of the NFA, the Buy One Take One Program and the Cooperative Development Program of the DA, and the Financing Program of LBP, and Quedan Guarantees Fund Board were smoothly implemented. The IA has now graduated into TISA Multi-Purpose Cooperative, Inc., which is organized under the Bureau of Cooperatives with registration number R-VI-FF-226-R (refer to Figure K-6-1).

Undoubtedly, TISA is regarded as a showcase of development and progress of IA. In fact, the realization of warehouse and office building has played an important role that triggered the Cooperative movement.

YEAR	Process of Organization	Remarks
1978	ESTABLISHMENT OF TISA	NIA-FSDC TIE-UP PROGRAM
1979	REGISTRATION BY FSDC	CONSTRUCTION OF NEEDED STRUCTURES BY "Bayanihan System" ASSISTED BY NIA
1986	REQUEST TO NIA ON ANOTHER REHABILITATION	IRRIGABLE AREAS OF 197 HECTARES WAS INCREASED BY 223 HECTARES BY IMPROVEMENT OF DIVERSION WORKS, INTAKE AND CANALS.
1986	PROVISION OF WAREHOUSE AND OFFICE BUILDING BY NIA	
		INSTITUTIONALIZED PROCUREMENT PROGRAM (NFA)
		BUY ONE TAKE ONE PROG. (DA)
		COOPERATIVE DEVELOPMENT PROGRAM (DA)
		FINANCING PROGRAM (LBP
		QUEDAN FUND (QGFB)
1989	ORGANIZATION OF Tangalan Integrated Service Association Multi-Purpose Cooperative, Inc. (TISAMPCI)	ORGANIZED UNDER THE BUREAU OF COOPERATIVES WITH REGISTRATION No. R-VI-FF-226-R

Figure K-6-1 Development Process of TISAMPCI

K.7 Institutional Development

K.7.1 Introduction

Among the 19 CISs in the area, seven (7) IAs are now required to amortize specific amount to NIA, while six (6) IAs pay association dues in advance . Amortization collection rate in Region III is marked at 23% in 1989, while at the Provincial level, 57%. At the Study area, three (3) CISs namely, Marita, San Martin and Lucong were required to pay last year while the remaining four (4) CISs will start payment this year (refer to Table K-7-1).

The seven(7) IAs collecting advance association dues (irrigation fee) are: i) Bamban CIS, ii) Malonzo CIS, iii) Lilibangan CIS, iv) Lucong CIS v) Sto Rosario CIS and vi) Sta Monica CIS. Collection rate of association dues differ by CIS ranging from a minimum of 10% to a maximum of 95% (refer to Table K-7-2).

This section seeks to investigate the reasons why farmers do not pay their obligations. Interviews were conducted simultaneously on fee collectors and non-payers and their responses were compared and examined. The interviews were conducted in the following CISs.

	Interviewed CIS	Collection Rate at Recent Year	
Amortization Payment	Marita CIS	90%	(1989)
	Sto Rosario CIS	68%	(Due Date May, 1990)
	San Martin CIS	8%	(Due Date Dec, 1990)
Association Due Payment	Lucong CIS	60%	(Wet, 1989)
	Bamban CIS	10%	(Wet, 1989)
	Sta Monica CIS	15%	(Wet, 1989)

There were nine (9) collectors and twenty-three non-payers interviewed. For comparison purposes two payers were also interviewed. Name of respondents were not mentioned to protect their identity.

K.7.2 Interviews to Fee Collectors

1) Amortization Collectors

Totally, four amortization collectors were interviewed and their response are summarized. The findings are discussed below.

i) Area and Farm Household Coverage

Area coverage per collector is more or less 100 hectares and household coverage at 50 households. The basic features of each collector are as follows:

Name of Collector	Area Covered (ha)	No. of Farm HHs Covered	No. of Farm HHs Collected	Collection Rate (%)
Marita	99	42	41	98
Sto Rosario-A	100	46	37	80
Sto Rosario-B	80	50	45	90
San Martin	70	20	3	15

The collector in Marita CIS marked the highest collection rate at 98%, while the collector in San Martin had the lowest record at 15%. The rates nearly correspond to the PIO's data.

ii) Characteristics of Non-Payer (refer to Table K-7-3)

The farm of the non-payer is located at the midstream or downstream part of the irrigation canal except Marita CIS. Since upperstream part of Marita CIS is inundated during the wet season, accordingly, the mid-stream and downstream areas are considered more advantageous. Due to the scarcity of lease holders and tenants and the predominance of amortizing owners, the relationship on tenurial status could not be observed.

Average landholdings of non-payer ranged from 1.5 hectares in Sto Rosario CIS to 3.2 hectares in San Martin CIS. Two collectors (Sto Rosario-B and San Martin) reported that despite the fact that non-payers' production is more than 65 cavans per hectare, amortization fees could not be collected. Assuming that one cavan of paddy consists of 50 kg. which is equivalent to 175 pesos, and the farmer could harvest 65 cavans per hectare, the amortization to NIA ranging from 150 to 170 pesos corresponds to only less than 2% of gross production value per hectare. In case the farmer could produce only 30 cavans per hectare, the amortization corresponds to more than 3% of gross production value.

Table K-7-3 indicates that the collectors who can not collect amortization fees from well-to-do farmers thus showing lower collection rate. Sto. Rosario-B and San Martin have some problems in amortization collection.

iii) The Reason Why He Can not Collect Fee from Non-Payers

The reasons the collectors reported are as follows:

Collector of CIS	Main Reason	Penalty of Non-Payer	Degree of Penalty
Marita	Tungro	No Irrigation Water	Verbal Deal
Sto Rosario-A	Tungro	No Irrigation Water	Strict
Sto Rosario-B	Tungro	No Irrigation Water	Strict
San Martin	Poor Facility	No Penalty	-

The collectors themselves feel that the irrigation facilities are not in good condition hence they find this as reason for non-collection of amortization, generally, collectors attempt to collect payment from non-payers at least three times on the average. This the collector do without remuneration and/or additional privilege. As a consequence, the collector becomes reluctant to collect amortization.

The non-payers on the other hand, refuse to pay since there are no penalties levied on them. This is the reason cited by the San Martin CIS respondent.

iv) Method of Estimating Paddy Yield

Unless the collector take note of the exact irrigated area and yield of one's farm, adequate and proper amortization can never be realized. According to the interviews, the following practices are usually undertaken: viz. during the planting period, monitoring and visitation are made by the BOD(s) and collector(s) to get the exact size of irrigated area and yield. However, these activities are usually undertaken before threshing. Among the nine collectors interviewed, three collectors replied that he verifies yield after threshing. However, these are not amortization collectors but IA association due collectors who benefit more if they have more collections.

v) Collector's Reluctancy to Collect

All the collectors interviewed work voluntarily and even though they could collect a high percentage of amortization, no salary or reward are given them. This is the reason why they are reluctant to collect. It is observed that in some CIS, the record of collection rates varies greatly, from that of the collector and that of NIA. The treasurers' figure appears to be lower than that of the collectors with NIAs' figure appearing to be the lowest.

2) IA Association Due (ISF) Collectors.

A Total of five IA association due collectors were interviewed and their response are summarized in Table K-7-4. The significant findings are discussed below:

i) Area and Farm Household Coverage

Area and farm household coverage by collectors are shown below. For the same reason mentioned in the previous section, names were assigned for each collector.

Anonymous Name	Area Covered	No. of Farm HHs Covered	No. of Farm HHs Collected	Collection Rate
Lucong-A	220 ha	105	76	72%
Lucong-B	125 ha	80	72	90%
Bamban-A	12 ha	14	12	86%
Bamban-B	25 ha	15	10	67%
Sta. Monica	740 ha	500	110	20%

The collectors named "Lucong-A" and "Sta Monica" are considered to be the most burdened for they are in charge of so many households , around 105 and 500 households, respectively. The collector "Lucong-B" holds an additional post, namely, treasurer of Lucong CIS. His collection rate is the highest not only among five collectors above mentioned but among all the seven collectors in the Lucong CIS.

ii) Characteristics of Non-Payers (refer to Table K-7-4)

The responses from the collectors mentioned in Table K-7-4 indicate that the non-payers' farms are located in places where the irrigation water is either lacking or overflowing. Non-payers are predominantly amortizing farmers. Generally, there are two types of non-payers that caused low collection rate viz i) poor farmers who could not pay, and ii) well-off farmers who do not want to pay. The area where "Bamban-B" and "Sta Monica" are in charge shows this fact clearly. Non-payer's residences are located a little bit farther as compared with non-payers in case of amortization. To collect the fee, "Bamban-B" usually walks, while "Sta Monica" uses a motorcycle.

iii) The reason why the collector could not collect fee from Non-Payers.

The five collectors gave the following reasons:

Anonymous Name	Main Reason	Penalty for Non-Payer	Degree of Penalty
Lucong-A	Tungro	No Irrigation water	Verbal Deal
Lucong-B	Lack of Income	No Irrigation water	Strict
Bamban-A	Low harvest	None	-
Bamban-B	Low harvest	None	-
Sta Monica	Poor Facility	No Irrigation Water	Applicable only to the farmers in upstream of canal

The reason of low harvest was not clearly mentioned by the two respondents, but as mentioned in the succeeding page, of their area, some non-payers with no debt, harvested 75 cavans per hectare from 2.5 hectares of irrigated land, that is, a higher average than a payer named "Lucong-e" (refer to Table K-7-6).

An attractive incentive is given to the collectors, that is, they can obtain 10% of the collected amount. However, the collector "Lucong-A" reported that he is reluctant to avail of it because as one of BODs, he is provided with an additional salary at 60 pesos per meeting.

iv) Methodology in estimating Paddy Yield

Methodology on how to estimate the paddy yield is not uniform even in the same CIS. The collector "Lucong-A" estimates the yield by observing three farmers who have just harvested and then, he makes it as a point of reference. "Lucong-B", "Bamban-A" and "Bamban-B" ask directly the operator/owner of thresher of one's yield, while "Sta Monica" visits the farm during the planting period and verifies it during threshing.

Since the collectible amount directly reflects the obtainable amount of the collectors, monitoring and checking the yield is undertaken more strictly than that in amortization collection.

K.7.3 Interviews of Non-Payers.

1) Non-Payer of Amortization.

A total of ten non-payers who were introduced by the amortization collectors were interviewed. To protect their identity , the names of non-payers were withheld. The anonymous names of collectors(named in Chapter K.7.2) and the non-payers are presented below.

Name of Collectors	Collection Rate	Non-Payers Introduced by the Collector
Marita	98%	Marita-a
Sto Rosario-A	90%	Sto Rosario-a
		Sto Rosario-b
Sto Rosario-B	80%	Sto Rosario-c
		Sto Rosario-d
		Sto Rosario-e
San Martin	15%	San Martin-a
		San Martin-b
		San Martin-c
		San Martin-d

The characteristics of non-payers are tabulated in Table K-7-5 and the notable findings are shown below;

i) Non-Payer in San Martin CIS

Analyzing the information gathered as presented in Table K-7-5, it can be deduced that some of the non-payers in the CIS can pay amortization required because they have an average land holding area at more or less three hectares while some of them can harvest 60 cavans per hectare without incurring any loan from the private lenders. Non-Payer, "San Martin-c" is considered as one of the farmers who can actually pay amortization. Since the by-laws of the CIS do not mention any form of penalty towards non-payers, some farmers are reluctant to pay amortization. Amortization collector named "San Martin" did not visit "San Martin-b" to collect payment. All the non-payers utilize irrigation pump and harvest more or less a yield of 90 cavans per hectare during the dry season. These non-payers could pay therefore their amortization during the dry season instead of the wet season.

ii) Non-Payer in Sto Rosario CIS

There exists a strict penalty for non-payer at Sto. Rosario CIS. If one does not pay, he cannot get irrigation water. So far, this penalty has been applied to several farmers. In case, one can not pay except for some unavoidable reasons, he is required to make a promissory note that he will pay the next cropping season.

Due to this strict penalty, all IA members pay amortization required. Four out of five non-payers reported their paddy yield at less than 40 cavans per hectare. Non-payer "Sto Rosario-b" can not pay because his entire area was severely affected by tungro hence, the collector did not collect payment from him.

iii) Non-Payer in Marita CIS

Non-payer "Marita-a" is the only non-payer under the amortization collector "Marita". The whole 2.1 hectares of "Marita-a" farm is located at the upper area where the irrigation canal is always silted. His non-irrigated area of 0.6 hectares was planted with mongo during the wet season of 1989. However, it was affected by pest and diseases and resulted in no harvest. The remaining 1.5 hectares is also experiencing water shortage even during the wet season. Also a part of his paddy area was attacked by tungro. He has debt amounting to P 7,200.00 with 10% interest per month. He reported that he could not pay his dues to NIA, neither his debt from the private lender.

iV) The Main Reasons For Not Paying

Non-payers mentioned the reasons why they can not pay and the order of priorities are mentioned are as follows:

Name of Non-Payer	Main Reasons (In the order of priorities)
Marita-a	Low harvest, poor irrigation service and other credit obligations
Sto Rosario-a	Low harvest, poor irrigation service and other credit obligations
Sto Rosario-b	Low harvest
Sto Rosario-c	Low harvest
Sto Rosario-d	Low harvest, income not enough for family, and other credit obligations
Sto Rosario-e	Low harvest, other credit obligations, and income not enough for family
San Martin-a	Low harvest, and other credit obligations
San Martin-b	Poor irrigation service, and low income
San Martin-c	Income not enough for family, low harvest, and poor irrigation service.
San Martin-d	Low harvest, other credit obligations, and poor irrigation service

2) Non-Payer of IA Association Due

A total of 13 non-payers introduced by the IA association due collectors and were interviewed. For purposes of comparison, two payers were also introduced by collector "Lucong-B". The anonymous names of collectors (mentioned in Chapter K.7.2), non-payers and payers are presented below:

Anonymous Names of Collectors who introduced the non-payer	Collection Rate	Anonymous names of Non-payers introduced by the collector
Lucong - A	72%	Lucong - a Lucong - b Lucong - c
Lucong - B	90%	Lucong - d Lucong - e* Lucong - f*
Bamban - A	86%	Bamban - a Bamban - b Bamban - c
Bamban - B	67%	Bamban - d Bamban - e Bamban - f

Sta Monica	20%	Sta Monica - a Sta Monica - b Sta Monica - c

*Payers for comparison

The characteristics of the 13 non-payers and 2 payers are presented in Table K-7-6 and the significant findings discussed as follows:

i) Non-payer in Lucong CIS

Since the CIS has a large area, seven due collectors (who also act as amortization collectors) were assigned as the IA association due collectors. The due amounting to P100 per hectare per cropping is consistent in the CIS, but other regulations such as penalty for non-payer, guidelines for payment, and so on, differ. Accordingly, definitions whether he could pay or whether he should pay solely depends on the collector in charge.

"Lucong-a" was given a concession by the collector, for he was assigned to manage water distribution of a sector hence, he was exempted from paying. It is quite sure that when incomes of non-payers' and payers' are compared, there exist significant difference in their estimated income, viz. the estimated payer's incomes in wet, 1989 both for "Lucong-e" and "Lucong-f" are above those of the non-payer's at P33,000 and P62,000, respectively.

ii) Non-payer in Bamban CIS

Non-payers are clearly classified as those who can harvest a little under the territory of collector "Bamban-A" and those who don't want to pay under the territory of collector "Bamban-B". This fact reflects the collection rates in both territories, viz. the collection rate of "Bamban-A" is 86%, while the rate of "Bamban-B" is 67%.

There are no penalties imposed on non-payers, hence collection rates as a whole are low. Non-payer "Bamban-d" was asked 5 times to pay by the collector. The main reason for his non-payment is poor irrigation services. He was engaged in palay trading during the wet season of 1989. From this business, he got nearly same income as his farm income at P20,000, more or less.

iii) Non-payer at Sta Monica CIS

Compared with other non-payers, the non-payers as Sta Monica CIS got a rather high yield except "Sta Monica-a". The farm of "Sta Monica-a" was severally affected by tungro and the yield reported was only 18 cavans per hectare. Non-payer "Sta Monica-b" got a high yield of 95 cavans/ha, but due to his small land holding area, his income is not enough for his family of six members. "Sta Monica-c" could have paid his dues if he was able to sell his palay at normal farmgate price. However, his harvest was flooded which brought about low farmgate price of only P1.80 per kilo.

iv) The Main Reasons Cited For Not Paying

Non-payers stated the reasons why they could not pay and the priorities mentioned are as follows:

Name of Non-payer	Main reasons (in the order of priorities)
Bamban - a	Low harvest; other credit obligations; and income not enough for family.
Bamban - b	Income not enough for family; low harvest; and other credit obligations.
Bamban - c	Low harvest
Bamban - d	Poor irrigation service; low harvest; and other credit obligations.
Bamban - e	Income not enough for family; poor irrigation service; and other credit obligations.
Bamban - f	Low harvest
Lucong - a	Low harvest; poor irrigation service
Lucong - b	Income not enough for family; poor irrigation service; and collectors did not come back to collect.
Lucong - c	Other credit obligations; low harvest; and poor irrigation service.
Lucong - d	Poor irrigation service; low harvest; and other credit obligations.
Sta Monica - a	Income not enough for family; low harvest; and other credit obligations.
Sta Monica - b	Other credit obligation; poor irrigation service; and income not enough for family
Sta Monica - c	Low harvest; income not enough for family; and other credit obligation.

K.7.4 Counter Measures on Irrigation Fee Collection

(1) From "Case-to-Case" to "In-Advance"

Out of the 19 CISs, 7 CISs are asking the members to pay association charges. Usually, the association dues are used for the operation and maintenance of the CIS. The implementors regard it as "irrigation fee" to distinguish it from "amortization" payment to NIA. The remaining 12 CISs collect irrigation fees,

when necessary, hence on a "case to case" basis. On the contrary, 7 CISs, which collect association dues, collect irrigation fees "in advance".

When comparing the CISs, the 7 CISs collecting "advance fees" have better production value per ha than the 12 CIS paying dues on a "case-to-case" basis. This is maybe due to the fact that once a farmer invest some amount before crops are damaged, they would make the best effort to recover their investment. Farmers on the other hand, who have not paid any amount in advance would not pay further amount when their crops are already damaged.

Some farmers still have the wrong notion that by paying the amortization to NIA, the management of irrigation water should be undertaken by the Government. Thus, the PIO should start the training of such farmers, and then, through the ICOs and IOWs, improve the method of collecting irrigation fees of IA from "case-to-case" basis to "in-advance" basis. The effectiveness of the advance payment is measured not only by upgrading the productivity through motivation of farmer's incentives, but also by the following intangible benefits:

- The burden of the irrigation fee collectors is lightened. The irrigation fee collectors who have been asked to collect irrigation fee after every crop damage will be released from the burden. Also, the duties of the treasurer are minimized.

- If the advance payment would be deposited to the financial institutions it will earn some amount of interest. If these amount would be regularly saved, this would create the internal funds for the IA. Having financial power, the organization of IA would be strengthened.

The same example can be applied to NIA's amortization collection. Of course, it is impossible to apply this advance payment to the newly established CISs. This is applicable only to existing CIS which intends to make some improvements, because, usually the farmers are considered to have at least 1.5 cavans of affordability before the improvement of the facilities.

(2) Minimizing Illegal Cultivation.

Illegal rice cultivation is widely undertaken both during the wet and dry seasons, especially at the river bed of Bamban. These riverbeds are basically government property and are not allowed for cultivation without government permission. Usually, it is not considered as irrigation service area, so NIA cannot ask the illegal cultivators for the amortization. Also, the IA officials do not collect irrigation fees to these cultivators.

In the project area, 6 CISs with a total area of about 40 hectares have illegal lands as estimated below:

Name of CIS	Area of illegal land
San Pedro CIS	4 hectares
Malonzo CIS	15 hectares
Bangcu CIS	2 hectares
Telabanca CIS	12 hectares
San Martin CIS	4 hectares
Baluto CIS	2 hectares
Total	39 hectares

As safeguard against illegal cultivation, it is recommended that the IA in collaboration with NIA, should request periodical cultivation rights from DENR to manage the land in a just manner. That is, the IA president will have the responsibility to manage cultivate the land, as well as the handling and guarantee charge of land acquisition. NIA will charge 1.5 cavans per hectare, the equivalent amortization paid to the CIS. In this case, the IA should justly distribute the profit of the land to the farmers who have rendered labor contribution, farm management and so on. NIA should advise them that some portions of the profit is to be saved in financial institutions, as internal funds of IA.

(3) From "No Profit" to "With Profit"

Generally, the IA is registered with the SEC as a "non-stock, non-profit organization" . According to the interviews of amortization collectors and of non-payors mentioned in the succeeding section, the break even yield for irrigation fee payment is estimated at 45 to 60 cavans per hectare, and for amortization payment, at 80 to 130 cavans per hectare.

However, since the farmers who borrow money from private lenders are first obliged to pay back their loans, it is sometimes impossible to pay amortization even though the farmers have harvested beyond the break-even yield. To secure the amortization collection, accordingly, the IA should gradually expand its activities from water management (non-profit activities) to farm input/output dealings (with-profit activities) which would provide farmers with financial affordability for payment.

Thus it is recommended that the IA increase its revolving fund through the collection of the association dues (irrigation fee) in advance. The treasurer of the IA should manage the fund in the safest manner with interest rate the same as when deposited in the bank. If some fund is retained at the end of the harvesting period, it should be deposited in the bank through the time deposit system. Other special financing systems should be considered in appropriate banking institutions which could give the most advantageous high interest rate.

In time, these deposits should be used for the purchase of post-harvest facilities such as threshers, rice mills and warehouses. These facilities would enable the farmers to increase

farm income by upgrading the quality of the production and decrease post harvest losses. Since some of the reasons why farmers do not pay irrigation fees and amortizations are greatly attributable to their debt from private lenders(who also act as post-harvest dealers at the same time) this move will economize the internal margin and minimize the debt from the lenders.

Success of this movement is introduced in Chapter 9.1.4 and the concept of the institutional development of the Project entirely corresponds with this theory.

(4) Functions and Power of the Treasurer

At present, amortization collection is the full responsibility of the IA. As presented in Chapters 9.1.2 and 9.1.3, there exists inconsistencies regarding the amount the farmers pay and the amount reported by the collectors, treasurers, and even NIA. Some collectors and even treasurers use the money collected for other purposes like lending it to their relatives or use it for paying their debts and obligations.

For the collection of amortization payments, NIA depends entirely on the IAs while the IA treasurer depends on the collectors. The IA treasurer does not have direct contact with the non-payers in the CIS. The credibility of the IA associations will weaken if NIA directly contacts the collectors and the non-payers. It is therefore necessary for the treasurer to check and verify the total collections remitted by the collector.

It is therefore necessary that functions of the treasurer be organized and strengthened as follows:

i) the treasurer must be given the authority to determine non-payers. It is recommended that the treasurer must be given the final say as to whether the farmer will or not.

ii) The treasurer must be given the authority to assign collectors. In case the collector commits a mistake, the treasurer should penalize him and when necessary replace him.

If the treasurer as well as the concerned IAs attain a high collection rate, they should be given incentives. For example, assuming that the collection rate is more than 90%, the excess of the 90% should be deposited in the bank by NIA as IA funds. Ten (10) percent of the excess which was deposited in the bank will be given to the treasurers as incentives.

(5) Research and Decrease of the Damage of Tungro

Based on interviews made on non-payers, it is estimated that about 70 percent are not really capable to pay because of lack of farm income. The rest of the 30 percent of the non-payers are reluctant to pay even if they can afford to pay.

The considered main reason for the low harvest is the presence of Tungro which damages crops. Unless research is made on the control of Tungro, damage to crop will continuously increase. As a consequence, high collection rate will never be materialized.

(6) Computerization

At present, NIA PIO has only four (4) ICOs who are in-charge of 12 CIS. They are therefore overburdened. The introduction of computer system will lessen their work load and help the PIO in the following aspects:

- The PIO can easily identify the problems of non-payers from the data about amortization collection prepared by the IA BODs of the CIS. Through these data policies regarding CIS development can be determined.
- The endemic problems will also be visualized. For example, the characteristics of non-payers in a specific year such as farm location, number of families and tungro affected areas will be easily defined.
- Injustices of collectors or non-payers will be minimized and consequently, the amortization collection rate will increase (refer to Figure K-7-1).
- Routine official procedures such as bookkeeping, documentation and calculation works will be simplified.

Table K-7-1 Status of CIS Amortization Collection
Region III
As of December, 1989

Province	No. of CIS	Service Area (ha)	Total IA Loan (P)	Yealy Amotztn. (P)	Amnt. Due for the Year(1989)	Amnt. Paid for the Year(1989)	Total Amnt. Paid to Date (P)	% of Collection Year	% of Collection To Date
Bataan	18	1128.79	2,721,303	170,746	315,981	71,649	308,459	22.7%	11.3%
Bulacan	10	787.1	2,807,609	123,199	274,965	28,040	56,246	10.2%	2.0%
Nueva Ecija	19	7116	12,779,414	1,012,287	1,980,767	340,634	1,300,748	17.2%	10.2%
Pampanga	30	4969	8,452,698	407,330	387,017	239,408	508,076	61.9%	6.0%
Tarlac	14	4636	6,746,373	504,399	304,525	173,951	317,865	57.1%	4.7%
Zambales	15	2027	3,986,386	184,248	751,145	76,363	306,272	10.2%	7.7%
Total-6	106	20663.89	37,493,783	2,402,208	4,014,400	930,044	2,797,666	23.2%	7.5%

Source; NIA, Region III

Table K-7-2 Status of CIS Amortization Collection
Tarlac
As of December, 1989

Name of CIS	Service Area (ha)	Total IA Loan (Pesos)	Yearly Amtztn. (Pesos)	Amnt. Due for the Year(1989)	Amnt. Paid for the Year(1989)	Total Amnt Paid to Date (P)	% of Collection Year	% of Collection To Date
			3/					
Lucong	1660	282,542 1/	11,302	11,302	11,302	90,402	100.0%	32.0%
Sta Monica	300	234,870	12,000	90,448	-	17,552	0.0%	7.5%
Manunit	134	45,012	22,507	800	18,200	44,212	2275.0%	98.2%
Lubigan	155	149,000	10,200	14,600	-	16,000	0.0%	10.7%
Marita	100	130,526	13,052	14,389	11,716	11,716	81.4%	9.0%
San Juan	86.5	291,433	22,706	35,628	4,535	9,785	12.7%	3.4%
Baldios	110	624,587 2/	14,963	-	750	750		0.1%
Pit-ao	96	419,775	25,200	21,600	3,600	3,600	16.7%	0.9%
Sta Maria	210	857,435	109,200	-	18,042	18,042		2.1%
Ambalingit	240	697,700	52,500	32,500	20,000	20,000	61.5%	2.9%
Iba-Sula	195	538,040	51,188	-	31,207	31,207		5.8%
Sinait-Dolores	110	407,792	28,875	25,258	3,600	3,600	14.3%	0.9%
Sto Rosario	200	1,676,907	67,706	-	46,000	46,000		2.7%
San Martin	240	390,754	63,000	58,000	5,000	5,000	8.6%	1.3%
(Sta Rita)	114	(624,587)	(30,069)					
(San Bartolome)	300	(246,594)	(78,750)					
(Telabanca)	386	(289,824)	(102,113)					
Total Tarlac */	4636.5	6,746,373	504,398	304,525	173,951	317,865	57.1%	4.7%

Note/ The amount will be reviced from 1990 as follows;
1/ 4,131,100
2/ 171,130
3/ 170,625

Source; PIO, Tarlac
*/ NIA Region III

Table K-7-3 Characteristics of Non-Payer (1) */

- Amortization Payment -

Name of Collector **/	Farm Location	Tenurial Status	Ave Land Holding Area (ha)	Average Yield of Palay (cav/ha)	Average Family Size	Amount of Amortization (Pesos)	Distance from Collecor's Residence	Collection Rate (%)
Marita	Upstream	AO 1/	2.0	30	6	150/ha/crng	0.5 km	98
Sto Rosario-A	Scattered	AO	1.5	35	5	170/ha/crng	0.5 km	90
Sto Rosario-B	Mid & Down	AO	1.8	65-80	6	170/ha/crng	1.0 km	80
San Martin	Downstream	AO	3.2	65-75	7	150/ha/crng	0.5 km	15

1/ Amortizing Owner
*/ Response from Amortization Collectors
**/ Mentioned anonymosly

Table K-7-4 Characteristics of Non-Payer (2) */

- IA Association Due (ISF) -

Name of CIS	Farm Location	Tenurial Status	Ave Land Holdings Area (ha)	Average Yield Palay (cav/ha)	Average Family Size	ISF Amount (pesos)	Distance from Collecor's Residence	Collection Rate (%)
Lucong - A	Downstream	AO	2.00	73	6	P100/ha/crpg	1.0 km	72
- B	Downstream & Midstream	AO	1.75	45	5	P100/ha/crpg	1.0 km	90
Bamban - A	Upstream	AO	1.00	40	10	1cav/ha	0.5 km	86
- B	Upstream	AO &Lessee	1.00	50	8	1cav/ha	2.0 km	67
Sta Monica	Downstream & Midstream	L.O & AO	2.00	95	6	P100/ha/crpg	1.5 km	20

Note: AO = Amortizing Owner
L.O.= Land Owner
*/ Response from IA association due (ISF) collector
**/ Mentioned anonymously

Table K-7-5 Characteristics of Non-Payer (3) */

--Amortization Payment--

Name of Non-Payer **/	Family Member	Wet 1989 Yield/ha	Land Holding Area (ha)	Irrigated Area (ha)	Penalty Paid	1/ (Crop-ping)	2/ (Cav/ha)	3/ (Times)	4/ (Pesos)	5/ (Pesos)
Marita-a	4	34	2.10	1.5	None	4	87	1	7,200	7,140
Sto Rosario-a	3	60	0.31	0.31	None	1	107	1	2,500	4,620
Sto Rosario-b	4	none	3.00	3.00	None	2	90	-	10,000	-
Sto Rosario-c	2	35	1.00	1.00	None	1	80	2	-	4,900
Sto Rosario-d	8	40	1.50	1.50	None	1	120	1	18,000	11,250
Sto Rosario-e	8	20	3.50	1.50	None	1	87	1	20,000	4,125
San Martin-a	5	45	3.00	3.00	None	3	85	1	30,000	20,700
San Martin-b	10	50	3.00	3.00	None	3	90	Many Times	9,000	21,000
San Martin-c	3	60	3.50	3.00	None	1	63	1	-	28,200
San Martin-d	7	45	2.00	2.00	None	1	100	1	20,000	12,600

Note:

*/ Interviewed from non-payers of amortization

**/ Mentioned anonymously

1/ How many croppins he did not pay so far.

2/ Break even yield to pay credit obligations.

3/ How many times he has been asked by the Collector.

4/ Amount borrowed from private lenders.

5/ Estimated total income in wet, 1989.

Table K-7-6 Characteristics of Non-Payer (4) */

--IA Association Due (ISF)--

Name of Non-Payer **/	Family Member	Wet 1989 Yield/ha (cav)	Land Holding Area (ha)	Irrigated Area (ha)	Penalty Paid	1/ (Cropping) ***/	2/ (Cav/ha)	3/ (Times)	4/ (Pesos)	5/ (Pesos)
Lucong - a	4	50	3.0	3.0	none	3	-	-	9,000	31,875
- b	7	70	3.5	3.5	none	4	90	3	20,000	14,720
- c	6	60	1.0	1.0	none	1	100	1	3,000	12,000
- d	7	62	1.3	1.3	none	1	90	1	6,000	18,600
Bamban - a	3	16	2.5	0.5	none	2	60	1	3,000	5,800
- b	7	27	1.0	1.0	none	2	70	2	7,000	8,610
- c	8	30	5.15	2.15	none	1	-	0	12,000	48,800
- d	8	75	2.5	2.5	none	1	100	5	0	41,600
- e	9	67	2.5	1.5	none	1	113	1	3,000	20,500
- f	6	48	1.25	1.25	none	1	-	0	0	24,250
Sta Monica-a	6	18	2.0	2.0	none	1	25	5	4,500	13,500
-b	6	96	0.625	0.625	none	8	100	1	6,000	12,900
-c	9	95	2.0	2.0	none	2	95	2	25,000	25,010
Name of Payer **/										
Lucong - e	3	70	2.0	2.0	none		40	-	16,000	33,400
- f	7	90	2.5	1.5	none		-	-	7,000	61,800

Note:

*/ Interviewed from non-payers of IA assolciation due (ISF)

**/ Mentioned anonymously

***/ Agreement with BOD - He helps to manage water distribution of a sector and will not pay irrigation fee anymore.

1/ How many croppings he did not pay so far.

2/ Break even yield to pay credit obligations.

3/ How many times he has been asked by the Collector.

4/ Amount borrowed from private lenders.

5/ Estimamted total income in wet season, 1989.

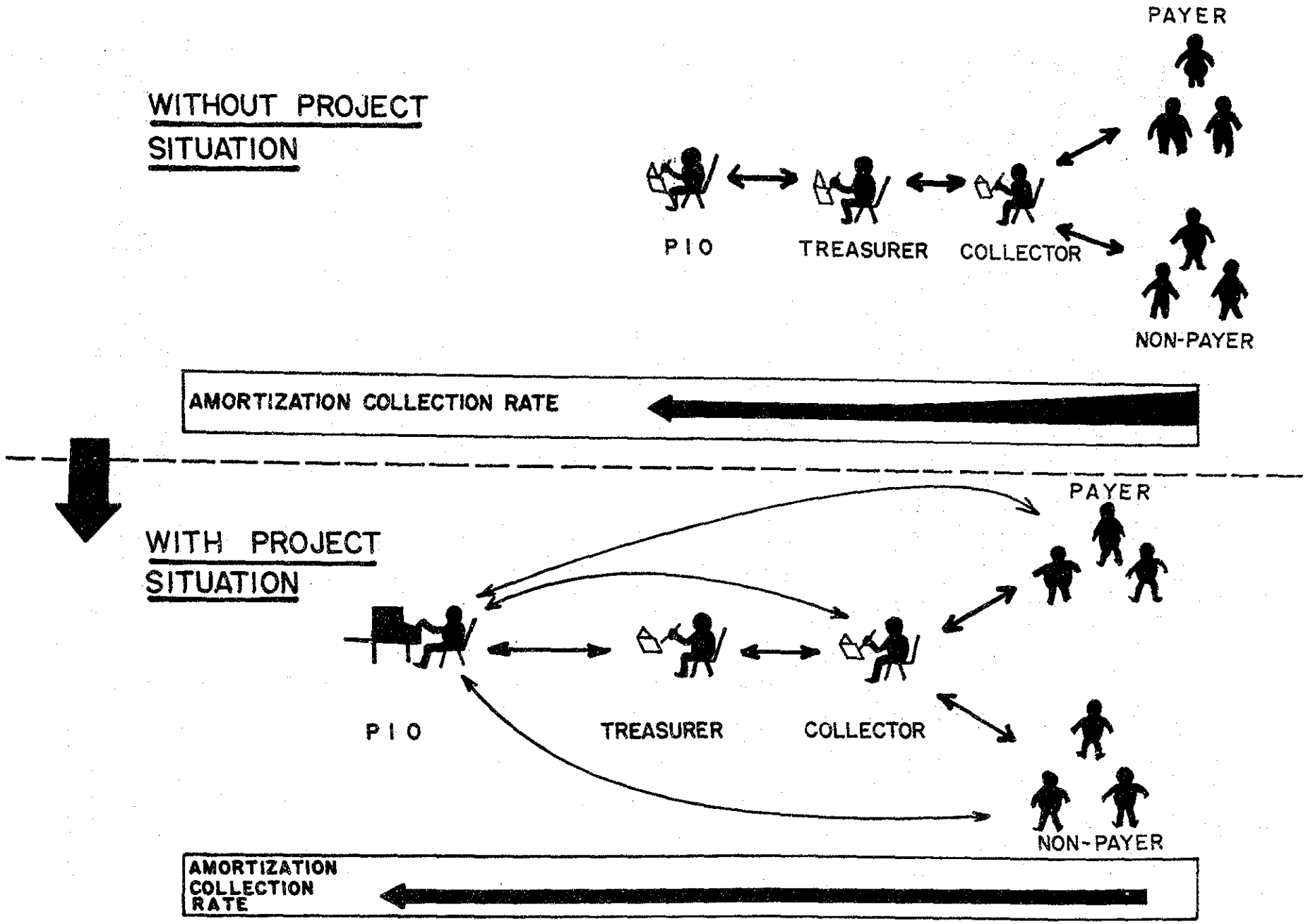


Figure K-7-1 Who Has Paid and Who Has Not Yet Paid ?

K.8 Cooperative Movement

1) Rationale

The miserable conditions which have been tolerated for a long time by the rural poor shall be now, more than ever, considered by the cooperatives. The self-help project mentioned hereinafter may not be novel but it is very timely in carrying out the socio-economic empowerment of the poor farmers.

The purpose of the self-help project is conceptualized on the present, intermediate and long range socio-economic objectives and policies embodied in the principles and practices of cooperativism. The long range plan of the cooperative is geared toward the basic successive stages of development; viz. from agricultural stage to agro-industrial stage to industrial stage. The emphasis should be placed on the optimum exploitation of human and natural resources to alleviate the rural poor and unemployment and underemployment in the community.

2) Development Concept

Primary problems on cooperative are summarized into three; viz. i) lack of good planner and organizer, ii) indiscriminate size of organization, and iii) insufficiency of Government's support.

Institutional development for agricultural cooperatives should be focused to cope with these problems and the two points discussed in this section are the followings;

i) Integrated Training for Farmers
ii) (MFIA-COs) Multi-Functional Association

3) Integrated Training Program for Farmers

Training of farmers upgrades farmers' capability not only for crop cultivation and water management, but also post harvesting, and community organizing. The following two sub-programs for farmers' training are recommended; a) Ordinary Farmer's Training and Good Organizer Training. The former seeks to bottom up the farmers' capability in terms of planting and, crop and water management, post-harvest and marketing research, while the latter aims to bring up the aspiring leaders for agricultural cooperatives, especially focusing on eligible farmers in the area.

a) Ordinary Farmer's Training

The farmer's training undertaken in barangay basis should be further strengthened and propagated. The subject of training should also be expanded. DA should hire various field of trainers on case to case basis and toward each field, 50 trainee should be recommended taking into consideration the capacity of existing barangay hall.

The trainee should be collected on barangay basis and the farming technology demonstration farms and post-harvest demonstration farms provided through the Project should be fully utilized as the teaching materials for training. The subjects to be trained are; i) optimum usage of planting materials, ii) suitable technique for palay cultivation, iii) water management, iv) post-harvest technique, v) marketing research, and vi) effectivity of farmer's organization.

b) Good Organizer Training

The program seeks to establish the training system for bringing up of good organizers. This program should be undertaken by DA in close coordination with other governmental agencies and NGOs. A training center in Dutang-A-Matas, Concepcion is periodically borrowed from NIA and to be utilized as the core of the training program.

Trainee are to be selected on cooperative basis taking into consideration his eligibility such as age, educational history, and managerial ability, since the program should be applied only to selected persons who must be the leaders of a cooperative in the future. A total number of trainee should be about 40 (2 persons times 19 CISs) and the all expenses required should be subsidized by the Government. The succeeders of cooperative, sophisticated technicians and/or consultants are to be chosen as the trainer and the training should be continually performed for a long period being concentrated onto same trainee.

4) (MFIA-COs) Multi-Functional Association

The target of the program is to multify the functions of IA and cooperative (CO) and finally create the independent federation. Accordingly, the program combines with proposed Model Federation of Irrigator's Association(MFIA) in the future. The program consistent with two components classified by development stage. These are; i) establishment of cooperative in every CIS, and ii) integration with MFIA.

a) Establishment of Cooperative in Every CIS

Out of 19 CISs in the Study area, nine CISs have no cooperative, while, three CISs have more than two cooperatives inside their territory, thus, the size of cooperative is quite indiscriminate. To draw forth the optimum function of cooperative, one cooperative shall firstly set up in every CIS. Accordingly, the number of cooperative should be adjusted in the CISs where no or more than two cooperative(s) are existing. This performance should be undertaken by DA with close collaboration with ICOs and IOWs of NIA. In this case, the implementors should thoroughly make the members recognize the objectives of the cooperative as summarized below:

i) The substitution of orderly marketing for the dumping of farm products on the market.

ii) Introduction and adoption of better merchandising practices.
iii) Increasing bargaining power for the farmer.
vi) Elimination of trade abuse.
v) Reduction of marketing cost, and
iv) Improving methods of production.

b) Multi-Functioning

In the future, the MFIA and cooperative are to be expanded their functions and consequently, the integrated organization (proposed CFA) should deal with from irrigation water management of on-farm level to agricultural input-output management. It is preferable that the practice of the CFA should be implemented gradually and spontaneously by some MFIA members, because the organizations created under a mandate of the governmental agencies are not strong enough in terms of organizational and functional stabilities. NIA in collaboration with DA and other concerned agencies should continuously provide the farmers with necessary information to assist the multi-functioning movement.

In the light of the present regulations and by-laws, Institutional Development Department of NIA is responsible for administrating of IA, while DA through CDA takes the responsibility of administrative matters of cooperative. Close discussion for the multi-functioning has being made recently between the two agencies, and some successful results, that is establishment of IA equipped with the functions of agricultural cooperative, have been obtained in some region. Thus, the constructive discussions not only between the head quarters of the concerned agencies but between the field offices of the subject agencies should continually undertaken.

K.8.1 Steps in Organizing Cooperative

1) Organization of core group among prospective members from which various working committee will be organized.

2) Filing of the application to organize with the provincial agricultural officer (PAO).

3) Conduct of the pre-membership education course among the prospective member organizers under the supervision of the CDA field workers.

4) Collection of the minimum requirement for capital contribution

5) Organizational meeting where the articles of incorporation and by-laws are adopted and the members of the board of directors and the various elective committees are elected.

6) Meeting of the elected members of the board of directors and committee members immediately after the organizational meeting.

6.1 Election of officers

6.2 Appointment of the manager and other officers and/or employees as deemed necessary by the board of directors.

6.3 Determination of accountable officers to be bonded, amount and type of bond.

6.4 Selection of depository banks, preferably government banking institutions.

7) Bonding of accountable officers

K.8.2 Registration Requirements

1) One copy of the application to organize a cooperative duly approved by the MAF Regional Director.

2) A copy of the duly approved Project Feasibility Study.

3) Six copies of the minutes of organizational meeting duly certified by the acting secretary and attested by the presiding officer.

4) Six copies of the minutes of the first meeting of the board and the committee duly certified by their respective secretaries and attested by their respective presiding officer.

5) Six copies of the articles of incorporation accompanies by treasurer's affidavit duly notarized.

6) Six copies of the by-laws.

7) Xerox, photastat, or true copy of the original bond contract of the accountable officers.

8) Four copies of the certificate of attendance for pre-membership education.

9) Bank confirmation of deposits of the credit cooperative funds.

10) Original copy of the information sheet of officers, directors and committee members.

K.8.3 Factors for Success in Cooperative Operations

K.8.3.1 Introduction

Cooperative is primary organized for the members. They are constituted to give efficient services and/or provide quality

goods at the lowest possible cost. The history of cooperatives is replete with many factors which contributed to failures in the past. The causes of failures have already identified in the discussion of the development of cooperatives in the Philippines. Hopefully, the revelation of causes of failures will serve as "an eye opener" for all sectors of the population who are engaged in the propagation of the cooperatives development program. The following discussion is the factors for success proven to be effective in the development of cooperatives. These essentials should be observed and followed by all implementors in the movement.

K.8.3.2 The Cooperative's Life

1) The Cooperative is born of necessity

The presence of socio-economic need is a must and such need is lasting or permanent. Some good reasons, among others, for organizing cooperatives are:

- To get marketing and purchasing services at lower cost
- To obtain credit at reasonable rate of interest
- To correct unsatisfactory trade practices like faulty weights and measures, adulteration and so on.
- To avoid misrepresentation of quality and high cost of charges.

2) Present Conditions Point towards Successful Future Operation

Know whether cooperative (Samahang Nayong) enterprise of similar nature has never been tried in the locality. If it failed, what are the reasons? Are the cases of failures justifiable? Can they be overcome?

Know the present attitude of the members toward the cooperative. Members should:

- Have definite financial investment in the cooperative.
- Participate in voting and interest in other important matters presented during meetings.
- Show loyalty to the cooperative.
- Patronize the cooperative.
- Desire to maintain sound financial structure.
- Be well informed about the operation of the cooperative.

3) Member's Conviction that Group Action Offers more Advantages to Them

If members are convinced of the advantages of doing things as a group, the cooperative has better chance for success.

i) Advantages of Group Action

As a group, they can help each other as each member's need arises and this is the essence of "bayanihan".

By pooling their resources and their efforts, each of the individual in the group can obtain more benefits than if it were on his own. Likewise, a group can have better bargaining power than members transacting individually. As a group, they are in better position to obtain higher prices for their produce and lower cost for their purchases. Also, by pooling their produce and their purchases, they can decrease the cost of transportation. They may also discount on bulk purchases. As a group, they may be access to facilities and services which may not be available if they act indivisually.

ii) Need for Discipline

This also means, however, that one must do his duties as a member of the group. There are times when decisions of the group may be contrary to his own wishes, but if the decision is for the group and not against laws and good morals, he should abide by the decision. The members of the cooperative must work hard to preserve the group.

K.8.3.3 Cooperative Education

1) Continuous Membership Education

All the essentials for a successful cooperative bring out the necessity of cooperative education.

Members must therefore, be informed on the objectives, functions, structures and policies of the cooperative even before being accepted into membership. This is why pre-membership education is very necessary.

When they are already members of the cooperative, they must see to it that they are kept informed of their cooperative's services, new policies and activities. They must also be aware of the problems and plans of their cooperative. This is why further membership education, seminars, lessons, assemblies, or meetings among members should be conducted.

2) Specialized Training for Office Bearers and Employees

Officers and committee members have specific functions in the cooperative which require for them certain knowledge and skills.

For example, the audit and inventory committee must know how to audit the association's books of accounts. The board of directors must be able to make sound policies for the operation of the cooperative.

The efficiency of the employees in performing their duties and their effectiveness in serving the needs of the members will undoubtedly build and strengthen member's trust, confidence and loyalty to their cooperative.

3) Proper Guidance

At the beginning, the cooperative will need advice in conducting its affairs. The BACOD's (now changes the name to CDA) duty is to help members organize themselves into effective groups.

When the cooperative is already operating, the DA cooperative supervisors, examiners, developers, and/or extension officers will also visit the coops to help by giving guidance in management. They will also check the records to see to it that member's interests are protected.

Cooperative program implementors, whether they are from government or the private sectors, should, therefore, also be well trained for their jobs to be effective in providing the much needed proper guidance.

K.8.3.4 Management

1) Good Record Keeping

Well maintained records are of utmost importance in the cooperative. This means that all minute of meetings, record of membership, and similar materials must be properly filed and maintained.

This also means that all financial transactions should be properly recorded. Receipts should be issued for all contributions and other payments from members.

These receipts must be properly recorded in the books of the cooperative. All expenditures incurred by the cooperative must be supported with invoices or vouchers and properly recorded. If records are not correctly made or efficiently maintained even at the start of the association, big problems may occur later.

2) Frequent Audit

The financial records of the cooperative should be checked regularly by the persons concerned. By checking records frequently, mistakes in recording can be avoided.

Also, members are assured that their interest (funds and property) in the cooperative are properly used and protected.

3) Presence of Dedicated Leaders

An important factor in the success of a cooperative organization is the presence of dedicated leaders in the community. These are the people who are expected to provide guidance and support to the cooperative.

Leaders are the people who promote more active membership participation. Without qualified leaders, the association will lack proper direction and will be susceptible to outside control. In many cases, the absence of qualified leaders has prevented the organization. In other cases, the absence of qualified leaders has turned cooperatives into political instruments which served the interest of opportunists.

Community residents think that what they lack are qualified leaders. But this is not true. Within the community, there are natural born leaders. It needs only a little training for community residents to express their hidden leadership characteristics. Trust plays a very important role in the operation of the cooperative. Officers are elected or appointed by the general membership and after their election, officers are expected to perform their duties. The fate of the organization depends to a great extent on the sincerity of its officers.

Many associations have failed mainly because its funds were used by their treasurers for personal interest or borrowed by the members of the board of directors and never paid back. It is true that there is always this danger in the handling of the association's money. However, honesty is related to the dedication of officers. As long as a strong sense of dedication exists, honesty is not a problem. It is the task of the members to elect from among themselves the people whom they think they can trust. Within a group of dedicated members, honest officials can always be found.

K.8.3.5 Business Operations

1) Adequate Volume of Business

A member has to contribute maximum essentials to the cooperative with capital and patronage. Sufficient volume of

business is necessary for the cooperative to render maximum service at the lowest possible cost and maintain strong bargaining position. Volume of business includes:

- Not only sufficient but variety of units to reduce cost operation
- Units of good quality at reasonable cost
- Commodities sold at the proper time and season to maintain low cost on processing, storing, insuring and financing
- Available commodities for sale at centrally located places

2) Sufficient Financing

The cooperative members should review the financial conditions from time to time. Every member should have enough investment in the cooperative to feel a definite responsibility and loyalty to it. The cooperative should:

- Have a workable and practical financing program
- Liquidate all its current borrowing yearly
- Be fair in its loan collection
- Have an adequate paid-up capital
- Have increased volume of business.

3) Sound Operating Policies

A member of a cooperative holds an important voice in establishing operating policies. Directors are guided by the wishes of the members, and management is by the instruction of the board of directors. Operating policies include, among others:

- Mobilizing the resources of members for capital formation;
- Undertaking continuous education and training program for officers and members; and
- Cooperating with other cooperative.

Operating policies must be conservative and not speculative.

K.8.3.6 The Key People in Cooperative

1) Enlightened and Responsible Membership

The cooperative is of, for, and by people. The bulwark of the cooperative is enlightened and responsible members.

Through the gradual process of sustained membership education, enlightenment can be attained and responsibility can be developed. The quality of membership in a cooperative is measured, among others, by:

- Existence of membership loyalty based on understanding

- Active membership participation by -

  . Attending Meeting

  . Render efficient service when chosen as officials

- Maintain stable income and keep the members satisfied with good service and patronage refunds, and

- Keep the cooperative growing by -

  . Enlisting more members to increase volume of business

  . Maintain the interest of members with a program of activities so that members have something to do from time to time.

2) Dynamic and Dedicated Leadership

The cooperative leaders should be chosen because of his keeping of business judgment and ability, not because of friendship or neighborliness and close relationship. The test for good board of directors are:

- Represent the interest of members and direct the cooperative for its maximum welfare

- Patronize cooperative

- Feel that members own and control the cooperative

- Inform members of their rights, duties and responsibilities in order to gain strong membership support

- Select cooperative employees on merit-education, training, experience and character

- Analyze and consider audit reports of the manager

- Spend cooperative's money as carefully as they would spend their own money.

- Approve the budget of the manager and review it whether it is being followed, and

- Realize that control of financial operation is the use of an operating budget

3) Honest and Effective Management

Management is the mainspring of the cooperative. Management should focus its operation on efficient service for the members in particular and for its cooperative as a whole.

- The manager must have a rich experience in business and must be a good business executive.

- The manager must have an open mind, is willing to adopt new ideas and should know his field of operation.

- The manager is not a "Boss" but a "Leader". He trains understudies who can take his place in his absence or when called on to take higher and greater responsibilities.

K.8.4 Tentative Guideline on the Organization of Primary Multi-Purpose Cooperatives

K.8.4.1 Rationale

The Study area is a predominantly rural society composed of medium- to large-farmers, agricultural laborers, jeepney drivers, sari-sari store operators, and many others. Thus, broad-based economic development and protection of democratic freedom cannot be achieved unless the rural and agricultural elements become participants and fill partners in the development process. A rural development program is essential to economic revival, social stability and as a means to create a decent standard of living for the people in the Study area.

The following is the President's pre-election speech which is the policy of her government:

> "Highest priority will be given to the development of agriculture. This will be done, not only to realize the goal of equitable distribution of benefits and opportunities, but also to enable the 70 percent of the population, who live in the countryside, to maximize their contributions to the economy."

In response, the MAF Thrust Programs are directed towards the agricultural sector to improve food production and marketing of agricultural productions to local and foreign markets. More specifically, the agenda for action in agricultural places is primarily on strategies and programs which can simultaneously address the problem of depressed incomes, low productivity, under-employment and malnutrition among the poorest segments of the farming population. Efforts will not only be to increase productivity but to reduce income disparities for the attainment of equitable sharing of benefits in the country's development goals.

For stimulating a speedier tempo of agricultural production, a manifold improvement in agricultural operations has to be effected by providing agriculturists with essential prerequisites, if cultivators are going to produce more food, they will need more credit, more production inputs, such as fertilizers, improved seeds, agricultural chemicals and so on. They will need also an improved marketing system to give them more assurance of benefit from greater production. The cultivator's economic welfare is generally linked with his ability to maximize production by tested economic practices.

Cooperatives are recognized as institutional channels by which benefits from MAF's programs along the goals mentioned above, can filter down to the grassroots level. Cooperativesm as a developmental approach was given political recognition when PD.175, "Strengthening the Cooperative Movement" declares it the policy of the state to foster the creation and growth of the cooperatives as a means of increasing income and purchasing power of the low income bracket in order to attain a most equitable distribution of income and wealth.

It is therefore imperative to strengthen the cooperatives and other farmers' organization as the base organizations of the Cooperative Development Program.

K.8.4.2 Requirement for Organization

For purposes of registration, the minimum membership and capital requirements are as follows:

- At least 25 members aged more than 21 years old, who have completed the pre-membership education program prescribed by the CDA.

- P5,000 paid-up capital (in cash)

If the members cannot immediately put up the capital requirements for operation, they may start with savings and loaning activities. Any business expansion shall be in accordance with the needs of the members and their financial and management capabilities.

K.8.4.3 Capital Structure

The capital structure of the cooperative may be stock or non-stock. In the case of a stock cooperative, at least 20% of the authorized capital stock shall be subscribed and at least 20% of the subscribed shall be paid but in no case the paid-up capital is less than 5,000 pesos.

K.8.4.4 Financing of the Cooperative

Cooperative financing is the pooling together of the small scattered resources of the members and channeling them into the mainstream of cooperative activities. The funding requirements of the cooperative should be provided by the members themselves through an organized and planned savings program. Harnessing of the member's resources shall firstly be undertaken before the cooperative considers tapping external resources of finance. If external finance shall be utilized at all, the cooperative should endeavor to replenish such fund with internally-generated capital as soon as possible. The cooperative shall derive its fund from the followings:

Share Capital

Direct membership capital shall be in the form of shares with or without capital stock, the par value of which shall be determined by the members. The by-law shall provide for the minimum number of shares to be sustained by each member which may be paid in lump sum or installments. Payments of at least one share and the membership fee shall entitle the member to the rights and privileges of membership.

Paid in shares may earn interest at the rate to be determined by the board of directors, but in no case shall it exceed the ceiling fixed by the Government. By way of generating additional capital, each member shall increase his shareholding through regular savings and by channeling into the share capital or a certain percentage of his annual interest on capital and patronage refund.

Revolving Capital

The cooperative may adopt a scheme of generating capital by deferring capital of interest on capital and patronage refund for a period as may be provided in the by-laws or laws, rules and regulations. The principle of first-in, first-out, shall apply.

Hence, the amount (interest on capital and patronage refund) deferred in January 1990, shall be paid out in December 1999, and so on.

General Reserve Fund

Unless the CDA prescribes otherwise, at least 10% of the annual income of the cooperative shall be set aside as General Reserve Fund (GRF) to be accumulated for the stability of the cooperative.

Any loss suffered by the cooperative may be charged against the General Reserve Fund on authority by the members. Upon

discussion of the cooperative, the CRF shall be donated for training and education of the members or disposed for such purposes as may be provided for in the rules or approved by the CDA.

Loan Capital

This refers to borrowings by the cooperative, either from the members themselves or from external sources, to supplement the members' share capital contribution. Cooperatives develop best through self-help and mutual help. Hence, the required capital should be generated first from within. Borrowings shall be resorted to only as a temporary measure and any borrowed capital shall be replenished immediately with internally-generated funds. In the event that the cooperative has to borrow additional capital, it must see to it that the cooperative's autonomy and independence are not compromised.

Subsidies, Grants and Donations

The cooperative is authorized by law to accept subsidies, grants and donations from local and foreign sources, subject to the rules promulgated by the CDA. However, the cooperative should set up an equivalent amount which may be taken from its yearly income on operation to be used for the establishment of a cooperative training center for its continuing education and training of officers, members and the public.

Deposits

The cooperative may accept two kinds of deposits:

- Saving Deposit --- Any member, in addition to his share capital investment, may open a savings deposit, the rate of interest of which shall be determined by the Board at the beginning of each fiscal year, in no case to exceed 6% per annum.

  Saving deposit not falling below 20 pesos during any calendar month shall be entitled to be computed quarterly, based on the lowest monthly balance outstanding during the period. The interest shall be credited to the depositor's account, and the same shall earn interest from the date it credited, at the same rate as saving deposit.

- Time deposit --- Deposit for a fixed period of time and for a fixed rate of interest may be accepted by the cooperative. The time deposit certificates in the form prescribed by the CDA evidencing the deposit shall be issued to depositors.

K.9 Other Institutional Development

1) Agrarian Reform

There is general agreement that agrarian reform is required to improve smallholders' and landless families' incomes but the means of effecting the reform are the subject of intensive discussion. However, the tenure changes must be made without sacrificing long-term efficiency and profitability.

Agrarian reform recognizes the promotion of rural industrialization as an integral part of the program. The effective deliver of credit in terms of timeliness and appropriateness is crucial in establishing the profitability of the new farming units. Support through appropriate technology and research, and production, processing, marketing and other support services must be provided. The expansion of farmers' organizations, cooperatives and agribusiness enterprises will provide a mechanism for collective action by the farmer beneficiaries.

2) Agriculture Institutions

A major revamp of agriculture institutions is continuing but indications are that further reorganization will be required. The recent reorganization of the DA recognizes the central role of the DA in promoting agriculture development.

There is considerable duplication and overlapping of functions in various attached agencies. A clear delineation of functions is required both within the DA and the attached agencies, and in other departments.

3) Government Investment Program

According to the Medium Term Philippine Development Plan (1987-1992), the Government plans to increase the agriculture sector share in total investment and significantly increase total investment in the sector. The public sector investment rate during the Plan period is about 5.4 per cent of GNP. The share of public investment in agriculture will increase from 9.3 per cent in 1981 to 1985 period to 12.7 per cent in the Plan period.

The total planned investment in the agriculture sector during the Plan period is about 25.0 billion pesos (constant 1986 prices). Most of the investment is for irrigation and rural roads.

The overall objectives and priorities of the agriculture sub-sector investments generally are consistent with the Government's development strategy and improve the resource allocation in the sub-sectors. The Government can accelerate rural growth by providing more new roads and upgrading existing roads; the present levels of expenditure for rural roads should be stabilized. Government expenditures should be partially shifted from irrigation to improvement of support services, and finally to

crop diversification. The allocations in the Plan fall short of the required levels for maintenance of rural roads and O & M of irrigation systems. The share of crop and market research expenditures should increase relative to extension after the rationalization of extension services.

K.10 Institutional Development in the Priority Area

K.10.1 Institutional Situation in the Priority Area

i) Amortization Payment

Out of three CISs, two CISs namely, Sta Rita CIS and Marita CIS are amortizing to NIA. Annual amortization amount of these CISs are P30,069 and P13,052 with remaining amortization period of 3 years and 10 years, respectively. Sta Rita CIS will start paying amortization this year and its due date of payment is in November, 1990. Marita CIS marked its amortization collection rate in 1989 at 90 percent. Out of 5 CISs which were required to pay amortization in 1989, Marita recorded the second highest collection rate next to Lucong CIS, while San Martin CIS reported the second lowest rate.

There are eight amortization collectors in Sta Rita CIS and one, in Marita CIS. A larger average area covered per collector is observed in Marita CIS at 100 hectares and the smaller is in Sta Rita CIS at 15 hectares. At Sta Rita CIS, there is a plan for collectors to provide 10 percent of total collected amount effective this year. Two CISs imposed penalty for non-payers.

ii) IA Association Due Collection

Three CISs are collecting IA association due not in advance but on a case to case basis.

iii) Water Management

Among the three CISs, Baluto CIS has no water tenders. In Sta Rita CIS, the BODs assign two to three farmers daily to inspect the brush dams and irrigation canals (main canals only). During dry season especially, the brush dams are watched 24 hours. Lateral and sub-lateral canals are checked by concerned farmers individually. Mass works for weeding and cleaning canals are undertaken twice a year with an average participation rate of 75%. Absentee farmers pay a penalty for non participation, like providing snacks for those undertaking the work.

One water tender is employed at Marita CIS at the remuneration rate of one third cavan per hectare per cropping season. However, during the drought year, he is not employed. Water management of brush dams and main irrigation canals are also checked everyday. Mass works with an average participation rate at 80% are also undertaken at the same frequency as Sta Rita CIS. Non-payers pay about P45 which is based on the average labor wage in the barangay.

Baluto CIS has no water tender. The water management is undertaken individually during the wet season. With the initiative of the BODs, water delivery schedule is applied only during the dry season. The mass work is made once a year at the beginning of the dry season. Non-participants of mass work are not

allowed to obtain irrigation water, thus the high participation rate at 90% is being achieved.

K.10.2 Organization of MFIA

Under the Pilot Communal Irrigation Systems Development (Pilot CISD), a total of three (3) CIS will benefit from the groundwater collecting conduit. Separate associations will be formed for each of the CIS, namely, the Marita, Sta. Rita and the Baluto CIS for the following reasons:

i) The three CIS is separated by the Bamban River. Though there is a plan to build a bridge across the river, it is still in the planning stage. Communication in the three CISs is difficult especially during the rainy season.

ii) The present progress of the organizations of the three CIS differs. Baluto CIS is inactive, while the other two are very active under the operation and maintenance stage of the participatory approach (refer to Tables K-10-1 to K-10-3).

iii) Economic status of the farmers also differ. The farmers of Marita and Sta. Rita CIS have an average farm size of more or less 2.3 ha while farmers of Baluto CIS have 4.0 ha per farm.

Table K-10-1 Progress of IA Organization (1)

	No-IA */	Organized Individually	NIA-FSDC Tie-Up IA	NIA Participatory Approach		
				Pre-Cons't. Stage	Construction Stage	O & M Stage
1. Bamban					☆	
2. San Pedro	☆					
3. Malonzo				☆		
4. Bangcu	☆					
5. Susuba-Cutcut	☆					
6. Teleblanca						☆
7. Sta. Rita						☆
8. Marita						☆
9. San Martin			☆			
10. Baluto			☆			
11. Lilibangan						☆
12. San Bartolome						☆
13. San Isidro	☆					
14. Lucong						☆
15. Magao					☆	
16. Tinang		☆				
17. Sto. Rosario						☆
18. Sta. Monica						☆
19. Caluluan					☆	

*/ Includes CIS not registered and not functioning

Table K-10-2 Progress of IA Organization (2)

Name of CIS	System Management		Financial Management			Organizational Management			
	Presence of Impl. Plan	Impl. Plans	Amort. Paid	IA Fund	O & M Fund	Regular BOD Mtgs	Annual Election	MOA */	Membrs. Actv-ness in IA Acti.
6. Teleblanca	☆					☆			
7. Sta. Rita	☆							☆	☆
8. Marita	☆	☆	90%						☆
9. San Martin	☆		8%			☆	☆	☆	☆
12. San Bartolome	☆								
14. Lucong	☆	☆	100%	☆	☆	☆		☆	☆
17. Sto. Rosario	☆	☆	68%			☆	☆	☆	☆
18. Sta. Monica	☆								

*/ Management Officer's Activeness in IA Activities
Source: ICOs and IOWs, PIO, Tarlac

Table K-10-3 Amortization and Chargeable Cost

	Amortization of IA		Chargeable Amount (As of Dec. 1989)
	1989	1990	
1. Bamban			951,660 (Amortization starts in 1991)
2. San Pedro			
3. Malonzo			
4. Bangcu			
5. Susuba-Cutcut			
6. Teleblanca		▽	
7. Sta. Rita		▽	
8. Marita	▽		
9. San Martin		▽	
10. Baluto			262,422*/
11. Lilibangan			
12. San Bartolome		▽	
13. San Isidro			
14. Lucong	▽		
15. Magao			199,464**/
16. Tinang			
17. Sto. Rosario		▽	
18. Sta. Monica	▽		
19. Caluluan			211,338***/

*/ Chargeable cost of Baluto CIS will not be paid back because no turnover took place as the system is not functioning.

**/ IA lost interest because of a typhoon that completely destroyed the embankment of the Baluto Creek, its water source and also the embankment of Main Canal No. 1 Located within the Barangay in August 1989. However, an ICO is deployed in the area right now working on the possibility of continuing the construction of the IA.

***/ Canalization has taken place during the early part of 1987 and early part of 1989 but had been totally stopped because of the inactiveness of the farmers due to the unavailability of water source. There is a plan to resume canalization activity this later part of 1990, connecting the canal to the Main Canal No. 2 of Sto. Rosario-Pamlong CIS, instead of the original plan.

APPENDIX L Cost Estimate

L-1 Summary of Project Cost at Current Price

(Unit: 1,000 Pesos)

Description	Total			Phase-I (Pilot CISD)			Phase-II		
	F.C.	L.C.	Total	F.C.	L.C.	Total	F.C.	L.C.	Total
1. Agricultural Infrastructure Development	182,300	167,700	350,000	58,000	43,000	101,000	124,300	124,700	249,000
1.1 Irrigation Facilities Development	81,000	104,900	185,900	12,500	16,400	28,900	68,500	88,500	157,000
1.2 Diversion Dams	9,500	7,900	17,400	2,900	500	3,400	6,600	7,400	14,000
1.3 Groundwater Collecting Conduit	83,900	46,200	130,100	40,900	25,200	66,100	43,000	21,000	64,000
1.4 Shallow Wells Development	4,700	3,900	8,600	1,700	900	2,600	3,000	3,000	6,000
1.5 Drainage Development	3,200	4,800	8,000	-	-	-	3,200	4,800	8,000
2. Farm Road Development	51,400	75,600	127,000	8,400	12,600	21,000	43,000	63,000	106,000
2.1 Barabgay Road	39,600	57,900	97,500	8,200	12,300	20,500	31,400	45,600	77,000
2.2 Farm-to-Market Road	11,800	17,700	29,500	200	300	500	11,600	17,400	29,000
3. Agricultural Development	196,300	29,700	226,000	80,000	11,000	91,000	116,300	18,700	135,000
3.1 Farming Technology Demonstration Farm	840	360	1,200	140	60	200	700	300	1,000
3.2 Seed Multiplication Station	2,800	600	3,400	2,800	600	3,400	-	-	-
3.3 Pilot Primary Marketing Station	76,700	10,200	86,900	76,700	10,200	86,900	-	-	-
3.4 Primary Marketing Station	114,000	15,000	129,000	-	-	-	114,000	15,000	129,000
3.5 Post-harvest Technology Demonstration Farm	1,060	440	1,500	360	140	500	700	300	1,000
3.6 Duch Raising	700	2,300	3,000	-	-	-	700	2,300	3,000
3.7 Fishery Pond	200	800	1,000	-	-	-	200	800	1,000
4. Institutional Development	7,000	10,000	17,000	6,000	2,000	8,000	1,000	8,000	9,000
4.1 Support Assistance for Strengthening of IAs	1,700	3,200	4,900	1,300	600	1,900	400	2,600	3,000
4.2 Support Assistance for MFIA	3,800	3,100	6,900	3,700	1,200	4,900	100	1,900	2,000
4.3 Support Assistance for Strengthening FIAs	100	400	500	-	-	-	100	400	500
4.4 Support Assistance for Strengthening CIAs	100	400	500	-	-	-	100	400	500
4.5 Support Assistance for Strengthening ASS	200	2,300	2,500	-	-	-	200	2,300	2,500
4.6 Support Assistance for Seminor & Training	1,100	600	1,700	1,000	200	1,200	100	400	500
Total of Project Cost	437,000	283,000	720,000	152,400	68,600	221,000	284,600	214,400	499,000

Note : 1. F.C. : Foreign Currency Portion
L.C. : Local Currency Portion
2. Exchange Rate : US$ 1.00 = P 22.50 = ¥ 150.00

L-2 (1) Breakdown of Development Cost for Phase-I Development (1/2)

Description	Unit	Q'ty	Unit Cost (Peso)	Amount F.C. (1,000 Pesos)	Amount L.C. (1,000 Pesos)	Amount Total (1,000 Pesos)	Rmarks
1. Agricultural Infrastructure Development							
1.1 Canal & Canal Structures							
7. Sta Rita CIS							
Type IV	m	500	3,490	698	1,047	1,745	FC 1,396, LC 2,094
Turnout	Unit	8	110,000	592	288	880	FC 74,000, LC 36,000
Service Road (Main Canal)	m	900	700	270	360	630	FC 300, LC 400
Service Road (Lateral Canal)	m	600	400	600	1,800	2,400	FC 100, LC 300
Miscellaneous	LS			40	105	145	
Subtotal				2,200	3,600	5,800	
8. Marita CIS							
Type II	m	370	2,818	417	625	1,042	FC 1,127, LC 1,689
Type III	m	530	3,262	691	1,038	1,729	FC 1,304, LC 1,958
Turnout	Unit	7	110,000	518	252	770	FC 74,000, LC 36,000
Service Road (Main Canal)	m	1,600	700	480	640	1,120	FC 300, LC 400
Miscellaneous	LS			94	45	139	
Subtotal				2,200	2,600	4,800	
10. Baluto CIS							
Type III	m	390	3,262	509	764	1,273	FC 1,304, LC 1,958
Type IV	m	1,490	3,490	2,080	3,120	5,200	FC 1,396, LC 2,094
Type V	m	500	4,093	819	1,228	2,047	FC 1,638, LC 2,455
Turnout	Unit	29	110,000	2,148	1,044	3,190	FC 74,000, LC 36,000
Service Road (Main Canal)	m	4,200	700	1,260	1,680	2,940	FC 300, LC 400
Service Road (Lateral Canal)	m	2,500	400	250	750	1,000	FC 100, LC 300
Miscellaneous	LS			138	214	350	
Subtotal				7,200	8,800	16,000	
Subtotal of 1.1				11,600	15,000	28,600	
1.2 Intake Structure							
8. Telebanca CIS							
Collecting Pipe C-1	Unit	1	230,000	92	138	230	FC 40%
Weir W-1	Unit	1	1,940,000	776	1,164	1,940	FC 40%
Miscellaneous	LS			32	98	130	
Subtotal of 1.2				900	1,400	2,300	
1.3 Diversion Dams							
14. Lucong CIS							
Flush Board Rehabilitation G-III	Unit	1	1,000,000	900	100	1,000	FC 90%
Miscellaneous	LS			100	100	200	
Subtotal				1,000	200	1,200	
18. Tinang CIS							
Flush Board Rehabilitation G-II	Unit	1	2,040,000	1,840	200	2,040	FC 90%
Miscellaneous	LS			60	100	160	
Subtotal				1,900	300	2,200	
Subtotal of 1.3				2,900	500	3,400	
1.4 Groundwater Collecting Conduit (GCC)							
(1) GCC Type GC-I for Sta Rita CIS and Marita CIS							
Earth Work	m^3	23,100		1,070	1,590	2,660	FC 40%
Conduit Work RCP ϕ24" ~ 40"	m	1,000		2,980	2,980	5,960	FC 50%
Corrugated Pipe	m	500		10,950	2,740	13,690	FC 80%
Conc.& others	m^3	282		2,200	2,190	4,390	FC 50%
Miscellaneous	LS			500	300	800	
Subtotal				17,700	9,800	27,500	
(2) GCC Type GC-III for Baluto CIS							
Earth Work	m^3	38,200		1,680	2,510	4,190	FC 40%
Conduit Work RCP ϕ24" ~ 40"	m	2,000		8,830	8,830	13,660	FC 50%
Corrugated Pipe	m	500		10,950	2,740	13,690	FC 80%
Conc.& others	m^3	282		3,000	2,980	5,980	FC 50%
Miscellaneous	LS			740	360	1,100	
Subtotal				23,200	15,400	38,600	
Subtotal of 1.4				40,900	25,200	68,100	
1.5 Shallow Wells							
(1) Drilling Rig w/ accessories	LS	1		1,400	600	2,000	FC 70%
(2) Shallow Wells Installation							
12. San Bartolome CIS	Unit	2	34,000	34	34	68	FC 50%
13. San Isidro CIS	Unit	2	34,000	34	34	68	FC 50%
14. Lucong CIS	Unit	2	34,000	34	34	68	FC 50%
15. Magao CIS	Unit	2	34,000	34	34	68	FC 50%
17. Sto Rosario CIS	Unit	2	34,000	34	34	68	FC 50%
19. Caluluan CIS	Unit	2	34,000	34	34	68	FC 50%
(3) Miscellaneous	LS			96	96	192	
Subtotal of 1.5				1,700	900	2,600	
Total of 1.				58,000	43,000	101,000	
2. Farm Road Development							
2.1 Barangay Road							
Improvement	m	8,200	2,400	7,900	11,800	19,700	FC 40%
Miscellaneous	LS			300	500	800	
Subtotal				8,200	12,300	20,500	
2.2 Farm-to-Market Road							
Improvement	m	500	600	120	180	300	FC 40%
Miscellaneous	LS			80	120	200	
Subtotal				200	300	500	
Total of 2.				8,400	12,600	21,000	

L-2 (2) Breakdown of Development Cost for Phase-I Development (2/2)

3. Agricultural Development								
3.1 Farming Technology Demonstration Farm (FTDF)	2 Places 20 Ha X 2 = 40 Ha							
Production Materials	Seed	Kg	3,000	10	6	24	30	FC 20%
	Fertilizer	Kg	6,000	15	72	18	90	FC 80%
	Pesticides/Chemicals	Kg	20,000	3	48	12	60	FC 80%
Miscellaneous		LS			14	6	20	
Subtotal of 3.1					140	60	200	
3.2 Seed Multiplication Station (SMS) : Station 1 Place and Seed Growing Farm 200 Ha								
Station Facilities : Seed Tresher, Air-Screen Cleaner, Power Sprayer, and Seed Inspection & Control Laboratory Equipment					2,000	200	2,200	FC 90%
Seed Growing Materials : Seed, Fertilizer, Pesticides/Chemicals					670	330	1,000	FC 67%
Miscellaneous					130	70	200	
Subtotal of 3.2					2,800	600	3,400	
3.3 Pilot Primary Marketing Station (PPMS) 2 Places in 8. Marita CIS and 10. Baluto CIS					76,700	10,200	86,900	
Subtotal of 3.3					76,700	10,200	86,900	
Per Station :								
Station Facilities :	Quality Control and Administration House				1,530	170	1,700	FC 90%
	Paddy Warehouse w/ Rice Mill Barn, Warehouse				19,800	2,200	22,000	FC 90%
	Green House				2,700	300	3,000	FC 90%
	Multi-purpose Pavement				700	700	1,400	FC 50%
	Motor pool				360	40	400	FC 90%
Equipment	: 4-Wheel Tractor w/ Attachment				2,070	230	2,300	FC 90%
	Power Tiller w/ Attachment				50	50	100	FC 50%
	Portable Thresher				900	100	1,000	FC 90%
	Solar Dryer				5,580	620	6,200	FC 90%
	Semi-cono Rice Mill				70	70	140	FC 50%
	Cargo Truck				720	80	800	FC 90%
	Quality Inspection & Cotrol Equipment				450	50	500	FC 90%
	Platform Scale				36	4	40	FC 90%
	Station Support Equipment				990	110	1,100	FC 90%
Maintenance Equipment for Irrigation Systems	Excavator, Concrete Mixer, Brush Cutter				1,800	200	2,000	FC 90%
Miscellaneous		LS			594	176	770	
Total of cost per station					38,350	5,100	43,450	
3.4 Post-harvest Technology Demonstration Farm (PTDF) 2 Places in 8. Marita CIS and 10. Baluto CIS					360	140	500	
Subtotal of 3.4					360	140	500	
Per Place :								
Equipment :	Hand Sprayer, Power Sprayer, Tailer, Manual Weeder, Reaper, Hand Microphone				110	10	120	FC 90%
Miscellaneous					70	60	130	FC 50%
Subtotal of cost per place					180	70	250	
Total of 3.					80,000	11,000	91,000	
4. Institutional Development								
4.1 Support Assistance for Strengthening of IA								
(1) Vehicle and Equipment								
Motorcycle		Unit	5	30,000	135	15	150	FC 90%
Utility Jeep		Unit	2	500,000	900	100	1,000	FC 90%
Computer System		Set	1	100,000	90	10	100	FC 90%
(2) Office Expences		LS			40	160	200	FC 20%
(3) Miscellaneous		LS			135	315	450	
Subtotal of 4.1					1,300	600	1,900	
4.2 Support Assistance for MFIA								
(1) Vehicle and Equipment								
Utility Jeep		Unit	3	500,000	1,350	150	1,500	FC 90%
Truck (1.5 Ton)		Unit	3	600,000	1,620	180	1,800	FC 90%
Office Computer System for Sta Rita & Marita			1	100,000	90	10	100	FC 90%
for Baluto			1	100,000	90	10	100	FC 90%
(2) ICO for 2 person and 2 years		LS			-	340	340	
(3) Office Expences		LS			40	160	200	FC 20%
(4) Miscellaneous		LS			510	350	860	
Subtotal of 4.2					3,700	1,200	4,900	
4.3 Support Assistance for Seminor & Training Program								
(1) Vehicle and Equipment								
Microbus for trainee		Unit	1	720,000	648	72	720	FC 90%
Audio Visual Set		Set	1	300,000	270	30	300	FC 90%
(2) Expence for Lecturers		Month	12	10,000	-	12	12	
(3) Office Expence		LS			-	12	12	
(4) Miscellaneous		LS			82	74	156	
Subtotal of 4.3					1,000	200	1,200	
Total of 4.					6,000	2,000	8,000	
Grand Total of Pilot CISD					152,400	68,600	221,000	

L-3 (1) Breakdown of Development Cost for Phase-II Development (1/4)

Description	Unit	Q'ty	Unit Cost	Amount F.C.	Amount L.C.	Amount Total	Remarks
			(Peso)	(1,000 Pesos)	(1,000 Pesos)	(1,000 Pesos)	
2. Agricultural Infrastructure Development							
2.1 Irrigation Facilities Development							
2.1.1 Canal & Canal Structures							
1. Bamban CIS							
Type II	m	2,280	2,153	1,870	2,940	4,910	FC 862, LC 1,291
Type III	m	3,020	2,494	3,010	4,520	7,530	FC 997, LC 1,497
Type IV	m	2,160	2,669	2,310	3,460	5,770	FC 1,068, LC 1,601
Type V	m	2,370	3,130	2,970	4,450	7,420	FC 1,252, LC 1,878
Type VI	m	750	15,758	4,730	7,090	11,820	FC 6,303, LC 9,456
Turnout	Unit	22	84,000	1,230	620	1,850	FC 56,000, LC 28,000
Service Road (Main Canal)	m	6,300	500	1,260	1,890	3,150	FC 200, LC 300
Miscellaneous	LS			320	430	750	
Subtotal				17,800	25,400	43,200	
2. San Pedro CIS							
Turnout	Unit	7	84,000	390	200	590	FC 56,000, LC 28,000
Service Road (Main Canal)	m	2,200	500	440	660	1,100	FC 200, LC 300
Miscellaneous	LS			70	40	110	
Subtotal				900	900	1,800	
3. Malonzo CIS							
Type I	m	4,780	262	500	750	1,250	FC 105, LC 157
Turnout	Unit	11	84,000	620	310	930	FC 56,000, LC 28,000
Service Road (Main Canal)	m	2,400	500	480	720	1,200	FC 200, LC 300
Service Road (Lateral Canal)	m	500	300	50	100	150	FC 100, LC 200
Miscellaneous	LS			50	20	70	
Subtotal				1,700	1,900	3,600	
4. Bangcu CIS							
Type II	m	550	2,153	480	710	1,190	FC 862, LC 1,291
Type III	m	600	2,494	600	900	1,500	FC 997, LC 1,497
Type IV	m	600	2,669	640	960	1,600	FC 1,068, LC 1,601
Type V	m	1,150	3,130	1,440	2,160	3,600	FC 1,252, LC 1,878
Turnout	Unit	6	84,000	340	170	510	FC 56,000, LC 28,000
Service Road (Main Canal)	m	1,800	500	360	540	900	FC 200, LC 300
Miscellaneous	LS			40	80	100	
Subtotal				3,900	5,500	9,400	
5. Susuba Cutcut CIS							
Turnout	Unit	3	84,000	170	90	260	FC 56,000, LC 28,000
Service Road (Main Canal)	m	900	500	180	270	450	FC 200, LC 300
Miscellaneous	LS			50	40	90	
Subtotal				400	400	800	
6. Telebanca CIS							
Type II	m	1,080	2,153	910	1,370	2,280	FC 862, LC 1,291
Turnout	Unit	21	84,000	1,180	590	1,770	FC 56,000, LC 28,000
Service Road (Main Canal)	m	2,800	500	560	840	1,400	FC 200 LC 300
Service Road (Lateral Canal)	m	800	300	80	160	240	FC 100, LC 200
Miscellaneous	LS			70	40	110	
Subtotal				2,800	3,000	5,800	
9. San Martin CIS							
Type II	m	1,500	2,153	1,290	1,940	3,230	FC 862, LC 1,291
Turnout	Unit	13	84,000	730	370	1,100	FC 56,000, LC 28,000
Service Road (Main Canal)	m	3,700	500	740	1,110	1,850	FC 200, LC 300
Miscellaneous	LS			40	80	120	
Subtotal				2,800	3,500	6,300	
11. Lilibangan CIS							
Turnout	Unit	11	84,000	620	310	930	FC 56,000, LC 28,000
Service Road (Main Canal)	m	1,200	500	240	360	600	FC 200, LC 300
Service Road (Lateral Canal)	m	1,200	300	120	240	360	FC 100, LC 200
Miscellaneous	LS			20	90	110	
Subtotal				1,000	1,000	2,000	
12. San Bartolome CIS							
Type II	m	330	2,153	280	430	710	FC 862, LC 1,291
Turnout	Unit	13	84,000	730	370	1,100	FC 56,000, LC 28,000
Service Road (Main Canal)	m	1,300	500	280	390	650	FC 200, LC 300
Service Road (Lateral Canal)	m	1,600	300	130	260	390	FC 100, LC 200
Miscellaneous	LS			100	50	150	
Subtotal				1,500	1,500	3,000	
13. San Isidro CIS							
Type II	m	1,000	2,153	860	1,290	2,150	FC 862, LC 1,291
Turnout	Unit	5	84,000	280	140	420	FC 56,000, LC 28,000
Service Road (Main Canal)	m	1,400	500	280	420	700	FC 200, LC 300
Miscellaneous	LS			80	50	130	
Subtotal				1,500	1,900	3,400	
14. Lucong CIS							
Type II	m	1,250	2,153	1,080	1,610	2,690	FC 862, LC 1,291
Type III	m	990	2,494	990	1,480	2,470	FC 997, LC 1,497
Type IV	m	3,210	2,669	3,430	5,140	8,570	FC 1,068, LC 1,601
Type V	m	420	3,130	530	790	1,320	FC 1,252, LC 1,878
Turnout	Unit	74	84,000	4,150	2,070	6,220	FC 56,000, LC 28,000
Service Road (Main Canal)	m	5,200	500	1,040	1,560	2,600	FC 200, LC 300
Service Road (Lateral Canal)	m	11,600	300	1,160	2,320	3,480	FC 100, LC 200
Miscellaneous	LS			220	230	450	
Subtotal				12,600	15,200	27,800	

L-3 (2) Breakdown of Development Cost for Phase-II Development (2/4)

Description	Unit	Q'ty	Unit Cost	Amount F.C.	Amount L.C.	Amount Total	Remarks
15. Nagao CIS							
Type II	m	890	2,153	770	1,150	1,920	FC 862 LC 1,291
Type III	m	540	2,494	540	810	1,350	FC 997, LC 1,497
Turnout	Unit	24	84,000	1,350	670	2,020	FC 56,000,LC 28,000
Service Road (Main Canal)	m	6,300	500	1,260	1,890	3,150	FC 200, LC 300
Miscellaneous	LS			80	80	160	
Subtotal				4,000	4,600	8,600	
16. Tinang CIS							
Type II	m	3,170	2,153	2,730	4,100	6,830	FC 862, LC 1,291
Turnout	Unit	17	84,000	950	480	1,430	FC 56,000, LC 28,000
Service Road (Main Canal)	m	3,900	500	780	1,170	1,950	FC 200, LC 300
Miscellaneous	LS			40	50	90	
Subtotal				4,500	5,800	10,300	
17. Sto Rosario CIS							
Turnout	Unit	13	84,000	730	370	1,100	FC 56,000, LC 28,000
Service Road (Main Canal)	m	1,800	500	360	540	900	FC 200, LC 300
Service Road (Lateral Canal)	m	1,300	300	130	260	390	FC 100, LC 200
Miscellaneous				80	30	110	
Subtotal				1,300	1,200	2,500	
18. Sta Monica CIS							
Type II	m	2,990	2,153	2,580	3,860	6,440	FC 862, LC 1,291
Type III	m	510	2,494	510	760	1,270	FC 997, LC 1,497
Turnout	Unit	21	84,000	1,180	590	1,770	FC 56,000, LC 28,000
Service Road (Main Canal)	m	3,300	500	660	990	1,650	FC 200, LC 300
Service Road (Lateral Canal)	m	1,500	300	150	300	450	FC 100, LC 200
Miscellaneous	LS			120	100	220	
Subtotal				5,200	6,600	11,800	
19. Caluluan CIS							
Miscellaneous	LS			100	600	700	
Subtotal				100	600	700	
Total of 2.1.1				82,000	79,000	141,000	
2.1.2 Intake Facilities							
1. Bamban and 2. San Pedro CISs							
Collecting Pipe, Type C-V	Unit	1		1,190	1,780	2,970	FC 40%
Weir w/ Stop-log	Unit	1		600	890	1,490	FC 40%
Miscellaneous	LS			110	130	240	
Subtotal				1,900	2,800	4,700	
3. Malonzo CIS							
Collecting Pipe, Type C-I	Unit	1		70	100	170	FC 40%
Collecting Pipe, Type C-II	Unit	1		100	160	260	FC 40%
Weir w/ Stop-log	Unit	2		1,200	1,780	2,980	
Miscellaneous				130	60	190	
Subtotal				1,500	2,100	3,600	
4. Bangcu CIS							
Collecting Pipe, Type C-IV	Unit	1		850	1,280	2,130	FC 40%
Weir w/ Stop-log	Unit	1		600	890	1,490	FC 40%
Miscellaneous				50	130	180	
Subtotal				1,500	2,300	3,800	
6. Telebanca CIS							
Collecting Pipe, Type C-I	Unit	1		70	100	170	FC 40%
Collecting Pipe, Type C-III	Unit	1		210	320	530	FC 40%
Weir w/ Stop-log	Unit	2		1,200	1,780	2,980	FC 40%
Miscellaneous				120	100	220	
Subtotal				1,600	2,300	3,900	
Total of 2.1.2				6,500	9,500	16,000	
Total of 2.1				88,500	88,500	157,000	
2.2 Diversion Daa							
5. Susuba Cutcut CIS							
Rehabilitation of Whole Structure	Unit	1		660	750	1,410	FC 40%
Miscellaneous				140	50	190	
Subtotal				800	800	1,600	
12. San Bartolome CIS							
Rehabilitation, Weir	Unit	1		20	40	60	FC 40%
Rehabilitation, Type R-I	Unit	2		840	1,260	2,100	FC 40%
Miscellaneous				140	100	240	
Subtotal				1,000	1,400	2,400	
16. Tinang							
Rehabilitation, Type R-II	Unit	1		890	1,320	2,210	FC 40%
Miscellaneous				110	80	190	
Subtotal				1,000	1,400	2,400	
17. Sto Rosario CIS							
Rehabilitation, Type G-I	Unit	1		550	60	610	FC 90%
Rehabilitation, Type R-II	Unit	1		890	1,320	2,210	FC 40%
Miscellaneous				60	120	180	
Subtotal				1,500	1,500	3,000	
18. Sta Monica CIS							
Rehabolitation, Type G-I	Unit	1		550	60	610	FC 90%
Rehabilitation, Type R-II	Unit	1		890	1,320	2,210	FC 40%
Miscellaneous				60	120	180	
Subtotal				1,500	1,500	3,000	

L-3 (3) Breakdown of Development Cost for Phase-II Development (3/4)

19. Caluluan CIS							
Rehabilitation of Whole Structure	Unit	1		660	750	1,410	FC 40%
Miscellaneous				140	50	190	
Subtotal				800	800	1,600	
Total of 2.2				8,600	7,400	14,000	
2.3 Groundwater Collecting Conduit (GCC)							
2.3.1 GCC Type GC-II for 8. San Martin CIS							
Earth Work	m³	29,200		1,020	1,540	2,560	FC 40%
Conduit Work RCP ∮ 24" ~40"	m	1,000		2,480	2,470	4,950	FC 50%
Corrugated Pipe	m	800		13,400	3,350	16,750	FC 80%
Conc. & others	m³	420		2,320	2,320	4,640	FC 50%
Miscellaneous	LS			280	320	600	
Subtotal				19,500	10,000	29,500	
2.3.2 GCC Type GC-IV for 11. Lilibangan CIS							
Earth Work	m³	32,500		1,140	1,700	2,840	FC 40%
Conduit Work RCP ∮ 24"~40"	m	850		2,330	2,330	4,660	FC 50%
Corrugated Pipe	m	1,000		16,750	4,180	20,930	FC 80%
Conc. & others	m³	525		2,890	2,680	5,570	FC 50%
Miscellaneous				590	110	700	
Subtotal				23,500	11,000	34,500	
Total of 2.3				43,000	21,000	64,000	
2.4 Shallow Wells							
Shallow Wells Installation	Unit	259	20,800	2,700	2,700	5,400	FC 50%
Miscellaneous	LS			300	300	600	
Total of 2.4				3,000	3,000	6,000	
2.5 Drainage Development							
5. Susuba Cutcut CIS							
Drainage Canal	m	2,500	2,000	2,000	3,000	5,000	FC 40%
Miscellaneous	LS						
19. Caluluan CIS							
Drainage Canal	m	1,500	2,000	1,200	1,800	3,000	FC 40%
Miscellaneous	LS						
Total of 2.5				3,200	4,800	8,000	
Total of 2.				124,300	124,700	249,000	
3. Farm Road Development							
3.1 Barangay Road							
Improvement	m	44,700	1,700	31,290	44,700	75,990	FC 40%
Miscellaneous	LS			110	900	1,010	
Subtotal				31,400	45,600	77,000	
3.2 Farm-to-Market Road							
Improvement	m	57,400	500	11,480	17,220	28,700	FC 40%
Miscellaneous	LS			120	180	300	
Subtotal				11,600	17,400	29,000	
Total of 3.				43,000	63,000	106,000	
4. Agricultural Development							
4.1 Farming Technology Demonstration Farm (FTDF)							
FTDF	place	9		630	270	900	
Others				70	30	100	
Subtotal of 4.1				700	300	1,000	
Cost per place (20 Ha) :							
Production Materials : Seed	Kg	1,500	10	3	12	15	FC 20%
Fertilizer	Kg	3,000	15	36	9	45	FC 80%
Pesticides/Chemicals	Kg	10,000	3	24	6	30	FC 80%
Miscellaneous				7	3	10	
Subtotal of cost per place (20Ha)				70	30	100	
4.2 Primary Marketing Station (PMS)							
PMS	place	3		114,000	15,000	129,000	
Cost per Station :							
Station Facilities : Quality Control and Administration House				1,530	170	1,700	FC 90%
Paddy Warehouse w/Rice Mill Barn, Warehouse				19,800	2,200	22,000	FC 90%
Green House				2,700	300	3,000	FC 90%
Multi-purpose Pavement				700	700	1,400	FC 50%
Motor pool				360	40	400	FC 90%
Equipment : 4-Wheel Tractor w/Attachment				2,070	230	2,300	FC 90%
Power Tiller w/ Attachment				50	50	100	FC 50%
Portable Thresher				900	100	1,000	FC 90%
Solar Dryer				5,580	620	6,200	FC 90%
Semi-cono Rice Mill				70	70	140	FC 50%
Cargo Truck				720	80	800	FC 90%
Quality Inspection & Control Equipment				450	50	500	FC 90%
Platform Scale				36	4	40	FC 90%
Station Support Equipment				990	110	1,100	FC 90%
Maintenance Equipment for Irrigation Systems Excavator, Concrete Mixer, Brush Cutter,				1,800	200	2,000	FC 90%
Miscellaneous				244	76	320	
Total of cost per Station				38,000	5,000	43,000	

L-3 (4) Breakdown of Development Cost for Phase-II Development (4/4)

4.3 Post-harvest Technology Demonstration Farm (PTDF)					
PTDF	place 3	540	210	750	
Follow-up materials & activities	LS	160	90	250	
Subtotal of 4.3		700	300	1,000	
Cost per place :					
Equipment : Hand Sprayer, Power Sprayer, Tailer, Manual Weeder, Reaper, Hand Microphone		110	10	120	FC 90%
Miscellaneous		70	60	130	
Subtotal per place		180	70	250	
4.4 Duck Raising					
Duck raising	place 5	600	1,900	2,500	
Follow-up materials & others		100	400	500	
Subtotal of 4.4		700	2,300	3,000	
Cost per place : Raising Cotage (Bamboo, Ipil Ipil,Net,etc.)		36	54	90	FC 40%
Feading Fee (Pateros,Pellete, Snails,etc.)		56	224	280	FC 20%
Egg Transportation (Revamped Jeepneys)		24	96	120	FC 80%
Miscellaneous		4	6	10	
Subtotal per place		120	380	500	
4.5 Fishery Pond					
Fishery Pond	place 5	100	400	500	
Follow-up materials and others		100	400	500	
Subtotal of 4.5		200	800	1,000	
Cost per place : Facilities (Fishery net, Bamboo, Catch box & ner, etc.)		8	32	40	FC 20%
Bite Fee (Terapia, Mudfish, Fish bite, etc.)		3	27	30	FC 10%
Fish Transportation (Trycycle)		4	16	20	FC 20%
Miscellaneous		5	5	10	
Subtotal per place		20	80	100	
Total of 4.		116,300	18,700	135,000	
5 Institutional Development					
5.1 Support Assistance for Strengthening of IA					
Follow-up for Tongro Research Program		200	1,800	2,000	FC 10%
Office Expences and others		160	640	800	FC 20%
Miscellaneous		40	160	200	
Subtotal of 5.1		400	2,600	3,000	
5.2 Following Assistance for MFIA					
Office Expences and others		40	360	400	FC 10%
ICOs and others			1,400	1,400	LC 100%
Miscellaneous		60	140	200	
Subtotal of 5.2		100	1,900	2,000	
5.3 Support Assistance for Strengthening of FIAs					
Office-Expences and others		40	360	400	FC 10%
Miscellaneous		60	40	100	
Subtotal of 5.3		100	400	500	
5.4 Support Assistance for Strengthening of CFAs					
Office Expences and others		40	360	400	FC 10 5
Miscellaneous		60	40	100	
Subtotal of 5.4		100	400	500	
5.5 Support Assistance for Strengthening Agricultural Supporting Services					
Office Expences and others		200	1,800	2,000	FC 10%
Miscellaneous		-	500	500	
Subtotal		200	2,300	2,500	
5.6 Assistance for Seminor and Training Program					
Office Expences, Training materials and others		30	270	300	FC 10%
Miscellaneous		70	130	200	
Subtotal of 5.6		100	400	500	
Total of 5.		1,000	8,000	9,000	
Grand Total of 2 to 5		284,600	214,400	499,000	
Grand Total of Development Cost of 1 to 5 (Total Cost of Tables L-2 and L-3)		437,000	283,000	720,000	

L-4 Summary of Annual Operation and Maintenance Cost

(Unit : 1,000 Pesos)

Description	Total	Phase-I (Pilot CISD)	Phase-II
1. Agricultural Infrastructure Development	9,040	2,710	6,330
1.1 Irrigation Facilities Development	4,054	464	3,590
1.2 Diversion Dams	559	129	430
1.3 Groundwater Collecting Conduit	4,050	2,040	2,010
1.4 Shallow Wells Development	197	77	120
1.5 Drainage Development	180	-	180
2. Farm Road Development	2,640	340	2,300
2.1 Barangay Road	2,000	330	1,670
2.2 Farm-to-Market Road	640	10	630
3. Agricultural Development	5,410	2,150	3,260
3.1 Farming Technology Demonstration Farm	200	60	140
3.2 Seed Multiplication Station	130	130	-
3.3 Pilot Primary Marketing Station	1,890	1,890	-
3.4 Primary Marketing Station	2,870	-	2,870
3.5 Post-harvest Technology Demonstration Farm	140	70	70
3.6 Duck Raising	110	-	110
3.7 Fishery Pond	70	-	70
4. Institutional Development	460	220	240
4.1 Support Assistance for Strengthening of IAs	120	50	70
4.2 Support Assistance for MFIA	170	120	50
4.3 Support Assistance for Strengthening FIAs	20	-	20
4.4 Support Assistance for Strengthening CIAs	20	-	20
4.5 Support Assistance for Strengthening ASS	60	-	60
4.6 Support Assistance for Seminor & Training	70	50	20
Total of Annual Operation and Maintenance Cost	17,550	5,420	12,130

L-5 Breakdown of Annual Operation and Maintenance for Phase-I (Unit : 1,000 Pesos)

Description	Unit	Q'ty	Rate	Amount	Remarks
1. Agricultural Infrastructure Development					
1.1 Canal & Canal Structure					
7. Sta Rita CIS					
Type IV	Km	0.5	53	26.50	
Turnout	Unit	8	2	16	
Service Road (Main Canal)	Km	0.9	10	9	
Service Road (Lateral Canal)	Km	0.6	6	3.60	
Others				4.90	
Subtotal				60	
8. Marita CIS					
Type II	Km	0.37	43	15.91	
Type III	Km	0.53	49	25.97	
Turnout	Unit	7	2	14	
Service Road (Main Canal)	Km	1.60	10	16	
Others				7.12	
Subtotal				79	
10. Baluto CIS					
Type III	Km	0.39	49	19.11	
Type IV	Km	1.49	53	78.97	
Type V	Km	0.50	63	31.50	
Turnout	Unit	29	2	58	
Service Road (Main Canal)	Km	4.2	10	42	
Service Road (Lateral Canal)	Km	2.5	6	15	
Others				24.42	
Subtotal				269	
Subtotal of 1.1				408	
1.2 Intake Structure					
6. Telebanca CIS					
Collecting Pipe C-1	Unit	1		6	
Weir W-1	Unit	1		45	
Others				5	
Subtotal				56	
Subtotal of 1.2				56	
1.3 Diversion Dams					
14. Lucong CIS					
Diversion Dam G-III	Unit	1		39	
Others				4	
Subtotal				43	
16. Tinang CIS					
Diversion Dam G-II	Unit	1		78	
Others				8	
Subtotal				86	
Subtotal of 1.3				129	
1.4 Groundwater Collecting Conduit					
(1) GCC Type-I					
Earth Work 2,660			0.02	53.20	
Conduit Work RCP 5,960			0.03	178.80	
Cor.Pipe 13,690			0.03	410.70	
Conc. 4,390			0.03	131.70	
Others				75.60	
Subtotal				850	
(2) GCC Type-III					
Earth Work 4,190			0.02	83.80	
Conduit Work RCP 13,660			0.03	409.80	
Cor.Pipe 13,690			0.03	410.70	
Conc. 5,960			0.03	178.80	
Others				106.90	
Subtotal				1,190	
Total of 1.4				2,040	
1.5 Shallow Wells					
(1) Drilling Rig 2,000			0.03	60	
(2) Shallow Wells 408			0.02	8.16	
(3) Others				8.84	
Subtotal of 1.5				77	
Total of 1.				2,710	
2. Farm Road Development					
2.1 Barangay Road					
Improvement 19,700			0.02	394	
Others				36	
Subtotal				330	
2.2 Farm-to-Market Road					
Improvement 300			0.02	6	
Others				4	
Subtotal				10	
Subtotal of 2.				340	
3. Agricultural Development					
3.1 Farming Technology Demonstration Farm					
Salary & Wages	No.	1	40	40	
Others 200			0.10	20	
Subtotal				60	
3.2 Seed Multiplication Station					
Salary & Wages	No.	1	40	40	
Maintenance 3,400			0.02	68	
Others				22	
Subtotal				130	
3.3 Pilot Primary Marketing Station					
Salary & Wages	No.	3	40	120	
Maintenance 86,900			0.02	1,738	
Others				32	
Subtotal				1,890	
3.4 Post-harvest Technology Demonstration Farm					
Salary & Wages	No.	1	40	40	
Maintenance 500			0.02	10	
Others				20	
Subtotal				70	
Subtotal of 3.				2,150	
4. Institutional Development					
4.1 Support Assistance for Strengthening IA					
Maintenance 1,900			0.02	38	
Others				12	
Subtotal				50	
4.2 Support Assistance for MFIA					
Maintenance 4,900			0.02	98	
Others				22	
Subtotal				120	
4.3 Support Assistance for Seminor & Training					
Maintenance 1,200			0.02	24	
Others				26	
Subtotal				50	
Subtotal of 4.				220	
Total of Phase-I Annual O/M Cost				5,420	

L-6 (1) Breakdown of Annual Operation and Maintenance for Phase-II (1/3) (Unit : 1,000 Pesos)

Description	Unit	Q'ty	Rate	Amount	Remarks
2. Agricultural Infrastructure Development					
2.1 Irrigation Facilities Development					
2.1.1 Canal & Canal Structure					
1. Bamban CIS					
Type II	Km	2.28	43	98.04	
Type III	Km	3.02	49	147.98	
Type IV	Km	2.16	53	114.48	
Type V	Km	2.37	63	149.31	
Type VI	Km	0.75	315	236.25	
Turnout	Unit	22	2	44	
Service Road(Main Canal)	Km	6.30	10	63	
Others				85.40	
Subtotal				939	
2. San Pedro CIS					
Turnout	Unit	7	2	14	
Service Road(Main Canal)	Km	2.2	10	22	
Others				4	
Subtotal				40	
3. Malonzo CIS					
Type I	Km	4.78	5	23.90	
Turnout	Unit	11	2	22	
Service Road(Main Canal)	Km	2.4	10	24	
Service Road(Lateral C)	Km	0.5	6	3	
Others				7.10	
Subtotal				80	
4. Bangcu CIS					
Type II	Km	0.55	43	23.65	
Type III	Km	0.60	49	29.40	
Type IV	Km	0.60	53	31.80	
Type V	Km	1.15	63	72.45	
Turnout	Unit	6	2	12	
Service Road(Main Canal)	Km	1.80	10	18	
Others				18.70	
Subtotal				206	
5. Susuba Cutcut CIS					
Turnout	Unit	3	2	6	
Service Road(Main Canal)	Km	0.90	10	9	
Others				2	
Subtotal				17	
6. Telebanca CIS					
Type II	Km	1.08	43	46.44	
Turnout	Unit	21	2	42	
Service Road(Main Canal)	Km	2.80	10	28	
Service Road(Lateral C)	Km	0.80	6	4.80	
Others				12.76	
Subtotal				134	
9. San Martin CIS					
Type II	Km	1.50	43	64.50	
Turnout	Unit	13	2	26	
Service Road(Main Canal)	Km	3.70	10	37	
Others				12.50	
Subtotal				140	
11. Lilibangan CIS					
Turnout	Unit	11	2	22	
Service Road(Main Canal)	Km	1.20	10	12	
Service RoAd(Lateral C)	Km	1.20	6	7.20	
Others				3.80	
Subtotal				45	
12. San Bartolome CIS					
Type II	Km	0.33	43	14.19	
Turnout	Unit	13	2	26	
Service Road(Main Canal)	Km	1.30	10	13	
Service Road(Lateral C)	Km	1.60	6	9.60	
Others				6.21	
Subtotal				69	
13. San Isidro CIS					
Type II	Km	1.00	43	43	
Turnout	Unit	5	2	10	
Service Road(Main Canal)	Km	1.40	10	14	
Others				7	
Subtotal				74	
14. Lucong CIS					
Type II	Km	1.25	43	53.75	
Type III	Km	0.99	49	48.51	
Type IV	Km	3.21	53	170.13	
Type V	Km	0.42	63	26.46	
Turnout	Unit	74	2	148	
Service Road(Main Canal)	Km	5.20	10	52	
Service Road(Lateral C)	Km	11.60	6	69.60	
Others				56.55	
Subtotal				625	
15. Magao CIS					
Type II	Km	0.89	43	38.27	
Type III	Km	0.54	49	26.46	
Turnout	Unit	24	2	48	
Service Road(Main Canal)	Km	6.30	10	63	
Others				17.27	
Subtotal				193	
16. Tinang CIS					
Type II	Km	3.17	43	136.31	
Turnout	Unit	17	2	34	
Service Road(Main Canal)	Km	3.90	10	39	
Others				20.69	
Subtotal				230	
17. Sto Rosario CIS					
Turnout	Unit	13	2	26	
Service Road(Main Canal)	Km	1.80	10	18	
Service Road(Lateral C)	Km	1.30	6	7.80	
Others				5.20	
Subtotal				57	
18. Sta Monica CIS					
Type II	Km	2.99	43	128.57	
Type III	Km	0.51	49	24.99	
Turnout	Unit	21	2	42	
Service Road(Main Canal)	Km	3.30	10	33	
Service Road(Lateral C)	Km	1.5	6	9	
Others				23.44	
Subtotal				261	
19. Caluluan CIS					
Miscellaneous				20	
Subtotal				20	
Subtotal of 2.1.1				3,130	
2.1.2 Intake Facilities					
1. Bamban and 2.San Pedro CISs					
Collecting Pipe Type C-V	Unit	1		90	
Weir w/Stop log	Unit	1		45	
Others				16	
Subtotal				151	
3. Malonzo CIS					
Collecting Pipe Type C-I	Unit	1		6	

L-6 (2) Breakdown of Annual Operation and Maintenance for Phase-II (2/3) (Unit : 1,000 Pesos)

Description	Unit	Q'ty	Rate	Amount	Remarks
Collecting Pipe Type C-II	Unit	1		8	
Weir w/Stop log	Unit	1		45	
Others				6	
Subtotal				65	
4. Bangcu CIS					
Collecting Pipe Type C-IV	Unit	1		64	
Weir w/ Stop log	Unit	1		45	
Others				11	
Subtotal				120	
6. Telebanca CIS					
Collecting Pipe Type C-I	Unit	1		6	
Collecting pipe Type C-III	Unit	1		16	
Weir w/Stop log	Unit	2	45	90	
Others				12	
Subtotal				124	
Subtotal of 2.1.2				460	
Subtotal of 2.1				3,590	
2.2 Diversion Dam					
5. Susuba Cutcut CIS					
Reha,Whole Structure	Unit	1		43	
Others				6	
Subtotal				49	
12. San Bartolome					
Reha, Weir	Unit	1		2	
Reha, Type R-I	Unit	1		32	
Others				5	
Subtotal				39	
16. Tinang CIS					
Reha, Type R-II	Unit	1		67	
Others				8	
Subtotal				75	
17. Sto Rosario CIS					
Reha, Type G-I	Unit	1		31	
Reha, Type R-II	Unit	1		67	
Others				11	
Subtotal				109	
18. Sta Monica CIS					
Reha, Type G-I	Unit	1		31	
Reha, Type R-II	Unit	1		67	
Others				11	
Subtotal				109	
19. Caluluan CIS					
Reha, Whole Structure	Unit	1		43	
Others				6	
Subtotal				49	
Subtotal of 2.2				430	
2.3 Groundwater Collecting Conduit					
2.3.1 GCC Type GC-II for S. San Martin CIS					
Earth Work	2,560		0.02	51.20	
Conduit Work RCP	4,950		0.03	148.50	
Corr.Pipe	16,750		0.03	502.50	
Conc.	4,640		0.03	139.20	
Others				84.60	
				926	

Description	Unit	Q'ty	Rate	Amount	Remarks
2.3.2 GCC Type GC-IV for 11.Lilibangan CIS					
Earth Work	2,840		0.02	56.80	
Conduit Work RCP	4,660		0.03	139.80	
Corr.Pipe	20,930		0.03	627.90	
Conc.	5,370		0.03	161.10	
Others				98.40	
Subtotal				1,084	
Subtotal of 2.3				2,010	
2.4 Shallow Wells					
Shallow Wells Instal.	5,400		0.02	108	
Others				12	
Subtotal of 2.4				120	
2.5 Drainage Development					
5. Susuba Cutcut CIS					
Drainage Canal	5,000		0.02	100	
Others				10	
Subtotal				110	
19. Caluluan CIS					
Drainage Canal	3,000		0.02	60	
Others				10	
Subtotal				70	
Subtotal of 2.5				180	
Total of 2.				6,330	
3.Farm Road Development					
3.1 Barangay Road					
Improvement	75,990		0.02	1,519.80	
Others				150.20	
Subtotal				1,670	
3.2 Farm-to-Market Road					
Improvement	28,700		0.02	574	
Others				56	
Subtotal				630	
Total of 3.				2,300	
4. Agricultural Development					
4.1 Farming Technology Demonstration Farm					
Salary & Wages	No	1	40	40	
Others	1,000		0.10	100	
Subtotal				140	
4.2 Primary Marketing Station					
Salary & Wages	No	6	40	240	
Maintenance	129,000		0.02	2,580	
Others				50	
Subtotal				2,870	
4.3 Post-harvest Technology Demonstration Farm					
Salary & Wages	No	1	40	40	
Maintenance	1,000		0.02	20	
Others				10	
Subtotal				70	
4.4 Duck Raising					
Salary & Wages	No	1	40	40	
Maintenance	3,000		0.02	60	
Others				10	
Subtotal				110	

L-6 (3) Breakdown of Annual Operation and Maintenance for Phase-II (3/3) (Unit : 1,000 Pesos)

Description	Unit	Q'ty	Rate	Amount	Remarks
4.5 Fishery Pond					
Salary & Wages	No	1	40	40	
Maintenance	1,000		0.02	20	
Others				10	
Subtotal				70	
Total of 4.				3,260	
5. Institutional Development					
5.1 Support Assistance for Strengthening IA					
Maintenance	3,000		0.02	60	
Pthers				10	
Subtotal				70	
5.2 Following Assistance for MFIA					
Maintenance	2,000		0.02	40	
Others				10	
Subtotal				50	
5.3 Support Assistance for Strengthening FIAs					
Maintenance	500		0.02	10	
Others				10	
Subtotal				20	
5.4 Support Assistance for Strengthening CFIA					
Maintenance	500		0.02	10	
Others				10	
Subtotal				20	
5.5 Support Assistance for Strengthening ASS					
Maintenance	2,500		0.02	50	
Others				10	
Subtotal				60	
5.6 Assistance for Seminor & Training Program					
Maintenance	500		0.02	10	
Others				10	
Subtotal				20	
Total of 5.				240	
Total of Phase-II (Total of 2. to 5.)				12,130	

L-7 Foreign and Local Components

Cost Category	Foreign	Local
	%	%
1. Construction equipment & parts (FOB)	100	-
2. Imported steel (FOB)	100	-
3. Fuel and oil	50	50
4. Imported materials (FOB)	100	-
5. Foreign consultants		
a) Salaries & travelling expenses abroad	100	-
b) Training abroad	100	-
c) Travelling expenses and allowances (local)	-	100
6. Labor including local consultants	-	100
7. Wood	-	100
8. Vehicles locally manufactured	50	50
9. Imported materials but locally purchased	50	50

Table L-8 Operation and Maintenance Unit Cost

(Unit: 1,000 Pesos)

Description	(Peso)	Unit	Q'ty	Rate	Amount (1,000 P)	Remarks
1. Canal & Canal Structure						
Canal O/M Cost per Km						
Type-I	262	Km		0.02	5	
Type-II	2,153	Km		0.02	43	
Type-III	2,494	Km		0.02	49	
Type-IV	2,669	Km		0.02	53	
Type-V	3,130	Km		0.02	63	
Type-VI	15,759	Km		0.02	315	
Turnout	84,000	Place		0.02	2	
Service Road (Main Canal)	500	Km		0.02	10	
-do- (Lateral Canal)	300	Km		0.02	6	
2. Intake Facilities						
Collecting Pipe						
Type C-I	170,000	Place		0.03	6	
Type C-II	260,000	Place		0.03	8	
Type C-III	530,000	Place		0.03	16	
Type C-IV	2,130,000	Place		0.03	64	
Type C-V	2,970,000	Place		0.03	90	
Weir w/Stop log Type W-1	1,490,000	Place		0.03	45	
3.Diversion dam rehabilitation						
Type G-I	610,000	Unit		0.05	31	
Type G-II	1,560,000	Unit		0.05	78	
Type G-III	770,000	Unit		0.05	39	
Type R-I	1,050,000	Unit		0.03	32	
Type R-II	2,210,000	Unit		0.03	67	
Weir	60,000	Unit		0.03	2	
Whole Structure	1,410,000	Unit		0.03	43	
Plain Rip Rap	7,070	m²		0.03	0.2	
4. Others						
Earth Work		2 % of Construction Cost				
Concrete Work		3 % - do -				
Special Structure (Rubber dam, etc.)		5 % of Construction Cost				

L-9 (1) Unit Price for Labor

Item	Unit	Amount
Painter, Mason	P/ day	150
Plumber	"	153
Engineering Assistant B	"	173
Geoditic Engineer A	"	219
Geodetic Eng'g Assistant A	"	183
" B	"	157
Operator	"	183
Foreman	"	183
Driver B	"	183
Carpenter B	"	173
Electrician	"	173
Labor	"	130
Utilityman	"	130

L-9 (2) Rental Rate for Construction Equipment

Type of Equipment	Unit	Price
1. Dozers		
a) D4D Dozer w/ 2"X 3" Sheeps foot	P/hr.	344.00
b) D7 CAT w/ Ripper (180-200 HP)	"	700.00
c) D150 A Komatsu w/ Ripper	"	960.00
d) D80-12A Komatsu w/ Ripper	"	700.00
e) D85-A Komatsu w/ Ripper	"	700.00
f) D8 CAT w/ Ripper	"	600.00
2. Grader		
a) Motorised Grader (130 Max.HP)	"	306.00
3. Loader		
a) 1.5 cu.m Min. cap. Wheel-type Loader	"	330.00
b) Articulated Wheel-type Loader (JH-65)	"	330.00
4. Backhoe		
a) Crawler Mounted Backhoe (0.75 cu.m)	"	447.00
5. Crane		
a) Truck Mounted Crane 25-ton cap	"	450.00
6. Compactor		
a) Pneumatic Roller 4-11 MT cap (107 HP)	"	191.00
b) Vibratory Roller Compactor 9 MT	"	436.00
c) Plate Compactor (5-7 HP)	"	71.00
d) Towed Typed Sheeps Foot Steel Roller (Single Drum) w/ D4D Prime Mover	"	344.00
e) Single Tamping Footdrum (125 HP)	"	570.00
7. Concrete Mixer		
a) 5 cu.m capacity Transit Mixer	"	388.00
b) 1 Bagger Concrete Mixer	"	44.00
8. Truck		
a) 6-Wheeler Dump Truck	"	295.00
b) 10-Wheeler Dump truck	"	330.00
c) Water Truck w/ Pump (1200 gal. cap.)	"	350.00
9. Service Vehicles		
a) Diesel Owner Type Jeepney	"	97.00
b) 7-Seater Diesel Passenger Jeepney (4 or 5 Sp.Trans)		116.00
10. Submersible Pump		
a) 4 " Diameter Submersible Pump	"	227.00

L-9 (3) Unit Price for Construction Materials

Materials	Unit	Price
Cement	bag	100.00
Sand	m^3	180.00
Crushed Gravel	"	320.00
Washed Gravel	"	150.00
Boulders	"	150.00
Lumber (Good Lumber)	bd.ft.	14.50
Form lumber	"	12.50
Plywood	pc	380.00
C.W. Nails	kg	25.00
G.I. Wire	"	25.00
Reinforced Steel Bar	"	15.60
Premium Gasoline	ltr.	7.23
Regular Gasoline	"	6.86
Diesel Oil	"	5.14
Oil	"	
Asphalt	m^3	38.00

L-10 Unit Cost for Civil Works

Work Item	unit	Price
1. Canal		
a) Cleaning and Grubbing (machine)	m^2	5.00
b) Excavation (machine)	m^3	53.00
" (manual)	"	175.00
c) Embankment(machine)	"	51.00
d) Backfilling (machine)	"	40.00
e) Trimming	m^2	35.00
f) Side Borrow	m^3	16.00
g) Concrete Lining	"	1,820.00
h) Road Surfacing Material	"	40.00
2. Structure		
a) Excavation (machine)	m^3	23.00
" (manual)	"	53.00
b) Backfilling (machine)	"	56.00
c) Plain Concrete	"	1,650.00
d) Reinforced Concrete	"	1,890.00
e) Form	m^2	1,210.00
f) Reinforced Steel Bar	kg	22.00
g) Dewatering	m^3	46.00
h) Demolition of Concrete (machine)	"	405.00
" (manual)	"	520.00
3. Rip Rap		
a) Grouted Rip Rap	m^3	985.00
b) Gravel for Rip Rap	"	330.00
c) Boulder for Rip Rap	"	150.00
d) Plain Rip Rap	"	1,890.00
e) Rubble Deposit	"	180.00
f) Filled Boulder	"	450.00
4. Road Surface Materials	m^3	40.00
5. Bridge (Using Transit Mixer)	m^3	3,480.00
6. Installation & Purchase of R.C.Pipe		
a) R.C.Pipe 1.00m Dia. X 1.00m (40")	pc	4,435.00
b) " 0.91 " X 1.00m (36")	"	3,695.00
c) " 0.76 " X 1.00m (30")	"	2,935.00
d) " 0.60 " X 1.00m (24")	"	2,150.00
e) Site Preparation/Cleaning	m^3	3.00

L-11 Breakdown of Unit Cost for Civil Works

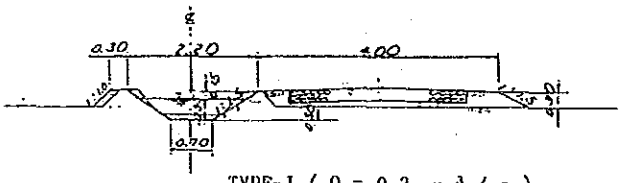
Description	Unit	Price (Peso)	
I. Clearing and Grubbing			
1) Mechanized	sq.m	1.30	
2) Disposal of 0.10 m stripped			
a) Loading	"	0.59	
b) Hauling and Unloading	"	2.95	
Total	"	4.84	= 5.00
II. Canal Excavation			
1) For Canal Base w/ smaller than 2.00m wide			
a) Mechanized	cu.m	21.29	
b) Hauling and Unloading	"	40.56	
Total		61.85	= 62.00
2) For Canal Base w/ wider than 2.00m			
a) Mechanized	cu.m	16.81	
b) Loading for Disposal	"	4.71	
c) Hauling and Unloading	"	30.98	
Total		52.50	= 53.00
3) Manual Excavation	cu.m	173.38	= 175.00
III. Side Borrow			
1) Mechanized	cu.m	15.56	= 16.00
IV. Embankment and Compaction			
1) Quarrying and Stockfilling	cu.m	11.67	
2) Loading	"	4.71	
3) Hauling and Unloading (AHD= 5 kms)	cu.m-km	9.74	
4) Spreading	cu.m	4.37	
5) Rolling and Compaction			
a) Moisture Conditioning (Watering)	cu.m	5.60	
b) For Compaction	"	8.60	
c) Rolling	"	6.23	
Total		50.92	= 51.00
V. Concreting of Canal Lining (2,400 psi Conc.)			
1) Materials	cu.m	1,260.45	
2) Labor	"	396.72	
3) Equipment Cost (AHD= 10 kms)			
a) Equipment Utilization	cu.m	66.00	
b) Hauling of Construction Materials	cu.m	9.22	
Total		1,815.37	= 1,820.00
VI. Road Surfacing Materials			
1) Quarrying and Stockfilling	cu.m	15.91	
2) Screening	"	4.71	
3) Loading	"	4.13	
4) Hauling and Unloading (AHD = 34 kms)	cu.m-km	4.69	
5) Spreading			
a) Equipment	cu.m	3.83	
b) Side Boards			
-Materials	"	0.76	
-Labor	"	5.60	
Total		39.63	= 40.00
VII. Canal Structure			
1) Concreting (3,000 psi Conc.)			
a) Materials	cu.m	2,365.25	
b) Labor			
-Formwork Fabrication,Placing &Dismantling		410.69	
-Concreting & Curing		387.19	
c) Equipment Utilization	cu.m	230.94	
Total		3,394.07	= 3,400.00
2) Dewatering	cu.m	45.40	= 46.00
3) Structure Backfill			
a) Filling, Spreading & Tampering	cu.m	49.47	
b) Compaction	"	5.92	
Total		55.39	= 56.00
4) Reinforced Steel Bar			
a) Material Cost	kg	15.60	
b) Delivery Cost	"	0.15	
c) Labor		6.10	
Total		21.85	= 22.00
5) Structure Excavation			
a) Manual	cu.m	52.02	= 53.00
b) Mechanized (Common Indurated)	"	22.35	= 23.00
6) Demolition of Concrete			
a) Equipment	cu.m	358.66	
b) Labor	"	43.35	
Total		402.01	= 405.00
c) Manual	"	520.16	= 520.00
VIII. Main Farm Ditch			
1) Manual	cu.m	37.15	= 38.00
IX. Grouted Riprap			
1) Material Cost	cu.m	805.60	
2) Labor			
a) Laying of Boulders	"	85.02	
b) Pouring of Concrete	"	247.95	
c) Equipment Utilization	"	66.00	
Total		984.57	= 985.00
X. Installation & Purchase of Equipment			
1) 80 cm X 80 cm			
a) Material Cost	assy	6,210.00	
b) Labor Cost	"	800.81	
c) Handling Cost	"	38.96	
Total		7,049.77	= 7,050.00
2) 100 cm X 100 cm			
a) Material Cost	assy	14,000.00	
b) Labor Cost	"	800.81	
c) Handling Cost	"	38.96	
Total		14,839.77	= 14,848.00
3) 100 cm X 110 cm			
a) Material Cost	assy	15,200.00	
b) Labor Cost	"	800.81	
c) Handling Cost	"	38.96	
Total		16,039.77	= 16,040.00
4) 100 cm X 120 cm			
a) Material Cost	assy	20,400.00	
b) Labor Cost	"	800.81	
c) Handling Cost	"	38.96	
Total		21,239.77	= 21,240.00
5) 100 cm X 140 cm			
a) Material Cost	assy	24,100.00	
b) Labor Cost	"	1,601.62	
c) Handling Cost	"	38.96	
Total		25,740.58	= 25,740.00
6) 120 cm X 120 cm			
a) Material Cost	assy	25,880.00	
b) Labor Cost	"	1,601.62	
c) Handling Cost	"	38.96	
Total		27,520.58	= 27,520.00
7) 120 cm X 130 cm			
a) Material Cost	assy	28,150.00	
b) Labor Cost	"	1,601.62	
c) Handling Cost	"	38.96	

Total		29,790.58	= 29,790.00
8) 100 cm X 200 cm			
a) Material Cost	assy	61,520.00	
b) Labor Cost	"	1,601.62	
c) Handling Cost	"	38.96	
Total		63,160.58	= 63,160.00
XII. Building Structure			
1) Concrete			
a) Material Cost	cu.m	1,269.00	
b) Labor Cost	"	308.88	
c) Handling Cost	"	66.00	
Total		1,643.88	= 1,650.00
XIII. Form Works			
a) Material Cost	sq.m	796.25	
b) Labor Cost		410.69	
Total		1,206.94	= 1,210.00
XIV. Bridge (Using Transit Mixer)			
1) Material Cost	cu.m	2,485.00	
2) Labor Cost			
a) Carpentry	"	433.77	
b) Pouring of Concrete	"	485.28	
3) Equipment Cost	"	66.00	
Total		3,480.05	= 3,480.00
XV. Installation & Purchase of R.C.Pipe			
1) 0.91m Dia.X 1.00m R.C.P.(36"Dia.)	pc		
a) Materials for Laying		245.76	
b) Labor Cost for Laying		280.28	
c) Labor Cost for Excavation		1,053.63	
d) Labor Cost for Bachfill		172.14	
e) Equipment Cost		10.06	
f) Supply and Delivery Cost		1,810.00	
g) Cost of Form Works/Collar		123.01	
Total		3,694.86	= 3,695.00
2) 0.76m Dia.X 1.00m R.C.P.(30"Dia.)	pc		
a) Materials for Laying		207.86	
b) Labor Cost for Laying		224.21	
c) Labor Cost for Excavation		892.86	
d) Labor Cost for Bachfill		151.86	
e) Equipment Cost		8.05	
f) Supply and Delivery Cost		1,350.00	
g) Cost of Form Works/Collar		98.40	
Total		2,933.24	= 2,935.00
3) 0.60m Dia.X 1.00m R.C.P.(24"Dia.)	pc		
a) Materials for Laying		167.11	
b) Labor Cost for Laying		186.84	
c) Labor Cost for Excavation		734.57	
d) Labor Cost for Bachfill		130.59	
e) Equipment Cost		6.04	
f) Supply and Delivery Cost		850.00	
g) Cost of Form Works/Collar		73.81	
Total		2,148.96	= 2,150.00
4) 0.91m Dia.X 1.00m R.C.P.(36"Dia.)	pc		
a) Materials for Laying		118.34	
b) Labor Cost for Laying		160.15	
c) Labor Cost for Excavation		601.01	
d) Labor Cost for Bachfill		115.26	
e) Equipment Cost		4.02	
f) Supply and Delivery Cost		641.25	
g) Cost of Form Works/Collar		49.20	
Total		1,689.23	= 1,690.00
5) 0.30m Dia.X 1.00m R.C.P.(12"Dia.)	pc		
a) Materials for Laying		29.20	
b) Labor Cost for Laying		140.13	
c) Labor Cost for Excavation		479.82	
d) Labor Cost for Bachfill		92.01	
e) Equipment Cost		2.01	
f) Supply and Delivery Cost		365.00	
g) Cost of Form Works/Collar		24.61	
Total		1,132.78	= 1,135.00
6) 0.20m Dia.X 1.00m R.C.P.(8"Dia.)	pc		
a) Materials for Laying		20.02	
b) Labor Cost for Laying		112.10	
c) Labor Cost for Excavation		408.10	
d) Labor Cost for Bachfill		79.84	
e) Equipment Cost		2.01	
f) Supply and Delivery Cost		218.75	
g) Cost of Form Works/Collar		22.85	
Total		863.57	= 865.00
XVI. Site Preparation/Clearing & Grubbing			
1) Labor Cost	sq.m	0.32	
2) Equipment Cost		2.51	
Total		2.83	= 3.00
XVII. Delivery of Materials			
1) Labor Cost	T.L.	1,007.10	
2) Equipment Cost	"	3,647.10	
Total		4,654.20	= 4,655.00
XVIII. Construction of Roads			
1) Road Surfacing Materials	cu.m		
a) Quarring and Stockfilling		19.00	
b) Loading		6.00	
c) Hauling		40.04	
d) Spreading		6.01	
e) Moisture Conditioning		4.79	
f) Compaction		6.88	
Total		82.72	= 83.00
2) Metalling/Base-Coase Materials	cu.m		
a) Quarring and Stockfilling		13.53	
b) Loading		6.00	
c) Hauling		40.32	
d) Spreading		3.96	
e) Moisture Conditioning		4.79	
f) Compaction		6.88	
Total		75.48	= 76.00
3) Filling	cu.m		
a) Loading		6.00	
b) Hauling		6.74	
c) Spreading		5.92	
d) Compaction		6.88	
Total		25.54	= 26.00
4) Gathering	cu.m		
a) Loading		26.82	
b) Hauling		35.76	
c) Unloading		20.33	
Total		82.91	= 83.00
5) Total			268.00

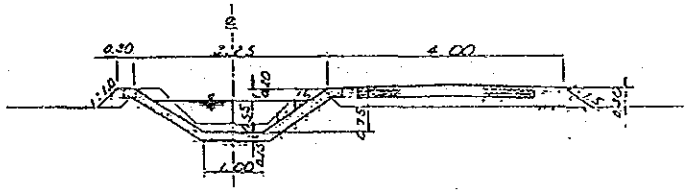
L-12 (1) Rehabilitation and Construction Cost of Canal per Meter

Work Item	Unit	Unit Cost	Type-I (0.3 CMS) Q'ty	Type-I (0.3 CMS) Amount	Type-II (0.6 CMS) Q'ty	Type-II (0.6 CMS) Amount	Type-III (0.9 CMS) Q'ty	Type-III (0.9 CMS) Amount	Type-IV (1.2 CMS) Q'ty	Type-IV (1.2 CMS) Amount	Type-V (2.1 CMS) Q'TY	Type-V (2.1 CMS) Amount	Type-VI (3.2 CMS) Q'ty	Type-VI (3.2 CMS) Amount
1. Earth Work				155		86		106		127		152		312
a) Excavation	P/ m³	53	1.73	92	1.63	86	2.00	106	2.39	127	2.87	152	5.03	267
b) Backfill	"	40	0	0	0	0	0	0	0	0	0	0	1.13	45
c) Trimming	"	35	1.80	63	0	0	0	0	0	0	0	0	0	0
2. Concrete Work				0		1,188		1,370		1,452		1,700		8,013
a) Plain Concrete	P/ m³	1,650	0	0	0.50	825	0.61	1,007	0.66	1,089	0.81	1,337	0	0
b) Reinforced Concrete	"	1,890	0	0	0	0	0	0	0	0	0	0	1.04	1,966
c) Forms	P/ m²	1,210	0	0	0.30	363	0.3	363	0.30	363	0.30	363	5.08	6,123
d) Reinforcing Steel Bar	P/Kg	22	0	0	0	0	0	0	0	0	0	0	42	924
3. Total of 1. & 2.				155		1,274		1,476		1,579		1,852		8,325
4. Cost for Phase-I (3. X 1.30 X 1.70)				343		2,816		3,282		3,490		4,093		20,608
Breakdown FC (40% of Total)				138		1,127		1,304		1,398		1,638		8,243
LC (60% of Total)				205		1,689		1,958		2,094		2,455		12,365
5. Cost for Phase-II (3. X 1.30 X 1.30)				262		2,153		2,494		2,669		3,130		15,759
Breakdown FC (40% of Total)				105		862		997		1,068		1,252		6,303
LC (60% of Total)				157		1,291		1,497		1,601		1,878		9,456

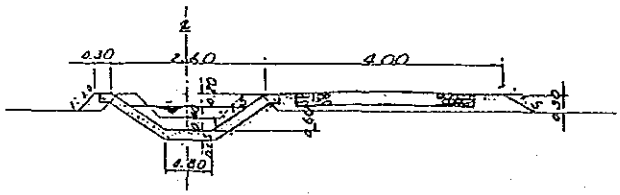
Note: (1) Preparation Work 10% plus Temporary Work 20% equal to 30%, (2) Overhead Cost for Phase-I 70%, Phase-II 30%



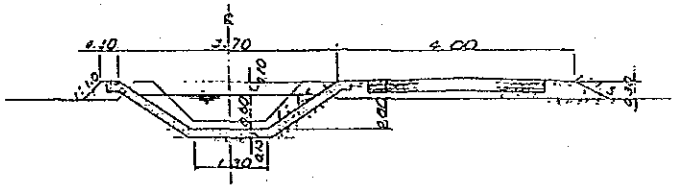
TYPE-I (Q = 0.3 m³ / s)



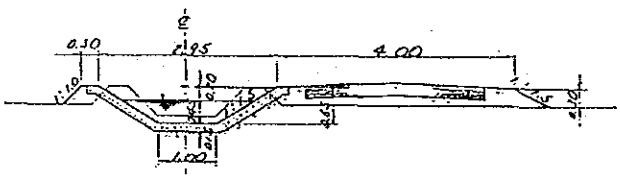
TYPE-IV (Q = 1.2 m³ / s)



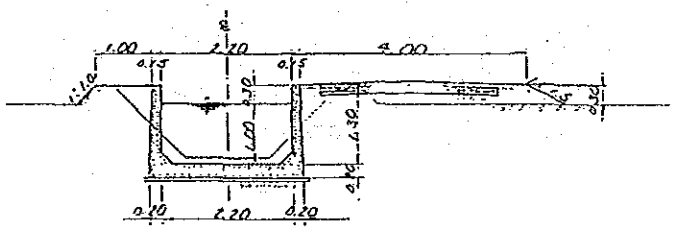
TYPE-II (Q = 0.4 m³ / s)



TYPE- V (Q = 2.1 m³ / s)



TYPE-III (Q = 0.9 m³ / s)



TYPE-VI (Q = 3.2 m³ / s)

L-12 (2) Rehabilitation and Construction Cost of Brush Dam per Place

Work Item	Unit	Unit Cost	Collecting Pipe C-I Q'ty	C-I Amount	C-II Q'ty	C-II Amount	C-III Q'ty	C-III Amount	C-IV Q'ty	C-IV Amount	C-V Q'ty	C-V Amount	Weir V-I Q'ty	V-I Amount
1. Earth Work				8,090		12,135		20,690		74,400		100,000		29,960
a) Excavation	P/m³	53	130	6,890	195	10,335	330	17,490	1,200	63,600	1,800	84,800	340	18,020
b) Backfill	"	40	30	1,200	45	1,800	80	3,200	270	10,800	380	15,200	120	4,800
c) Embankment	"	51	0	0	0	0	0	0	0	0	0	0	140	7,140
2. Concrete Work				0		0		0		0		0		452,010
a) Reinforced Concrete	P/m³	1,890	0	0	0	0	0	0	0	0	0	0	12	22,680
b) Plain Concrete	"	1,650	0	0	0	0	0	0	0	0	0	0	157	259,050
c) Forms	P/m²	1,210	0	0	0	0	0	0	0	0	0	0	132	159,720
d) Reinforced Stell Bar	P/Kg	22	0	0	0	0	0	0	0	0	0	0	480	10,560
3. Revetment Work				48,000		72,000		120,000		432,000		608,000		125,460
a) Rubble Deposit	P/m³	160	300	48,000	450	72,000	750	120,000	2,700	432,000	3,800	608,000	0	0
b) Filled Boulder	"	450	0	0	0	0	0	0	0	0	0	0	200	90,000
c) Boulder for Riprap	"	150	0	0	0	0	0	0	0	0	0	0	0	0
d) Grouted Riprap	"	985	0	0	0	0	0	0	0	0	0	0	36	35,460
e) Plain Riprap	P/m²	1,650	0	0	0	0	0	0	0	0	0	0	0	0
4. Conduit Work				46,000		69,000		175,000		756,000		1,050,000		272,116
a) R. C. Pipe 32"	P/m	2,300	20	46,000	30	69,000	0	0	0	0	0	0	0	0
b) " 42"	"	3,500	0	0	0	0	50	175,000	0	0	0	0	0	0
c) " 48"	"	4,200	0	0	0	0	0	0	180	756,000	250	1,050,000	0	0
d) H-beam (300 X 300)	P/t	10,900	0	0	0	0	0	0	0	0	0	0	1.58	17,222
e) " (200 X 200)	"	10,300	0	0	0	0	0	0	0	0	0	0	8.98	92,494
f) Sluice Gate (1.5 X 1.5)	P/set	45,700	0	0	0	0	0	0	0	0	0	0	0	0
g) " (2.0 X 2.0)	"	81,200	0	0	0	0	0	0	0	0	0	0	2	162,400
5. Total of 1. to 4.				102,090		153,135		315,690		1,262,400		1,758,000		879,546
6. Cost for Phase-I (5. X 1.30 X 1.70)				230,000		340,000		700,000		2,790,000		3,890,000		1,940,000
Breakdown FC (40% of 6.)				92,000		136,000		280,000		1,116,000		1,556,000		776,000
LC (60% of 6.)				138,000		204,000		420,000		1,674,000		2,334,000		1,164,000
7. Cost for Phase-II (5. X 1.30 X 1.30)				170,000		260,000		530,000		2,130,000		2,970,000		1,490,000
Breakdown FC (40% of 7.)				68,000		104,000		212,000		852,000		1,188,000		596,000
LC (60% of 7.)				102,000		156,000		318,000		1,278,000		1,782,000		894,000

Note: (1) Preparation Work 10% plus Temporary Work 20% equal to 30%, (2) Overhead Cost for Phase-I 70%, Phase-II 30%

L-12 (3) Rehabilitation Cost of Intake Weir per Place

Work Item	Unit	Unit Cost	Weir Q'ty	Weir Amount	Gate G-I Q'ty	Gate G-I Amount	Gate G-II Q'ty	Gate G-II Amount	Gate G-III Q'ty	Gate G-III Amount	Rip Rap R-I Q'TY	Rip Rap R-I Amount	Rip Rap R-II Q'ty	Rip Rap R-II Amount
1. Earth Work				0		0		0		0		20,420		64,500
a) Excavation	P/m³	53	0	0	0	0	0	0	0	0	100	5,300	340	18,020
b) Backfill	"	40	0	0	0	0	0	0	0	0	0	0	0	0
c) Embankment	"	51	0	0	0	0	0	0	0	0	270	15,120	830	46,480
2. Concrete Work				29,740		0		0		0		0		0
a) Reinforced Concrete	P/m³	1,890	2	3,780	0	0	0	0	0	0	0	0	0	0
b) Plain Concrete	"	1,850	0	0	0	0	0	0	0	0	0	0	0	0
c) Forms	P/m²	1,210	20	24,200	0	0	0	0	0	0	0	0	0	0
d) Reinforced Stell Bar	P/Kg	22	80	1,780	0	0	0	0	0	0	0	0	0	0
3. Revetment Work				0		0		0		0		557,425		1,147,725
a) Grouted Rip Rap	P/m³	985	0	0	0	0	0	0	0	0	55	54,175	135	132,975
b) Boulder for Rip Rap	"	150	0	0	0	0	0	0	0	0	55	8,250	165	24,750
c) Plain Rip Rap	P/m²	1,650	0	0	0	0	0	0	0	0	300	495,000	600	990,000
4. Rubber Dam				0		335,000		858,000		422,000		0		0
a) Rubber Dam (14.0 X 1.0)	Set	335,000	0	0	1	335,000	0	0	0	0	0	0	0	0
b) " " (18.0 X 3.0)	"	858,000	0	0	0	0	1	858,000	0	0	0	0	0	0
c) " " (28.0 X 1.0)	"	422,000	0	0	0	0	0	0	1	422,000	0	0	0	0
d) Sluice Gate (2.5 X 1.0)	"	50,800	0	0	0	0	0	0	0	0	0	0	0	0
5. Total of 1. to 4.				29,740		335,000		858,000		422,000		577,845		1,212,225
6. Cost for Phase-I (5. X 1.40 X 1.70)				70,000		800,000		2,040,000		1,000,000		1,380,000		2,890,000
Breakdown FC (40% or 90% of 6.)				28,000		720,000		1,840,000		900,000		550,000		1,160,000
LC (60% or 10% of 6.)				42,000		80,000		200,000		100,000		830,000		1,730,000
7. Cost for Phase-II (5. X 1.40 X 1.30)				60,000		610,000		1,560,000		770,000		1,050,000		2,210,000
Breakdown FC (40% or 90% of 7.)				24,000		550,000		1,400,000		700,000		420,000		890,000
LC (60% or 10% of 7.)				36,000		60,000		160,000		70,000		630,000		1,320,000

Note: (1) Preparation Work 10% plus Temporary Work 30% equal to 40%, (2) Overhead Cost for Phase-I 70%, Phase-II 30%

L-12 (4) Construction Cost of Groundwater Collecting Conduit (GCC)

Work Item	Unit	Unit Cost	Sta. Rita CIS & Narita CIS GC -I Q'ty	GC -I Amount	San Martin CIS GC -II Q'ty	GC -II Amount	Baluto CIS GC -III Q'ty	GC -III Amount	Lilibangan CIS GC -IV Q'ty	GC -IV Amount
1. Earth Work				1,116,400		1,404,800		1,760,000		1,558,700
a) Excavation	P/ m³	53	14,800	784,400	18,200	964,600	24,000	1,272,000	19,800	1,054,700
b) Backfill	"	40	8,300	332,000	11,000	440,000	12,200	488,000	12,600	504,000
c) Embankment	"	51	0	0	0	0	0	0	0	0
2. Conduit Work			1,500	10,084,300	1,800	14,447,100	2,500	13,984,800	1,950	17,020,250
a) R.C.Pipe			1,000	2,502,500	1,000	2,719,000	2,000	5,739,500	950	2,561,500
R.C.P. 24"	P/m	1,410	250	352,500	150	211,500	200	282,000	150	211,500
32"	"	2,300	250	575,000	200	460,000	250	575,000	200	460,000
40"	"	3,150	500	1,575,000	650	2,047,500	1,550	4,882,500	600	1,890,000
b) Corrugated Pipe	"	11,500	500	5,750,000	800	9,200,000	500	5,750,000	1,000	11,500,000
c) Boulder & Concrete				1,831,800		2,528,100		2,505,300		2,958,750
Boulder	P/ m³	150	4,490	673,500	4,490	673,500	8,080	1,347,000	4,270	640,500
Plain Concrete	"	1,650	262	432,300	420	693,000	262	432,300	525	866,250
Forms	P/ m²	1,210	600	726,000	980	1,181,800	600	726,000	1,200	1,452,000
3. Total of 1. and 2.				11,200,700		15,851,700		15,754,800		18,578,950

			Phase-I (3. X 1.40 X 1.70)	Phase -II (3.0 X 1.40 X 1.30)	Phase-I (3. X 1.40 X 1.70)	Phase-II (3. X 1.40 X 1.30)
4. Total Cost						
Earth Work		(FC 40%)	2,680,000	2,560,000	4,180,000	2,840,000
Conduit Work	RCP 24" - 40"	(FC 50%)	5,980,000	4,950,000	13,680,000	4,660,000
	Corrugated Pipe	(FC 80%)	13,690,000	18,750,000	13,690,000	20,930,000
	Boulder & Conc.	(FC 50%)	4,390,000	4,840,000	5,980,000	5,370,000
Miscellaneous			800,000	600,000	1,100,000	700,000
Total of 4.			27,500,000	29,500,000	38,600,000	34,500,000
Breakdown of 4.	FC		17,700,000	19,500,000	23,200,000	23,500,000
	LC		9,800,000	10,000,000	15,400,000	11,000,000

L-12 (5) Rehabilitation Cost of Intake Weir Appurtenance and Turnout

Work Item	Unit	Unit Cost	Whole Structure Q'ty	Whole Structure Amount	Plain Riprap (m²) Q'ty	Plain Riprap (m²) Amount	Turnout Q'ty	Turnout Amount
1. Earth Work				88,920		43		436
a) Excavation	P/ m³	53	600	31,800	0.50	27	4	212
b) Backfill	"	56	20	1,120	0	0	0	0
c) Embankment	"	56	1,000	56,000	0.30	17	4	224
2. Concrete Work				294,800		3,840		9,480
a) Reinforced Concrete	P/m³	1,890	0	0	0	0	1	1,890
b) Plain Concrete	"	1,650	120	198,000	0.53	875	5	6,050
c) Forms	P/m²	1,210	80	96,800	2.45	2,965	70	1,540
d) Reinforcd Steel Bar	P/Kg	22	0	0	0	0	0	0
3. Revetment Work				290,550		0		5,720
a) Grouted Riprap	P/m³	985	180	177,300	0	0	2	1,970
b) Boulder for Riprap	"	150	205	30,750	0	0	3	450
c) Plain Riprap	P/m²	1,650	50	82,500	0	0	2	3,300
4. Gate ane R.C. Pipe				101,600		0		30,640
a) Sluice Gate (2.5 X 1.9)		50,800	2	101,800	0	0	0	0
b) " (Various Size)			0	0	0	0	LS	25,000
c) R.C.Pipe 24"		1,410	0	0	0	0	4	5,640
5. Total of 1. to 4.				775,870		3,883		46,276
6. Cost for Phase-I(5.X 1.40 X1.70)				1,850,000		9,240		110,000
Breakdown FC				860,000		3,700		74,000
LC				990,000		5,540		36,000
7. Cost for Phase-II(5.X 1.40 X1.30)				1,410,000		7,070		84,000
Breakdown FC				660,000		2,830		56,000
LC				750,000		4,240		28,000

L-12 (6) Construction Cost of Unified Diversion Dam

Work Item	Unit	Unit Cost	Q'ty	Amount
1. Earth Work				2,290,400
a) Excavation	P/ m³	23	50,800	1,168,400
b) Backfill	"	51	16,800	856,800
c) Embankment	"	51	5,200	265,200
2. Concrete Work				31,337,300
a) Reinforced Concrete	P/ m³	1,890	7,230	13,664,700
b) Forms	P/ m²	1,210	10,480	12,680,800
c) Reinforced Steel Bar	P/ Kg	22	227	4,991,800
3. Operation Shed (5.0 X 5.0)	P/ set	125,000	3	375,000
5. Total of Civil Work				38,439,450
6. Preparation & Temporary Work				19,219,725
Preparation Work (10% of 5.)				3,843,945
Temporary Work (40% of 5.)				15,375,780
7. Total of Civil Work (Total of 5. & 6.)				57,695,175
8. Mechanical Work				15,224,000
a) Roller Gate (11.0 X 2.0)	P/ set	4,268,500	2	8,537,000
b) Sluice Gate (3.5 X 2.0)	"	1,149,250	4	4,597,000
c) Inspection Bridge (25m)	"	1,791,000	1	1,791,000
d) Screen (2.0 X 2.5)	"	74,750	4	299,000
9. Total of Direct Cost (Total of 7. & 8.)				72,883,175
10. Total Construction Cost (9. X 1.30)				95,000,000
Breakdown FC				47,800,000
LC				47,200,000

L-12 (7) Construction Cost of Service Road and Drainage Channel per Meter

Work Item	Unit	Unit Cost	Service Road Main Canal Q'ty	Service Road Main Canal Amount	Service Road Lateral Canal Q'ty	Service Road Lateral Canal Amount	Drainage Channel Q'ty	Drainage Channel Amount
1. Earth Work				292		168		1,125
a) Excavation	P/ m³	53	0	0	0	0	10	530
b) Backfill	"	40	2.35	94	1.70	69	3.50	140
c) Treming	P/ m²	35	0	0	0	0	13	455
d) Gravel	P/ m³	330	0.6	198	0.3	99	0	0
2. Preparation and Temporary Work				87		51		338
Preparation Work (10% of 1.)				29		17		113
Temporary Work (20% of 1.)				58		34		225
3. Total of 1. and 2.				379		219		1,463
4. Total Cost for Phase-I (3. X 1.70)				700		400		2,700
Breakdown FC				300		100		1,100
LC				400		300		1,600
5. Total Cost for Phase-II (3. X 1.30)				500		300		2,000
Breakdown FC				200		100		800
LC				300		200		1,200