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PROJECT REVIEW PAPER

Title: Small Scale Irrigation

Fiscal Year Proposed for Financing: 1975

Appropriate Category. Sec. 103 Food and Nutrition

Date of Submission to Bureau: January 31, 1975

Project Development Team:

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BEST AVAILABLE

SMALL SCALE IRRIGATION

I Priority and Relevance

The PID identified the focus of AID assistance in irrigated agriculture development in Philippines to be the improvement of irrigation systems performance emphasizing management of irrigation facilities. It further proposed an approach which included construction of improved irrigation facilities under two separate pilot projects for small scale irrigation systems. (This is further referenced in DAP p.89.) One pilot project would develop water supply for small groups (50 to 100 farmers each) located in areas where the potential for large irrigation project development does not exist. The primary source of water would be from small surface streams and lakes but would include some shallow groundwater sources as well. The method of diversion under this pilot project would be by pumps powered by electric motors. The electric power would be supplied by rural electric cooperatives which are presently being assisted by USAID through an AID loan. The second pilot project would develop water supply from a major river for a discrete area of one of the major river basins of the Philippines under a pilot integrated area development project which is also being supported by USAID under the Bicol River Basin Project. In both projects the emphasis would be improving the management and preservation of irrigation facilities at the local level. The first of the subprojects is referred to as the BISA project or Barrio Irrigation Service Associations project. The second is the Libmanan project named after the river which would supply the water source. However, after further investigations and discussions, USAID has determined that the Libmanan project will be treated separately and this review paper will be concerned only with the BISA project.

In its long range program (1975-1985) the Government of the Philippines hopes to nearly double rice production from the present 115 million cavans of palay to approximately 220 million cavans. 1/ (1 cavan of palay = 44 kilograms of unmilled rice). The main expenditures for achieving such increases will result from improving and expanding the irrigation base. According to NIA estimates, based on price and wage levels of May 1974, about Pesos 5.1 billion and US $380 million in foreign exchange would be required for the 10-year program. The activities involved are (1) Investigations and surveys of proposed projects for determining their feasibility, (2) Construction of new national projects, (3) Rehabilitation of existing national systems, (4) Construction of new and repair of existing communal projects and systems, and (5) The intensification of the pump distribution program.

1/ NIA 1973-74 Annual Report

IBRD and ADB are heavily involved in supporting activities (1), (2) and (3), while (4) and (5) remain as low priority activities for bank financing primarily because of their small scale nature. It is to the latter two areas that the AID projects will be focused.

The sector goal which the project contributes to through achievement of objectives is the increase and more equitable distribution of income and local employment opportunities. (See Log Frame Matrix).

The approach to achieving the objectives relies heavily on the successful organization and training of local farmer irrigation associations for building, operating and maintaining small scale irrigation systems and adapting improved local action production and marketing activities. USAID believes that these organizations, by availing of carefully programmed inputs including technology and credit resources for purchasing other inputs, will be able to prove the effectiveness of this approach. The irrigation service association has a vital interest in (1) increasing the productivity of the cropland in the irrigation system, (2) extending the useful life expectancy of their association owned irrigation system facilities; and (3) improving the level of application of modern production technology by their farmer member producers. Apart from serving the vital interests of the association farmers the project approach when perfected, offers the potential to provide a means for achieving important benefits on a more national scale. The GOP's water administering agencies have had a long standing objective of raising the efficiency of investments in irrigation systems to a more optimal level. This project has established as its purpose the meeting of this objective at least for small scale irrigation systems which collectively may nearly equal the amount of areas served by larger scale systems.

II Borrower/Grantee/Administering Agency

A. Borrower - Government of the Republic of the Philippines

The GOP proposes to avail of an AID development loan in the amount of $1.5 million to fund small scale irrigation projects in four pilot project areas. The Director General of the National Economic and Development Authority (NEDA) will be responsible for administering the loan. He will designate the BISA program office as project manager. Other agencies will provide technical advice and assistance as required in carrying out the projects. All support activities will be coordinated by the BISA program office.

B. The BISA program office was first organized in 1973. It represents a pooling of efforts of various agencies, namely:

1. The Development Academy of the Philippines (DAP) which plans the BISA program;

2. The National Electrification Administration (NEA) which shares in the formulation of program policies and extends commodity and financial loans to the BISA through NEA assisted rural electric cooperatives;

3. The National Irrigation Administration (NIA) which shares in the formulation of program policies and is responsible for the construction of irrigation systems using mechanically driven motor pumps in areas not covered by electric cooperatives;

4. The Provincial Development Assistance Program (PDAP) which coordinates with the provincial development staff in the provinces; and

5. The Provincial Governments - the respective provincial governments of target provinces provide overall coordination and supervision of the various agencies involved in the program implementation in the provinces.

The program is being re-cast at this time with the establishment and incorporation of the BISA program office under the Office of the President. The Development Academy of the Philippines will withdraw from active participation and its previous role and functions will be carried out by the new BISA program office.

III Description of Project

The broad purpose of the loan is to improve the performance of irrigation systems in the Philippines. More specifically this involves the development and establishment of a management system whereby those with strongest vested interests in system performance will occupy the leading role in managing the system, i.e., the water users. Irrigation systems in the Philippines vary in size from less than 100 hectares to over 30,000 hectares. The BISA project is concerned with small systems not more than 100 hectares in size where irrigation and water distribution system maintenance can be carried out mostly by manual labor.

Benefits will accrue primarily because the project will permit growing two crops of HYV rice with irrigation between flood seasons on land areas which now only produce one crop of lower yielding rice during the flood season.

The BISA Project.

USAID proposes to support the Philippine Government's Barrio Irrigation Service Association (BISA) program with a development loan in the amount of $1,500,000. The loan funds will be used for a pilot project to bring water supply to 5,000 hectares of rice land in small scattered areas of the Philippines. The project includes 50 selected areas of approximately 100 hectares each located in 4 provinces. The selected areas are representative of approximately 250,000 hectares of riceland isolated from the larger national irrigation systems and presently producing only one crop of wet season rice per year with average production of 2.3 MT per hectare. The project will provide the basis for producing at least 2 crops per year in addition to raising the unit yield average to 4.4 MT per hectare each crop, thus increasing total yields almost 4 times.

The project will finance sub-loans to borrowers on concessional terms for purchasing and installing low lift pumps and for constructing irrigation distribution systems to service each 100 hectares area with water supply. These installations will nominally include intake works from streams, ponds, lakes, or shallow dug wells as well as the pump, motor, pumphouse and outlet stilling basin at the pump site. The irrigation distribution system will nominally consist of a conveyance channel from the pump site to the service area and will supply a system of farm distribution channels with small water control structures for properly delivering water to each user. Channels will mostly be earth channels but eligibility for credits to pave or otherwise improve the system will be provided for farmers or farmer groups electing to do so. Additionally, credit eligibility will be provided for borrowers desiring other land improvements such as land leveling, drainage systems, and farm water storage ponds.

No less important is the project element which provides for the organization and training of water user associations in the management, preservation, and sustained use of the irrigation system. Irrigation history in the Philippines is replete with accounts of pump installations serving groups of farmers for improving production. However, on later examination it is found that over 90% of these systems have been

abandoned because some part or all of the system fell into disrepair. For this reason the loan paper will repeatedly emphasize the local institution building elements of the project.

A small part of the loan, $57,000, will be used for training of technicians in key areas where investigations indicate some weaknesses in technology. Technical assistance will be a minor cost element, a major portion of which will be provided by the USAID Mission on-board staff consisting primarily of the irrigation advisor who will also serve as loan project monitor, and one irrigation and drainage advisor presently supplied by the U.S. Bureau of Reclamation under a PASA. However, in order to be fully responsive to the need to accelerate all on job training aspects, provision is made for additional 12 man months technical advisory services on a grant basis.

This project will affect 3,350 small scale farmers resulting in annual direct incremental benefit of 32,500 MT of palay production at annual incremental value of $4,650,000. The time frame for completion is 3 years.

IV Beneficiary

The projects principal beneficiaries are 3,350 rice farmers who can be profiled in modal terms as male, married, and Catholic (in Mindanao he may be Moslem). Owner operators are the oldest group with median age being 50 years. The median age of other groups are: share tenants - 40 years; lessees - 43 years; and part owners - 41 years. The median educational attainment of owner operators and part owners is grade six, of share tenants grade 5, and of lessees grade 4. In general, owner operators have better housing and housing facilities than tenants and lessees. Only one out of ten tenants or lessees have houses made out of concrete materials, while four out of ten owner operators have these durably built homes. Health and sanitation studies indicate that nine out of ten of all rice farmers have a private force pump installed in their homes. Only 3 percent draw water from a public well. Two thirds have open pit toilets, 15% have water sealed (antipolo) toilets, 6% have flush systems, 1% use public toilets, and 10% have no toilet facilities at all.

In general, more than two thirds of all farmers are currently indebted to others. Six out of ten owners/operators and part owners borrow from credit institutions, 33 percent of lessees, and 14 percent of share tenants get loans from institutions. Individuals, mostly money lenders, furnish credit to about half of the lessees, one third of the share tenants, and one fourth of the part owners. One out of

two share tenants borrow from their landlords but only one out of five lessees and one out of fourteen part owners get loans from landlords. Kinsmen are the credit source for 12 percent of owners, 11 percent of part owners, 19 percent of lessees, and 20 percent of share tenants. The median total loan by tenure group for production is owner - ₱1435, part owner - ₱625, lessee - ₱475, and share tenant - ₱400.

The contrasting brief profile of a landlord shows him to be male, married and about 57 years old. His educational level is between senior high school and senior college. About half have more than one household and about one fourth have traveled abroad. Three fourths of them own a private vehicle.

The average farm size considering all tenure groups is estimated as 2.2 hectares (5.4 acres).

The rice farmer beneficiaries have the potential to increase gross production on the land they till from 2.3 metric tons for a single crop per year to 8.8 metric tons for two crops in a year when adequate irrigation is provided to the cropped area. If the full potential increase were actually realized the impact on beneficiaries would be substantial. By far the biggest benefit would accrue to the rice farmer himself, followed by the landlords, seed and fertilizer dealers, and the rice millers and transport interests. Of course benefits, both direct and indirect, will accrue to most of the other local commercial interests as a result of increased production and marketing activities. It is assumed that social benefits will stem from the farmers graduation to a viable economic producer from the level of subsistence farming. This is important to the relatively isolated farm communities encompassed by the BISA program who have no foreseeable possibility to otherwise improve their situation.

V Project Design

The BISA development program will be pursued within a systems framework, integrating various means to attain its targets and purpose as effectively as possible. By systems approach is meant a well conceived set of policies, programs, projects, services and institutions that would bear directly on the problems associated with introducing and sustaining modern irrigation and production technology to low income, small scale, rice farmers.

Farmers are organized into Irrigators Service Associations (ISA). Irrigation systems as the basic requirement for increasing production of rice and other crops are installed, operated and maintained by trained farmers with cooperative commitment through the ISA. Farmer

members are also trained in improved production methods and practices. In the process, the ISA is linked with existing institutions for production, credit, processing, marketing, farm to market infrastructure and extension services and facilities.

Objectives

The project will aim to achieve the following in each project area in relation to its purpose:

A. Organization and strengthening of a farmers cooperative (ISA) which will:

1. Build, operate, maintain and manage its own irrigation systems to provide irrigation services to its farmer members.

2. Plan and implement campaigns for improving agricultural production by its farmer members.

B. Construction of pump or small gravity irrigation systems using either electric motor driven pumps in project areas covered by electric cooperatives or diesel powered pumps in other areas, activating and/or improving communal gravity irrigation systems.

C. Introduction of improved farming practices.

D. Provision of a linkage mechanism which can provide essential goods and services to strengthen the status of the ISA.

E. Introduction of innovative packages to optimize the use of labor, capital, land and materials of the ISA.

Successful achievement of the objectives and hence a substantial contribution toward the goal of maximizing and equitably distributing income with improved employment effects, hinges on:

A. A well conceived plan and program.

B. Trained staff at the provincial level.

C. A well structured credit program with ample funds.

D. Continuous follow up attention.

E. Active support for the program at all levels - National, Provincial, Municipal and Barrio.

USAID believes the project will achieve its purpose by addressing these problems in the projects final design.

The principal constraining factors foreseen relate to technical inputs, logistics, and financing arrangements.

The project will be implemented by provincial technical staffs with program development and policy formation performed by the BISA program office.

In the selected provinces where this project will be implemented it is intended to augment the provincial technical staffs with engineering and agricultural experts from the BISA National Projects team who will be seconded to the Provincial Engineers Office and to the Provincial Agriculturists Office. Supply of pumping sets, their erection and maintenance is a bigger problem. USAID is discussing with GOP the merits of private sector participation for supplies and services required to install and maintain pumping sets. In some provinces this may not work necessitating an alternative approach using provincial personnel and their organizational resources for erecting the pumping set. Maintenance and repair may then be performed by: (a) private firms with repair and parts supply capability under contract to the ISA(s), (b) the provincial motor pool.

Financing for the relending program will be through rural banking channels so that credit needs for irrigation farming investments can be considered in consonance with other components of a completely supervised farm management plan.

A brief summary of the implementation plan is:

(1) Program, Plan and Policy - - - BISA Program Office (National)

(2) Local Planning - - - - - - - - Provincial Development Staff

(3) Local Training - - - - - - - - Provincial Training Staff

(4) Local Organization - - - - - - Provincial Irrigators Team

(5) Engineering - - - - - - - - - Provincial Engineer

(6) Agriculture - - - - - - - - Provincial Agriculturist

(7) Supplies & Installations- - Private Commercial Interests

(8) Operation and Maintenance

(A) Pumping Set - - - - - Private Sector/ISA

(B) Irrigation System - - ISA

The National Irrigation Administration (NIA) will establish standards for construction of irrigation systems and will check the overall engineering performance.

Assumption (See Log Frame Matrix)

The most critical assumption relates to the degree that this relatively small project will receive sufficient support particularly at the National Government level and to a lesser extent the Provincial Level. While it is true that primary emphasis on projects with international donor agencies is placed on the larger infrastructural development projects there is also a deep commitment in the Philippines to develop programs of assistance for smaller projects in the more isolated rural areas. The fact that the BISA program is placed directly under the Office of the President implicitly emphasizes this commitment with respect to irrigation development.

The project design is further described in the logical framework matrix included herein.

VI A.I.D. Experience

Similarities exist between this project and the low lift pump irrigation schemes in Bangladesh and in South Vietnam. The goals of all three projects are believed to be essentially the same with a slight difference in purpose. There is a marked difference in scale since this project is more or less at the pilot level and much smaller with respect to physical works. However, USAID believes it is much broader in scope as it places heavy emphasis on the local institution building process and the local leadership role for operating and managing the irrigation systems. Details of the project components for the Bangladesh and Vietnam pump irrigation schemes are not available at this Mission obviating opportunity for fuller comparisons. USAID must rely on AID/W for providing information in this section of the project review.

VII Other Donor Coordination

No discussions have been held with any other donor agency -- bilateral or multilateral -- on this project. It is reported that in the last fiscal year the NIA acquired 6,007 complete pump and diesel engine sets locally and through the 17th Japanese reparations agreement. In addition, two other loans were concluded for supplying diesel engines for powering small pumps. The Danish loan supplied 2,451 diesel engine units and 2,210 locally manufactured centrifugal pumps. The Spanish loan provides another 2,000 diesel engines. The IBRD and the ADB have provided large amounts of assistance for large scale new irrigation systems which are all gravity type systems. Recently they have both entered into agreements for integrated area development projects which do involve pumping. However, these again are larger scale systems as the tube wells mainly provide water for augmenting the supplies of existing gravity type systems and in a few cases new development of systems where wells are installed in groups for supplying a canal distribution system in a relatively larger producing area than the small scale systems of the BISA program.

VIII Financial Plan

The AID loan project is a part of the larger nationwide BISA program for small scale irrigation development which will be financed by the GOP.

Project Costs and Financial Summary *
(In Millions of Pesos)

	GOP	AID	TOTAL	%
Credit for Irrigation Systems	-	3.5	3.5	21.2
Credit for On Farm Development	-	3.4	3.4	20.6
Credit for Prod. & Mktg. Investments	-	1.8	1.8	10.9
Commodities	-	1.4	1.4	8.5
Participant Training	-	0.4	0.4	2.4
Recurring Production Credit	6.0	-	6.0	36.4
Total	6.0	10.5	16.5	100
%	36.4	63.6	100	-

1. Credit Element

The loan will provide $1.5 million to the Philippine National Bank to establish a line of credit for establishing small scale irrigation systems and for subsequent crop production and harvesting activities including on-farm development, farming implements and facilities for crop handling.

There is adequate flexibility in the credit program to permit movement of credit funds among categories should this be required to achieve a better mix of types of credit.

2. Commodities

Approximately $200 thousand in foreign exchange will be used for importing essential commodities. The commodities will consist of vehicles, mobile repair shops, surveying instruments, and some demonstration pipe and pump accessories.

3. Training

Approximately $57 thousand of the AID loan will be used for training key BISA staff in third countries. The subjects for training will mostly consist of (a) farm organizations, (b) operation and maintenance of irrigation systems and (c) irrigation water management. Training will be programmed for short observation type field training in other rice producing countries having tropical or near tropical climatic conditions and where irrigation water management for rice production is well perfected.

4. Credit

The balance of the loan, $1,243,000, will be made available through SLC procedures and GOP will deposit the equivalent amount in Pesos in the Philippine National Bank for use in this project.

IX Project Development Schedule

In reviewing the component elements for undertaking the final project preparation, it appears that most of the documentation can be prepared using Mission and GOP implementing agencies on board staff. However, there are four analyses asked for in Part II of the PP outline which are forecast as in the major task category. There are Economic,

Technical, Policy, and Financial Analyses. USAID may need to avail of TDY/consultancy services for both the economic and the financial analyses. Except for these two, which may depend upon availability of outside assistance, it is estimated that all other components of the PP can be prepared within 30 days after receipt of approval of the PRP. The only cost implications outside the time of mission staff would be for 30-day consultancy/TDY of resource experts for preparing the economic and financial analyses.

X Analyses

The PP will include six analyses briefly described by category as follows:

1. The economic analysis will include the preparation of a farm budget analysis, ISA project budget, cash flow, internal rate of return and benefit/cost derivations, a study on the potential income and employment effects, the projects effects on changes in the investment/savings patterns of the beneficiaries and possible impact on the country's balance of payments. It is believed that sufficient data exists or can be generated through research and interpretation of various studies on the economics of rice production in the Philippines to prepare this analysis. What is needed is an experienced agricultural economist who is knowledgeable in the mechanics and procedures of developing the different elements of the analysis.

2. The technical analysis will concentrate on describing the skills needed and the training required for developing those skills for designing and installing pumping stations and irrigation distribution systems, the operation and maintenance of the entire system, the on-farm land development as well as the on-farm management practices needed for upgrading overall efficiency of water utilization. USAID foresees no problem in the preparation of this analysis. No outside assistance is contemplated for this.

3. The analysis of social impact will be concerned with predicting what possibilities might obtain to the local community in improving the status of farmers, particularly the young farmers, as well as an estimate of possible deleterious effects or the upsetting of valued cultural traditions and close family ties. The role of women both in project implementation and as beneficiaries of the project will be addressed. It is contemplated we will use host country resource personnel which can be arranged by the BISA program office for developing this analysis.

4. The policy analysis will touch on the host country policy for credit rates, taxes, and incentives through price mechanisms for agricultural commodities. This section will be prepared within the Mission.

5. The financial analysis will be comprised of a treatment on the general financial status of the GOP, a financial plan for the loan project including the use of matching funds and the ability of beneficiaries to repay loans. An assessment of the banking structure and credit processes may be included in sufficient detail to ascertain their capability to absorb and use credit resources generated by the AID loan for project purposes. USAID is considering the possibility of requesting AID/W to depute a financial analyst on TDY to the Philippines to assist the Mission in preparation of this analysis.

6. The administrative analysis will ascertain the capability of the BISA program office and the sufficiency of provincial organizations to administer and implement the project. It is believed that this study can be completed without outside help.

AID 1020-28 (1-73)
SUPPLEMENT 1

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

(INSTRUCTION: THIS IS AN OPTIONAL FORM WHICH CAN BE USED AS AN AID TO ORGANIZING DATA FOR THE LAR REPORT. IT NEED NOT BE RETAINED OR SUBMITTED.)

Life of Project: From FY 75 to FY 78
Total U.S. Funding
Date Prepared:

Project Title & Number: SMALL SCALE IRRIGATION

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Program or Sector Goal: The broader objective to which this project contributes: (A-1)	Measures of Goal Achievement: (A-2)	(A-3)	Assumptions for achieving goal targets: (A-4)
1- Increased Farmers Income: A- Increase in number of crops per year. B- Increase in unit yields per crop. C- Increase in effectiveness of production inputs. 2- Increased employment opportunities: A- Crop scheduling spreads peak labor demand periods. B- Increased harvest tonnage to be handled. C- Development in the Barrio of First Echelon marketing services provides new opportunities (Proc/Stor/Trans.) 3- More Equitable Wealth Distribution A- Providing basis and means for increased production to semi-isolated groups of small scale farmers. B- Increased opportunities for rural dwellers to add value to their product and reduce middleman share of end price. C- Cooperative buying and selling benefits accrue to small scale farmer members of ISA.	1-A- Average number of crops in project area increased to 2 per year. B- Unit yields increase by 50%. C- Elements of timing, fertilizing, weeding, watering, pest control, are effectively applied and standards for doing so are understood by at least 75% of ISA farmers. 2-A- Planting dates staggered so that no more than 20% overlap - reducing need for augmented labor force from outside ISA by 60%. B- Harvest tonnage doubled creating double labor demand for harvest, transport, and processing. C- Each ISA has available at least 1 drying facility, 1 mechanical thresher, and 1-100 ton storage fac. 3-A- Irrigation Systems completed for 5,000 hectares operated by 3,350 farmers.	1-A- Evaluation reports by PIT's. B- Evaluation reports by PIT's, Annual Extension Reports. C- Special survey reports and questionnaires by PIT/ISA. 2-A- Reports by ISA Irrigation Superintendent. B- Reports by ISA Marketing Committee. C- Interview reports with BISA/ISA/Rural Banks. 3-A- Field progress reports by PIT's. B- Reports by BISA/NGA. C- Field reports by ISA.	1-A- Extreme typhoons do not occur in pilot project areas B- Production inputs availab C- Credit for inputs availat on timely basis, technology available. 2-A- ISA trained in crop scheduling. B- Farmers follow approved farming plan. C- Appropriate credit and technology available/entrepreneurs available. 3-A- Credit and commodities available. B- Credit and commodities available. C- ISA's trained, procuremen and marketing committees organized and function l.

OBJECTIVELY VERIFIABLE INDICATORS
Measures of Goal Achievement: (A-2) (Cont'd)

B- Increase of ₱10 per cavan by carrying out drying and storage at barrio level.

C- Association members enjoy 5% price reduction on input purchases thru group buying, storage, and distribution, and 5% increment on commodity sales thru group marketing.

AID 1020-28 (1-73)
SUPPLEMENT 1

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project:
From FY 75 to FY 78
Total U.S. Funding
Date Prepared:

Project Title & Number: SMALL SCALE IRRIGATION

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Project Purpose: (B-1)	Conditions that will indicate purpose has been achieved: End-of-Project status. (B-2)	(B-3)	Assumptions for achieving purpose: (B-4)
To optimize the efficiency of investments in small scale irrigation programs through: A- increased productivity of cropland B- Extended useful life expectancy of irrigation system facilities. C- Improving the flow of production technology to the producers.	A- Cropland under project areas producing 100% more. B- Associations operate systems in fashion which minimizes deterioration effects. C- Farmers are in constant touch with government and private crop production specialists.	A- Survey reports by ISA. B- Survey and evaluation reports by BISA/NIA/AID. C- Survey reports by ISA.	A- ISA's trained B- ISA's trained/spare parts available, ISA Irrigation Superintendent appointed, trained, and authorized to manage. C- Government agencies fully support program with trained technicians and adequate budget.

AID 1020-28 (11-72)
SUPPLEMENT 1

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project:
From FY _____ to FY _____
Total U.S. Funding _____
Date Prepared: _____

Project Title & Number: SMALL SCALE IRRIGATION

NARRATIVE SUMMARY Project Outputs: (C-1)	OBJECTIVELY VERIFIABLE INDICATORS Magnitude of Outputs: (C-2)	MEANS OF VERIFICATION (C-3)	IMPORTANT ASSUMPTIONS Assumptions for achieving outputs: (C-4)
1- Institutional Development: A- Organization of Irrigators Service Associations. B- Linkage mechanism to provide goods & services to ISA. C- New potentials for rural development thru group action.	1-A- 50 ISA's organized; 15 in 76, 15 in 77, 20 in 78. B- All ISA's federated and have own liaison reps. by 1978. C- At least 1 Joint Improvement project in 50% of ISA's other than an irrigation water supply project by 1978.	1-A- BISA program office progress reports B- BISA program office progress reports C- BISA/PDAP program office progress reports.	1- Province supports project by: A- Recruiting & training adequate number of qualified technicians and assigns them to provinces on timely basis. B- ISA's trained. ISA budget available. C- Funds available, commodities and technology available, feasibility proved.
2- Credit A- Concessional credit for investment in commodities. B- Concessional credit for investment in land improvements. C- Assistance in obtaining seasonal operating credits.	2A- All ISA's in project under credit plan for Irrigation System development by 1978. B- 25% of ISA's in project receiving credit for land improvement works by 1978. C- All ISA's have access to seasonal credits.	2-A- PDS progress reports/ rural banks B- PDS progress reports/ rural banks C- PDS progress reports/ rural banks	2- Funds available on timely basis. Permissive credit processes pertain.
3- Training A- Resource inventory and planning. B- Organization and management of associations. C- Operation and maintenance of irrigation systems. D- Production techniques.	3-A to D. Training on repeating basis by provincial training staffs functional in all ISA's by end of 1978.	3-A to D- Reports by Advisor Technicians	3- PTS assigned, advisor technicians assigned.
4- Technology A- Engineering B- Soil Management C- Water Management D- Crop Culture E- Marketing processes	4- Provincial Development Staff and ISA's have capability to provide and/or arrange support	4-A to E- Reports by Advisor Technicians	4- PDS assigned and ISA's trained.

AID 1020-28 (1-73)
SUPPLEMENT 1

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project:
From FY _____ to FY _____
Total U.S. Funding _____
Date Prepared: _____

Project Title & Number: _____

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Project Inputs: (D-1)	Implementation Target (Type and Quantity) (D-2)	(D-3)	Assumptions for providing inputs: (D-4)
Activities: (1) Assistance for technical training of staff in Irrigation Engineering, and design, installation and maintenance of pumping systems. (2) Project investigations, evaluation, and monitoring (3) Organizing and assisting farmer irrigation associations with (A) Organization and Registration (B) Association Management (C) Installing Irrigation Systems (D) Operating Irrigation Systems (E) Improving crop production (F) Improving marketing services.	(1) Technical Assistance: (U.S. GRANT) 36 Man Months (DH) Irrigation Advisor and 12 Man Months (DH) Pump Expert (A) Irrigation Advisor - $110,000 (B) Pump Systems Advisor - $40,000 (2) Participant Training (USDL) 8 Man Month Third Country Training in Each of: (A) Farm Organizations - $19,000 (B) Irrig. System O&M - $19,000 (C) On-Farm Water Mgt - $19,000 (3) Commodities: (USDL) Vehicles - $60,000 Mobile Repair Shops - $50,000 Survey Instruments - $10,000 Pipe and Pump Accessories - $80,000	(1) USAID Personnel Records (2) USAID Training Office Records (3) (A) Receiving Reports (B) Field Technician Reports (4) (A) Periodic Rural Bank Reports (B) ISA Financial Records (5) (A) Rural Bank Reports (B) ISA Financial Records	(1) Favorable Recruitment Timely Accomplished. (2) Qualified Candidates Available and Host Country Sanctions Foreign Travel. (3) Commodities Available. (4) Funds Allocated and Available. (5) Masagana 99 Program Continues Thru Project Life.

OBJECTIVELY VERIFIABLE INDICATORS
Implementation Target (Type and Quantity)
(D-2) (Cont'd)

(4) Credit - (USDL)
Medium Term Credit For:
(1) Irrigation Systems
- ₱3,500,000
(2) On Farm Development
- ₱3,400,000
(3) Marketing Facilities
- ₱1,800,000

(5) Credit (GOP Budget)
Short term credit for:
(1) Fertilizer, Seeds, Plant protection, tillage, and harvest - ₱6,000,000

AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT REVIEW PAPER FACESHEET

TO BE COMPLETED BY ORIGINATING OFFICE

1. TRANSACTION CODE (X) APPROPRIATE BOX
[X] ORIGINAL [ ] CHANGE [ ] ADD [ ] DELETE

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2. COUNTRY/REGIONAL ENTITY/GRANTEE
Republic of the Philippines - GOP

3. DOCUMENT REVISION NUMBER

4. PROJECT NUMBER
492-0274

5. BUREAU
A. SYMBOL: FA
B. CODE: 2

6. PROPOSED PP SUBMISSION DATE
MO. 1 1 YR. 7 6

7. PROJECT TITLE - SHORT (STAY WITHIN BRACKETS)
Small Scale Irrigation II

8. ESTIMATED FY OF AUTHORIZATION/OBLIGATION
A. INITIAL FY 7 7 B. FINAL FY 8 0

57p

9. SPECIAL CONCERNS CODE (MAXIMUM SIX CODES OF FOUR POSITIONS EACH)

10. SECONDARY PURPOSE CODE

11. ESTIMATED TOTAL COST ($000 OR EQUIVALENT, $1 = ____)

PROGRAM FINANCING	FIRST YEAR B. FX	C. L/C	D. TOTAL	ALL YEARS E. FX	F. L/C	G. TOTAL
AID APPROPRIATED TOTAL	10,230		10,230	10,400		10,400
(GRANT)	(230)	( )	(230)	(400)	( )	(400)
(LOAN)	(10,000)	( )	(10,000)	(10,000)	( )	(10,000)
OTHER 1.						
2.						
HOST GOVERNMENT		4,748	4,748		11,738	11,738
OTHER DONOR(S)						
TOTALS						

12. ESTIMATED COSTS/AID APPROPRIATED FUNDS ($000)

A. APPROPRIATION ALPHA CODE	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE	FY 77 D. GRANT	E. LOAN	FY 78 F. GRANT	G. LOAN	FY ___ H. GRANT	I. LOAN	ALL YEARS J. GRANT	K. LOAN
FN			230	10,000	170				400	10,000
TOTALS										

13. PROJECT PURPOSE(S) (STAY WITHIN BRACKETS) [ ] CHECK IF DIFFERENT FROM PID

#1 - Increase Small Farmer Income
#2 - Improve Employment Opportunities.
#3 - Develop and Train Small Farmer Organizations Capable of Operating and maintaining of a Self-owned Irrigation System

14. WERE CHANGES MADE IN PID FACESHEET DATA NOT INCLUDED ABOVE? IF YES, ATTACH CHANGED PID FACESHEET.
[ ] YES [X] NO

15. PLANNING RESOURCE REQUIREMENTS (STAFF/FUNDS)

Financial Analyst TDY - 2 MM = $3700 Economic Analyst TDY - 2 MM = $3700

16. ORIGINATING OFFICE CLEARANCE

SIGNATURE
Richard M. Dangler

TITLE
Assistant Director for Capital Development

DATE SIGNED
MO. 1 1 DAY 1 1 YR. 7 5

17. DATE RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION
MO. DAY YR.

DESCRIPTION OF ACTIVITIES FOR IMPLEMENTATION NETWORK
$ 10M U.S. AID LOAN

ACTIVITIES	DESCRIPTION	COMPLETION DATE
1 - 2	Authorize Loans by U.S. AID	Jan. 31, 1977
2 - 3	Negotiate and Sign Program Agreement	Mar. 18, 1977
2 - 4	Negotiate Loan Agreement	Mar. 18, 1977
2 - 5	Install Irrigation System, Stage 1	Jun. 30, 1977
2 - 6	Prepare List of Excess Property	Jul. 15, 1977
2 - 14	Implement Farm Support Program, Stage 1	Sept. 30, 1977
3 - 4	Dummy	
4 - 7	Meet Condition Precedents	Jul. 15, 1977
4 - 12	Install Irrigation System, Stage 2	Sept. 9, 1977
5 - 12	List Eligible Project A & E Inspect and Certify and Notify NEDA	Sept. 9, 1977
7 - 8	Request for S.L.C.	Jul. 29, 1977
7 - 9	Open Letter of Recruitment	Jul. 29, 1977
7 - 10	Prepare Letter of Purchase	Jul. 29, 1977
7 - 11	Prepare List of Commodities for Direct Purchase	Aug. 31, 1977
8 - 10	Dummy	
9 - 10	Dummy	
10 - 16	Process and Approve Letter of Purchase	Sept. 30, 1977
11 - 15	General Terms and Conditions, Specification, Invitation for Bids	Sept. 30, 1977
12 - 13	Dummy	
12 - 22	List Eligible Projects A & E Inspect and Certify and Notify NEDA	Jan. 13, 1978
13 - 22	Reimburse Expenses for Stage 1 Installation of Irrigation System	Jan. 13, 1978
14 - 17	Notify NEDA	Oct. 21, 1977
15 - 19	Advertise in U.S. Daily	Dec. 16, 1977
16 - 20	Document and Ship, Excess Property	Dec. 30, 1977
17 - 18	Dummy	
17 - 28	Implement Farm Support Program, Stage 1	Apr. 28, 1978
18 - 32	Reimburse Expenses for Stage 1 Farm Support Program	Jun. 1, 1978
19 - 21	Inspect Offers	Dec. 30, 1977
20 - 26	Inspect Excess Property	Feb. 9, 1978
21 - 24	Firm Acceptance	Jan. 31, 1978
22 - 23	Dummy	
22 - 30	List Eligible Project, A & E Inspect and Certify and Notify NEDA	May 12, 1978
23 - 30	Reimburse Expenses for Stage 2 - Installation of Irrigation System	May 12, 1978
24 - 25	Open Letter of Commitment and Request for S.L.C. - Commodities for Direct Purchase	Feb. 10, 1978
25 - 27	Approve Commitment	Mar. 1, 1978
26 - 29	Rehabilitate Excess Property	Apr. 3, 1978

PROJECT REVIEW PAPER

PHILIPPINES

SMALL SCALE IRRIGATION II

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ATTACHMENTS:

Exhibit 1 - Project Identification Document (PID)
Exhibit 2 - Logical Framework Matrix
Exhibit 3 - Interim Social Analysis
Exhibit 4 - Implementation Network
Exhibit 5 - Draft of Memorandum of Understanding

I. Priority and Relevance for the PRP

The purpose of the $10 million loan and $400,000 grant is to provide financial and technical assistance to the GOP for continuing and expanding the ongoing Small Scale Irrigation Project. This new loan project interfaces with Loan 492-T-038 (Loan 038) according to the planned schedule. (See financing table under financial plan schedule). Although actual drawdown on Loan 038 has not yet started, the Farm Systems Development Corporation (FSDC) is proceeding with project implementation using funds from their corporate account. This is made possible under the FAR provisions of the project whereby GOP, from anticipated proceeds of Loan 038 is to reimburse the implementing agency (FSDC) up to 50% of direct expenditures subject to approved monitoring and certification reports. After satisfactory completion of CP's, it is anticipated the first loan will experience substantial initial drawdown to reimburse backlog expenditures made by FSDC and certified by their contract A&E firms.

Progress is being made in the achievement of the sector goal of reaching rice self-sufficiency, however it is not clear whether the GOP will be able to maintain current levels of production and increase production to feed a population growing at a rate of approximately three percent. During the current year favorable weather is a major factor in the production of what appears to be, a record crop, but it is also recognized that the GOP has made a major effort to develop an input technology and supply system that is making an impact. Development of irrigation systems is and will continue to be an essential factor in increasing rice production, but more importantly enabling the Philippines to rebound after natural disasters such as the 1972 floods, that may destroy part of the crop. Numerous small scale irrigation facilities, operated by ISAs would provide flexibility needed to increase and maintain production over a long period of time. Considerable interest has been generated as new requests for program coverage are received almost weekly from provinces outside the present project area attesting to the popularity of the small scale irrigation project indirectly triggered by Loan 038.

The project relevance and priority as an integral part of the overall program of assistance to small scale Filipino farmers is fully discussed in the PID for Small Scale Irrigation II in Section I - Problem Summary. A copy of the PID is attached for ready reference.

The $10 million loan and $400,000 grant will assist GOP in extending irrigation facilities to an additional 110,000 hectares affecting 55,000 small scale farmers and increase the annual rice production of these areas by 561,000 metric tons worth $75,000,000.

A. Project Costs ($ Millions)

	FY 77	FY 78	Total
AID Loan Inputs			
Commodities (Fx)	-	0.40	0.40
Credit Program (Lc)	2.85	4.85	7.70
A&E Services (Lc)	0.86	1.04	1.90
AID Grant Inputs			
Technical Assistance (Fx)	0.13	0.10	0.23
Training (Fx)	0.06	0.07	0.13
Other (Lc)			
Research Survey	0.02	-	0.02
Doc. Film	0.02	-	0.02
Total AID Loan & Grant	3.94	6.46	10.40
GOP Inputs (Lc)			
Credit Program	2.85	4.85	7.70
A&E Services	0.13	0.16	0.29
Program Admin.	1.23	1.35	2.58
Provincial Project Management	0.53	0.64	1.17
Total GOP	4.74	7.00	11.74
TOTAL PROJECT	8.68	13.46	22.14

II. Project Description

The project under consideration aims to increase agricultural productivity in order to sustain food sufficiency from FY 1977 onward and to increase small farmer income to project areas involved. It encompasses pheses I, II and III of the first stage of the Barangay Irrigators' Service Association (BISA) Program which are designed to intensify the institutional development of farmers' cooperatives called Irrigators' Service Association (ISAs) through the introduction and implementation of improved management skills, innovations that will augment production capability, multiple cropping and crop diversification techniques and support livestock production schemes.

Under this project, the USAID loan will finance 50% of the direct investment costs for construction of approximately 650 pump systems and 40 gravity systems which will irrigate an aggregate area of 110,000 hectares with the corresponding organization of 690 ISAs in 30 target provinces (see Implementation Plan). In addition, the FSDC's Plans and Program Department will conduct an intensive irrigation system management training for ISA officers and committee members to further strengthen the ISA's institutional base. In coordination with government agencies such as the Central Bank, the Development Bank of the Philippines, the Rural Bank, the National Grains Authority, the National Electrification Administration, the Agricultural Credit Administration and the Philippine National Bank, the FSDC will implement the six innovation packages and the eventual diversification of ISA operations into multiple cropping methods and livestock production, described in detail in the Loan 038 Project Paper (available with ASIA/CCD). These innovation packages also are briefly described on the following page.

The project elements funded by the loan are given in the Table 1 and Table 3 (see Financial Plan section) which shows the total funding by source and by fiscal year for each project element or activity requiring funding.

The irrigation system management training is designed to equip ISA officers with sound managerial skills which they can easily apply in the day-to-day affairs of the ISA. Area to be managed include a financing and accounting system for efficient fund and record control and a systematic marketing set-up. These management tools will be indispensable in the implementation of the innovation packages which constitute the bulk of phase II and III.

The six innovation packages are briefly described as follows:

1. Organized Rice Production. This will bring the latest rice production technology to ISA members' reach. (See attached draft copy of Memorandum of Understanding.)

2. Organized Buying. The collective bargaining power of the ISA will be harnessed to purchase the required farm production inputs. This will enable members to have needed supplies, such as fertilizers and insecticides available at all times and at lower prices. In the long run, they will actually be able to devote more time to farm work rather than to wasteful, time consuming trips to supply centers.

3. Organized Selling. The collective power of the ISA will put its members into a favorable price-bargaining position in selling their produce in the market. Joint sales minimize costs, inconveniences and establishe a brisk, profitable market for ISA products.

4. Institutional Credit. Individual loaning to small producers is difficult to administer and past collection rates have not proven it to be a reliable system. The ISA, acting as one body with a legal personality, will be able to obtain loans faster at less cost than individuals operating alone. Thus, members can avail themselves of capital production inputs, such as machines and tools, earlier and quicker.

5. Seed Production. Availability of high quality, certified seeds is often a limiting production factor. Under this program production of certified high quality seeds will be accomplished within the ISA. Produced in quantity, certified seeds may become another income source for the ISA.

6. Farm Tool and Equipment Pool. Farm tools and machines will become available to all ISA members. As part of the modernization of farm methods, these readily-available tools and equipment will boost production capacity.

The operation and maintenance of an efficient irrigation system is expected to increase rice yield from 38 to 53 cavans of palay with irrigation alone and to 70 cavans with the implementation of the innovative technology.Production goals for the period 1977-1980 will be met based on the following assumptions: that the project will in fact cover the projected total hectarage; that natural calamities and fuel shortages will be minimal and; that farmers will grow rice at least once a year. (See attached Logical Framework Matrix). Increased output increases market volume hence farmers' incomes are expected to rise over the life of the project by 40% with the irrigation packages, by another 20% with the production package and by an additional 10% with the marketing package.

This is based on the assumption that farmers will plant two crops and palay prices will not decline significantly. The irrigation system is assumed to operate at 80% potential capacity. In addition, production inputs must be readily available and improved planting practices will, indeed, be applied in the field.

Strengthening the ISA institutional base will be accomplished through the training of 292 Provincial Task Force (PTF) during the project period. A PTF is presently composed of an engineer and one institutional development officer. This unit serves as the implementing arm of the program at the provincial level to supervise both technical and institutional activities. These PTFs will organize and mobilize 690 ISAs with a projected total membership of 55,000 farmers. The project expects to train 30,000 farmers in management skills, 20,000 farmers in rice production skills, and 15,000 farmers in the marketing scheme and in the rest of the innovation packages during the project period. These targets require the fielding of a sufficient number of qualified PTFs and the cooperation of farmers in the farm production and management training conducted by PTFs.

III. AID and Other Relevant Experience

The Small Scale Irrigation Project is analogous to the AID supported Rural Electrification Project in many respects. Both projects have a core activity of developing and strengthening local common interest associations or coops. Both are initially purposeful to supplying a common use utility or commodity to organized group members. Achievement of project purpose by each project provides mutual benefits even though achievement of purpose for each is not interdependent. The administrator of the National Electrification Administration (NEA), implementing agency for the Rural Electrification Project, is a member of the FSDC Board of Directors and as an enthusiastic supporter of the Small Scale Irrigation Project provides ad hoc policy and program advice from time to time to the FSDC. This relationship is useful and timely since the FSDC as a new agency, undergoing its first experience with loan funded project implementation and is able to take advantage of the NEA's prior experience in getting established.

Elements of the Small Scale Irrigation Project and the AID supported Small Farmer Income Project are mutually co-supportive. The farm support activities of this project are dependent on some of the technical and financial support functions of the NFAC programs for increasing yields of rice and corn supported by the Small Farmer Income Project. The USAID project management courses selected technical assistance and other inputs through the Small Farmer Income Project to the FSDC. The BISA program provides financial and technical resources for acquiring the infrastructural and farm support familities to establish a basis for greatly increasing production. The ISAs, by availing itself of the financial and technical resources provided under the NFAC Masagana 99 program, are thus able to optimize returns on investments made in infrastructure under the BISA program.

The Small Scale Irrigation Project acts as a delivery system for the infusion of technology and credit. In this respect, it is closely linked to the AID supported Agrarian Reform Project. Since the Agrarian Reform Project is based on the concept of tenant farmers becoming landholders, the Small Scale Irrigation Project acts as a partial replacement for landlord-based inputs of credits and supplies.[1] This project is directly concerned with maintaining the continued pace of agrarian reform.[2] The benefits that may be realized from the close linkage between these projects include faster amortization of land loans, less delinquencies of land loan repayments through increases in productivity, and continued impetus to agrarian reform by providing examples to small farmers of the possible social and economic benefits they could realize under agrarian reform.

The integrated area development project for Libmanan-Cabusao (a subproject under the Bicol program) is supported by an AID loan in the amount of $3.5 million. This project consists of 3,870 hectares of rice producing land where irrigation, drainage, and road construction form the bulk of expenditure requirements of the project. This project is being implemented independently of the Small Scale Irrigation Project. It has related activities since it proposes to establish Irrigators' Associations which are intended to operate, maintain, and eventually own and manage all of the infrastructural works for irrigation and drainage of the project area.

IBRD and ADB have up to now been concerned in irrigation development only with large scale projects. The institutional development at the local level as a vehicle for a development approach and/or a farmer action implementation element have not been features of the Bank loans. (See Section VI - Other Donors).

The Mission has no information on AID experience in the implementation of similar projects in other countries and the applicability of such experience to the proposal under consideration is not included since this information was not provided by AID/W.

IV. Beneficiary

The targeted beneficiaries to this project are small farmer families that produce rice (primary target group), labor families (the secondary target group), and the national economic structure.

Small farmer families were selected as the primary target group because of their low-income level and lack of income equity inherent in

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1 Report on Evaluation of Agrarian Reform to USAID/Manila, May, 1973, pages 4 and 28.

2 Capital Assistance Paper, Philippines - Small Scale Irrigation, June, 1975. Special Covenants p. 62.

this group. Nationwide income data supports this contention.[1] Based on terms of real pesos (constant 1965 prices), the rural population mean income per family was ₱1,511 ($388) for 1965 and ₱1,739 ($445) for 1971. While the annual growth rate of rural income was greater than that for urban income, the average rural income represented only 45% of urban incomes. Similarly, one half of rural families had incomes of less than ₱1,206 compared to ₱2,592 for urban families.

The primary targeted beneficiaries can respond adequately to this type of project which enables them to increase per unit production. Therefore, this project is directed toward those farm units which, through the use of irrigation, can increase production. This type of project implementation is imperative as farm units cannot gain in size of land. Therefore increased food production can only be achieved by more intensive cultural practices. This need is confirmed by national data which indicates the ratio of harvested to cultivated hectares increased from 1.37 to only 1.43, 1965 to 1972, respectively. This beneficiary group has a potential, with irrigation, to increase gross annual production per hectare from 1.9 metric tons annually for one crop to 5.6 metric tons annually for two crops. It is also possible in some geographic areas, with intensive farm management to reach a level of 2.5 crops annually.

Since Irrigation Service Associations are farmer-owned organizations, farm family response to this project will insure that they sincerely desire this type of assistance Currently operating ISA's are valid proof of this concept. Since the ISAs are farmer-owned, this presents a barrier to another group acquiring control of the project at the expense of the farm family group. It is forecast that projects of this have the potential of raising the farm family net disposable income by a factor of 2.4. A socio-economic study currently is underway to verify this statement. The results of the study will be made a part of the PP.

The benefits to the secondary target group, the rural labor force, can best be explained in terms of employment. Increased production due to this project will require additional on-farm and off-farm labor. An overview of the total national labor force indicates no substantial change between 1967 and 1973 in the percentage of rural labor force as compared to the total labor force. The proportion of rural population employed in agriculture to the total rural labor force likewise remained at the same levels during the same period. This is indicative of a rural economy in which jobs must be provided for the labor force at the local rural level.

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1 Development Assistance Program for the Philippines, USAID/Philippines, December, 1974.

This project has the potential of attacking one of the greatest problems in rural areas, i.e. underemployment. While the data is quite limited on underemployment, survey results of SSRU in the Bicol region is believed to be somewhat representative of rural employment.[1] The survey indicates that underemployment may be as high as 48 percent for rural areas. Although unemployment rates (based on full-time and part time employment) are lower for rural areas than urban areas, labor is available and the need for employment is critical. It is estimated that the impact of increased palay production due to small scale irrigation will increase demand for labor by a factor of 2.15.

Another indicator of the potential benefit to the primary and secondary group is in the area of nutrition. Rural areas generally have a lower percentage intake of required calories and protein then the large urban metropolitan Manila area. Increased incomes, both in farm and labor families, will enable family units to achieve a better level of nutrition.

The third area receiving benefits is the national economy of the Philippines. These benefits will be economic and social. Incremental palay production leading to national self-sufficiency has a net value added at ₱11.00 per cavan in national economic impact.[2] benefits will accrue to the national economy from increased income level and equity and improvement of farm and labor family units. That these types of benefits are recognized by the Government of the Philippines is indicated by the increase in the percentage of the national budget spent on agriculture and natural resources, 6.4 percent to 12.3 percent, 1965 to 1975, respectively.

The greatest barrier to innovation within this project area is the attitude of farms units in maintaining traditional ways of farming. However, this barrier may be overcome by economic need and through the neighborhood or barangay concept which stresses cooperation at the local level. Since this project constitutes more than physical features, the other areas involved (within stages I, II and III of the DISA program) are powerful agents for introducing acceptable social and economic progress. Since improved practices are to be institutionalized under this project, the effects therefore should be a new pattern of receptiveness, innovativeness, and cooperation. As a result, new work patterns, higher levels of desires and wants, and new sets of practices are expected to emerge among primary and secondary project beneficiaries. Within this context all groups will benefit without any group making gains at the expense of some groups.

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1 SSRU Research Report Series, No. 8

SSRU Research Report Series, No. 10

2 Based on June, 1975 estimate of shadow price of palay less government farm support price.

BEST AVAILABLE COPY

The role of the Filipina women within the family and/or farm business unit is that of monetary manager for that unit. Since this project is directed toward raising levels of farm and labor family incomes, the role of women in these units will be quite influential. In some of the ISAs women act as treasurer of the association. The office of treasurer is an elective office within the association framework. Moreover, the team approach of the Farm and Home Development Office, University of the Philippines College of Agriculture has shown that women often serve as a conduit for diffusing improved agricultural practices. FSDC's national office consists of 281 full time personnel of which 81 or 28% are women. In the provinces a slightly higher proportion estimated to be 50% are women. USAID believes this substantial involvement of women as implementors is remarkably unique given the nature of the project i.e., physical infrastructural works and farm mechanization facilities in more or less isolated rural communities.

The studies as proposed herein will further investigate the socio-economic implications of small scale irrigation projects in relation to beneficiaries and therefore provide more detailed data and resultant information. Additionally it should be noted that on-going studies due for completion December 31, 1975 will provide detailed statistics and analysis of one Irrigators Service Association. The magnitude of increased income, how the beneficiaries used the extra income as well as the social impact will be measured. The results of this survey plus others undertaken next year will be used to provide information for developing the PP.

V. Feasibility Issues

Feasibility issues with respect to the economic, social and environmental impact are not now foreseen to be constraining. However, the attainment of a more optimal level of financial viability of the sub-projects may be constrained by technical issues. The capacility of a pumping set to supply adequate water supply to the ISA at the highest possible efficiency is of primary concern. Given the high cost of energy for powering the pumps and the forecast of even higher energy unit costs in the future makes it imperative that system design and installation strive for maximizing efficiencies. Of nearly equal importance is the capability of the conveyance and distribution system to deliver adequate amounts of water on timely basis at the highest possible efficiency commensurate with optimum investment alternatives. After having lifted the water from the source to the distribution system (at a high unit costs) what percent is lost or wasted through percolation, lack of adequate control structures, poor scheduling, etc.? A third area of concern is the level of efficiency in applying irrigation water. The arrangement and size of paddies, the installation and maintenance of appropriate paddy dikes and spillways, the configuration of the land surface, and the soil management practices are all factors affecting application efficiency. Nearly, equal in importance to the supply of irrigation water is a disposal system adequate to the need for safely draining off water excesses caused by high intensity or long duration storms. Excess water (floods) can cause significant damage not only to irrigation facilities but also to standing crops as well as to the farm field layout. Finally, the question arises at to the most effective investment procedure. Should the ISA indent for loan funds and do a complete system installation or alternatively program their capital investments by components of the system and thus separate loans over time. As one farmer said, "Let me see the water first, then we'll talk about the other things."

In the area of farm mechanization, production and cost implications can be assessed through a data base being compiled by IRRI research. The other implications of farm mechanization must be investigated. Employment induced by mechanization should be substantial, however, raw material and machinery manufacturing technology could become limiting factors on the economic and financial viability of this area.

The economic and financial feasibility issues will develop three sectors: the economic impact of a project on given areas, economic policy considerations, and the financial viability of farmer-owned irrigation service associations. Previous studies on small scale irrigation projects indicate a very high rate of return on capital investment due to economic impact from increased farm production. These rates of return have ranged in the area of 85.0 to 115.0 percent. These results are supported by other economic impact analyses of large scale irrigation projects

requiring huge earth-moving construction costs. The rates of return in these cases have ranged from 24.0 to 31.0 percent. This indicates that the economic impact of small irrigation systems should remain quite high due to the minimum of investment cost required.

Irrigators Service Associations currently operating appear to be financially viable. Further studies will be done to ascertain the projected rate of return and benefit/cost ratios of small irrigation systems due to economic impact. The procedure for this undertaking is detailed under the economic and financial feasibility outline. The financial viability analysis of ISA's is not expected to reflect large rates of returns because of ISA's are farmer-owned and essentially operate as non-profit service agencies. However, it is essential to construct this type of analysis so that farmer-owned ISA's may have guidelines for setting service fees, monitoring operational costs, and developing a time payment method of the construction Loan which best fits each ISA.

This same set of tools will be used to analyze sample ISA's now currently operating so that the results of data analyzation may be used as guidelines in the analysis of proposed ISA's.

A. Some Observation on Rice Policy and Rice Statistics

1. Rice Policy

The Political economy is perhaps the most important factor to be considered in understanding rice policy. This arises from two major factors: (1) rice expenditures account for 24% of all food expenditures and considerably more in low income people's diet, indicating it has a large weight in the overall consumer price index and that the price is inelastic, e.g., small variations in supply create large changes in prices. (2) Rice production in the Philippines is subject to vagaries of the Weather. However, since large variations in price are politically unacceptable, the government finds it necessary to provide an adequate supply at as low a price as is possible even though it may have to use costly means to obtain that supply.

Generally the process of moving rice (or other staple) to a position of being merely an economic good occurs as economic development progress and food expenditures become a smaller percentage of household expenditure. The political importance of rice can be lessened by reducing the variability of output. Variation in output can be greatly reduced by the use of intermediate technology, most notably irrigation and varieties less susceptible to diseases, pests and even climatic factors. The reduction of variability in output also decreases the need for stock requirements. Finally,

even with variability in output can be nullified if supply can be increased at a faster rate than demand so that longer stocks can be maintained resulting in rice becoming less a political good. However, for output to continue to expand at a higher rate, it is necessary to have a continuing stream of new technology to reduce Production Costs since output price will enevitably decline.

The policy of the government has been directed at all three of these interdependent areas. Irrigation development has other important effects such as distributing employment more evenly thoughout the year and providing production alternatives.

Beneficiaries of investments in irrigation and new technology, these will be primarily divided between those producers in irrigated areas and consumers. There may be some producers in the marginal non-irrigated areas who experience lower incomes; particularly in those areas where no new technology is available and alternative production activities are limited. This would occur if incremental production from irrigation plus technology pushes total production beyond domestic demand and prices and incentives are not maintained.

FSDC and USAID are now preparing a research framework to conduct a comparative study of "effective" and "least effective" ISA's in order to isolate socio-cultural, economic, technical and environmental variables related to ISA effectiveness.

Potential contractors for performing the study are being surveyed. After completion of the survey and when identity of source funding for the contract is established proposals will be invited. FSDC is targetting on availability of the findings of this survey as well as the ongoing base-line survey prior to the initial project evaluation scheduled for August 1976.

Specifically, FSDC as the implementing agency of the Small Scale Irrigation Project, is seeking answers through the study to the following questions:

a. What are the reasons for varying effectiveness of ISA's?

b. What does information about them suggest for the design and operation of ISA's with different sets of cultural, social, economic and environmental conditions.

B. Some Variables for Consideration:

1. Socio-cultural - e.g. values, beliefs, social structure and organization.

   (Is the need for the project actually perceived and accepted by the farmers in view of their own circumstances. Are there existing values and beliefs which run contrary to the project's "cooperative philosophy"? Are there social, political or religious obstacles to project implementation?)

2. Economic - e.g. land tenure paterns, farm size, income level, extent of dependence on farm incomes, access to non-farm employment opportunities.

   (Do the economic conditions make the project less economically attractive relative to other opportunities?)

3. Environmental - e.g. climate, water availability, other environmental pressures on system maintenance.

   (Do environmental stresses on the irrigation system exceed the ISA's capacity to handle them?)

4. Technical - e.g. quality of system design, difficulty of maintenance and management.

   a. To determine the social impact or distribution of benefits and burdens of some "effective" ISA projects among different groups in the communities where the project sites are located.

      Specifically, the study should answer the following questions:

      (1.) How are the benefits and burdens of the ISA project distributed among different geographical, functional or communal groups in the project site?

      (2.) What is the socio-economic standing of these groups relative to national/regional level of income/well-being?

      (3.) What suggestions can be made regarding possible modifications on ISA projects or possible compensations for those groups adversely affected in the project sites?

C. Some Significant Groups for Consideration:

1. Groups whom the project is intended to help - e.g. farmer-members.

2. Those who might be adversely affected - e.g. small business-men/middlemen.

3. Those who may be directly affected (either positively or negatively) - e.g. landlords, construction workers, farm laborers, consumers of rice, local farmers other than ISA members.

D. Some Criteria Considered Important for Assessing Social Costs and Benefits for ISA Project:

1. Access to resources and opportunities - e.g. land, capital, credits, markets, and other production inputs.

2. Employment - as affected by labor-absorbing or labor-replacing practices and equipment.

3. Rural displacement, migration and urbanization - e.g. dislocation of farm laborers.

4. Changes in power and participation - e.g. the ISA as an organization in the community.

It is felt that in depth analyses will be greatly facilitated by the survey findings and more importantly become more meaningful as project analytical and decision judgment tools. The completion and report of findings of the research project together with the evaluation report of the project in August 1976 will provide valuable data for developing required analyses for the project paper. The PRP therefore contains only limited discussions of the economic, policy, technical, environmental, and financial analyses. The social analysis, for which some guideline data is already available, is intended to furnish answers on possible social analysis section as part of the discussion on beneficiaries (Part IV) in this PRP. Further social implications which may be surfaced in the research undertaking will contribute to the updating of the social analysis for the project paper submission. (See attached - Social Analysis)

VI. Other Donor Coordination

Representatives of the IBRD have contacted the FSDC and arranged for a team inspection of the FSDC as to the institution's capability for organizing and training Irrigator Associations in water management and system operation and maintenance of communal and national gravity irrigation systems. It is reported that both the Australian and

West German governments representatives have expressed interest in financing some of FSDC's program activities. The specific activities and extent of financing support intended has not been indicated. The timing, terms, and conditions have likewise not been indicated. USAID has not up to this time had any dialogue with either of the bilateral interests concerning the FSDC program.

The IBRD/FAO study team has indicated interest in funding a rehabilitation/reconstruction project for communal and national irrigation systems less than 3,000 hectares in size. Funding will go to the National Irrigation Administration (NIA) for project works but institutional development (Irrigators Associations) will be the responsibility of FSDC. Preliminary considerations estimate the level of funding at $10 million to NIA for this program.

AID support to FSDC is deemed a crucial element in their overall considerations. It is felt that AID's in country presence and the fact that IBRD is not geared up for providing the support for institutional establishment and strengthening of FSDC underlines the importance and timeliness of the AID project.

At the present time no other donor agency has had any active participation with FSDC in their program.

VII. Financial Plan

The financial plan consists of these tables; 1 - Summary Cost Estimate, 2 - Costing of Project outputs, and 3 - Sources and Application of Funds.

The Summary Cost Estimate includes an inflationary factor of 20% which is based on the average growth rate of the price index over the last four years. Additionally a contingency factor of 10% was estimated to allow for unforeseen cost over runs.

The costing of activities were prepared based on per hectare costs including the additional 30% as follows:

1. Pump projects at ₱1,000 per hectare
2. Gravity projects at ₱1,500 per hectare
3. Farm tools and equipment at ₱350 per hectare
4. Post harvest facilities at ₱550 per hectare
5. Provincial Program Management at ₱80 per hectare
6. National Office Program is based on the projected operating budget of FSDC.

The activity costing for FY 78 is based on the following:

1. Pumping projects at ₱1,300 per hectare
2. Gravity projects at ₱1,950 per hectare
3. Farm tools and equipment at ₱455 per hectare
4. Post harvest facilities at ₱715 per hectare
5. Provincial Program Management at 10% increase
6. National Office Program Management costs increased by 10% over FY 78.

As described in the implementation plan the FSDC five year targets are given by fiscal years. Funding requirements for producing programmed targets for FY 77 and FY 78 are shown in the financial tables by interfacing 3 separate loan packages i.e., projects under AID loan - 038, PRP-AID loan proposal, and a projected future loan which is expected in FY 78. The log frame matrix shows the programmed output targets for FY 77 and FY 78 however inputs are limited to those available through this PRP proposal. Without financial inputs from the future expected Loan C the actual output will fall short of the targeted output by approximately 30% for FY 78. No additional inputs from projected future loans are included in the inputs section of the log frame matrix which results in a slight imbalance between outputs and inputs for FY 78.

Table 2 - Costing of project outputs reflect only the PRP proposal costs. Phase 1 outputs include all activities connected with the establishment of operational irrigation systems. Phase 2 outputs relate to farm tools and equipment and phase 3 are those pertinent to acquisition and establishment of post harvest facilities.

Additional funding to cover TDY/consulting costs for 4 man months during project design stage for economic and financial analysis may be needed.

All costing and output target figures will be refined in the project paper and inflationary effects will be accounted for.

A. TABLE 1

SUMMARY COST ESTIMATE AND FINANCIAL PLAN
(US $000)

	AID Loan - A[1]		AID Loan - B[2]		AID Loan - C[3]		Host Country		ISA Farmers		Total
	Fx	Lc	Fx	Lc	Fx	Lc	Fx	Lc	Fx	Lc	
COMMODITIES	1400		[illegible]					484			[illegible]
CREDIT FACILITY											
i Rehabilitation	304							304		61	[illegible]
ii Pump Systems	4161		2333		697			7191		1442	1[illegible]
iii Gravity Systems	555		4245		750			5550		1110	[illegible]
iv Farm Tools & Equip.	80		812		1508			2400			430
v Post Harvest Facilities			303		2260			2563			512
PROGRAM MANAGEMENT											
i Provincial								1670			167
ii National Office								3825			382
A/E SERVICES			1907					893			2800
GRANT											
i Technical Assistance			230								13
ii Participant Training			130								13
iii Others			40								40
TOTAL	6500		10400		5215			24880		2613	[illegible]

1 Loan 492-T-038

2 Proposed loan of this PRP

3 Projected third loan interfaced with AID Loan B.

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B. TABLE 2

COSTING OF PROJECT OUTPUTS FOR $10 MILLION LOAN AND $400,000 GRANT

(US $000)

	Irrigation Systems Phase 1	Farm Tools & Equipment Phase 2	Marketing and Post Harvest Facilities Phase 3	Total
Credit Program	13156	1624	606	15386
Commodities	300	60	40	400
Services (A&E)	2000	100	100	2200
FSDC National Office	1933	350	295	2578
Provincial Management	880	159	134	1173
Grant (AID)				
Technical Assistance	172	30	28	230
Training	97	18	15	130
Other (Research Survey, Film)	30	6	4	40
TOTAL	18568	2347	1222	22137

TABLE 3

BISA PROGRAM
SOURCES AND APPLICATION OF FUNDS
FY 1975-76 to FY 1977-78

	GOP/FSDC		AID Loan-A[1] ($6.5M)		AID Loan-B[2] ($10M)		Loan-C[3]		ISA Farmers		Total	
	₱000	$000	₱000	$000	₱000	$000	₱000	$000	₱000	$000	₱000	$000
FY 76												
Commodities	816	242	7500	1000							9316	12
Credit Program												
i Rehabilitation	2278	304	2270	304					456	61	5012	6
ii Pump Systems	16210	2161	16210	2161					3242	432	35662	47
iii Gravity Systems	2250	300	2250	300					450	60	4950	6
iv Farm Tools & Equip.	603	80	603	80							1206	1
Provincial Program Mgt.	3250	433									3250	4
FSDC National Office Operating Expense	8338	1112									8338	11
A/E Services	4500	600									4500	6
Total	38245	5232	28833	3845					4148	553	72234	96
FY 77												
Commodities	1816	242	3000	400							4816	6
Credit Program												
i Pump Systems	15000	2000	15000	2000					3000	400	33000	44
ii Gravity Systems	15000	2000	1909	255	13091	1746			3000	400	33000	44
iii Farm Tools & Equip.	6000	800			6000	800					12000	16
iv Post Harvest Facilities	2275	303			2275	303					4550	6
Provincial Program Mgt.	4000	533									4000	5
FSDC National Office Operating Expense	9172	1233									9172	12
A/E Services	1000	133			6500	866					7500	10
AID Grant Funding					1720	230					1720	2
Total	54263	7244	19909	2655	29580	3945			6000	800	109758	146

1 Loan A = Loan 038
2 Loan B = PRP Proposal
3 Loan C = Future Loan

NOTE: Table 3 shows Funds in Peso and Dollar equivalent. Peso and Dollar figures are not additive.

Table 3 (Cont'd)

	GOP/FSDC		AID Loan-A ($6.5M)		AID Loan-B ($10M)		Loan C		ISA Farmers		Total	
	₱000	$000	₱000	$000	₱000	$000	₱000	$000	₱000	$000	₱000	$000
FY 78												
Commodities					3000	400					3000	40
Credit Program												
i Pump Systems	22700	3030			17500	2333	5200	697	4560	610	49960	66
ii Gravity Systems	24400	3250			18750	2500	5650	750	4880	650	53680	71
iii Farm Tools & Equipment	11400	1520			90	12	11310	1508			22800	30
iv Post Harvest Facilities	17000	226					17000	2260			34000	45
Provincial Program Management	5280	704									5280	7
FSDC National Office Operating Expenses	11100	1480									11100	14
A&E Services	1200	160			7800	1040					9000	12
AID Grant Funding					1280	170					1280	1
Total	93080	12404	-	-	47140	6455	39160	5215	9440	1260	190100	253
GRAND TOTAL	185588	24880	48742	6500	76726	10400	39160	5215	19588	2613	372092	405

VIII. Implementation Plan

A. Project Coverage for Fiscal Year 1976-1980

It is the policy of the FSDC to derive its targets from the Master Plan on National Irrigation Development as developed by the National Irrigation Administration. On this basis FSDC has prepared its Program Coverage up to Fiscal Year 1980 based on the inventory of irrigable areas prepared by NIA. Coverage for Fiscal Years 1976 to 1980, therefore, will be subject to the findings of investigations which will be conducted either by NIA or FSDC. Program Coverage for Fiscal Year 1976 is based on areas actually investigated and were found feasible except for the Provinces of Capiz, Iloilo, Antique, Bataan and Pangasinan and Bulacan. Reports from these provinces are still being awaited.

For purposes of delineating the system of water diversion, the projects are classified as pump and gravity projects, however, coverage will not be limited by the lack of area suitable to the proposed diversion system, i.e. if only pump projects are targeted in certain provinces but it is found that there are gravity projects that can be worked on immediately, then these gravity projects will be taken up.

FSDC 5-YEAR PROGRAM TARGET HECTARAGE

Phase of Development	Fiscal Year	1973-1974	1975-1976	1976-1977	1977-1978	1978-1979	1979-1980
P 1	P	30,000	20,000	30,000	35,000	40,000	45,000
	G		10,000	20,000	25,000	30,000	30,000
	N		10,000	20,000	30,000	40,000	50,000
P 2	P		20,000 training activities; 10,000 innovation packages piloting	20,000 training activities; 30,000 innovation packages piloting	30,000	35,000	40,000
	G			10,000	20,000	25,000	30,000
P 3	P			10,000 piloting	30,000	30,000	35,000
	G				10,000	20,000	25,000

Legend: P= Pump Irrigation Projects
G= Gravity Irrigation Projects
N= National Systems (Organization Activities)

In addition to dollar expenditures for commodities loan drawdown will be through a Special Letter of Credit and it is planned that amendment requests will be made on a quaterly basis through the life of the loan. Opening of the Special Letter of Credit is expected within a month after the first notification of eligible projects for reimbursement is received by the borrower from FSDC.

B. Schedule of Implementation

The following implementation schedule is within range of reasonable expectations:

1. Loan Negotiations

a.	Loan Authorized (AID/W)	January 30, 1977
b	Loan Agreement Negotiated and signed (GOP/AID) - Loan Funds	March 15, 1977
c.	Project Agreement Negotiated and Signed (GOP/AID) - Grant Funds	March 15, 1977
d.	Conditions Precedent to Opening Letters of Commitment Met (GOP/AID)	July 13, 1977
e.	Request for S.L/C (GOP)	July 31, 1977
f.	Terminal Date for Disbursement Request	July 13, 1980

2. Commodities

a. Excess Property Sources

i.	FSDC supplies first list of commodity requirements from Excess Property-estimated procurement/acquisition costs= $250,000 from loan funds	April 30, 1977
ii.	Letter of Purchase issued	July 31, 1977
iii.	Excess Property Commodities received	March 31, 1978 or Feb. 7, 1978

b. Procurement from U.S.

i.	List of U.S. or Selected Free World Country Source Commodities estimated cost= $150,000 prepared by	September 1, 1977
ii.	General Terms and Conditions including Specifications and invitations for bid	October 1, 1977

iii.	Advertisement in "U.S. Commerce Daily".	November 1, 1977
iv.	Evaluation of Offers completed by	January 15, 1978
v.	Acceptance and Award of supply contract by	February 1, 1978
vi.	Request for Letter of Commitment	February 7, 1978
vii.	All commodities from U.S. or Selected Free World Country Source received by	February 7, 1979
viii.	All disbursement for Commodities from loan funds completed by	June 1, 1979

3. Credit Program

(1) Irrigation Systems

(a)	First notification of eligible projects for reimbursement submitted to NEDA(Certified as to completion by A/E firm).	May 15, 1977
(b)	GOP reimbursement received by FSDC	May 31, 1977
(c)	2nd Notification of eligible projects for reimbursement	November 15, 1977
(d)	3rd Notification for eligible projects for reimbursement	May 15, 1978
(e)	GOP reimbursement received	May 31, 1978
(f)	4th Notification for eligible projects for reimbursement	December 15, 1978
(g)	GOP reimbursement received	December 31, 1978

(2) Farm Support System

(a)	First Notification for reimbursement to NEDA of elements of a farm support program (tools, equipment, building).	May 15, 1977
(b)	GOP reimbursement received	May 31, 1977
(c)	Second Notification for reimbursement	May 15, 1978
(d)	GOP reimbursement received	May 31, 1978
(e)	Third Notification for reimbursement	December 15, 1978
(f)	GOP reimbursement received	December 31, 1978

4. Grant - $400,000

a. Technical Assistance
b. Participant Training
c. Research Survey
d. Documentary Film

C. Project Monitoring

The Operations Control Center and the Research Evaluation Office (REO) of the FSDC will be responsible in maintaining a program monitoring system referred to as the Management Information System which will monitor all aspects or activities of the program. REO will conduct spot checks to verify reports from field activities. The reporting system developed is in accordance with normal reporting procedures.

Quarterly progress reports will be submitted to AID in addition to monitoring reports by A/E firms. A/E Certificates of completion will be the basis for AID reimbursements.

USAID will monitor project progress during the disbursement period. Monitoring activities will include a system for ascertaining qualified standards and construction techniques used as well as the actual performance against these techniques for purposes of validating the fixed actual reimbursement for expenditures made. In addition USAID will participate in the scheduled project evaluations.

D. Project Evaluation

At the beginning of each fiscal year, the Research and Evaluation Office (REO) will develop from the logical framework matrix a list of key output indicators which will be evaluated. Project baseline data referred to as Farmers' Progress Report will be collected annually and an ISA Report semi-annually. Evaluation of program effects will be done from MIS reports and the baseline data. A preliminary evaluation report will be submitted at the end of each fiscal year to an independent and external Evaluation Team composed of one representative from USAID; one representative from NIA; one representative from NEA; and one representative from FSDC.

The REO of FSDC will serve as the Secretariat of the Evaluation Team.

The Evaluation Team will be convened prior to the 3rd week of August to review the evaluation plan and procedures as well as to verify the preliminary evaluation report submitted by the REO.

Results of evaluation will be used for redesigning and planning of on-going and future activities.

E. Institutional Profile

The Farm Systems Development Corporation, a government agency created by Presidential Decree 681 for the purpose of promoting the organization of and assist all irrigation associations and other farm related entities is directly under the Office of the President for purposes of policy direction and coordination.

F.

STAGE I

ON-FARM DEVELOPMENT OF FIRST LEVEL INSTITUTION
IDEALIZED DEVELOPMENT STRATEGY

	1st Year	2nd Year	3rd Year	4th Year
PHASE 1	Org/Regn. of ISA Loaning Invest/Survey Design/Estimates /FS Const./Installation of Irrgn. System	First Crop Using Irrgn. System Second Crop Using Irrgn. System		
Phase 2	Irrgn. System Mgt. Training	Association Management Training for ISA Officers and Members Rice Production Skills Training for ISA Members FS Linkage Arrangements for Organized Org/Trng. Buying and Selling For Organized Buying and Selling Installation of Irrgn. System Mgt. System Procedures Observation/Redesigning Irrigation System Mobile Repair Linkage arrangements for Prod'n Credit Org/Trng for Prod'n Credit Feasibility Studies for Farm Implements Pool	First Crop Using Organized Buying and Selling Org/Training for Col'tive Seed Production FS Linkage Arrang'nt for Col'tive Seed Prod'n. Installation of Association Mgt. System and Procedures Construction/Installation for Debugging and/or Rehabilitation Shops Repair/Maintenance Support First Crop Using Prod'n Credit Organization/Training/Loaning for Farm. Implements Pool	Second Crop Using Organized Buying and Selling First Crop Using Collective Seed Production Second Crop Using Prod'n Credit First Crop Usin. Farm Implements Pool	Second Crop Using Farm Implements Pool
PHASE 3		Feasibility Studies for Post Harvest Service Centers	Org/Trng/Loaning for Post Harvest Service Centers	Const'n/Installation of Post Harvest Service Centers First Crop Using Post Harvest Service Centers FS For Crop Diversification Inter-Multiple Cropping FS for Collective Poultry & Livestock Prod'n.	Second Crop Using Post Harvest Centers Orgn/Trng. for Crop Diversification-Inter and Multiple Cropping Orgn/Trng/Loaning for Collective Poultry and Livestock Production

Weeders/Sprayers/Plows/Bolos and Other Farm Equipments and Tools
Includes Threshers, Dryers, Temporary Storage, Millers, Warehouse, also to provide marketing.

The parallel agencies for lateral coordination are:

1. National Irrigation Administration (NIA)

2. National Grains Authority (NGA)

3. National Electrification Administration (NEA)

4. Development Academy of the Philippines (DAP)

5. National Power Corporation (NPC)

All of these agencies are represented in FSDC's Board of Administrators. Production programs are coordinated with the Department of Agriculture through a Memorandum of Understanding between FSDC and the National Food and Agriculture Council (NFAC. (See attached Draft Copy-Memorandum of Understanding.)

G. Internal Organization

All of the powers of the Corporation are vested in and exercised by the Board of Administrators composed of the following: The Executive Secretary of the Republic of the Philippines who is Chairman of the Board, the National Irrigation Administration Administrator, the National Grains Authority Administrator, the Development Academy of the Philippines President, the National Power Corporation General Manager as regular members and the FSDC Administrator as ex-officio member. The Administrator executes and administers the policies, plans and programs and the rules and regulations promulgated by the Board of Administrators.

Under the Office of the Administrator are the following: the Management Staff composed of the following units: 1) Operations Control Center in charge of maintaining a Management Information System for the exchange of information, Monitoring and Control of FSDC's projects; 2) Corporate Planning Office which defines and develops long-range plans and strategies of implementation based on studies of political, socio-economic conditions and corporate resources in relation to national goals and objectives, 3) Research and Evaluation Office is in charge of operating and maintaining an Evaluation System to measure effects of the FSDC Program and a Research Services System to serve needs of the corporate units and external groups; and 4) Office of Special Services which offers three main services like information/education and promotions, editorial and

creative work.

The Corporate Auditor is responsible for auditing needs of the Corporation.

Also under the Office of the Administrator are six departments: Plans and Programs, Engineering, Operations, Finance, Treasury and Administrative.

The Plans and Programs Department consists of a) the Agricultural Project Development Section which formulates agricultural and farm development projects at the ISA level, b) Management and Organization Development Section which develops, implements and supervises training programs for the Corporation and local level units like the Provincial Training Staff (PTS) and of the different ISA committees, c) Special Projects in charge of developing projects independent or related to the BISA Program.

The Engineering Department undertakes and supervises engineering and other technical activities of the FSDC and its projects, i.e. topographic survey of proposed project area; design and estimates of the proposed project covering the proposed sustem and terminal facilities, procurement of pumps, motors, accessories and other construction requirements, supervision of construction; installation of pumps, motors and other required accessories, trial run of the system training and development of training materials for Water Management, Operation and Maintenance of the irrigation system and/or components of a farm support program.

The Finance Department is charged with the overall responsibility for all financial activities of the Corporation and consists of the Loan Processing and Evaluation section; Financial Planning/Investments Section; Financial and Loan Accounting Section; and the Corporate General Accounting Section.

The Treasury Department is in charge of receipts and disbursements of corporate resources and has the following support units: 1) Cash and Disbursement Section; Credit and Collection Section and Property Section and the Warehouse and Maintenance Section.

The Operations Department implements and supervises all FSDC Projects and field personnel. It has for

its support (4) Area Task Forces to supervise Provincial Task Forces charged with implementing field activities composed of: 1) and Institutional Development Group in charge of ISA Organization and related activities; 2) a Technical Group (to supervise construction of irrigation systems and other engineering activities), and 3) an Agricultural Extension Group (in charge of farm development projects).

The Administrative Department is in charge of FSDC's Personnel and General Services, legal and documentation requirements, supply and Library and Records Management.

IX. Project Development Schedule

All work on the project design including most of the required analyses will be undertaken by in-country personnel. However, it is contemplated that USAID will request AID/W to supply up to four man months of consultancy (either contract or TDY) services to work with FSDC and Mission personnel in preparing formats for data collection, in developing procedures for analyzing data (2 man months) and for interpreting results for documentation into economic and financial feasibility analysis reports (2 man months). These reports will then be incorporated into the project paper in support of the project design proposal. The consultant will also advise and assist in the development of beneficiaries section as well as income, income distribution, and employment effects related to implementation of the project.

Committee FSDC (GOP)	Committee AID
Officer-in-Charge - Teodoro Rey	Chairman and Loan Officer-Willy Baum
Coordinator - Teresita Chio	Project Manager Designee - Warren J.Leatham
Engineering - Victor Roque	Civil Engineer-John Saccheri
Financial - Romeo Bernardo	Program Officer - Richard Delaney
Implementation - Danilo Abalos	Economist-Norman Ulsaker
Social - Manuel Bonifacio	

The technical issues have been previously mentioned. It is intended to study the questions most pertinent to technology in accordance with their relevance to fuller financial viability as previously intimated. No environmental issues beyond those indicated in the Environmental Assessment Annex of the AID-DLC/P-2094 of June 1975 (Loan 038) are foreseen. However an AID team is scheduled to arrive mid-November 1975 to develop terms of reference for several

A. Outline for Technical Analysis

1. Survey of Installed Pumping Station

   a. Design Adequacy

      (1) Efficiency

         (a) Alternative Design 1st Cost Implications

         (b) Alternative Design Operations and Maintenance Cost Implications

2. Survey of Distribution System

   a. Design Adequacy

      (1) Efficiency

         (a) Alternative Design 1st Cost Implications

         (b) Alternative Design Operations and Maintenance Cost Implications

3. Survey of Irrigation Water Application Techniques

   a. Design Adequacy

      (1) Efficiency

         (a) Alternative Design 1st Cost Implications

         (b) Alternative Design Operations and Maintenance Cost Implications

4. Survey of Drainage Network

   a. Design Adequacy

      (1) Economic Feasibility

5. Potential Water Sources

   a. Water Rights

   b. Alternatives

6. Farm Mechanization

   a. Production and Cost Implications

   b. Employment Implications

   c. Raw Materials

   d. Technology Implications

Discussion of small scale agribusiness/industry in support of above and implications.

B. Outline for Economic and Financial Analysis

1. Economic Impact

   a. Direct Rate of Return, the measurement of net benefits, which accrue directly to the given area in which a project is to be implemented, against the cost of the project. Such benefits include the following:

      (1) Net incremental farm income

      (2) Induced employment

         (a) Construction employment

         (b) On-farm employment

            1.a Crop production labor

            1.b Canal and channel maintenance

      (3) Increased agribusiness services

         (a) Pump plant maintenance

   b. Associated Rate of Return, the measurement of net benefits, which are associated indirectly with the implementation of a project, against the cost of the project. Such benefits include the following:

      (1) Induced employment

         (a) Off-farm

(2) Training benefits

(3) Increased agribusiness services

(a) Due to higher unit production

(4) National economic benefits

c. Social Rate of Return, the measurement of net total benefits which the combination of benefits measured under the DRR and ARR, therefore being the total social economic impact of the project.

2. Financial Viability of ISA's

a. Internal Rate of Return on Capital, which is the measurement of the potential return on capital investment of the ISA's. The costs and benefits measured are therefore as follows:

(1) Projected construction costs

(2) Projected revenues to ISA

(3) Projected operation and maintenance costs of ISA

b. Financial Rates of Return on Capital, which is the measure of the potential return on equity investment of the ISA over time. The costs and benefits measured are therefore as follows:

(1) ISA equity position over time

(2) Projected revenues to ISA

(3) Projected operation and maintenance costs of ISA

EXHIBIT 1

PROJECT IDENTIFICATION DOCUMENT (PID)
PHILIPPINES - SMALL SCALE IRRIGATION II

I. Summary of the Problem to be addressed and the Proposed Response.

1. This is a continuing program. It is proposed that development loans, together with grant-funded technical assistance be made available in FY 1977, 78 & 79 to continue AID's assistance to the GOP program designed to develop small scale irrigation systems in selected areas throughout the Philippines. Details of the problem and our proposed response are contained in a Project Paper, "Philippines - Small Scale Irrigation (AID-DLC/P-2094)" approved by the Development Loan Committee in June 1975.

The goal of this project is to increase rice and corn production to reach and maintain self-sufficiency. The purpose of the project is to increase the income of small farmers, to at least double employment opportunities in project areas, and to increase agricultural production through the efficient utilization of water resources from small scale irrigation systems built, owned, operated, and managed by Irrigation Service Associations. Specifically, the project will greatly increase yield per hectare with the introduction of the irrigation and related farm support production packages.

The project will directly benefit all farmers in the project areas whose need for adequate, controlled irrigation water is greatest. These small farmers constitute the segment of the rural population who have suffered the greatest disadvantages and the least benefits during the recent history of economic development in the Philippines. They have been hampered by low productivity, low incomes, and underutilization of available production-increasing inputs because of limited credit availability (and then only at high interest rates from local moneylenders). In general, they are exploited by landowners because they are inadequately schooled and they are easily manipulated by middlemen because they are not organized. This small scale irrigation project is part of a larger, more-encompassing GOP program (supported in various ways by AID) to focus attention on these disadvantaged, forgotten people.

The larger GOP program is designed to attack the weaknesses in the economic and social system that resulted in the relative neglect of these small poor farmers. They are re-emphasizing the agrarian reform program which has resulted and will continue to result in the

transfer of land to these farmers, thus terminating their exploitation by landowners. The GOP's Masagana 99 program is an attempt to make wide scale production credit available to farmers through rural banks, thus making more total credit available to the farmers while reducing the influence of the local moneylenders. They are emphasizing primary education by building new schools in rural areas, thus attempting to break the hold that ignorance might have on future generations. The rural electrification program will bring electricity to the countryside to provide power for various uses including driving the water pumps for this irrigation project. The Provincial Development Assistance Project (PDAP) is designed to increase the ability of the provincial governments to adequately and promptly respond to the needs of these small farmers. It is significant to note that AID is assisting the GOP in all these important efforts.

This continuing support of the small scale irrigation project is an integral part of the overall program of assistance to small farmers in that it provides an essential input to increased rice production -- adequate controlled sources of irrigation water. Almost as important as the provision of water is the manner in which it is provided -- through the organization of Irrigator's Service Associations which will build, own, operate, and manage the irrigation systems. Each Association will be made up of twenty to forty small rice farmers, organized by their common need for the irrigation water, but organized also to deal with other organizations (such as the local electrical co-operative, which will provide the electric power for the water pumps). Such organization by the farmers should give them valuable experience in working as a group and thus reduce the influence the middleman now has on them as individuals. As a matter of fact, the GOP envisions regional and national irrigator's organizations during follow-on phases of this program. Thus this project will result in a small farmer more able to increase his productivity and better equipped to deal with others in relation to production and marketing. Further, we believe that this project will be reproduced throughout the Philippines once other farmers see how these small scale irrigation systems and the Associations can contribute to improvement of their way of life.

We propose to support this GOP project by providing loan and grant funding over the next several fiscal years to finance the foreign exchange costs of commodities and technical assistance and the Peso costs of certain portions of the credit provision aspects of the program.

2. Proposed project. The project outputs, kinds and amount of technical and physical resources required are stated in AID-DLC/P-2094. The magnitude of the outputs and inputs are directly proportional and the disbursement should be evenly drawn down over a three year period.

3. All major assumptions, alternatives and beneficiaries are discussed in the AID-DLC/P-2094 in detail and are applicable to this continuing project.

II. Financial Requirements and Plans

1. The estimated total project cost is $25,300,000.

2. Amount of AID assistance:

a. Loan	$10,000,000
b. Grant	300,000
Total new AID Obligation -	$10,300,000

3. Amount of Host Country Input $15,000,000 (equivalent)

III. Development of the Project

1. How will the Project be developed?

The project development and a description of the evaluation plan (analysis) is described in AID-DLC/P-2094. The evaluation analysis of the first project will form the basis for justifying additional inputs to this continuing program.

2. What is the proposed time frame for project development?

The Mission expects to submit the PRP for Philippines-Small Scale Irrigation II in August 1976 and the PP in the first quarter FY 1977.

3. No AID resources nor consultant service will be needed for preparation of either the PRP or the PP.

IV. Issues of a Policy or Programmatic Nature

No broad issues have been identified which require AID/W consideration during this PID review. This is an on-going project which appears to fully meet the AID mandate. This assumption will be supported by facts gained during implementation of the first project and will be reported in the PRP.

AD/CD
6-19-75

Exhibit 2

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

INSTRUCTION: THIS IS AN OPTIONAL FORM WHICH CAN BE USED AS AN AID TO ORGANIZING DATA FOR THE PAR REPORT. IT MUST NOT BE RETAINED OR SUBMITTED.

Life of Project: From FY _____ to FY _____
Total U.S. Funding $10.4 [illegible]
Date Prepared: Nov. 6, 1977

Project Title & Number: Small Scale Irrigation II

PAGE [illegible]

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Program or Sector Goal: The broader objective to which this project contributes: (A-1)	Measures of Goal Achievement: (A-2)	(A-2)	Assumptions for achieving goal targets. (A-4)
Increase rice production to reach and maintain self-sufficiency by FY 77 per the GOI's Four-Year Development Plan.	Rice production meets currently set production goals as follows: FY 77 7.0 mil MT FY 78 7.5 mil MT FY 79 8.0 mil MT FY 80 8.5 mil MT	Actual production and consumption figures as well as the absence of rice imports.	With irrigable land farmers will in fact grow rice for at least one crop per year.
Project Purpose: B-1	Conditions that will indicate purpose has been achieved: End-of-Project status: B-2	B-3	Assumptions for achieving purpose: B-4
To increase small farmer income in the project areas.	Income to be estimated from basic equation. Income is expected to increase as follows:* Year / Project Status / Income Increase 1 yr. hence: With irrig. package: 4% 2 yrs. hence: With prod. package: 20% 3 yrs. hence: With market-oriented package: 1% 4 yrs.: With multiple cropping/poultry/livestock prod.: - * NOTE: Quantified targets pending baseline study.	FSDC Management Information Systems Source: Contracted Third Party services. Spot checked by REO. Title: Farmer Progress Report Content: Schedule of production returns & costs per farm, changes in farm management in standard of living. Selections: sampling Frequency: Annually	1. Palay prices [illegible] with increase in supply or [illegible] will maintain/increase price support price. Costs of production inputs do not increase disproportionately [illegible] of palay. 2. Farmers will take advantage of increased potential of their land by working for [illegible] 3. Natural calamities of [illegible] proportion including [illegible] do not occur. 4. Farmers will adopt multiple cropping practices/poultry/livestock production. 5. Farmers are provided with necessary technical financial support and inputs at reasonable prices. 6. Market for crops (other than palay), poultry, livestock available at forecast prices.
To increase employment opportunities.	Demand for labor increased by a factor of 2.15 by FY 78.		

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PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project
From FY _____ to FY _____
Total U.S. Funding _____
Date Prepared _____

Project Title & Number _____

PAGE

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Project Outputs	Magnitude of Outputs		Assumptions for achieving outputs
1. Increased rice production.	1. (a) On the average cropping increased from 1 to 2 times per year. (b) Increased yield/ha. from 38 cav/ha. to 53 cav/ha to 70 ca/ha. with the introduction of irrigation and production package respectively. 2. (a) Reduced cost-harvest processing losses from 30% to 15%. (b) Increased net marketing returns from an average of ₱50/cav. to ₱53/cavan.	1-4. FSDC Management Information System. Title: 1. Farmer Progress Report 2. ISA Progress Report Source: 1. Third Party 2. Provincial Training Staff as gathered from ISA records & interviews. Spot-checked by REC. Contents: Schedule of cavan of palay harvested, cavans processed & marketed prices received, etc. Selection: 1. Sampling 2. Census Frequency: 1. Annually 2. Semi-annually	1-2. Natural calamities of grave proportion do not occur. Irrigation system is functioning at 80% potential capacity. Production training given is practiced in the fields. Supplies of production inputs are available. 3. No fuel shortage prevents the normal use of post-harvest equipment. 4. Trading center prices for rice are at least 10% higher than equivalent government support price for palay.

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Project Title & Number: _____

Date of Project
From FY _____ to FY _____
Total U.S. Funding _____
Date Prepared _____

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Project Outputs	Magnitude of Outputs		Assumptions for achieving outputs
Institutional Activities:	**Institutional Activities:**	**Institutional Activities:**	**Institutional Activities:**
1. Organized and mobilized ISA's.	No. of ISA's Organized Year / Pump / Gravity / Total 77 / 200 / 6 / 206 78 / 300 / 8 / 308 Note: Pumps ISA for 100 ha. and gravity for 500 ha. average size.	Title: 1. ISA Progress Report 2. Operation Control Center Status Reports Source: 1. PTS 2. Spot-checked by REO Contents: Data on status of institutional activities undertaken including number of trainees, days, courses, etc. Selection: Census Frequency: 1. Semi-annually 2. Monthly	1. Pace of expansion can be supported by sufficient number of qualified personnel for Provincial Task Force.
2. Modern rice production techniques practiced and farm implements used.	2. Modern rice production techniques practiced and farm implements used by the first cropping season of the third year after ISA was organized.		2. Farmer cooperation in the organization of ISA's farm management and production training given by the Provincial Task Force and other extension workers are practiced in the fields.
3. Post-harvest service centers and farm equipment pools established.	3. Post-harvest service centers and farm equipment and facilities pool established by the second cropping season of the third year after ISA was organized.		3. Farmers desire to operate and equipment pool and/or post-harvest facilities.
Institutional Sub-Activities:	**Institutional Sub-Activities:**		**Institutional Sub-Activities:**
1. Preparation of detailed program plans.	1. 50% of program target areas for five years are identified within the first year.		1. No alteration in program plans after first year of operation.

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Project Title & Number _____

Life of Project:
From FY _____ to FY _____
Total U.S. Funding _____
Date Prepared _____

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Project Outputs	Magnitude of Outputs		Assumptions for achieving outputs
Institutional Sub-Activities:	**Institutional Sub-Activities:**		**Institutional Sub-Activities:**
2. Recruitment of FSDC staff.	2. FSDC requirements for staff stabilized at 95-100% by 1978.		2. Qualified staff candidates available.
3. Training of FSDC Staff.	3. Training given to FSDC: Year — Trained 77 — 60 78 — 70 3a. Participants Trained Abroad: Year — Number 77 — 20 78 — 10		3-8. Financial, manpower, equipment are made available by the economy.
4. Orientation and training of PTF's and ISA member groups.	4. Orientation for PTF's: Year — PTF's Trained 77 — 136 78 — 160 4a. Orientation for ISA core groups: Year — No. of Farmers Trained 77 — 1,280 78 — 1,500		
5. Management skills training for ISA members.	5. Year — No. of Farmers Trained 77 — 15,000 78 — 15,000		

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project
From FY _____ to FY _____
Total U.S. Funding _____
Date Prepared _____

Project Title & Number _____

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Project Outputs	Magnitude of Outputs		Assumptions for achieving outputs
Institutional Sub-Activities	**Institutional Sub-Activities:**		**Institutional Sub-Activities:**
Rice production training for ISA farmers.	6. Year / No. of Farmers Trained 77 — 10,000 78 — 10,000		
Introduction of innovation packages.	7-8. Year / No. of Farmers Trained 77 — 5,000 78 — 10,000		
Marketing training for ISA members.			
Technical Activities:	**Technical Activities:**	**Technical Activities:**	**Technical Activities:**
Installed and operational irrigation systems.	1. No. of Operational Irrigation System Year / Pump / Gravity* / Has. 77 — 300 — 40 — 50,000 78 — 350 — 50 — 60,000 * Targets for gravity system dependent upon availability of Loan C in FY 78.	1-2. FSDC Management Information System. Title: 1. ISA Progres Report 2. OCC Status Report Source: 1. PTS 2. Operations Dept. Spot-checked by REO. Contents: Data on status of technical activities, and quality of outputs produced. Selection: Census Frequency: 1. Semi-annually 2. Monthly	1. Pumps and accessories are available and delivered as scheduled.
Installed and operational farm implements pool and post-harvest facilities.	2. No. of ISA's Provided with Facilities Year / Pump / Gravity / Total 77 — 80 — 4 — 34 78 — 150 — 6 — 156		2. Costs of equipment have not risen considerably or commercial processors have not reduced processing costs sufficiently to make ISA post-harvest facilities operation uneconomical. Size of ISA's can support the minimum scale of operating post-harvest facilities.

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project:
From FY _____ to FY _____
Total U. S. Funding _____
Date Prepared: _____

Project Title & Number _____

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS		MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Project Inputs (D-1)	Implementation Target (Type and Quantity) (D-2)		(D-3)	Assumptions for providing inputs: (D-4)
AID	$ 000			
	77	78	AID Personnel Records	Funds and qualified personnel available and timely recruited.
Grant (Technical Assistance and Participant Training, others)	230	170	AID Training Records. AID DL Records.	Funds and qualified candidates available.
Loan				Reimbursements from borrower to FSDC will be made according to FSDC implementation schedule.
Commodities (DL)	-	400		
Credit ($ Equivalent Local Currency) (DL)	2.849	4.845		
Services (A&E)	866	1.040		
GOP				
Program Admin. (National Office)	1.233	1.345		Budget available.
A/E Monitors	133	160		Budget and qualified contract firms available.
Credit	2.849	4.845		Budget available and released to financing institutions.
Provincial Program Mgt.	533	640		

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INTERIM SOCIAL ANALYSIS

Any project that will not only directly affect people's lives but also bring about changes in their patterns of living, will have to be carefully examined in order to fully comprehend consequences in the national life. In this connection, it is crucial to review some of the key social ideas borne out by the project proposal. In terms of goal, the project is designed to increase production of rice and other irrigated crops and raise the income of farmers within the project areas. Complementary goals include the generation of increased employment opportunties and the development of rural leadership. ... The project envisions that once the associations become viable, they serve as effective channels for other essential production, processing and marketing services. ... The Irrigator's Service Association also plays the lead role in planning and implementing agricultural production projects which provide other essential agricultural services to its farmer members. ... Improved farming methods, processing and marketing schemes as well as innovative technology designed to maximize labor, capital, and land utilization is introduced to strengthen the ISA. Linkages with other institutions pursuing the same objectives are established to optimize the use of the association as a conduit of national development. ... As envisioned, the ISA's are entirely composed of farmers and serve as the unit cell which pool the production potentials of the farmers in line with the national effort to attain food sufficiency. ... The concept of organizing farmers into associations revolves around the principle that by cooperative effort they can accomplish far more than they can, individually, in their production and marketing activities. The association facilitates the entry of production inputs and much needed capital. Furthermore, being organized strengthens their position in the market and other sectors in the community. The FSDC program invests heavily on training programs for efficient farm management and improved production techniques so that farmers can optimize their productive potential. Thus, while increasing productivity, the FSDC program aims to liberate the underprivileged farmer from subserviency to landlords, moneylenders and middlemen and free him from the deprivation of economic opportunities and the lack of production capital.

Having considered the key social components of FSDC's project proposal, the following discussion relates to their possible impact on the socio-cultural tradition and values of the people in the areas covered by the project.

Associations of various types and for various purposes have been formed in the Philippines for many years, some dating back more than a century. However, what is unique about this development program is its division into three stages, covering such areas as the installation of irrigation to crop diversification. This means that the program is conceived not in terms of segmented programming but one whose thrust is gestalt - meaning the program will focus on the different phases of agricultural productivity. In its total concept, it takes into careful consideration the participation of

every segment of target population, i.e. not only men but also women. In other words, the program is designed to create in the farmer a developmental vision, that their initial investment will not only bring about single return but a host of other benefits. This design is focused on developing in the farmer a sense of planning, programming and long range effects. It is intended that this design will correct the farmer's attitude toward segmented programming which oftentimes fails to indicate the actual interconnection of many of their farming activities. A group of "new farmers" whose value-orientation is geared more heavily on rational planning and programming will be developed.

The second major social effect of the program is the development of popular participation. In view of the fact that water is a vital component of agricultural production, sharing itwith others is an imperative. But in this case, sharing has to be organized and systematized. The farmers have to develop and promulgate policies which will lead to a more equitable sharing of water resources. It is because of such condition that the farmers will be brought together and in the process, trained to become a formal organization through the ISA. Along with the equitable sharing of the water will be the creation of a new pattern of consciousness for the farmers. Together they can bring about a new quality of life for themselves. The project is designed to create a new self-image based on confidence, creativity and trust in collective endeavor for the purpose of harnessing their efforts for increased production.

With popular participation the farmer is trained in decision-making. It is known that to a large extent the farmer is authoritarian and is willing to submit to decisions made by those in authority. Through the ISA, they will be trained to arrive at a collective decision-making, to learn about the value of personal worth and through these processes the gradual emergence of democratic process will take its positive roots in many other areas of their community life. In fact, the collective consciousness being created in this type of participation in the ISA will eventually lead to community consciousness, an awareness of the potential power of their efforts to harness not only human resources but also natural resources. It is through the ISA that they will also learn to tap and develop new human and related resources which will be valuable for the development of the larger community. In other words, through this program the creative potentials of rural people can be harnessed to the fullest.

The emergence of collective consciousness is all part of the gestalt concept of irrigation package. The success of the program will completely depend on harnessing all segments of the population whose contribution to development cannot be taken for granted. Fully cognizant of the common role that women play in the Philippine society, the project will tap the contribution of rural women for the potential success of the program. Some of

the most notable ones are the following: while she is essentially limited to household matters, oftentimes the woman shares many other activities with her husband. As it is already well-known, even while she acts as the treasurer of the family, her economic contribution to the family coffer extends to augmenting family income through different earning activities, such as buy and sell, cottage industry, poultry and hog raising, selling farm produce, etc. In other words, she is an important economic asset to the farmer's economic activities. It is because of this business acumen of most rural women, that the project will be designed to integrate them through all the phases of our program, but most especially in the third phase. Specifically this phase consists of: (1) introduction and implementation of the market package; and (2) the introduction and implementation of crop diversification and/or multiple cropping and livestock production. The historical experience of the rural women in cultivating small farm products in order to sell and augment family income is taken into consideration in this design. History has already provided us with the necessary roots that the Rural women can fully contribute to the total development of the nation. While the approach is through the traditional family institution, it is envisioned that this strategy will lead to the development of a total community consciousness which could bring about the total development of the community. More specifically, FSDC plans to train rural women to take a more active role in the areas of multiple cropping and livestock production.

While it is true that the role of rural women is stressed in the third phase of the innnovation package, it should be pointed out they will be involved in all program phases to enable them to clearly see how their contribution is tied up with the whole innovation package. They will be included in many of the training and education programs in the community. Again, the basic conceptual objective envisaged here is the creation of a total consciousness of the people about their collective responsibility in bringing about the development of the community and eventually an awareness of their commitment to the development of the nation. While economically, the project is designed to increase production, there is concern about the simultaneous emergence of a social psychological empathy of the local people with the national community. Through the ISA, it is proposed to develop in the target areas, commitment, responsibility and a sense of national identity.

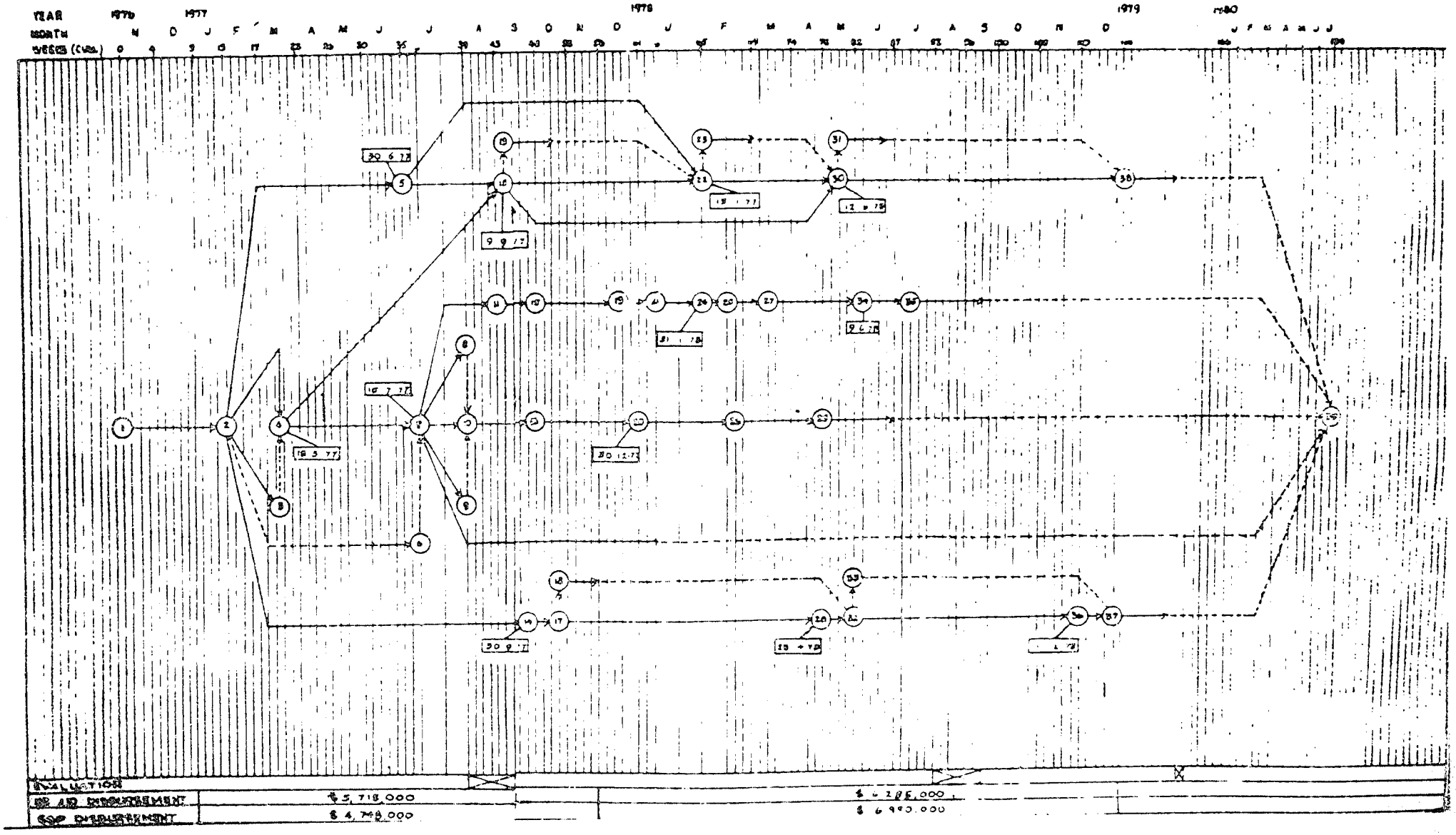
With the emergence of commitment and a sense of nationhood, new leaders will emerge from the traditional leadership structure in the community. From one point of view, the use of traditional authority may clash with the participatory design of the innovation package, but in spite of this it is felt this is a good point of entry into the leadership structure of the community. This is based on the notion that through this strategy, minimum disruption of community dynamics will be encountered. However, if the option of developing new leaders while at the same time ignoring the traditional patterns of authority in the community are taken, a social psychological

dislocation will be created in the structure of authority which could result in untold repercussions not only on the program but more importantly on the people themselves. The leadership strategy will be designed in terms of developing leadership capabilities on the basis of abilities regardless of sex. The people in the target areas will be oriented in a concept of leadership as necessary to any group formation but what will be emphasized is that the nature and quality of leadership is to be determined by them and not to be imposed from the outside.

It is clear from the foregoing that the creation of self-reliance is part of the innovation package. It is true that in the beginning, the input to agricultural productivity will come from the outside but what will be simultaneously developed and emphasized is the maximum utilization of existing community resources in terms of human and natural ones. The target population will realize that to a large extent, they are the ones who will determine the direction which community development will take. Through the concept of small scale irrigation, the target population will be trained to use human and natural resources to bring about increased agricultural productivity in the area. In addition to this, what is envisioned is a process by which the people are trained to tap and develop new resources needed to bring about new quality of life. In fact it is here where the role of women becomes crucial. With the full participation of women in the various phases of the innovation package, the farmer will realize that the women in their community are very crucial resources which have not been fully tapped and by using this resource as a full complement of their own resources, the process of increasing agricultural productivity can be hastened. With this full complementation, the potential and power of local capabilities shall put to harness many different resources inside and outside the community; usual problems of innovation then can be minimized - such as those innovative strategies imposed from the outside. Through the process of harnessing collective effort, they will develop a sense of collective reliance and from this self-reliance will emerge.

Finally the innovation package is geared to the creation of new levels of motivation which will attempt to evolve a new pattern of psychological and social motivations. Psychologically speaking, a new inner capacity of commitment, responsibility and confidence toward increased agricultural productivity which also mean creativity on the part of the rural people will develop. Through collective endeavor, they will realize the collective potential of their efforts to bring about a new quality of life. They will learn how to work closely not only with men but also with women and youth whose potentials are actual potent power for nation building. Collective reliance is the key factor that will help the innovation package become a concrete reality.

IMPLEMENTATION NETWORK ($10 M US AID LOAN) *



*Twelve critical performance indicators are flagged by date.

DESCRIPTION OF ACTIVITIES FOR IMPLEMENTATION NETWORK
$ 10M U.S. AID LOAN

ACTIVITIES	DESCRIPTION	COMPLETION DATE
1 - 2	Authorize Loans by U.S. AID	Jan. 31, 1977
2 - 3	Negotiate and Sign Program Agreement	Mar. 18, 1977
2 - 4	Negotiate Loan Agreement	Mar. 18, 1977
2 - 5	Install Irrigation System, Stage 1	Jun. 30, 1977
2 - 6	Prepare List of Excess Property	Jul. 15, 1977
2 - 14	Implement Farm Support Program, Stage 1	Sept. 30, 1977
3 - 4	Dummy	
4 - 7	Meet Condition Precedents	Jul. 15, 1977
4 - 12	Install Irrigation System, Stage 2	Sept. 9, 1977
5 - 12	List Eligible Project A & E Inspect and Certify and Notify NEDA	Sept. 9, 1977
7 - 8	Request for S.L.C.	Jul. 29, 1977
7 - 9	Open Letter of Recruitment	Jul. 29, 1977
7 - 10	Prepare Letter of Purchase	Jul. 29, 1977
7 - 11	Prepare List of Commodities for Direct Purchase	Aug. 31, 1977
8 - 10	Dummy	
9 - 10	Dummy	
10 - 16	Process and Approve Letter of Purchase	Sept. 30, 1977
11 - 15	General Terms and Conditions, Specification, Invitation for Bids	Sept. 30, 1977
12 - 13	Dummy	
12 - 22	List Eligible Projects A & E Inspect and Certify and Notify NEDA	Jan. 13, 1978
13 - 22	Reimburse Expenses for Stage 1 Installation of Irrigation System	Jan. 13, 1978
14 - 17	Notify NEDA	Oct. 21, 1977
15 - 19	Advertise in U.S. Daily	Dec. 16, 1977
16 - 20	Document and Ship, Excess Property	Dec. 30, 1977
17 - 18	Dummy	
17 - 28	Implement Farm Support Program, Stage 1	Apr. 28, 1978
18 - 32	Reimburse Expenses for Stage 1 Farm Support Program	Jun. 1, 1978
19 - 21	Inspect Offers	Dec. 30, 1977
20 - 26	Inspect Excess Property	Feb. 9, 1978
21 - 24	Firm Acceptance	Jan. 31, 1978
22 - 23	Dummy	
22 - 30	List Eligible Project, A & E Inspect and Certify and Notify NEDA	May 12, 1978
23 - 30	Reimburse Expenses for Stage 2 - Installation of Irrigation System	May 12, 1978
24 - 25	Open Letter of Commitment and Request for S.L.C. - Commodities for Direct Purchase	Feb. 10, 1978
25 - 27	Approve Commitment	Mar. 1, 1978
26 - 29	Rehabilitate Excess Property	Apr. 3, 1978

ACTIVITIES	DESCRIPTION	COMPLETION DATE
27 - 34	Document and Ship Commodities Purchased Directly	Jun. 9, 1978
28 - 32	Notify NEDA	May 1, 1978
29 - 39	Charge Rehabilitation Cost to Trust Fund	Jul. 13, 1980
30 - 31	Dummy	
30 - 38	Reimburse Expenses for Stage 3 Installation of Irrigation System	Dec. 31, 1978
31 - 38	Reimburse Expenses for Stage 4 Installation of Irrigation System	Dec. 31, 1978
32 - 33	Dummy	
32 - 36	Implement Farm Support Program Stage 3	Dec. 1, 1978
33 - 37	Reimburse Expenses for Stage 2 Implementation of Farm Support Program	Dec. 22, 1978
34 - 35	Inspect Direct Purchase Commodities	Jul. 14, 1978
35 - 39	Charge Cost of Commodities to Loan	Jul. 13, 1980
36 - 37	Notify NEDA	Dec. 22, 1978
37 - 39	Reimburse Expenses for Stage 3 Implementation of Farm Support Program	Jul. 13, 1980

Exhibit 5

DRAFT OF

MEMORANDUM OF UNDERSTANDING

This MEMORANDUM OF UNDERSTANDING, made and entered into by and between:

The Farm Systems Development Corporation, a government owned and controlled corporation duly organized and existing under Presidential Decree No. 681 with principal office at Villaflor Building corner Atok and Banawe Streets, Quezon City, Philippines, represented herein by its Officer-In-Charge, TEODORO C. REY, JR., with full power and authority to do so, of legal age, married, Filipino and residing at Parañaque, Rizal, hereinafter referred to as the FSDC:

-- and --

The NATIONAL FOOD AND AGRICULTURAL COUNCIL, likewise a government agency existing under Executive Order No. 183, with principal office at Diliman, Quezon City, Philippines, represented herein by its Executive Director, DOMINGO F. PANGANIBAN, likewise with full power and authority to do so, of legal age, married, Filipino and resident of Quezon City, hereinafter called the NFAC.

-- Witnesseth

Whereas, under Presidential Decree No. 681, FSDC has been mandated to promote the organization of, and assist all, irrigation association which are willing to improve farming, processing and marketing methods for increased food production and rural development;

Whereas, the same Decree provides that the above irrigation associations shall be given every tenable support and assistance by the National government, its instrumentalities and agencies to the fullest extent of which they are capable;

Whereas, in furtherance of the objectives of FSDC, a set of innovation agricultural projects has been designed to achieve optimum results from Irrigator's Service Association (ISA) resources thru better production technology and marketing [illegible]

Whereas, NFAC, having the necessary resources and facilities under its Masagana 99 and other supervised credit Program, is willing to assist FSDC in the implementation of its innovation packages.

Now, therefore, for and in consideration of the foregoing premises, FSDC and NFAC agree as follows:

1. NFAC shall include the newly irrigated areas covered by the Barangay Irrigators Service Association (BISA) Program in its Masagana 99 Program coverage.
2. NFAC shall adopt and support the implementation of the BISA Program Innovation Packages and towards this end, the Provincial Training Staff (PTS) members of the BISA Program shall be deputized as Associate Production Technicians of NFAC in areas covered by the BISA Program.
3. In coordination with the PTS who have been trained on Rice Production, Water Management and Organization Management by FSDC, NFAC shall provide the following technical and allied services to the ISA rice production activities:
   a. Assist the ISA's to secure Production loans from RB/PNB/ACA;
   b. Train the ISAs on farm plan and budget preparation;
   c. Determine high yielding varieties (HYV) that are suitable in the locality and the appropriate site to conduct the seed production project;
   d. Identify, prevent or control pests and diseases;
   e. Possible assistance in soils and fertilizer management;
   f. Provide resource persons to the ISAs training program on organized rice production;
   g. Adaptive research activities;

h. Other extension services.

4. FSDC shall, thru the PTS, provide NFAC field personnel all the necessary support services in relation to the assistance extended to the ISAs by the latter including all information called for by the Masagana 99 Program.

5. FSDC shall deputize NFAC Production Technicians assigned to provide extension services to the ISA's as association members of the FSDC Provincial Training Staff (PTS).

6. FSDC shall assist in the implementation of the Water and Soil Conservation Project of NFAC, NEDA and the Bureau of Soil in provinces covered by the BISA Program.

7. Whenever proper, FSDC shall include this Agreement in the development strategies of the BISA Program.

In witness whereof, the parties have hereunto affixed their signatures, this _____ day of October, 1975, in Quezon City, Philippines.

NATIONAL FOOD AND AGRICULTURAL COUNCIL

By:

DOMINGO F. PANGANIBAN
Executive Director

FARM SYSTEMS DEVELOPMENT CORPORATION

By:

TEODORO C. REY, JR.
Officer-In-Charge

492-274

UNCLASSIFIED

Department of State

OUTGOING TELEGRAM

4920274

PD-AAD-553

ORIGIN AID-58

INFO OCT-01 /059 R

DRAFTED BY ASIA/PD:DWENDEL:JK
APPROVED BY ASIA/PD:JRMCCABE
ASIA/PD:HMPEHL
ASIA/PT:VLELLIOTT (DRAFT)
ASIA/TR:DMITCHELL (DRAFT)
TA/AGR:GCOREY (DRAFT)
SER/ENGR:SREMINGTON (DRAFT)
ASIA/DP:RMEEHAN (DRAFT)
CO/ASIA:PBLOOM (SUBS)
DESIRED DISTRIBUTION
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FM SECSTATE WASHDC
TO AMEMBASSY MANILA PRIORITY

UNCLAS STATE 272953

AIDAC

E.O. 11652: N/A

TAGS:

SUBJECT. SMALL SCALE IRRIGATION PROJECT REVISION NO.

REF: (A) MANILA 17093; (B) MANILA 15781; (C) STATE 251247; (D) MANILA 14460

1. PROJECT COMMITTEE MET WITH AD/CD R. DANGLER ON OCTOBER 25, TO DISCUSS SUBJECT PROJECT. BASED ON R. DANGLER'S THOROUGH PRESENTATION OF STATUS OF TECHNICAL AND INSTITUTIONAL DEVELOPMENT OF SMALL SCALE IRRIGATION (SSI) PROJECT, PROJECT COMMITTEE NOW HAS SUFFICIENT BACKGROUND INFORMATION ON INSTITUTIONAL AND TECHNICAL DEVELOPMENT CONCERNS RAISED IN REF. C. HOWEVER, BEFORE PROCEEDING WITH MISSION REQUEST FOR ADDITIONAL GRANT FINANCING, DOLS 356,000, BRINGING LOP GRANT DOLS. 1,156,000, PLEASE SUBMIT BREAKDOWN USES OF PROJECT GRANT FINANCING TO DATE AND PROPOSED THROUGH FY 1978, AS INDICATED BELOW.

2. RE REF. D, PARA, C, WHAT ARE USES AND COST BREAKDOWN OF GRANT FUNDS OBLIGATED UNDER THIS PROJECT (DOLS. 791,000) TO DATE. PP SSI I PROPOSED TOTAL GRANT FINANCING DOLS. 680,000; TECHNICAL ASSISTANCE (DOLS. 630,000) AND PARTICIPANT TRAINING (DOLS. 170,000). WHAT ARE CHANGES, IF ANY, FROM THESE GRANT FUND USE CATEGORIES. REQUEST MISSION ALSO EXPLAIN RESEARCH AND DEVELOPMENT SUPPORT CATEGORY LISTED IN FY 78 COST BREAKDOWN AND DESCRIBE COMMODITY ELEMENTS, IF ANY.

3. REF. A, PARA 2, SUMMARY OF ALLOTMENTS CONFUSING SINCE, ACCORDING TO OUR RECORDS, DOLS. 791,000 GRANT FUNDS OBLIGATED UNDER PROJECT 492-0274. PLEASE EXPLAIN HOW MISSION ALLOTMENT FIGURE IS LOWER THAN OBLIGATION LEVELS IF THIS IS THE CASE.

4. FOR PP SMALL SCALE IRRIGATION II PROJECT, REQUEST MISSION THOROUGHLY ADDRESS INFORMATION REQUESTED IN REF. C PARA. A. ADDITIONALLY, MISSION SHOULD DESCRIBE FSDC PROCEDURES AND LEVEL OF ASSISTANCE TO ISA'S WHICH INSURE IRRIGATION DEVELOPMENT PROBLEMS SUCH AS TECHNICAL, WATER MANAGEMENT AND HOST OF OTHER INSTITUTIONAL PROBLEMS, I.E., ECONOMIC AND FINANCIAL STUDIES, MANAGEMENT OF ISA'S, ARE BEING ADEQUATELY ADDRESSED. FYI DRAFT PP SSI II IS NOT AVAILABLE AID/W. END FYI. REQUEST MISSION SUBMIT, IF POSSIBLE, DRAFT DISCUSSION OF FSDC REFERRED TO IN REF. A.

5. RE DOCUMENTATION ON GRANT ELEMENT, DID MISSION PREPARE PROP FOR GRANT PROJECT? IF SO, PLEASE SEND A COPY FOR OUR FILES AND USE. VANCE

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Department of State

OUTGOING TELEGRAM

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4920274(8)

PD-AAD-553

PAGE 01 STATE 289559

ORIGIN AID-25

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ASIA/PT:VLELLIOTT (PHONE)
ASIA/TR:CMARTIN (DRAFT)
ASIA/DP:RROAN (PHONE)
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FM SECSTATE WASHDC
TO AMEMBASSY MANILA PRIORITY

UNCLAS STATE 289559

AIDAC

E.O. 11652: N/A

TAGS:

SUBJECT: SMALL SCALE IRRIGATION REVISION NO. 1 - (492-0274)

1. AA/ASIA APPROVED, DECEMBER 1, SUBJECT PROJECT INCREASE GRANT FUNDING OF DOLS. 331,000 FOR LOP TOTAL DOLS. 1,131,000. COPIES OF AUTHORIZATION MEMO, PAF PARTS I AND II POUCHED TODAY.

2. SEPTEL WILL NOTIFY ALLOTMENT. VANCE

UNCLASSIFIED

492027

BETWEEN THE DEPARTMENT OF STATE, AGENCY FOR INTERNATIONAL DEVELOPMENT
AN AGENCY OF THE GOVERNMENT OF THE UNITED STATES OF AMERICA, AND
THE NATIONAL ECONOMIC COORDINATION & DEVELOPMENT AUTHORITY
AN AGENCY OF THE GOVERNMENT OF THE PHILIPPINES

PD-AAD-553

Under the terms of the Economic and Technical Cooperation Agreement signed April 27, 1951, and the Standard Provisions ☐ Foreign Currency Standard Provisions ☐ annexed attached, it is agreed to carry out a project in accordance with the terms set forth herein.

1. PROJECT NO. 492-11-120-274 | 2. ORIGINAL ☒ | 3. REVISION NO. ☐

4. PROJECT TITLE: Small Scale Irrigation | AGREEMENT NO. 78-03

5. ANNEX A PROJECT DESCRIPTION AND EXPLANATION

6. APPROPRIATION: 72-1161021 | 7. ALLOTMENT: 843-50-492-00-69-81

8. AID FINANCING	PREVIOUS TOTAL (A)	INCREASE (B)	DECREASE (C)	TOTAL TO DATE (D)
a. PERSONNEL COSTS				
DLA				
Contract		138,500		138,500
b. PARTICIPANTS		60,000		60,000
c. COMMODITIES				
d. OTHER COSTS				
AID [illegible]		46,500		46,500
Contract				
e. TOTAL (Grant)		245,000		245,000
f. LC OWNED (Loan)				
9. COP FINANCING				
10. COUNTERPART				
[illegible]				
Spend		5,400,000		5,400,000
Cash		5,400,000		5,400,000
TOTAL Cost				
b. [illegible]				

10. REFERENCES AND REMARKS:

*Cost of international travel for participants will be funded by FSDC.
**Counterpart "B" is funded under a separate budget submission to NEDA.

CLEARANCES

GOP: Administrator, FSDC — Tiburcio [illegible]

AD/CD [illegible]

USAID: [illegible] — [illegible]

AD/AD: [illegible]

11. DATE OF ORIGINAL AGREEMENT: December 23, 1977 | 12. DATE OF THIS REVISION: | 13. EST FINAL CONTRIBUTION DATE: September 30, 1979

14. GOVERNMENT OF THE PHILIPPINES — Signature: [illegible] — NICANOR P. BANIS, Acting Director-General

15. AGENCY FOR INTERNATIONAL DEVELOPMENT — Signature: [illegible] — Title: PETER M. CODY, Director

BEST AVAILABLE COPY

PROJECT CONTINUATION SHEET ANNEX A	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY AN AGENCY OF THE GOVERNMENT OF THE PHILIPPINES	78-03 3. Project/Activity Title. Small Scale Irrigation

I. Purpose

The purpose of the project is to increase small farmer income by creating commercially viable farmer enterprises through the development of farmer organizations. These organizations cover an aggregated area of 40,000 hectares of land which will be converted from single cropping to at least two crops per year and increase yields through irrigation systems, improved production practices and adaptive farm tools and equipment. Additional income benefits will come from Irrigator Service Association (ISA) based enterprises involving organized buying of inputs, arranging credit and selling produce.

II. Description

A project was initiated in July 1977 with the signing of a $6.5 million loan agreement (492-T-038). These loan funds were made available for (1) acquiring basic commodities in support of the Farm Systems Development Corporation (FSDC) and (2) reimbursing up to 50% of direct local currency costs of installing small scale irrigation systems and farm support facilities for 400 Irrigator's Service Associations (ISA's). This project agreement provides grant funds for technical assistance, participant training and other costs to facilitate achievement of project objectives defined in the loan agreement.

The major objective of FSDC's program is to accelerate rural development by increasing rural incomes and agricultural productivity. To do this FSDC organizes and develops groups of farmers into Barangay level Irrigator's Service Associations (ISA's) which serve as vehicles for farmers to own, operate, and manage their irrigation systems and farm support equipment and facilities. These ISA's, averaging 100 hectares in size, serve as conduits for technical and financial services from government and private agencies. They also serve as centers of information, skills development, training for self-government and other cooperative endeavors geared toward bolstering the income and productivity of their members. Irrigation systems,

For the Cooperating Government or Agency	For the Agency for International Development
SIGNATURE: _____ DATE: _____ TITLE:	SIGNATURE: _____ DATE: _____ TITLE:

improved farming methods, processing and marketing practices, as well as innovative technology designed to maximize labor, capital and land utilization are introduced to strengthen the status and viability of the association. This in turn directly benefits low income Filipinos living in rural areas.

Institutional development ultimately will include the organizational development of the ISA at the Barangay level, economic integration of several ISAs into a federation at the province and the development of a union of ISA federations at the original level.

Development of ISA entrepreneurship involves: (a) intensive education and training of ISA officers and committee members on association management, (b) installation of organizational systems and procedures, and (c) introduction of production and post-harvest enterprise packages. The packages consist of the Organized Rice Production Project, the Organized Buying Project, the Organized Selling Project, the Institutional Credit, the Seed Production Project, and the Farm Tool and Equipment Pool.

ISA farmers undergo production and management training to enable them to utilize the irrigation facilities as well as serve as individual and organization resources in their production activities.

FSDC has selected 29 provinces throughout the country and has identified 470 potential projects covering 61,000 hectares for participation in the program. As of July 1977, FSDC had organized 405 ISA's and installed pumpsets in 262 irrigation systems with a design area of 30,470 has.

For the Cooperating Government or Agency	For the Agency for International Development
SIGNATURE: DATE:	SIGNATURE: DATE:
TITLE:	TITLE:

III. Designations and Implementation Responsibilities

A. Designations

1. The Administrator of FSDC is hereby designated GOP Project Manager. In this capacity he will be responsible for overall implementation of the project. It is understood that he will avail of technical advice and counsel of the USAID Project Officer and his staff to the maximum degree practical to attain project objectives.

2. The Engineer Advisor of the Office of Capital Development is hereby designated as USAID Project Officer. In this capacity he will act as technical advisor, manage the USAID assistance provided for the project, and work closely with the GOP Project Manager in all phases of the project, including budgeting, implementing, evaluating, and loan monitoring.

B. Implementation Responsibilities

FSDC prepared an implementation schedule as a condition precedent to release of AID loan funds. The release of these funds has been slow to date. In large part this has been due to lack of an adequate, economically feasible technical model which can be easily replicated. FSDC will prepare monthly a composite graph by area office of the status of irrigation systems completion and a short narrative on specific ISA technical, financial or training problems that may exist. In addition, a 12-month running forecast of systems due to become operational as well as those due to become completed will be presented monthly. The GOP project manager and the USAID project officer will jointly review the monthly reports and joint recommendations will be enacted.

PROJECT DATA SHEET	PROJECT DEVELOPMENT & SELECTION NATIONAL ECONOMIC & DEVELOPMENT AUTHORITY	492-11-12-274	3. ☒ Original or Revision No.
	AN AGENCY OF THE GOVERNMENT OF THE PHILIPPINES	2. Agreement No. 78-03	
		3. Project/Activity Title. Small Scale Irrigation	

IV. FY 1978 Project Inputs

A. U.S. Grant

	MM	Amount
1.		
Contract		
Operations Advisor	12	(Funded in FY77)
Irrigation Engineering Advisors	20	(Funded in FY77)
Irrigation/Water Management Advisor	20	108,500
Evaluation Team	3	30,000
2. **Participants**		
Water Management	3	15,000
Agricultural Credit	4	20,000
Agricultural Marketing	2	10,000
Agricultural Production Practices & Analysis	3	15,000
3. **Other Costs**		
ISA Data Collection & Analysis		40,000
Invitation Travel (Study irrigation & farmer associations in third world country)		6,500

For the Cooperating Government or Agency	For the Agency for International Development
SIGNATURE: DATE:	SIGNATURE: DATE:
TITLE:	TITLE:

AID-AS COMMUNICATION SHEET ANNEX A	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY AN AGENCY OF THE GOVERNMENT OF THE PHILIPPINES	2. Agreement No. 78-03 2. Project/Activity Title. Small Scale Irrigation	3. ☐ Original or Revision No.

The irrigation/water management contract will provide additional funding for personnel on a long term basis who will provide assistance in (1) water management, equipment and practices, investigation, design, construction, operation and maintenance of irrigation systems, and (2) pump selection design and manufacture. In addition, an evaluation team of three consultants will undertake an in-depth project evaluation.

Participants will consist of short term training abroad of 14 participants in the fields of irrigation water management, agricultural credit, agricultural marketing and agricultural production practices and analysis. Some academic training at the Colorado State University and Oklahoma State University will take place in these fields.

Other uses of U.S. grant funds include (1) invitational travel for selected section chiefs, and senior field institutional officers to observe other irrigation development projects, water management programs and farmers associations in selected third countries, and (2) ISA data collection and analysis in support of PSDC's Research and Development units.

For the Cooperating Government or Agency	For the Agency for International Development
SIGNATURE: _____ DATE: _____ TITLE:	SIGNATURE: _____ DATE: _____ TITLE:

B. U.S. Loan: (However, this agreement pertains solely to the use of the grant funds obligated herein).

An AID loan of $6.5 million is to be used for institutional establishment: $1.4 million for FSDC commodity procurement and $5.1 million for reimbursing up to 50% of local currency credit costs of building irrigation systems and acquisition of farm support systems. This loan has a three year drawdown period.

C. GOP Inputs

FSDC local currency funding for the project is as follows for FY 1978.

Program Administration	- ₱ 3,700,000	($ 600,000)
A/E Contractors	- ₱ 4,350,000	($ 580,000)
Credit Program	- ₱ 44,350,000	($5,900,000)
Total	- ₱ 52,400,000	

D. Irrigators Service Association

Beneficiary farmers will supply at least 10% of the financial requirements of the irrigation systems. Their contribution is usually in the form of labor.

Estimated contribution for FY78 - ₱5,400,000 ($720,000)

V. Reporting and Evaluation

The GOP Project Manager shall prepare and submit to the USAID Project Officer semi-annual progress reports and other reports as may be requested in writing, in a format mutually acceptable to the GOP and to USAID. These reports should cover progress in the attainment of specific targets and identify problems deterring progress of the project.

As agreed an in-depth evaluation of progress against the targets of the project will be made.

For the Cooperating Government or Agency	For the Agency for International Development
SIGNATURE: DATE:	SIGNATURE: DATE:
TITLE:	TITLE:

AGREEMENT EXHIBIT BY A	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY AN AGENCY OF THE GOVERNMENT OF THE PHILIPPINES	2. Agreement No. 78-03	3. ☒ Original or Revision No.
		4. Project/Activity Title Small Scale Irrigation	

A sub-agreement governing the utilization of the $40,000 in Other Costs under the ProAg will be issued before any disbursements will be made by AID.

With the exception of invitational travel which will be requested on a case by case basis by the grantee and accounted for on AID Standard Form 1012, the grantee will submit a voucher on AID Standard Form 1034 with three copies on AID Standard Form 1034A for all expenses incurred under the Other Costs section of this Project Agreement. This voucher will be supported by an expenditure report showing the details of the amount for which reimbursement is claimed and such expenditure report will contain the following certification:

> "The undersigned hereby certifies (1) that payment of the sum claimed under the cited grant is proper and due and that appropriate refund to AID will be made promptly upon request of AID in the event of nonperformance, in whole or in part, under the grant or for any breach of terms of the grant; (2) the information on the fiscal report is correct and such detailed supporting information as AID may require will be furnished, at the grantee's home office or base office, as appropriate, promptly to AID on request; and (3) that all requirements called for by the grant to the date of this certification have been met.
>
> By_____
> Position - FSDC Administrator
> Date'

In the event it is necessary for the grantee to obtain an advance under the Other Costs section of this Project Agreement, the need for such advance must be fully justified. Such justification will accompany the voucher on the forms noted above. Subsequently, expenditure reports will be required at least quarterly in order to liquidate the advance. Such expenditure reports will accompany a "no pay" voucher as indicated above complete with the appropriate certification by the official authorized to do so by the grantee.

For the Cooperating Government or Agency	For the Agency for International Development
SIGNATURE: _____ DATE: _____ TITLE:	SIGNATURE: _____ DATE: _____ TITLE:

[illegible] SHEET ANNEX A	[illegible] AUTHORITY AN AGENCY OF THE GOVERNMENT OF THE PHILIPPINES	78-03 3. Project/Activity Title: Small Scale Irrigation	Revision No.

All vouchers required above will be submitted to:

Controller
USAID/Manila

Assignment: The Grantee agrees, upon request, to execute an assignment to A.I.D. of any cause of action which may accrue to the Grantee in connection with or arising out of the contractual performance or breach of performance by a party to a direct U.S. Dollar contract with A.I.D. financed in whole or in part out of funds granted by A.I.D. under this agreement.

For the Cooperating Government Agency	For the Agency for International Development
SIGNATURE: _____ DATE: _____ TITLE:	SIGNATURE: _____ DATE: _____ TITLE:

4920274 (10)
PD-AAD-553

PROJECT IDENTIFICATION DOCUMENT (PID)

9p.

TO: East Asia Project Advisory Committee

SUBJECT: Philippine Pilot Irrigation Projects

1. Introduction:

This PID describes two pilot irrigation schemes:

(a) The Libmanan Integrated Area Development project and (b) A Barrio Irrigation Service Association (BISA) project. Neither of these projects were specifically included in the FY 76 Philippine FBS for FY 75 funding but the Libmanan project could be considered as a pilot activity under the "Bicol River Basin Loan proposal" (FBS pg. 35) and the BISA project as a project necessary to develop needed information in support of the "Small Irrigation Systems Loan Proposal" (FBS pg. 31). This PID is submitted for East Asia Project Advisory Committee (EAPAC) review with a request that EAPAC concur in the preparation of a Project Review Paper (PRP) by USAID/Philippines for FY 75 Development Loan funding of these pilot projects. Submission of the PRP is scheduled for December 1974, and if approved, the Project Paper (PP) would be submitted in the third quarter FY 75.

The proposal is consistent with USAID/Philippine strategy and goals set forth in the FY 76 FBS and supports the Government of the Republic of the Philippines (GOP) development program objectives as stated in their Four-Year Development Plan (FY 1974-77).

2. Relationship to Country Program:

Rice is the principal staple food of the Philippines, and rice self-sufficiency is one of the major goals of the country's development programs. AID supports this goal. The IBRD Agriculture Sector Survey published in May, 1973, states that rice self-sufficiency for the Philippines cannot be achieved without expanded irrigation infrastructure. The survey also indicates that existing irrigation system performance falls far short of its potential, e.g. of the nearly one million hectares of irrigated land, only about two-thirds is cropped during the rainy season, and only slightly more than one-quarter is cropped during the dry season. The survey also estimated an extremely low efficiency rate -- only 15% -- for overall use of agricultural water in the Philippines. It is to the improvement of the irrigation system performance that these pilot projects are directed.

As part of its accelerated agricultural production activities (135,000 ha/year), the Philippine Government is expected to request AID assistance in improving the organization and management of irrigation facilities, including the construction of new and rehabilitation of existing systems, and in establishing an organization and management structure for a national program to support these systems on a continuing basis. Two areas where AID may be of assistance are in integrated development projects and small-scale pump projects. Several activities, including

AID loan and grant funded technical and engineering feasibility studies, are currently under way in the Bicol River Basin area as a part of the Bicol River Integrated Area Development Project. These studies are expected to identify numerous sub-projects in the region which may be eligible for AID loan financing. In the meantime the Mission considers it advisable to assist with the two pilot irrigation projects proposed before making a commitment to finance the larger irrigation program outlined in the FBS.

See Annex A, taken from the IBRD Agricultural Sector Survey, for an estimate of irrigable area potential for development of new lands.

3. Relevant Activities of Other Donors:

Other donors are providing large amounts of assistance for development of large scale new irrigation development, but they do not appear to be addressing the small-scale development opportunities which in the past has been accompanied by the lack of adequate operations and maintenance (O&M) of systems after completion of construction. This is a particularly critical problem with small-scale systems and one we consider must be addressed if the Philippines is to adequately develop their full agricultural potential. Other donor assistance in irrigation includes (amounts in million U.S. $):

IBRD (World Bank)

1.	Upper Pampanga River Basin	34.0
2.	Aurora-Pencranda Diversion	19.0
3.	Mindoro Integrated Dev.	25.0
4.	Tarlac Improvement	unknown

Asian Development Bank

1.	Cotabato Irrigation	2.5
2.	Angat-Magat Integrated Ag	9.6
3.	Davao del Norte Irrigation	4.2
4.	Iloilo Integrated Dev.	unknown

Japanese Government

1.	Groundwater Irrigation	4.1
2.	Maintenance of National Irr.	2.5

UNDP

1. T.A. for Groundwater Development 2.0

Joint IBRD - ADB - Others 400. +

Active consideration is being given by IBRD and ADB to multilateral funding of the Magat River multipurpose project in the Cagazan Valley. This project, developed through AID funding of the feasibility study will have a foreign exchange cost of in excess of $400 million, thereby utilizing most of the other donor loan allocations to the irrigation sector.

The proposal consists of two separate pilot projects, mutually exclusive, but both devoted to improving agricultural production in the Philippines with the intent of also increasing the income of the small farmer. These projects are:

(a) The Libmanan Integrated Area Development Project (hereinafter referred to as the "Libmanan Project") is located in the Province of Camarines Sur within the Bicol River Basin. The Libmanan Project specifically includes an area of approximately 4,000 ha of agricultural land lying between the Libmanan River and San Miguel Bay, north of the Naga River. The basic goal of the Libmanan Project

is to bring a reliable supply of irrigation water to the area, supported by a complete integrated infrastructure, to test the validity of the integrated area development concept.

The area presently consists of non-irrigated rice farms. With a reliable supply of irrigation water, on-farm management, adequate transportation facilities, and all other aspects of integrated development, it is anticipated that rice production should increase two or three fold.

The implications of this new approach are that in addition to the construction of canals and canal structures of an irrigation system, the GOP would include adequate farm ditches, drainage, and farm-to-market roads; and they would engage in development of compact farms (land consolidation), coordinate activities and support the high priority land reform program, and conduct farmers' training in the use of water and in related agricultural practices, as well as assist in the development of organizations of farmers irrigation associations or cooperatives to operate and maintain the system. It is believed that this improved approach may be necessary in order that the maximum benefits from irrigation can be fully realized.

(b) The BISA program was initiated last year as a cooperative effort of the National Irrigation Administration (NIA), the National Electrification Administration (NEA), the Development Academy

of the Philippines (DAP), and the Provincial Development Assistance Program (PDAP) to bring pumped irrigation water to small groups of farmers in upland regions which normally cannot be serviced by gravity water systems. NIA has the responsibility for irrigation design, NEA coordinates the assistance of the power use division of the rural electrification cooperatives, DAP provides the management and training needs, and PDAP is involved where it is possible to utilize the services of the Provincial Engineer's offices in project design and implementation.

This proposed pilot project would assist all aspects of the BISA program from pumps and irrigation designs to farmer training of on-farm water management and operations and maintenance. Each BISA system, on the average, is designed to serve about 50 to 100 hectares (ha) comprised of 20 to 60 farmers. The Province of Lanao del Sur on Mindanao has been identified as the most probable area for development of this project which will tie into power useage from the Lanao Sur rural electrification cooperative. The first phase development for BISA projects around Lake Lanao is for 1032 ha coverage serving 690 farmers. Since the average farm size is 1.5 ha, this project clearly would impact the small-scale farmer and, therefore, meets the AID legislative mandate of supporting host country top priority projects aimed at improving the lives of their rural poor and which incorporates the participation of these people in making sure the project is a success.

If this pilot effort proves successful, the program can be expanded to include 35,700 ha of land the GOP has identified as potentially irrigable by pumps to serve 21,300 farmers in nineteen separate provinces.

5. Beneficiaries:

The beneficiaries of both of these pilot projects would be the small farmer having an average land holding of 1-1/2 to 2 ha. Specific data is not available on current income at this time for these farmers; however, this will be further addressed in the PRP and, prior to completion of the PP, a detailed analysis of family income and land tenure will be made for all project areas. Given the average size of farm though, it is apparent that these farmers fall within the lowest income group of the Philippines.

In addition the population of Lanao del Sur is predominately minority Muslim. The Muslim population has been even more neglected than the small Christian farmers and this project will be a start toward extending economic development programs to the Muslims.

6. Evaluation:

An evaluation program will be outlined in the PRP and fully spelled out in the PP. These are pilot projects, and as such, periodic detailed evaluations will be undertaken to measure impact levels, income/agricultural production, socio-economic factors and physical improvement parameters. It is expected that early evaluations information will provide guidance for development of our FY 76 major irrigation projects.

7. Status and Cost of Projects:

The GOP is moving ahead rapidly on the project formulations and engineering design. We anticipate that firm engineering cost estimates will be completed before finalization of the PP in sufficient detail that FAA Section 611(b) will be satisfied. Engineering soundness appraisals and economic analysis will be prepared as part of the PP. The studies are currently under preparation.

No firm costs have been developed for the proposed program at this time, but the estimates of total cost for both pilot projects should be approximately $4 million dollars equivalent. We recommend that AID participate 75-25 with the GOP by providing a Development Loan of $3 million.

PHILIPPINES

AGRICULTURAL SECTOR SURVEY

Table 8: IRRIGABLE AREA POTENTIAL - NEW LAND AREAS

		Estimated Potential				Projected Program Achievement FY 72-75 Goal				Projected Intensification Program Achievement FY 76-80 Goal				Balance to Complete
		Gravity ha	Communal ha	Pump ha	Total ha	NIA Gravity ha	NIA Communal ha	NIA Pump ha	Total ha	NIA Gravity ha	NIA Communal ha	NIA Pump ha	Total ha	ha
I	City of Manila	-	-	-	-	-	-	-	-	-	-	-	-	-
II	Ilocos	20,000	10,000	12,151	42,151	3,700	6,464	1,784	11,948	9,000	6,464	1,784	17,248	12,955
III	Cayagan Valley	280,000	20,000	23,955	323,955 1/	4,000	2,326	3,523	9,849	15,600 5/	2,326	3,523	21,449	292,657
IV	Central Luzon	150,000	30,000	18,475	198,475 2/	36,000 4/	2,302	2,713	41,015	25,600 5/	2,302	2,713	30,615	126,845
V	Southern Tagalog	80,000	20,000	33,821	133,821 2/	6,000	2,302	4,973	13,275	6,900	2,302	4,973	14,175	106,371
VI	Bicol	25,000	5,000	37,130	67,130	560	1,328	5,466	7,354	4,700	1,328	5,466	11,494	48,282
VII	Western Visayas	60,000	20,000	52,967	132,967	9,500	470	7,788	17,758	5,700	470	7,788	13,958	101,251
VIII	Eastern Visayas	20,000	5,000	61,241	86,241	7,300	728	9,012	17,040	6,100	728	9,012	15,840	63,361
IX	Northern & Eastern Mindanao	40,000	10,000	56,831	106,831	3,400	1,154	8,360	12,914	24,900	1,154	8,360	34,414	59,503
X	Southern & Western Mindanao	140,000	30,000	88,470	258,470 3/	12,390 4/	2,926	13,016	28,332	26,600	2,926	13,016	42,542	187,596
	Sub-Total	815,000	150,000	385,041	1,350,041	82,850	20,000	56,635	159,485	125,100	20,000	56,635	201,735	998,821
	NIA-NEA Projects 6/	-	-	-	-	35,400	-	-	35,400	35,400	-	--	35,400	-
	Total	815,000	150,000	385,041	1,350,041	118,250	20,000	56,635	194,885	160,500	20,000	56,635	237,135	918,021

Source: Mission estimates.

1/ Includes 300,000 ha of level land in Cagayan Valley.

2/ A portion of these lands will require interbasin exchange of water.

3/ Includes development of 100,000 ha in Cotobato Basin through flood control and reclamation of marsh lands.

4/ Includes 31,000 ha of new land on upper Pampanga, 8,930 ha of Cotobato, 3,000 ha of UNDP.

5/ Includes 8,000 ha new land on Magat, Cagayan Valley; 4,600 ha new and reclaimed land on Angat in Central Luzon.

6/ Japanese loan projects, 35,400 ha to be completed before 1975. Assume same area will be completed from 1976 to 1980.

ANNEX A
Table 1