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UNITED STATES INTERNATIONAL DEVELOPMENT COOPERATION AGENCY
AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON, D.C. 20523

PROJECT PAPER

PHILIPPINES

SMALL FARMER SYSTEMS II

492-0334

JULY 1981

UNCLASSIFIED

PROJECT PAPER PDAAN872

SMALL FARMER SYSTEMS PROJECT II

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FSDC Evaluation: "Economic Impact of the BISA Program on Farmer Beneficiaries for Crop Year '78"

Statistical Annexes -- Detailed Economic and Financial Data

ABBREVIATIONS

BISA	-	Barangay Irrigators Service Association
CIP	-	Communal /Gravity Irrigation Project
CY	-	Calendar Year
FAR	-	Fixed Amount Reimbursement
FSDC	-	Farm Systems Development Corporation
FX	-	Foreign Exchange
GOP	-	Government of the Philippines
HYVs	-	High Yielding Varieties
IFB	-	Invitation for Bid
IO	-	Institutional Officer
IRR	-	Internal Rate of Return
IRRI	-	International Rice Research Institute
ISA	-	Irrigators Service Association
LOP	-	Life of Project
NEA	-	National Electrification Administration
NFAC	-	National Food and Agriculture Council
NGA	-	National Grains Authority
NIA	-	National Irrigation Administration
SFS	-	Small Farmer Systems
TGB	-	Tagapagbunsod (farmer volunteer)

MEASURES AND FOREIGN TERMS

1 Cavan	-	50 kilos
1 Hectare (Ha)	-	2.48 acres
$1.0	-	₱7.5
Palay	-	rough or unmilled rice
Tagapagbunsod	-	farmer volunteer
KAISA	-	grouping of ISAs into a federation

UNITED STATES INTERNATIONAL DEVELOPMENT COOPERATION AGENCY
AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON, D.C. 20523

PROJECT AUTHORIZATION

PHILIPPINES

Small Farmer Systems II
Project Number: 492-0334

1. Pursuant to Section 103 of the Foreign Assistance Act of 1961, as amended, I hereby authorize the Small Farmer Systems II Project for the Republic of the Philippines (Cooperating Country) involving planned obligations of not to exceed $7,100,000 in loan funds and $500,000 in grant funds over a one-year period from date of authorization, subject to the availability of funds in accordance with the A.I.D. OYB/allotment process, to help in financing foreign exchange and local currency costs for the project.

2. The project will assist in increasing productivity and farmers incomes by providing technical assistance and institutional support for the Farm Systems Development Corporation (FSDC), assistance for FSDC's lowland development program and for six pilot activities in upland development, support for six pilot enterprise activities conducted by provincial federations (KAISAs) of Irrigators Service Associations, and by providing assistance for research and development and evaluations.

3. The Project Agreement which may be negotiated and executed by the officers to whom such authority is delegated in accordance with A.I.D. regulations and Delegations of Authority shall be subject to the following essential terms and covenants and major conditions, together with such other terms and conditions as AID may deem appropriate.

4. a. Interest Rate and Terms of Repayment.

The Cooperating Country shall repay the Loan to A.I.D. in U.S. Dollars within forty (40) years from the date of first disbursement of the Loan, including a grace period of not to exceed ten (10) years. The Cooperating Country shall pay to A.I.D. in U.S. Dollars interest from the date of first disbursement of the Loan at the rate of (a) two percent (2%) per annum during the first ten (10) years, and (b) three percent (3%) per annum thereafter, on the outstanding disbursed balance of the Loan and on any due and unpaid interest accrued thereon.

b. Source and Origin of Goods and Services.

Loan-financed goods and services, except for ocean shipping, under the project shall have their source and origin in the Cooperating Country or in countries included in A.I.D. Geographic Code 941 and grant-financed goods and services shall have their source and origin in the Cooperating Country or in the the United States, except as A.I.D. may otherwise agree in writing. Ocean shipping financed by A.I.D. under the Loan shall, except as A.I.D. may otherwise agree in writing, be on flag vessels of the United States, the Cooperating Country and other countries in Code 941. Ocean shipping financed by A.I.D. under the Grant shall be only on flag vessels of the United States, except as A.I.D. may otherwise agree in writing.

c. Condition Precedent

Prior to the first disbursement of funds for each KAISA enterprise activity, or to the issuance of documentation pursuant to which disbursement shall be made with respect thereto, FSDC shall furnish to A.I.D., in form and substance satisfactory to A.I.D., a feasibility study of the enterprise approved by the FSDC Board of Administrators.

d. Covenant

The Cooperating Country shall agree that each pilot activity for upland development shall be reviewed by A.I.D. in accordance with A.I.D.'s environmental procedures prior to the allocation of funds under this project for the implementation of the pilot activity.

Clearances	Initials	Date
PB/ASIA/PD, Howard R. Sharlach		7/6/81
ASIA/TR, David Lundberg		7/31/81
ASIA/PTB, Dennis Chandler		7/31/81
ASIA/DP, Robert Halligan	RH	July 30/81
GC/ASIA, Herbert Morris	HSM	7/30

Signature Frederick W. Schieck
Frederick W. Schieck
Acting Assistant Administrator
Bureau for Asia

Date July 31, 1981

SMT
GC/ASIA:STisa:eb:7/29/81

AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT DATA SHEET

1. TRANSACTION CODE: A (A = Add, C = Change, D = Delete) — Amendment Number: ____

DOCUMENT CODE: 3

2. COUNTRY/ENTITY: Philippines

3. PROJECT NUMBER: 492-0334

4. BUREAU/OFFICE: Asia — 04

5. PROJECT TITLE (maximum 40 characters): Small Farmer Systems II

6. PROJECT ASSISTANCE COMPLETION DATE (PACD): MM 09 DD 30 YY 86

7. ESTIMATED DATE OF OBLIGATION (Under 'B.' below, enter 1, 2, 3, or 4)
A. Initial FY 81 B. Quarter 4 C. Final FY 84

8. COSTS ($000 OR EQUIVALENT $1 =)

A. FUNDING SOURCE	FIRST FY 81 B. FX	C. L/C	D. Total	LIFE OF PROJECT E. FX	F. L/C	G. Total
AID Appropriated Total						20,500
(Grant)	(500)	(--)	(500)	(500)	(--)	(500)
(Loan)	(7,100)	(--)	(7,100)	(20,000)	(--)	(20,000)
Other U.S. 1.						
Other U.S. 2.						
Host Country						
Other Donor(s)						
TOTALS	7,600	--	7,600	20,500	--	20,500

9. SCHEDULE OF AID FUNDING ($000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE 1. Grant	2. Loan	D. OBLIGATIONS TO DATE 1. Grant	2. Loan	E. AMOUNT APPROVED THIS ACTION 1. Grant	2. Loan	F. LIFE OF PROJECT 1. Grant	2. Loan
(1) FN	B213	010	010	--	--	500	7,100	500	20,000
(2)									
(3)									
(4)									
TOTALS						500	7,100	500	20,000

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each): 020 | 032 | 070

11. SECONDARY PURPOSE CODE

12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)

A. Code	BF	PART				
B. Amount	N/A	N/A				

13. PROJECT PURPOSE (maximum 480 characters)

To create an efficient, institutionalized, farmer managed (KAISA/ISA) system that provides small farmers with needed physical inputs, technology, and services for irrigation, production, processing, and marketing.

14. SCHEDULED EVALUATIONS
Interim MM 11 YY 84 | MM -- YY -- | Final MM 11 YY 86

15. SOURCE/ORIGIN OF GOODS AND SERVICES
☐ 000 ☒ 941 ☒ Local ☐ Other (Specify) ____

16. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of a ____ page PP Amendment.)

17. APPROVED BY
Signature: Anthony M. Schwarzwalder
ANTHONY M. SCHWARZWALDER
Title: Director USAID/Philippines
Date Signed: MM 05 DD 28 YY 81

18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION
MM 06 DD 01 YY 81

AID 1330-4 (8-79)

Y1

PP Addendum: Philippines Small Farmer Systems II (492-0334)

Background

In April 1975, the Government of the Philippines issued Presidential Decree No. 681, which created the Farm Systems Development Corporation (FSDC). FSDC is an autonomous, public corporation established to promote the organization and support of irrigation cooperatives and other farm-based associations. The corporation's purpose is to increase agricultural productivity, raise farmer incomes and promote rural development.

FSDC implements the Barangay Irrigation Service Association (BISA) program, a multifaceted rural development effort whose entry point is irrigation. The BISA program establishes irrigation cooperatives, called Irrigator Service Associations (ISAs), each composed of about 60 farmers. FSDC provides ISAs with technical and financial assistance to enable them to own and become capable of operating, maintaining and repairing pump and gravity irrigation systems, and to utilize other farm support packages.

FSDC's assistance program for ISAs entails the following principal elements: 1) organization and registration of ISAs; 2) initial training of ISA farmers and members of farm families; 3) financial and technical assistance in the construction of irrigation systems; 4) farm systems technology development (i.e. the efficient use of all on-farm resources in efforts to increase farm income); and 5) continuous follow-on training courses.

FSDC has provided ISAs with assistance and training in crop production, farm management, credit use, seed production, organized buying and selling, and the use of appropriate farm tools. In all of these activities, a "farm systems" approach - involving the management and allocation of all farm resources which deal with production, processing and marketing - is stressed. ISAs also are undertaking cooperative community development efforts which promote commercial independence, better farmer organization and self-government.

Since 1975, FSDC has received two AID loans totaling $16.5 million and grants totaling $1.8 million. Largely as a result of this assistance, FSDC has grown and matured in its technical and administrative abilities, and it is recognized as a very capable institution in the fields of farmer organization and small scale irrigation. Currently, almost 1800 ISAs, representing some 94,000 farmers, have been organized and are provided irrigation on 140,000 hectares of previously rain-fed farm land.

The Proposed Project

The proposed Small Farmer Systems II project will provide $7.6 million ($7.1 million loan, $500,000 grant) in financial and technical assistance to FSDC, the implementing agency, in four principal areas of endeavor.

The first two are continuations of activities previously supported by AID, and the latter two represent new, promising activities which AID is prepared to support on a pilot basis. These four principal project components are : 1) irrigation systems construction in the lowlands; 2) institutional development of FSDC, ISAs, and provincial federation of ISAs (KAISAs); 3) enterprise development activities to be undertaken by KAISAs; and 4) extension of FSDC's substantial experience in lowland irrigation construction and ISA organization to upland areas.

Ongoing Lowland Irrigation Development ($2.2 million)

The proposed project will provide approximately $2.2 million to help finance the local currency construction costs of approximately 34 new irrigation systems and the upgrading and rehabilitation of 60 existing ones. These systems cover an average of 100 hectares each. All new irrigation systems will be located in AID's program concentration regions. In keeping with the findings of the May 1980 AID Impact Evaluation Report on Philippines Small Scale Irrigation, which found that the viability of pump irrigation projects oftentimes was doubtful in view of rising energy costs, all new systems will be gravity-fed.

While noting the problems the BISA program has encountered, the Impact Evaluation reached three important conclusions. First, "providing water to the small farmer to improve production and income has been effective because of its visible and immediate effect." Second, "the Irrigation Service Association is valid and effective because it has built on existing local leadership and is focused on a specific and immediate goal that is important to the farmer." Third, "those farmers being assisted under the FSDC program are the appropriate beneficiaries of AID assistance under the New Directions."

As in the two previous AID-assisted projects, FSDC's area offices will continue to perform technical, economic and financial feasibility studies prior to the initiation of new irrigation systems. These studies will be reviewed and approved at FSDC's central office. FSDC and USAID then will jointly prepare, and sign reimbursement agreements which include the technical details of the systems to be constructed, the estimated cost of each system element and the percentage of total cost AID will reimburse FSDC upon completion, and precedures for inspection and acceptance by the ISA and USAID of the sub-project. ISAs are required to contribute at least 10% of irrigation system construction costs in cash or kind. FSDC loans to ISAs for construction and rehabilitation of irrigation systems will be made at 6% interest and amortized over 15 years. This project component will finance 75% of each FSDC loan.

USAID project management and monitoring responsibilities for the proposed project will reside in the Office of Capital Development (OCD). Routine implementation and monitoring actions will be undertaken by a capital project development officer, who also will be chairman of the Project Implementation Committee. The Committee, whose members include representatives from the Program Office, Agriculture Office and the Engineering Division, meet on an ad hoc basis to make project implementation decisions. When appropriate, regular committee members are joined by USAID's Program Economist, Controller, and by the Director or his deputy.

USAID recognizes that certain previous farmer cooperative efforts in the Philippines have had an uneven record. FSDC, however, continues to be a strong, capable and dedicated institution whose achievements far outweigh any shortcomings observed in project evaluations. FSDC's business-like approach to cooperative development contrasts with the welfare orientation that has been prevalent in other cooperative movements around the world. This project will continue to build on lessons learned to date by attempting to improve cooperative management skills, continuing to encourage farmers to switch from monocultural rice production to diversified farming systems, and addressing marketing problems which previously have hindered full production efforts by participating farmers.

Institutional Development ($1.9 million)

Institutional development is basic to the establishment of ISAs and the construction of irrigation sub-projects, and to meeting FSDC's mandate. Through a diversified series of training courses at the local, provincial, regional and national levels, farmers, farm family members, and FSDC staff gain the technical, organizational, administrative and financial knowledge which makes FSDC's program possible. Approximately $1.9 million will be used for the organizational training needs of 220 new ISAs, ongoing training in some 1800 ISAs which have reach different levels of maturity, and new training in program management and enterprise management for selected KAISA board members and those individuals to be hired by KAISAs as enterprise managers (see below).

Typical of the training which AID has helped to sponsor in the past, and which will continue under the proposed project, are courses in rice production, water management, ISA organization and basic management, livestock and crop management, grain storage and marketing, and farm planning and budgeting.

To implement this component of the project, FSDC and USAID will jointly prepare and execute reimbursement agreements which list the training courses to be financed by AID, their duration and the number and type of participants, and costs eligible for reimbursement. AID funds will be used to reimburse FSDC for the direct costs of training materials. USAID responsibility for monitoring activities under the institutional development portion of the project will remain with the project development officer in the Office of Capital Development, and when appropriate, with the Project Implementation Committee.

KAISA Enterprise Development ($1.2 million)

Since the inception of FSDC, the Corporation has envisioned that the attainment of its long range goals will occur in three logically phased stages. Phase I involves the organization of small farmers into cooperatives and the construction of farmer-built, owned, operated and maintained

irrigation systems. Phase II aims to promote the independence, self-reliance and viability of the ISAs by federating them on a provincial basis. These federations, known as KAISAs, will provide ISAs with technical services from FSDC and access to credit and production inputs, and be capable of undertaking cooperative "enterprises" on behalf of their members. The KAISA program aims to strengthen the independence of small farmer groups (ISAs) vis-a-vis commercial and governmental entities involved in rural agriculture. Phase III, the final organizational step to be achieved, will involve the creation of a national union of KAISAs, free to operate in an open, competitive environment in which the aspirations of small farmers can best be met.

FSDC has proven that small farmer groups can be organized successfully to increase rice production, family income and pnote general development in the rural sector (Phase I). FSDC is now entering Phase II, in which these relatively new ISAs will combine into federations which will cooperate with, but not be dependent upon, the Government of the Philippines.

The KAISAs, 64 of which already have been established, are legal entities registered with FSDC. KAISAs are empowered to enter into contracts to acquire financial assistance in the form of loans, grants and contributions. They are farmer-managed through a General Assembly and a Board of Directors elected by ISA farmers. The General Manager is hired by the KAISA Board. All key technical and administrative staff members formerly employed by FSDC at the provincial level, including the former provincial directors of FSDC, have been released and are now employed by the KAISAs. Thus, the wealth of experience and expertise accumulated by these individuals over the past several years as FSDC staff members, now accrues to the KAISAs.

Sixty-seven percent of the total amount available for this component will be made available to FSDC for relending to KAISAs to promote KAISA "enterprises." KAISA "enterprises" will be farm-related, income-generating projects which will enable KAISAs to provide necessary services to ISAs in areas where no such services now exist, where such services are not sufficient, or where the services could, in a reasonable period of time, be provided by the KAISA in a more efficient manner, and at less cost, than currently is being done by the private sector. KAISAs will charge competitive fees for services rendered in order to meet recurrent expenses, repay FSDC loans, and allow for modest profits.

Examples of enterprises which may be undertaken include hauling (rice, fertilizer, commodities), threshing, milling, drying and warehousing, collective buying and selling, and the manufacture and sale of charcoal briquettes. At first, emphasis will be on KAISA enterprises related to rice production, harvesting and marketing.

FSDC will cover all KAISA institutional development costs, i.e. basic staff salaries and benefits and training costs, during an initial period of organization and through the first year of enterprise operations. Thereafter, FSDC contributions to cover basic salaries and training costs will decline by 10% per year until the KAISAs are fully self-sufficient. AID funds will not be used in this or in any other component of the project to pay FSDC, KAISA, or ISA salaries or benefits. AID funds will finance two-thirds of FSDC's loans to KAISAs for equipment, buildings and working capital to initiate enterprise operations. In turn, these FSDC loans will finance up to 90% of the capital costs of the enterprises, with the KAISAs themselves putting up the remainder as equity.

Some examples of the terms and conditions of enterprise loans FSDC will make to KAISAs are:

	Interest rate	Amortization Period
Threshers	12%	5 years
Trucks	12%	10 years
Dryers	12%	5 years
Rice mills	12%	7 years
Warehouse, Land	6%	25 years
Working Capital	12%	3 years

KAISA enterprises to receive FSDC support will be selected and planned according to the available resources and needed services of member ISAs. Identification of potential enterprises will be made through consultations with farmers, member ISAs, and local businessmen, and through baseline surveys conducted by FSDC Institutional Officers and ISA representatives.

FSDC already has identified six enterprises in this manner to be considered for implementation as pilot efforts. A full feasibility study of each enterprise proposal will be conducted with the assistance of FSDC. FSDC will hire consultants, at the provincial level when available, to gather data from the proposed site of the enterprise and to assess assumptions based on their knowledge of local conditions. KAISAs will apply for FSDC loans with a written application supported by a formal project feasibility study.

The final review of the proposal will be made at FSDC's Central Office by a commitee of specialists from various departments, assisted by the contracted consultants. If this committee and the consultants judge the application loan-worthy, it then will be submitted for endorsement and approval by the FSDC Board of Administrators. (The Board is composed of the Minister of Public Works; the Minister of Education and Culture; the Administrators of the National Food Authority, National Electrification Administration, and National Irrigation Administration; the Executive Director of the National Food Agriculture Council, and Theodore Rey, FSDC's Administrator.)

Enterprise development loan applications are first approved by FSDC's Board, then submitted to USAID for technical review and approval. After USAID approval, USAID and FSDC will execute a reimbursement agreement, whose terms and conditions will include a description of the enterprise to be financed, its components, expected outputs and corresponding costs, and which costs will be eligible for partial reimbursement from AID.

Before the enterprises get underway, FSDC will arrange training programs for managers who will operate them. Such training will abe conducted through formal classes and apprenticeships in existing firms engaged in the same kind of enterprise in other regions.

The risks in KAISA enterprise development are obvious and not insignificant; but because of the competence in program planning and organization that FSDC has exhibited over the past six years, and the potential benefits of a successful KAISA program to ISA farmers, AID support for six pilot KAISA enterprise activities is warranted. If the six pilot efforts prove successful, FSDC is expected to request additional AID assistance for KAISA enterprises.

Upland Development($0.5 million)

Rural development activities in the Philippines traditionally have been concentrated in lowland, rice-producing areas. Little attention has been given to upland farmers, and relatively little is known about them and their agricultural practices. Since upland farmers are dependent on uncertain rainfall for agricultural production, their survival as a farmers is tenuous at best. Bare subsistence seems to be the norm in these areas.

FSDC plans to extend the BISA program from the lowland, rice-producing areas where it has been concentrated to upland areas on a pilot basis. This project component will provide 50% of the financing required to undertake six pilot upland development efforts. FSDC's Special Projects Department will implement the six pilot upland development efforts in two phases.

Phase I will involve the organization and training of upland farmers into ISAs, following long established and proven techniques which have been very successful in the lowlands. Organization and training activities will be followed by the construction of appropriate irrigation systems, whose water sources will be impoundments and cachements. FSDC, assisted by USAID/Manila and USDA personnel, has experimented for some time with the design and construction of such projects under FSDC's Small Water Impoundment Program. Construction will be financed by FSDC loans to ISAs which will be 50% financed by AID. FSDC will conduct the necessary feasibility studies. Subsequent to approval by USAID, reim-

bursment agreements will be executed which describe all basic technical and financial aspects of each upland irrigation system, procedures for reimbursement, and inspection and evaluation details. USAID's Project Implementation Committee will review the design and implementation of these sub-projects.

Phase II of the upland development component of this project will involve development of infrastructure facilities to support income-producing activities, such as fish production, livestock and poultry production, cultivation of cash crops, and tree farming to prevent soil erosion. As in the case of KAISA enterprises, upland farmers will be provided training in production techniques and in enterprise management.

FSDC plans to select three of the pilot sites with a view to addressing conservation and development problems in upper watersheds critical to exsiting FSDC supported lowland systems. A major problem in certain areas is rapid run-off caused by denudation of the vegetative cover above FSDC's lowland systems.

The other three pilot areas will be selected from AID's CDSS concentration regions and will be designed to reinforce other upland interventions. One such effort currently underway is the Buhi Upland Pilot Project under the Bicol Integrated Area Development Program. This project works with upland farmers to introduce a variety of productive and sustainable species of trees and plants.

The beneficiaries of this pilot activity will be former lowland farmers who have been forced by population pressures and resultant diminishing land availability to relocate to the uplands. Thus, this activity will focus on upland farmers who, unlike tribal hill people, do not follow periodic migratory practices.

The upland component of the proposed project shares three main features with KAISA enterprise activities. Both are pilot efforts; both pose undeniably risks; and both offer the potential to provide significant, replicable and permanent benefits to the rural poor.

Technical Assistance ($0.9 million)

As impressive as FSDC's record is in irrigation construction, farmer organization and training, FSDC still requires technical assistance in certain areas critical to the attainment of long range goals.

Much of the proposed project's success will depend on how well KAISA enterprises are designed and operated and on how well the farming systems approach is adopted by ISA members. Therefore, technical assistance in these specialized fields will be provided. USAID and the GOP have agreed to loan fund approximately 80% of the cost of two rural enterprise specialists and two experts in farming systems, all of whom would be resident in the Philippines for two years. The rural enterprise consultants will provide guidance to FSDC and the KAISAs in the implementation

of KAISA and upland enterprises. The farm systems experts, most likely agronomists with water resource management experience, will evaluate ongoing FSDC irrigation programs and make recommendations for improvements in design and procedures to the Corporation's Central Office. They also will be heavily involved in initiating upland activities. All consultants will be active in designing and setting up training programs.

A decision as to whether the consultants will be employed under host-country PSCs or through an institutional contract has yet to be made. Last January, USAID and FSDC began to accumulate data regarding individuals and institutions known to have the required expertise. If necessary, USAID expects to be able to issue an RFP for TA within 30 days from the date on which conditions precedent are met.

Commodities ($0.4 million)

Since much of the success of KAISA enterprise and upland development activities will depend on moving produce from ISAs to KAISA warehouses, and from KAISAS to regional marketing and distribution centers, two sizes of trucks will be procured for KAISAs.

First, it will be necessary to acquire trucks capable of carrying small to moderate size loads of produce over secondary roads from individual ISAs to provincial KAISAs. The same vehicles also will be utilized to deliver farm inputs (tools, small farm implements, fertilizer, insectide and perticides) back from the KAISA to member ISAs.

Larger trucks will be required to carry moderate to large loads of produce from KAISA warehouses over principal road networks to regional and national marketing centers. These vehicles also will return to the KAISAs with farm inputs for subsequent province-wide distribution among participating ISAs.

The frequency of planned group training activities for ISA members, including those in remote areas, means that FSDC will require small passenger buses or vans. This investment will result in lower training costs (through reduced transportation costs) and improve program efficiency, since public sector transportation at the ISA level frequently is unavailable or unreliable.

Four-wheel drive utility vehicles will provide basic transportation for FSDC Institutional Officers and other key staff who serve the needs of member ISAs on a regular basis.

The number and type of support vehicles provided for the proposed project may be augmented from time to time by taking advantage of appropriate excess property opportunities.

An illustrative vehicle procurement list is shown below.

TYPE	quantity	EST. TOTAL CIF COST (1980)
4-wheel drive utility vehicles	3	$25,000
Truck (small-moderate load capacity)	6	100,000
Truck (moderate-large load capacity)	6	150,000
Small passenger vans or buses	2	40,000
	TOTAL	$315,000*

Coordination with Other GOP Programs

In view of FSDC's mandate, embodied in Presidential Decrees, and considering the composition of the Corporation's Board of Directors, it appears certain the FSDC's programs will continue to be carried out in harmony with the programs of other GOP institutions which focus on rural development.

At the operational level, the project will continue to utilize, as appropriate, the services of other GOP agricultural and technical personnel (e.g., extension agents, credit specialists, pest control experts) who are contributing to the goal of promoting sound development of the ISA program.

USAID will continue to ensure that its portfolio of assistance activities, such as Agricultural Research II, Eastern Visayas Farming Project, Integrated Agricultural Producing and Marketing Project, and Cooperative Marketing, are implemented in a non-duplicative manner.

*plus inflation and contingencies

TARGET IMPLEMENTATION SCHEDULE

FOR SMALL FARMER SYSTEMS II

Project Authorization	July
Project Negotiated and Signed	August 14, 1981
Conditions Precedent Met	Nov. 12, 1981
USAID/FSDC Agree on Final Criteria for KAISA and Upland Pilot Activities	Dec. 1, 1981
Issue IFB for Commodity Procurement	Dec. 15, 1981
Issue RFP for TA	Dec. 15, 1981
Select six Pilot KAISA	Feb. 1, 1982
Select first two Upland Pilot Sites	Feb. 1, 1982
Select second two Upland Pilot Sites	April 2, 1982
Issue Letters of Commitment	April 30, 1982
Arrival of TA Consultants	June 15, 1982
Select final two Upland Pilot Sites	June 15, 1982
Initiate Evaluation of KAISA Enterprises	One year after completion of first crop year cycle.
Initiate Evaluation of Upland Pilots	12-18 months after first complete cycle of all six pilots
Project Assistance Completion Date	Sept. 30, 1986

SUMMARY BUDGET

SMALL FARMER SYSTEMS II

ACTIVITY	LOAN	
1. Irrigation development	$2,185,000	
2. Institutional Development	1,905,000	
3. KAISA enterprise development (six pilots)	1,178,000	
4. Upland development (six pilots)	537,000	
5. Commodities (vehicles in support of pilot activities)	414,000	
6. Technical Assistance (farm systems advisors and rural enterprise advisors)	882,000	
Subtotal (loan)	$7,101,000	rounded to $7,100,000
	GRANT	
7. Research and development*	158,000	
8. Participant training*	248,000	
9. Evaluation*	90,000	
Subtotal (grant)	$ 496,000	rounded to $500,000
TOTAL	$7,600,000	

NB includes cost escalation and 5% contingency

* See PP for description of this Grant Component.

Philippines - Small Farmer Systems II (492-0334)

PROJECTED EXPENDITURE SCHEDULE: USAID LOAN AND GRANT
(000 Dollars)

Project Components	years 1981	1982	1983	1984	1985	sub-total	cost 1/ 2/ escalation	5% 2/ contingency	Project total 2/
Irrigation Development	-	649	923	-	-	1572	534	79	2185
Institutional Develop.	-	290	504	504	-	1298	542	65	1905
Enterprise Develop.	-	896	-	-	-	896	237	45	1178
Upland Development	-	409	-	-	-	409	108	20	537
Commodities	-	315	-	-	-	315	83	16	414
Technical Assistance	-	320	320	-	-	640	210	32	882
Research and Devel. 2/	-	120	-	-	-	120	32	6	158
Participant Training 2/	-	189	-	-	-	189	50	9	248
Evaluation 2/	-	-	38	-	20	58	29	3	90
SUB-TOTAL	-	3188	1785	504	20	5497	-	-	-
Cost Escalation 1/	-	845	700	268	14		1827		
5% Contingency	-	159	89	25	1			274	
PROJECT TOTAL	-	4192	2574	797	35				7,100(L) 7,600 496(G)

1/ Cost escalation: 1980 prices were used; an increase of 15% is assumed in 1981, and the inflation rate in each succeeding year is projected at 10%. Therefore, the appropriate escalation factors are: 1981 - (.15), 1982 - (.265), 1983 - (.392), 1984 - (.531), 1985 - (.684).

2/ GRANT FUNDED VERTICAL COLUMNS DO NOT TOTAL EXACTLY DUE TO ROUNDING.

I. BACKGROUND AND DESCRIPTION OF THE PROJECT

A. Background

The Philippines is a land of small farms. Nearly half are found in lowland areas and supply the bulk of the country's rice requirements. Ironically, these farmers are often too poor to meet their own caloric needs. It is estimated that there are about 1.5 million paddy rice farmers, cultivating an average of 2.5 hectares or less of land. Given such small and fragmented holdings, these farmers must adopt highly intensive production practices in order to raise their income. Irrigation water is a key factor in their ability to do so. The GOP is attempting to extend irrigation to all potentially irrigable areas. So far, about 600,000 paddy rice farmers have access to irrigation. As they intensify their rice production, however, they are experiencing the second generation problems associated with surplus production of post-harvest processing and marketing along with a cost price squeeze. Until these problems are overcome, these farmers will not realize the full returns of the irrigation investments. Nevertheless, in general, they are relatively better off than the 900,000 paddy farmers who depend solely on rainfall for their rice production. For these, expanded irrigation where feasible is the first priority.

In 1975, the Farm Systems Development Corporation (FSDC) was created by Presidential Decree No. 681 with a mandate to accelerate rural development by increasing productivity and farmer income. As its major effort, FSDC adopted the Barangay Irrigators Service Association (BISA) Program, a multi-faceted effort whose entry point is irrigation. The BISA Program establishes irrigation cooperatives called Irrigators Service Associations (ISAs) of about sixty farmers each and assists ISA members to own, operate, maintain, and use irrigation and other farm support packages. In 1978, Presidential Decree No. 1595 was issued expanding the scope of FSDC and more fully committing the Corporation to small farmer and rural development.

Since 1975, FSDC has been assisted by two AID loans totaling $16.5 M with grants totaling $1.8 M. The Corporation has also received several small loans from the Danish and German Governments. No other foreign donors have been identified. This document proposes a third AID loan in the amount of $20 M with a grant of $0.5 M. The proposed Philippine Small Farmer Systems II project will aid the Government in pursuing the BISA Program of continuous assistance to small farmers in particular and to rural development in general.

The Farm Systems Development Corporation will be the principal implementor of the project. In 1977, FSDC decentralized its operation and delegated considerable authority to the field. External evaluations have repeatedly given FSDC personnel high marks in competence, and judged the organization as an appropriate venue through which assistance can be channeled to small farmers. Because of its recognized expertise, FSDC has become one of the lead agencies in the Philippine Government for irrigation and institutional development programs.

B. The BISA Program and the Farm Systems Approach

The BISA Program was conceived in answer to a condition that has affected Philippine agriculture for past decades: low productivity. The Program seeks to improve agricultural productivity and increase the incomes of targeted small farmers. Its entry point is the optimum utilization of water through the construction of small-scale irrigation systems. Irrigation, however, forms only a part of the farm systems approach.

Perhaps the most significant feature of the farm systems strategy is its comprehensive nature. The approach refers to the management and allocation of farm resources that result in the production, processing, and marketing of farm goods. Under the farm systems approach, the farm is seen as a unit composed of a variety of economic activities to provide the food supply for the rural household and to generate income for the farm. It is a "total" stragegy which takes into account the four essential elements of the farm, namely: water, farmer, technology, and soil. Of these, the farmer is the most important for it is he who acts as prime mover, using the limited resources to yield the greatest benefit.

The BISA Program is implemented through FSDC regional offices and field personnel at the provincial level called Institutional Officers (IOs). Institutional Officers serve as FSDC's direct link to the ISAs and are responsible for organizing the ISAs for program implementation. Institutional Officers are given basic institutional, management, and technical training. Later, specialized training in the financial, technical, and institutional development aspects of the Program is provided. It is FSDC's policy to maintain the ratio of one IO to every two ISAs.

C. Program Components and Status

The implementation of the BISA Program involves three complementary components: Irrigation Development, Institutional Development, and Farm Systems Technology Development.

1. Irrigation Development

Through the irrigation component, a common facility is built, operated, managed, and eventually owned by the farmers themselves. These systems, capable of serving an average of 60 hectares, answer the needs of farmers within a specific area for a steady supply of water throughout the year, and reduce considerably their dependence on rain. To date, irrigation has made possible the operation of over 1,000 electric and fuel driven pumps capable of irrigating more than 68,000 hectares of once rain dependent agricultural land. In coordination with the National Irrigation Administration, 475 gravity irrigation systems that now provide water to some 72,000 hectares have been completed.

2. Institutional Development

The institutional development component manifests the Program's concern for people. Institutional development begins with the organization of a small number of farm families tilling a continguous area into an Irrigators Service Association. The ISA, formed along cooperative principles, is multi-purpose in character. Through communal efforts, it undertakes a range of activities and itself serves as an exercise in organization and self-government. Training in production and management is conducted as institutional credit, farm tools, seed production, and organized buying and selling projects are introduced. Training is ongoing and extensive and geared toward developing the ISA as a conduit of technical and financial assistance and as a center for information and skills advancement. The BISA Program is country wide. To date, a total of 94,000 farmers are organized into 1800 ISAs. Constructed and operating gravity and pump systems are now irrigating 140,000 hectares. Recently organized ISAs plan systems that will irrigate an additional 40,000 hectares.

3. Farm Systems Technology Development

With proper assimilation of irrigation and institutional development inputs, the ISAs are able to accelerate their pace of production and proceed toward the third component, Farm Systems Technology Development. This component represents FSDC's commitment to bring modern and appropriate production technologies to the grassroots level to achieve sustained productivity. Innovative packages (IPs) to improve methods in production, processing, marketing, and credit availability through collective schemes are under implementation. (For a description of IPs, see Annex F.)

D. Recent Evaluations and Principal Issues

Various evaluations have been conducted on the BISA Program. An internal evaluation entitled, "Economic Impact of the BISA Program on Farmer Beneficiaries", was made for crop year '78 and published in 1980. (A copy of that evaluation is a supplementary document to this paper.) An AID Impact Evaluation was conducted in May of 1980. Both evaluations found the Program to be generally meeting its objectives, but each raised issues--production credit, the role of women, electricity for pump irrigation systems, land tenure, and the technical reliability of irrigation projects--that will be addressed where appropriate in this paper. For other issues addressed, see Annex G.

E. The KAISA Federation and Farm Enterprise Development

With irrigation and improved farmer technology, ISA members have been able to realize substantially higher returns from production. Also, the opportunity to oversee the operation of their irrigation system and to manage their association has instilled an appreciation for self-reliance. Improved production, however, has brought with it second generation problems. For example, the storage, handling, transport, and marketing of rice has presented areas of concern. Also, while farmer income has increased, the continuing rise in the cost of production inputs has caused ISAs to seek additional sources of income. The need now exists for a broader organization to respond to such concerns. The consolidation of ISAs into provincial federations that can operate central economic facilities has begun.

The ISA federation, or KAISA (an acronym of Pilipino words meaning "a group into one"), is an organization of ISAs in a province that have attained a degree of managerial and productive capability. KAISA's are non-stock, non-profit corporations with a representative general assembly, a Board of Directors, and a General Manager. As legal entities, registered with FSDC, they can enter into contracts and borrow money. Through an umbrella organization of ISAs in each province, farmers can enjoy economies of scale not possible as individual ISAs. Also, instead of addressing themselves to widely dispersed and segmented units, a federation of ISAs can concentrate planning and development efforts into a highly potential geographic area from which other economic activities can emanate.

Once federated, the ISAs have opportunities for the operation of farm business enterprises. The federation can put up facilities to support production, processing, and marketing operations at the ISA level. It can operate as a business in rice milling, storage, and trading of ISA produce. It may become active in the dealership of production inputs or

in the transport of grain. The appropriate enterprises will be selected and planned according to the needs of member ISAs, but once operational, each enterprise is envisioned to enhance the ISAs' viability through lower production costs, increased revenues, an effective marketing channel, and savings due to improved post-harvest facilities. (For a more detailed discussion of the KAISA Program, see Annex H. For a list of possible enterprises and an economic analysis, see the Economic Feasibility Section.)

F. Upland Development

FSDC's experience with ISAs indicates that rural development assistance has been heavily concentrated toward improving the condition of lowland farmers. Little attention, however, has been given to the lowest income sector of the rural poor: the hill and mountain dwellers, the forest occupants, and the seasonal farm workers.

Also, with a population of 49 million, the Philippines has a per capita agricultural land area of about 0.3 hectares. This suggests that an increase in food production will have to be met by intensive and diversified land cultivation. The hills and mountainsides are thus inviting alternatives. In these areas, rainfall varies making production levels uncertain. Yet in many localities, water impoundments can be constructed that will provide sufficient water for supplemental irrigation and reduce such uncertainties.

Through its Special Projects Department, FSDC has designed a project to pilot an upland irrigation development program. This loan will provide necessary funding to assist FSDC in up to six locations. The pilot projects are planned in two phases:

Phase 1 involves the organization of forest dwellers and upland farmers into non-stock, non-profit entities and the determination and licensing of its area of operation by authorized government agencies. The construction of an appropriate irrigation system and infrastructure facilities for crop and fish production as well as planting of cash crops and permanent trees to prevent soil erosion will be integral parts of this phase.

Phase 2 will be geared toward the development of entrepreneurial capabilities of the beneficiaries and the provision or improvement of infrastructure facilities to support such enterprises as livestock production and cottage industries. Beneficiaries will be trained in production and post production technologies and enterprise management.

G. USAID Assistance

The United States Agency for International Development will provide Small Farmer Systems II with loan funding of $20 M over a five year period, beginning in 1981, to support the following four project activities:
1) construction of additional small-scale irrigation facilities and the upgrading, rehabilitation, and improvement of existing irrigation systems;
2) support to the organization and operation of the provincial federations as well as continued institutional development activities for new ISAs;
3) financial assistance to pilot in up to six federations the development of profitable enterprises and the implementation of ISA farm support projects

(these experiences will be evaluated and a determination made on whether to fund additional enterprises); and 4) financial assistance to FSDC in up to six locations in the piloting of their Upland Development Program. Also, $500,000 in grant funding will finance research and development activities and participant training. (See tables of breakdown in project costs and funding activities in the Financial Plan.)

H. Inputs and Outputs

Following are the individual components of this proposed assistance with indicative dollar amounts of AID funding. We recognize that FSDC is undertaking two new activities--federation development and upland development--and that funds for the components may move slowly. Should there not be enough demand for the dollars in a timely manner, a reallocation of the funds among the components will be discussed with FSDC. Any such reallocation would be manifested in a subsequent revision to the project description contained in Annex I to the Project Agreement.

1. Irrigation Development - $2.5 M*

Approximately 100 gravity irrigation systems will be developed. We currently estimate that one third of these systems will be new and two-thirds will be existing systems to be upgraded or rehabilitated. The new systems will be constructed in the CDSS regions; the rehabilitated systems will be located throughout the country.

2. Institutional Development - $4.5 M*

Some sixty ISA federations, made up of 1800 ISAs, are now organized and have recently assumed from FSDC the responsibility for the institutional development of their member ISAs. FSDC will provide financial assistance to support their field operations. This financial assistance from FSDC will continue until the federations can generate their own income through the different farm enterprises. In addition to this financial assistance, FSDC will provide other assistance and inputs. Among these are training programs to develop the organizational and managerial skills of federation officers and members. Such training programs are closely tied with a communication support program aimed at various audiences. For administrative support, federation manuals will prescribe systems and procedures for personnel management, financial control, project monitoring, and evaluation. It is expected that sufficient income generation will be achieved to sustain and expand the institutional development of the ISAs and the effective management and implementation of the KAISA enterprises.

3. Farm Enterprise Development - $6.0 M*

FSDC will provide two types of financial assistance to the federations: institutional development assistance and enterprise development loans. The institutional development assistance, as discussed in the preceding paragraph, will be used by the federations to sustain their operations and undertake institutional development activities for their member ISAs. Enterprise development loans may initially be made to up to six federations

*Amounts include contingency and inflation and are rounded. See Financial Plan for precise dollar figures.

and used to finance income generating enterprises. The dollar figure shown above funds the proposed pilot as well as follow on activities, assuming the pilots are successful. If this assumption proves invalid, adjustments will be made in the third and fourth year planned obligations. The selection of these federations will be based on criteria mutually agreed upon by FSDC and USAID. Once selection is made, feasbility studies on each enterprise proposed by a given federation will be conducted and submitted for approval to the KAISA Board of Directors, the FSDC Board of Directors, contracted agricultural consultants, and USAID. (See Conditions, Covenants, and Negotiating Status.) It will be from the anticipated earnings of such enterprises that the federation will sustain at least part of their operations and repay their loans. AID loan funds will be used by FSDC as enterprise development loans to the federations. Examples of possible enterprise activities include:

a. trucking and hauling of ISA produce - This would be undertaken to give further support to the marketing needs of ISAs.

b. threshing services - The need for post-production processing may be answered by the federation.

c. milling services - ISAs may avail of the ricemill(s) to be acquired by the federations for ISA milling requirements.

d. sales agent services - The federation would act as a sales agent of ISA produce and earn income in the form of commissions.

e. collection agent services - The federation would collect irrigation amortizations due to FSDC from the ISAs within the province and retain a portion as a fee.

In addition to a credit program for KAISA enterprise development, FSDC will supply administrative and management procedures to the federations. Program linkages with other agencies and technical assistance will be provided along with financial control systems. Outputs will be efficient and profitable enterprises, additional income derived from management services, and effective management of capital and local resources. Other kinds of enterprises in which the federations may engage include dealership in production inputs and farm equipment, food processing, cottage industries, poultry and livestock development.

4. Upland Development - $5.0 M*

This component will assist FSDC in the undertaking of up to six pilot locations of their Upland Development Program. The dollar figure shown above funds the proposed pilot as well as follow on activities, assuming the pilots are successful. If this assumption proves invalid, adjustments will be made in the third and fourth year planned obligations. The projects will consist of water impoundment with the attendant institutional development activities, the introduction of new farming systems, and soil conservation and reclamation.

5. Commodities - $1.0 M*

Communication, engineering, and audiovisual equipment will be purchased. The communication equipment will improve project monitoring; the audiovisual equipment will be used in training. Twenty 4-wheel drive utility vehicles

*Amounts include contingency and inflation and are rounded. See Financial Plan for precise dollar figures.

12 dump trucks, and 8 busses will also be purchased to be used by FSDC's Central and Area Offices, and by KAISA personnel. A computer system (subject to AID approval) to facilitate data processing will be purchased. Total list amounts to approximately $1 M. (See Annex I for procurement items and schedule.)

6. Technical Assistance - $1.0 M*

The AID Impact Evaluation recognized that FSDC has demonstrated its capacity to form ISAs as the first step in the development of farm systems. It recommended that the Corporation now concentrate on technical assistance to improve the productive capacity of farms in existing irrigation systems, and develop the elements of farm systems. Through AID's standard competitive bidding procedure and under host country contracting arrangements, FSDC will contract with either an institution or individuals to provide comprehensive agricultural consultancy services on a resident, in-country basis. FSDC will seek technicians with expertise in farming systems and rural enterprise development. USAID and FSDC began in January of 1981 to accumulate data regarding individuals known to have the required expertise. It is expected that FSDC will initiate action to enter into contracts within ninety days following satisfaction of the Conditions Precedent.

I. Grant Funded Activities

1. Research and Development - $175,000*

Grant monies will be used to support the innovative projects and activities undertaken by FSDC's Research and Development Division. Such projects include the development of low-cost irrigation systems, the use of irrigation equipment, structures for portable water supplies and power generation, fish and rice culture farming, and alternative sources of energy. FSDC's recently developed producer gas technology reduces fuel consumption by as much as 50 percent by burning agricultural wastes and producing combustible gases as fuel supplements. It is expected that with this technology, the ISAs can reduce their operating costs and become less dependent on imported fuel. Also under this component, prototype models of irrigation and farm support equipment and facilities will be purchased and studied to support research and development. USAID currently supports a variety of research and development projects under Small Farmer Systems I. Tree farming and producer gas are examples.

2. Evaluation - $50,000

This money will fund the dollar costs for outside contractor participation in the project evaluation as described in the Evaluation Section of this paper.

3. Participant Training - $275,000*

Funds will be used primarily for short-term training and a few advanced degree programs in the United States and in selected third countries. Participants will include both FSDC and KAISA personnel. Staff will attend short courses on irrigation management, financial management, and related agricultural subjects. A few FSDC staff members will undertake

*Amounts include contingency and inflation and are rounded. See Financial Plan for precise dollar figures.

degree programs in public policy, agro-industry, and rural/regional development.

J. Beneficiaries

This loan will continue to serve small-scale farmers who own, lease, or sharecrop approximately one to two hectares each in areas receiving irrigation. Assistance to the KAISA federations will continue to benefit the 94,000 farmers already benefiting from the Program. The gravity irrigation and rehabilitation projects proposed will benefit over 5,000 additional farm families in currently rainfed areas. The Upland Development projects will benefit mountain dwellers, forest occupants, and seasonal farm families. Realizing that the development of the farm requires the enthusiasm and dedication of the farm family, FSDC is now making the farm family, rather than the individual farmer, the beneficiary of its services.

K. Production Credit

Although Presidential Decree 1595 authorizes FSDC to provide production loans to BISA farmers, the Corporation has chosen not to do so because there are lending institutions already in existence for this purpose. What FSDC attempts to do is establish linkages with these institutions to answer the credit needs of farmers. For example, FSDC has an agreement with the National Food and Agriculture Council to give credit priority to BISA farmers. One source of assistance is through the Masagana 99; another is through the Agricultural Credit Administration where FSDC is developing the capability of ISAs to borrow money on behalf of their associations. For ISAs outside the Masagana 99 coverage, FSDC's Institutional Credit Project enables farmers to gain better access to credit through group borrowing. Nonetheless, not all ISA farmers have sufficient access to production credit and therefore the economic analysis in the Economic Feasibility section assumes a low level of inputs rather than a medium or high level.

L. Relation to the CDSS and Other USAID Assisted Projects

The Small Farmer Systems II is a transition project that bridges USAID's agricultural program of the 1970's aimed at rice self-sufficiency and our current focus on rainfed resources development, as part of a regional employment strategy. Thus, the KAISA Federation and Farm Enterprise Development component of the project is largely directed at consolidating the gains to lowland rice farmers made possible by irrigation facilities provided during the first phase of this project. The majority of these systems are in regions other than the CDSS regions, though Western Visayas has a number of FSDC systems. As such, this project component is directed at small-scale farmers in communal/gravity irrigation systems around the country and therefore is not directly related to our current CDSS target groups or regions.

This component is, however, related to two other on-going projects that were designed to reach the same beneficiary group and promote rice self-sufficiency: the Cooperative Marketing and the Samahang Nayon Support projects: Both projects support the farmer cooperatives established under the Agrarian Reform programs. While the SNs have been slow getting off

the ground in many areas, they are designed to serve a broader constituency than ISAs. Area Marketing Cooperatives are being developed to service the marketing needs of their SN members while cooperative rural banks service their credit needs. All three projects overlap to a degree, but this is likely to be more beneficial than not in most instances. For example, often ISA farmers belong to the SNs and thus can draw upon the services of the SN and the Area Marketing Coop, as well as the KAISA. This should insure that a wider range of needed marketing and credit services are available to ISA farmers sooner.

The irrigation component of Small Farmer Systems II is substantially aimed at supporting Mission efforts to assist small farmers in rainfed areas in Region I, II, V, VI, and VIII. All new irrigation systems and at least 50 percent of the systems to be rehabilitated will be located in the CDSS regions. Not only will these systems directly benefit small farmers now limited to rainfed cropping patterns, but indirectly benefit landless agricultural workers through increased demand for hired labor resulting from expanded irrigated farming in these regions. The Eastern Visayas Farming Systems project now being finalized proposes to test and disseminate appropriate rainfed farming systems for farmers who cannot aspire to irrigation. Taken together, both projects adopt complementary approaches to addressing the problem of rainfed farmers in Region VIII.

Two considerations will determine the extent to which rehabilitation work is undertaken in the CDSS regions:

a) the number of systems in these regions that need rehabilitation and that meet FSDC selection criteria, and

b) FSDC's own desire to test various renewable energy approaches to small-scale irrigation by converting existing pumping schemes wherever this technology may be appropriate or feasible.

The Upland Development Component supports both strategies. Three of the pilot sites will be selected with a view to addressing conservation as well as development problems in an upper watershed critical to existing FSDC supported systems wherever they may be found. A major problem in certain areas is rapid siltation of farmers' canals owing to heavy run-off and erosion occasioned by denudation of the vegetative cover in the hills above the FSDC system. The other three pilot sites will be selected within the CDSS regions and to the extent practical, designed to reinforce other upland interventions USAID may support in the coming years. One such effort now under way is the Buhi Upland Pilot project under the Bicol Integrated Area Development Program which is working with upland farmers on introducing a wide variety of productive and sustainable species of trees and plants and improved practices. Whether scope exists for some supplemental irrigation development as part of an overall upland farming system in Buhi will have to be carefully assessed, but the possibility will be explored.

M. Relation to the GOP Priorities

As indicated in its Five Year Development Plan, the Philippine Government emphasizes the proper development and optimum use of water resources for irrigation recognizing that the lack of irrigated crop land and the absence of the appropriate mix of farm enterprises are key constraints to food production. Because the Small Farmer Systems II Project involves an integrated approach to rural development, it addresses itself to several

development concerns of the Philippine Government:

-- increasing agricultural productivity through the improved delivery of such essential inputs as credit, extension services, marketing facilities, and local infrastructure, particularly irrigation;

-- promoting rural employment and enhancing farm household income with the establishment of small-scale industries in rural areas;

-- promoting the social and economic well being of small farm families and enhancing their participation in development efforts through farmers' organizations.

II. PROJECT SPECIFIC ANALYSES

A. Technical Feasibility

1. Irrigation Development

During the first six years of operation, FSDC has developed an effective program to assist farmers in the establishment of ISAs and in their operation as a farmer-controlled and managed organization directed toward improved agricultural productivity. Initially, ISAs were based on an irrigation system dependent on electric or fuel driven pumps for the provision of irrigation water supplies. However, in more recent years irrigation systems based on gravity flow from impounded or diverted water have become increasingly important. Now the mounting energy crisis has made it imperative to adopt strategies that will minimize the adverse effects of increasing oil prices on the availability and cost of irrigation to BISA farmers. Priority in this project is being given to the construction of communal/gravity projects (CIPs). In addition, a number of previously established irrigation systems have encountered problems for various reasons and will be rehabilitated or upgraded under this project.

The recent AID Impact Evaluation identified a number of technical problems associated with the establishment and operation of irrigation systems under the project. FSDC has developed a Quality Assurance and Preventive Maintenance Program, in response to these findings, to enhance the technical reliability of irrigation projects. For the new gravity irrigation projects depending on gravity diversion or water impounding structures, the Engineering Department of the Central Office has prepared and will disseminate quality standards to be used from preliminary investigation through acceptance to completion and test-run of the system. The Department will also supervise and guide FSDC technical staff and ISA members in the application and utilization of these standards and assure compliance.

The Area Office is likewise responsible for identification of the established systems requiring upgrading and/or rehabilitation. These may be inoperable due to siltation, reduction of water flows, or changes in streambeds. Or they may operate inefficiently because of seepage losses or low mechanical efficiency of pumpsets. Following identification and selection of systems, necessary improvements will be determined and put into place according to established standards.

The Quality Assurance Program has the responsibility for the preparation of manuals for project specifications, the development of technical models, and the organization and conduct of technical training courses for field personnel. In order to insure proper operation and maintenance of the irrigation systems after turnover to the ISA, members of the ISAs are given appropriate training followed by continuing supervision and assistance from Institutional Officers and FSDC technical staff.

2. Organization and Development of the ISA Federations (KAISAs)

For the past six years, FSDC has emphasized institutional development and many ISAs have now reached a level of maturity that will enable them to gradually assume increasing levels of self-management and self-reliance.

All active ISAs are now organized into an ISA Federation, or KAISA, in each province. (FSDC's provincial offices have been absorbed by the federations to undertake continuation of BISA Program implementation. Under this arrangement, FSDC has equipped the KAISA with the administrative capability for implementing the Program at the provincial level with the KAISA as a private entity.) The KAISA serves as an umbrella organization which allows the farmer members to better manage their resources and obtain the necessary technology, technical services, credit, and physical inputs which they determine to be necessary. The establishment of this secondary organization with a broader resource base will also permit the establishment and operation of centralized facilities where it is determined that such services and facilities can be more efficiently or effectively provided in this manner. Improved production levels due to the availability of reliable irrigation water results in increased demand for credit and physical inputs such as seed, fertilizer, and pesticides as well as for better access to processing and marketing facilities. Where these are not readily available, either from the public or the private sector, an effectively functioning KAISA may permit the establishment and shared utilization of some or all such services and facilities on an economic basis that would not be possible for individual ISAs.

In order to respond to the above conditions, 64 KAISAs comprising some 1800 ISAs have now been organized and have assumed the functions previously provided by FSDC. The further development of these KAISAs into effective operating entities with the capacity to provide technology, services, and physical inputs in response to needs determined by member ISAs and their farmer members is one of the primary purposes of this project.

a) KAISA Organization

Each KAISA will be composed of a General Assembly, comprising all farmer members of the member ISAs. Each ISA will be represented in working sessions of the KAISA General Assembly by the ISA President and/or another designated ISA officer or representative. The General Assembly will elect a Board of Directors responsible for the formulation of rules, regulations, and policies governing the KAISA. Within these general guidelines, once ratified by the General Assembly, the Board of Directors, assisted by a General Manager and KAISA staff, will make major decisions regarding management, production plans, and operating procedures of the KAISA. With its equity and/or borrowed funds, the KAISAs pay the salaries of all employees to include the General Manager. The KAISA Board of Directors, composed of ISA Presidents, possesses the authority to hire and fire and decide on all KAISA enterprises.

b) KAISA Development

Initially, the KAISA Provincial Offices will operate much as the FSDC Provincial Offices have in the past, but with a transition to control by KAISA Boards of Directors. In all cases, the Program Manager of the former FSDC Provincial Office (which has now evolved into the KAISA) has been appointed as the KAISA General Manager and ex-officio KAISA Board Member. As such, he now reports directly to the Board and is answerable to them for all activities of the KAISA. The remainder of the former FSDC Provincial Office personnel are likewise transferred to the KAISA as technical and administrative staff.

At first, FSDC will continue with development assistance to pay the salary and operating costs of the KAISAs. However, if the KAISA organization is to be fully responsive to the requirements of the members, it should not only be self-managed, but financially self-sufficient as well. Therefore, a plan will be developed for a phased, gradual assumption of operating costs by each KAISA. It is expected that it will require at least eight to ten years before most KAISAs can assume full financial responsibility, but plans will be developed individually for each KAISA depending on the specific circumstances.

In addition to direct financial assistance to the KAISA system, FSDC will continue to provide other types of assistance and program inputs to help ensure a smooth transition and to make full utilization of KAISA managerial and staff capabilities. In particular, management skills training for KAISA officers and General Managers and more generalized training programs for ISA members and KAISA staff will continue to be developed and conducted. All such training programs will be carefully evaluated to ensure that they will help build specific technical skills required by the KAISAs both for obtaining information from members as to services desired and for providing such services in the most useful form and manner.

The FSDC Area Offices, in particular, will play a key role in the early stages of placing the KAISA system onto the path of self-management and self-sufficiency. In this regard they will conduct studies and provide supervision and administrative support in the adaptation and installation of suitable systems and procedures for KAISA operation. They will also assist KAISAs in the preparation of manuals prescribing procedures for personnel management, financial control, project monitoring and evaluation, and other types of operations as required.

c) KAISA Operation

The primary function of each KAISA will be the provision of direct technical assistance to member ISAs. These programs will be directed toward developing appropriate Farming Systems technology for use by member farmers. Although the FSDC program has demonstrated its capacity to assist ISAs in the development and establishment of irrigation systems and irrigation associations, other aspects needed for improved productivity have not yet been as well established. This was noted in the recent AID Impact Evaluation which recommended concentration on technical assistance to improve farm productivity particularly through the use of Farming Systems with a comprehensive approach to providing the full package of technology and physical inputs.

To support this Farming Systems approach, the project will utilize the services of two agricultural consultants and fund research and development activities and participant training. These resident agricultural consultants will advise and assist the Central Office, primarily the Research and Development Division and the Area Offices in the further design and implementation of Innovative Packages (IPs) of production technology and improved farming practices. This technology and information is transferred to the farmers by the Institutional Officers (IOs) who have been reassigned from the Provincial Office to the KAISAs. Under the supervision of the General Manager, the IOs will conduct training courses for ISA members on farm production and irrigation management practices and will conduct regular follow-up visits to provide continuing advice and to determine problems for which farmer members need assistance. The IOs will also attend regular refresher training courses as well as research and demonstration field days conducted by the Central and Area Offices in order to remain knowledgeable and current on the farming system technology and practices. During this process they will also relay farmers' problems and concerns to those in charge of research programs in order to have them addressed in future research undertakings.

3. Expansion of KAISA Support Activities

As various KAISAs develop and improve their capacity to provide technology and technical services to ISA members, the availability of credit and the

supply of necessary physical inputs will become increasingly important. In some cases, the arrangements already in effect by FSDC for credit and other support services will likely prove to be fully adequate. In other instances, KAISAs may be able to arrange for better availability or more advantageous terms for members for the purchase of such physical inputs as seeds, fertilizers, and pesticides through negotiation of supplier agreements with various private sector suppliers. More advantageous arrangements for such services as processing and marketing may be available to the KAISA through negotiated agreements with public or private sector mills, warehouses, etc.

a) KAISA Enterprise Development

However, in some areas reliable supplies of physical inputs or adequate processing, marketing, or storage facilities may not be available. In such areas an effectively functioning KAISA may be in a position to establish such facilities and provide shared utilization by member ISAs and their farmer members. In addition to providing needed services or a reliable source of supply to members, the establishment of such enterprises may have the additional advantage of generating income for the KAISA. In order to determine if the establishment and operation of such enterprises by KAISAs is a viable approach to providing support to ISA members, this project will initially support the organization and operation of such activities in up to six KAISAs. These will be subject to evaluation and a determination will be made on whether to fund additional KAISA enterprises. (See Evaluation Section.)

KAISA enterprises will be selected and planned according to the available resources and needed services of the member ISAs, and in accordance with the desires and capabilities of the ISA farmers. The feasibility of enterprises will be determined by the KAISA's Business Management Unit through project feasibility studies. Identification of potential enterprises is made through consultations with farmers, member ISAs, and local businessmen, and through baseline surveys conducted by Institutional Officers and ISA representatives. If the enterprise appears to have merit, a full feasibility study is conducted through assistance from FSDC. FSDC will hire consultants, at the provincial level when available, to gather data from the proposed site of the enterprise and to assess assumptions based on their knowledge of local conditions. In the origin and selection of proposed enterprises, FSDC will rely heavily on the opinions and experience of ISA farmers and local businessmen and on the past performance of the ISAs themselves.

From funds made available under this project, FSDC will extend Enterprise Development Loans to those KAISAs selected according to the criteria and procedures established. (For a discussion of KAISA Enterprise Development, see Annex J.) The project will also provide two resident rural enterprise consultants who will provide regular follow-up assistance and advice to the KAISA enterprise programs. They will also evaluate the ongoing programs and provide recommendations to FSDC Central Office for suggested improvements as well as assist in a final evaluation of the pilot enterprises and recommend whether the program should be continued and expanded.

b) Upland Development

To date, the BISA approach has been heavily skewed toward lowland farmers with little attention paid to farming system technology for more hilly areas. One principal characteristic of these areas is the variability in rainfall

both during the season and from year-to-year resulting in considerable uncertainty in levels of production that can be expected. While reliable sources of water capable of providing year-round irrigation cannot usually be expected, many localities, through construction of water impoundments, may be provided with sufficient water for supplemental irrigation to reduce uncertainties, at least to some degree. It is thought likely that the ISA/KAISA system can be used to develop and operate a program to establish diversified cropping systems for such locations based on irrigation. This project will provide necessary funding for the establishment of pilot areas in up to six locations, particularly in those concentration areas for AID programs (Regional I, II, V, VI, and VIII).

This project will provide funds, on a pilot basis, to test a modified approach to the ISA system which has been successfully installed in numerous locations throughout the Philippines. The new approach involves the incorporation of irrigation based on impoundment or gravity diversion in combination with adjacent areas which will not receive irrigation. Some of these areas are, in fact, expected to be on relatively steep slopes where annual, irrigated crop production is not feasible and where agro-forestry type production may be more appropriate. In addition, efforts to reverse or at least prevent ecological degradation and erosion such as slope stabilization and reforestation will be attempted.

The major focus of effort will be the organization of persons living in and dependent upon a particular area and to assist them to effectively manage and utilize the land resource on a long-term sustained basis. While irrigation water may be available to at least a portion of the area for a portion of the year, a multi-cropping system largely dependent on rainfall must be developed and implemented by the Association members. Members will be assisted in developing ways to most effectively manage resources in which they have a common interest as well as those over which they may have individual control. Land tenure questions will have to be considered and localized agreement reached before investments are made.

B. ECONOMIC FEASIBILITY

Three economic benefit/cost analyses were conducted for the Irrigation Development and KAISA Enterprise Development activities. Both of these components were determined to be economically feasible with reasonably high expected rates of return to the society. No analysis was done on the Upland Development component because its activities have not yet been fully defined. Once the design of these activities is completed then a detailed economic analysis will be done. (See Upland Development in this section for further discussion).

Irrigation Development

There are two types of activities within this component: new construction and upgrading/rehabilitation of old systems. Briefly, project costs include all construction, future operation and maintenance expenditures, technical assistance, project administration, and institutional development costs. Project benefits result from increases in per hectare yields and cropping intensities. Shadow prices are utilized for foreign exchange, palay and rice prices, unskilled labor costs, and fertilizer costs, because of distortions in actual market prices. Figures for the shadow prices were obtained from the Planning Office of the National Economic and Development Authority (NEDA). More detailed information on costs and benefits can be found in Annexes K-1 through K-3 and in the Statistical Annexes 9 - 15.

The analysis of the average new construction project resulted in an internal rate of return (IRR) of 48% (Annex K-9).[1/] Costs were liberally estimated and based on personal field interviews and past FSDC studies. Per hectare yields were modestly increased to 70 cavans in wet season and 80 cavans in dry season by Year 5 of the project. To test the sensitivity of this basically conservative analysis to possible changes in costs or benefits, all incremental costs were increased by 20% and incremental benefits decreased by 20%. The resulting IRR was still a strong 30% (Annex K-10). The same types of analyses were conducted on the Upgrading/Rehab activity. The basic analysis yielded an IRR of 200% (Annex K-11) while the sensitivity analysis projected a 150% return (Annex K-12). The size of these last two rates is due to the fact that upgrading costs are much lower than those of a newly constructed system, and yet benefits are the same for both types of systems. Any construction costs associated with the older systems (before upgrading) are "sunk costs" and not considered in the analysis.

1/ New construction will be conducted in approximately 30 sites with upgrading occurring in 60 additional sites. This necessitated doing an analysis of an "average" site. Past FSDC studies found an average gravity irrigation system (GIS) to be 100 hectares in size with 100% irrigation in wet season, but only 30% in dry season. It was assumed that the other 70% of the land would continue to be farmed under rainfed conditions. Because rice is the predominant crop grown in GIS systems the analysis was done using benefits and costs of rice farming.

KAISA Enterprise Development

The KAISA operation consists of operations associated with rice production and marketing: threshing, drying, milling, warehousing, and trading. Since the KAISA is also responsible for conducting an institutional development program for its members, this activity is also included in the project analysis.[2/]

The economic analysis of this integrated operation yielded an IRR of 14.5% (Annex K-16). While this is just an adequate return, it is based on a conservative assumption that the KAISA would only process 39,000 cavans of palay annually. Since this represents only 20 percent of the marketable surplus production of the neighboring ISAs it seems reasonable that the average KAISA would probably operate nearer to its 45,000 cavan capacity. This being the case the IRR would be higher.

It should be noted that the KAISA is not "profit-oriented". It exists primarily to service the training/information and production/marketing needs of the small farmer. The gain to society is reflected in the fact that small farmer incomes are substantially increased because of the KAISA services. (This is a major priority of the government).[3/] Also, KAISAs will be developed in areas that are deficit in processing and warehousing facilities. Presently, production in these areas must be transported to other provinces for processing and then returned in the form of milled rice. The system is very costly to the economy because of its inefficiency and high transportation costs. A new KAISA operation will increase the efficiency of the marketing/processing system in these poorer areas and lower imported fuel costs.[4/]

2/Farmers derive educational benefits from the Institutional Development activities of the KAISA that are difficult to measure in monetary terms. As such, these benefits are not included in the calculation of the IRR but should still be kept in mind when analyzing the economic return of the project.

3/To some extent this represents a redistribution of income from middlemen and and other marketing processors to the farmers. Since the former frequently exercise monopolistic control over the markets in question and enjoy non-competitive profits as a result, the project will enable the farmer beneficiaries to avoid this form of market exploitation.

4/It was not possible to estimate the economic gain to society from increased efficiency within the time constraints of this project paper preparation. If it could be adequately estimated and included in this analysis the resulting IRR would have been higher.

Upland Development

This component will provide for the development of irrigation, the introduction of new farming systems, institutional training, and the reclamation of denuded lands in upland areas. Upland farmers represent one of the poorest income groups in this society. In addition, environmental degradation of the uplands negatively affects the agricultural economies of the lowlands. As such, the introduction of development activities in the uplands will have the dual effect of improving the incomes of upland farmers while indirectly benefitting the economy of the lowland areas.

Presently, a detailed set of activities for this component has not been fully determined. When further design of the activities has been completed then an economic analysis will be conducted to determine feasibility.

C. SOCIAL SOUNDNESS ANALYSIS

Comprehensive social soundness analyses were conducted for two predecessor projects: Small Scale Irrigation and Small Farmer Systems I. These analyses are part of their respective project papers and on file in the Office of Capital Development, USAID/Philippines, and in the Project Development Office of the Asia Bureau. Both analyses found the project to be socially acceptable to Philippine society. This section of the paper will discuss project benefits and the role of women in the BISA Program.

1. Beneficiaries

Project beneficiaries are subsistence farm families whose income in cash and in kind places more than half of them below the poverty level as defined in the Philippines. Currently, there are some 94,000 farm families directly benefiting from the Program. The proposed loan will continue and expand benefits to this group through the establishment of the KAISA federations. The gravity irrigation and rehabilitation projects will benefit over 5,000 additional farm families in rainfed areas. The AID Impact Evaluation describes these beneficiaries as the groups best able to make use of development assistance to improve their lives and to contribute significantly to the development of the country.

2. Project Benefits

The BISA Program has achieved concrete gains. Farmers articulate quantifiable and unquantifiable benefits. The increased earnings have made access to basic services and the Program has provided farmers with opportunities to develop their potentials. Many farmers report that life is definitely better. They tell of buying the basic necessities of food, clothing, and shelter with their increased incomes. Many have purchased household appliances and improved their homes. Most report using any increased income first to pay education costs.

A direct benefit of the project has been an increase in production. Results from the FSDC Economic Impact of the BISA Program for Crop Year 1978 show that the farm productivity of ISAs with irrigation and management schemes has been significantly higher than those without them and the increase in production has raised farmer incomes. Gains made by the BISA Program, however, are still below the expected levels set by program planners. Nonetheless, both planners and farmers remain optimistic. FSDC's strategy to consolidate the ISAs into federations and develop their entrepreneurial potentials is seen as a promise of greater gains. Farmers are informed and enthusiastic about the KAISAs.

In addition to the economic impact of the project, the psychological effect is also significant. The AID Impact Evaluation confirms that the ISA concept is valid and that the ISA organization is effective because it has built on existing local leadership and is focused on a specific and immediate goal that is important to the farmer. Farmers are active and involved and participate in the growth process of both the system and the community. Operation of the irrigation system draws the maximum participation from its members. Even at the outset of project construction, member participation is required in building the system. Once the system is installed and working, participation is strengthened by a pride in

operation and ownership. Because the farmer is motivated to achieve greater crop yields, the project responds to some of his most commonly expressed needs and desires, and he recognizes the benefits of ISA membership. The ISA is composed of people bound by the need for self-improvement and economic betterment.

3. The Role of Women in the BISA Program

FSDC has long recognized that women are essential to the rural development effort as such effort requires the participation of every available human resource. There are approximately 94,000 farmers in the BISA Program, some of whom are women, and roughly 75,000 farm wives, most of whom are mothers. BISA training activities are open to farm wives and many attend. As frequent monetary managers of the family, farm wives have been the primary recipients of training for FSDC's farm record keeping project. ISA wives assist their husbands in the fields and figure prominantly in the decision making.

Although some programs to involve KAISA women will be organized with economic activities as entry points, neither all KAISAs nor all women are ready for this, and FSDC will probably first organize groups based simply on women's interests and an appeal to their community spirit. These groups might then branch out into simple community development projects that would provide opportunities for farm wives to practice skills acquired in training programs designed specifically for them.

As to the kind of training provided, business management courses should be offered. Also, agricultural skills training in such income generating projects as poultry, piggery, food processing and preservation are possible topics. As women gain in skills and confidence, they themselves will be able to identify family and group problems as subjects they wish to pursue. Technical assistance from other agencies could be channeled through the KAISA which would provide a conduit for courses in nutrition, health, and sanitation. Participation, however, should not be restricted to KAISA affiliation, but open to the entire community.

Some ISAs have already begun to include both farm wives and rural women in ISA activities. An organization of women has been formed in the province of Sorsogon aimed primarily to assist the ISA in the implementation of the BISA Program. Initial activities included the planting of ipil-ipil trees, a beautification project, cottage industries, sanitation, and population education. Women also work in collecting ISA fees.

Certain cultural constraints may be present as the BISA Program attempts to involve women more directly in the Program. A lack of awareness by women of their potentials for activities other than domestic exists. Also, objections may be expressed by husbands when it comes to having their wives participate in activities outside the home. Older women may be reluctant to take part in the training and community projects. FSDC is aware of these and other possible constraints, and is outlining ways of dealing with them. A task force studying the farm family as beneficiary of the BISA Program has recently concluded their report to the Administrator.

Note: As the six upland development projects have not yet been selected, it was not possible to do a social soundness analysis on them. Such an analysis, however, will be conducted along with the feasibility study for each site.

E. Environmental Concerns

In 1978, a comprehensive Environmental Assessment was conducted for Small Scale Irrigation, a predecessor project to Small Farmer Systems I and to the currently proposed Small Farmer Systems II. A copy of this assessment was part of the Project Paper Supplement for Small Scale Irrigation and is on file in Asia/PD. Below are the conclusions of that report:

1. There is no potential major adverse environmental impact warranting curtailment of the Program.

2. FSDC will strengthen its training program in the use of appropriate (less persistent) pesticides in order to limit potential adverse ecological effects. Also, it will stress proper application of pesticides in order to protect the health of applicators.

3. FSDC, in areas endemic for schistosomiasis, will encourage ISA members to accept treatment, will develop a control program for snails where necessary, and will place additional emphasis on good water management practices.

4. A limited program of monitoring is recommended. The program will document changes in pesticide use and their effects in health parameters.

Since the Environmental Assessment was made, FSDC's strategy for rural development has included preventive and mitigating measures for effective environmental management. FSDC recognizes that good water management not only conserves the use of a scarce supply, but also minimizes endemic health problems in projects located in such malaria and schistosomiasis infested provinces as Zamboanga del Sur, Lanao del Sur, Leyte, and Palawan. As one of the agencies participating in the Samar Integrated Rural Development Program, FSDC is directly involved in schistosomiasis control which is one of that project's components.

In all project areas throughout the country, FSDC has introduced proper irrigation drainage and water management plans. Also, best efforts are made by FSDC to coordinate with the appropriate agencies to chemically treat irrigation areas for the prevention of malaria and schistosomiasis organisms. Furthermore, assistance from the Ministry of Health to establish rural health centers in malaria and schistosomiasis infested project sites is enlisted.

Pesticides run-off is a form of agri-based pollution caused by the toxic effects of such agricultural chemicals as fertilizers and pesticdes. To prevent such effects, FSDC field personnel caution farmers on the proper application and correct use of these chemicals. Also, only those agricultural chemicals prescribed by the local Fertilizer and Pesticides Authority are recommended for use in FSDC projects.

FSDC communal/gravity irrigation projects make use of selected watershed areas where there exists a steady supply of water for crops. Drainage plans are

prepared to minimized long-term effects such as soil erosion, sedimentation, siltation, salt intrusion, and salination. A fast-growing tree variety, the "ipil-ipil", is planted around irrigation project sites to prevent potential flood damage. In four to five years, the tree can then be harvested for firewood without cutting the main stem or trunk.

In the matter of waste disposal and utilization, ISAs are encouraged to convert waste material into bio-gas. Poultry and livestock manure, dried fruit, and vegetable refuse are collected and placed inside a bio-gas incinerator. Other acceptable means for waste disposal, garbage collection, and dumping practices are encouraged by FSDC.

In summary, beneficial effects of the project far outweigh any adverse environmental impacts. FSDC activities seek to improve socioeconomic and health conditions, and changes in the original physical setting of project sites have proved limited.

The Mission will continue to monitor the effects of individual subprojects on the environment through field observation and project evaluation, but no further need is seen to conduct a separate Environmental Assessment for Small Farmer Systems II.

Note: Recognizing that the above assessment is valid only for FSDC activities in the lowlands and that upland activities will give rise to a different set of issues, specific environmental analyses will be conducted as part of the feasibility studies of upland development sites.

B. ADMINISTRATIVE FEASIBILITY

1. The Implementing Agency

The Farm Systems Development Corporation (FSDC) will be the principal implementor of the project. The bulk of FSDC's material resources comes from the Philippine Government's appropriations ($107 M for 10 years) and from other government agencies whose projects are being implemented by it. These funds are complemented by loans from USAID ($10 m), the Danish Government ($2.3 M), and the German Government ($8 M) plus other grants and aids. Foreign loans are used for the Corporation's relending program while grants and aids are used mainly for research and manpower development. These resources have thus far proved sufficient, but additional inputs are needed to strengthen and assist the Corporation as it proceeds toward development of the ISA federations.

As of January 1, 1981, FSDC had approximately 1,300 employees. (See Annex for the organizational structure of the Corporation.) The chart for the Central Office shows the flow of responsibility among the different levels of program management. The structure indicates a high degree of functional specialization and administrative autonomy in the field offices. This is brought about by intensified efforts to extend technical assistance for the sustained development of program beneficiaries. Supportive of this is management's policy to maintain 70 percent of manpower resources in the field offices.

As the BISA Program moves into its second stage of development, the ISA federations will assume from FSDC the institution building activities, and will avail themselves of assistance from the Corporation to undertake farm enterprises. Profits from these enterprises will be used for capital formation to repay the loans and sustain program operation.

The projected activities of the Corporation and of the federations assume a shift in the relationship between FSDC and the farmer-beneficiaries as the latter takes on greater responsibility in the management of their affairs and they themselves become agents for change. This assumption is thought realistic. Throughout the past five years, farmers have demonstrated considerable ability in managing their ISAs. (See Annex for ISA repayment record.) Additionally, they have shown flexibility in their responses to change and a receptiveness to innovations. ISAs have proved an effective venue for the transfer of technology and for the development of cooperation. Training programs are already in process to prepare the federations for their projected economic, technical, and social undertakings.

2. Leadership and Personnel

The leadership structure at FSDC parallels that of the organizational structure; that is, leadership is rooted at the corporate, area, and farm levels. Leadership at the corporate level is made up of people with expertise in the different aspects of farm technology and management. At the area level it is provided by specialized personnel who make up the Technical Services Division and the Farm Systems Services Division--engineers, construction supervisors, surveyors, trainers, agriculturalists, and agronomists--and is largely autonomous from the Central Office. Leadership at the farm level is provided by the farmers themselves. FSDC's

Human Resources Division provides for the continuous growth of its personnel through its manpower development program which includes both staff development and program training.

The growth of the Corporation's programs has necessarily broadened its manpower base. Still, the idealism and commitment which FSDC employees brought to the BISA Program in earlier years appear not to have lessened. Both the AID Impact Evaluation and previous external evaluations have noted this and given the Corporation high marks in competence. FSDC has thus far been successful in attracting qualified people through its corporate salary schedule and fringe benefits. As the Corporation expands its activities, additional personnel in engineering, agriculture, and management will be hired. Recruitment is underway.

3. Organizational Linkages

The establishment of organizational linkages with other government agencies is one of the strategies adopted by FSDC to provide assistance to small farmers. Through these linkages, activities are coordinated to use human, financial, and material resources more effectively. It is also through these linkages that overlaps and deficiencies in the various agencies' programs are identified and minimized. FSDC's Linkage Development Division assesses related private and government development programs to determine their potential for support of the BISA Program. Linkages with the following agencies are described below:

National Irrigation Administration (NIA) - Under this linkage, NIA provides FSDC with financial and technical assistance in the construction of communal irrigation systems of fewer than 1000 hectares. FSDC undertakes for NIA the organization of farmers into ISAs and trains them in irrigation management. This linkage also provides the venue through which service areas of NIA's national irrigation systems and FSDC's small-scale systems are delineated. The past Administrator of NIA, Alfredo Juinio, is a member of FSDC's Board. The current Administrator, Fiorello Estuar, is also on the Board.

National Food Authority (NFA) - FSDC has forged organizational linkages with the NFA to facilitate the marketing of ISA grains. Under this agreement, ISAs are informed of NFA's procurement program and are assisted by the NFA Provincial Manager in confirming procurement schedules and collection points of participating ISAs. The ISAs are given priority in NFA's grains procurement program which assures the farmers of reasonable prices and timely disposal of their produce. As to the attainment of technical specifications set by NFA, FSDC's Adaptive Farm Technology Program has extended credit to ISA farmers for the acquisition of production and post-harvest facilities which will help them to meet NFA's standards for palay. Also to that end, this linkage provides for the extension of technical expertise in training ISA farmers on post-production technology as well as for the design, operation, and maintenance of post-production facilities. The current Administrator of NFA, Jesus Tanchangco, is a member of FSDC's Board.

National Food and Agriculture Council (NFAC) - On the matter of production credit, FSDC has a working agreement with the NFAC providing for the inclusion of ISAs among the coverage of the Masagana 99 Program.

As such, the ISAs are extended assistance and technical supervision by extension workers of the different line agencies involved in rural development. For ISAs outside the Masangana 99 coverage, the Institutional Credit Project (ICP) mentioned earlier enables farmers to gain better access to credit. The current Executive Director of NFAC, Domingo Panganiban, is on FSDC's Board.

Ministry of Agrarian Reform (MAR) - FSDC has confronted the problem of land tenure through coordinative linkages with the Ministry of Agrarian Reform under which MAR grants as among its priority areas the coverage of ISAs for implementation of Operation Land Transfer and Leasehold Operations. ISA farmers are provided with earlier opportunities to acquire leasehold rights or certificates of land transfer, thus enabling them to get the benefits of increased productivity and income previously enjoyed by the landowner.

National Electrification Administration (NEA) - FSDC has sought to alleviate the problems relative to electric power through linkages with NEA. Under this linkage, NEA includes in its priority list for approval requests from electric cooperatives for line extension whenever such extension affects ISA projects. Also, through the electric cooperatives, NEA assists and coordinates with FSDC in the dissemination of information regarding power use. In regard to the rate structure, NEA has committed to make a careful study to arrive at electric rates most beneficial to the ISA, but which will not impair the financial viability of the electric cooperatives. ISA equipment requirements such as transformers will be included in the annual work plans of electric cooperatives. Also, the extension programs of electric cooperatives will be made available to FSDC for proper alignment with the expansion programs of FSDC. The current Administrator of NEA, General Pedro Dumol, is a member of FSDC's Board.

The other agencies with which FSDC has linkages are the Agricultural Credit Administration, the Philippine Cotton Corporation, the Bureau of Agricultural Extension, the Bureau of Soils, the National Water Resource Council, the Bureau of Plant Industry, the Bureau of Animal Industry, and the Bureau of Fisheries and Aquatic Resources. Other minor tie-ups exist at the operational level.

III. FINANCIAL ANALYSIS AND PLAN

A. Financial Budget

Summaries of the project budget and sources of funding are presented in Table 1. Of the $43.3 million total project cost, the $20.0 million AID loan (and $500,000 grant) will provide for 47%. About 12% of AID funds will be used to cover the direct foreign exchange costs of commodities, technical assistance, and participant training. Some $2.6 million, or about 13% of the AID loan, will be applied toward irrigation development. (See Annex N-5). $4.39 million, 22% of the AID loan, will fund institutional development, while $5.0 million, 25% of the AID loan, will go to upland development. The largest component of the AID loan (29%) enterprise development, will receive $5.87 million, while lesser amounts will be earmarked for commodities and technical assistance. A $500,000 grant will fund reasearch and development activities and participant training. (All of these amounts include cost escalation and contingencies).

The GOP contribution (Annex N-7) will amount to $22.81 million, or 53% of total project costs, fully satisfying the requirements of Section 110(A) of the FAA. Besides covering 25% of the irrigation development costs and 25% of the enterprise development costs, GOP unreimburseable funds will cover 50% of the upland development costs, 75% of the institutional development costs, and 100% of project administration costs.

A contingency fund of 15% and compounded cost escalation factors of 15% for 1981 and 10% annually thereafter have been added to basic cost estimates, which were made in pesos and converted to dollars at an exchange rate of ₱7.50/$1.00.

Of the total budget, irrigation development, will comprise 8% ($3.47 million), institutional development 41% ($17.93 million), enterprise development 18% ($7.83 million), and upland development 23% ($10.00 million). The remaining 10% of the budget is allocated to commodities, technical assistance, research and development, participant training, evaluation and project administration. (See Annex N-3).

B. Financial Viability of Project Components

The construction of new irrigation systems or upgrading of older systems will first necessitate the creation and development of Irrigator Service Associations (ISAs). These ISAs, which are composed of the farmers who will benefit from the new (or upgraded) system, will be responsible for operating and maintaining the system and paying the amortized cost of the construction loan. Farmers will pay irrigation fees each cropping semester directly to the Association to cover the costs of water, maintenance and loan payments. In a newly constructed gravity irrigation system this fee will be approximately equal to 17 cavans per farmer in Year 1. This represents about 30% of the increased production the farmer realizes from the irrigation. This burden will steadily decline and represent only 20% of the

TABLE 1
SUMMARY COST ESTIMATES BY SOURCE OF FUNDING (FINANCIAL PLAN)
U.S. DOLLAR EQUIVALENTS (000 DOLLARS)[1]

PROJECT COMPONENTS	AID LOAN LC	AID LOAN FX	AID GRANT LC	AID GRANT FX	GOP TOTAL	TOTAL COST
I. Irrigation Development	2,500	-	-	-	1,000	3,500
II. Institutional Development	4,250	-	-	-	13,500	17,750
III. Enterprise Development	6,000	-	-	-	2,000	8,000
IV. Upland Development	5,000	-	-	-	5,000	10,000
V. Commodities	-	1,250	-	-	-	1,250
VI. Technical Assistance	-	1,000	-	-	250	1,250
VII. Research & Development	-	-	175	-	-	175
VIII. Participant Training	-	-	-	275	150	425
IX. Evaluation	-	-	-	50	-	50
X. Project Administration	-	-	-	-	1,000	1,000
TOTAL	17,750	2,250	175	325	22,900	43,400

1/These figures include contingencies and cost escalation factors, and have been rounded. A more detailed breakdown is available in Annexes N-1 through N-8.

farmer's increased production by Year 5. These payments will be considerably less for upgraded systems because of the lower construction costs. Projected cash/flow-income statements for ISAs under both types of irrigation projects are shown in Annexes N-26 and N-27. 1/

KAISA Enterprise Development

KAISA integrated enterprises will be developed in areas deficit in rice processing and warehousing facilities. FSDC has made the determination that marketable surplus production of the ISAs in these areas must be high enough to guarantee the KAISA 45,000 cavans of palay annually for its processing operations. 2/ A very conservative approach was taken in the financial analysis assuming only 39,000 cavans annual processing for KAISA operations. This figure represents a mere 20% of projected annual ISA marketable surplus. At this level of processing the KAISA should be able to maintain its financial viability. The projected income statement (Annex N-28) shows negative earnings in Year 1 only, while cash flow (Annex N-29) is positive throughout Years 1-5.

C. Financial Impact on Project Beneficiaries

The proposed irrigation component will benefit approximately 5,300 farm households. The introduction of irrigation will entail increased labor and production input expenses and the burden of annual loan payments. However, the increased production should more than offset these costs and substantially raise farmer incomes over those of rainfed farmers. Realizing that credit is often a problem for small farmers who need production inputs, this analysis assumes a "low" intensity in the use of inputs. Fertilizer usage per hectare per season is only increased one bag

1/ Farmer repayment rates on FSDC projects over the past 5 years have averaged only about 51%. This poor rate has mainly been due to escalating fuel costs on pump systems and typhoon damage which have made systems inoperable. It's expected that farmer repayment rates under this project will average between 70 and 80% because these new systems are gravity-fed with no fuel costs associated with them. Also, there is a very strong institutional development component in the project which educates farmers about how to properly operate and maintain their systems and conduct their financial matters. In those cases where there is a repayment problem FSDC policy is to work with the ISA to solve these problems and if necessary, extend the period of repayment beyond 15 years to lessen the financial burden and insure ISA viability. Even in the worst case scenerio where the ISA might not pay its full amortization costs in a particular year, there should be no problem keeping the irrigation system operating at full capacity. Annual operating costs only amount to one cavan per hectare (or 1.7 cavans per farmer) which is easily within the budget of the ISA farmers.

2/The first six areas chosen for development of KAISA enterprises have annual production that ranges from 100,000 to 1.8 million cavans above local processing capacity, thereby supporting the assumption that the KAISA will be able to meet its 45,000 cavan requirement. (Note: These six areas were selected by FSDC with the expectation that they will ultimately meet the criteria mutually agreed upon by FSDC and USAID.)

over present rainfed levels, and chemical usage is only increased a maximum ₱28.00 per hectare per season. While there is no direct credit component in the project, FSDC and the KAISAs have been actively arranging informal agreements with lending institutions that give priority to ISA members.

Farmer income statements on new construction projects are found in Annexes N-12 through N-18. Income figures are conservatively based on seasonal palay selling prices ranging from ₱0.90/kg to ₱1.15/kg. (The official ceiling price is ₱1.45/kg). Net returns to the farmer will vary depending on whether he has year-round irrigation (Type I) or wet season only irrigation (Type II), and whether the farmer can sell his production to a neighboring KAISA. In all cases (Annex N-12), irrigated farmer incomes are substantially higher than those of rainfed farmers. Project farmers will be afforded a genuine opportunity to extricate themselves from the continual debt cycle experienced by the average rainfed farmer.

The financial analysis at the farmer level for upgrading/rehabilitation projects (Annexes N-19 through N-25) was done using the same assumptions previously mentioned. In addition to the new loan burden it was also assumed that farmers would have to start repaying their previous construction loan which they probably defaulted on when their system became inoperable. Despite the double payments, overall farmer debt is still less than that of new construction projects and net farmer returns substantially higher. It should be noted that the present ceiling price for palay will be raised in June 1981 to ₱1.55/kg. This will ultimately be reflected in higher returns to the farmer than are presently shown in these financial tables.

General Budget Analysis

Funds from the $20 million USAID loan will augment available financial resources of FSDC mainly for lending to ISAs under the BISA Programs' infrastructure and agricultural credit operations. For 1981, FSDC's total budget has been set at ₱292.66 million, of which ₱242.49 million is channelled to the Credit Program to directly finance projects of ISAs and KAISAs. The estimated cost of projects that will avail of USAID loan proceeds in 1981 is ₱20.14 million, representing a relatively low share of the total credit program for the year of 8 percent. For 1982, the highest level of loan utilization is programmed at ₱77.27 million. This will account for 35% of the Credit Program for 1982 amounting to ₱219.36 million. For the succeeding years, the share of loan proceeds to FSDC's credit program will steadily diminish.

The above budget analysis indicates that the USAID-assisted projects can be undertaken as part of the regular work load of FSDC annually. FSDC has a proven track record in managing a budget of much larger magnitude than this project and will continue to follow standard government accounting procedures.

IV. IMPLEMENTATION PLAN

A. Implementing Units and Responsibilities

The Farm Systems Development Corporation will implement the project. Implementation involves synchronizing the interrelated tasks of FSDC's Area Offices, the KAISAs, the ISAs, support departments from the Central Office, provincial governments, and other line agencies.

The Area Office functions as the key channel for providing technical and financial assistance in irrigation development, ISA/KAISA institutional development, improved ISA-level farming systems, and the development of viable KAISA farm enterprises. Parallel to these tasks are support activities at the FSDC Central Office in project design, planning, and evaluation, as well as overall management of the project. The KAISAs and ISAs initiate the mechanisms to generate farmer participation in local project activities and to assume full responsibility for operation and maintenance of their systems after turn-over by FSDC. The KAISAs also operate to provide organizational and production/processing/marketing support to member ISAs. Provincial Governments provide assistance in the form of logistical support and coordination with other agencies' local plans. In addition, other line agencies extend various forms of assistance to ISAs and KAISAs to enhance the impact of the project in achieving its objectives.

B. Implementation Process

1. Irrigation Projects

All new irrigation projects under the BISA Program are initiated upon the request of a group of farmers, or local government officials, to the local FSDC or KAISA representative. Detailed engineering studies are made by the FSDC Area Offices through consultation with the farmers to determine their feasibility. Upon verification of feasibility, the ISA is formally organized and the members pledge their commitment to the project. The project proposal, along with the feasibility study and loan application, are reviewed at the Central Office and presented by the Administrator to the FSDC Board for approval. Upon turn-over of the completed system, farmers assume responsibility for loan amortization, as well as, the operation and maintenance, and the enforcement of appropriate water distribution schemes. FSDC has been doing this activity since its inception with considerable success, and no major problems are anticipated.

2. KAISA

At the KAISA level, continuing efforts are made to develop the KAISAs' ability in organization and enterprise management. As to the former, FSDC extends development assistance to finance a portion of the KAISAs' budgetary requirements. Over the years, as the KAISA becomes more financially secure, that portion will be reduced. On the enterprise management aspect, project proposals for the establishment of KAISA enterprises are made by the KAISA General Manager and presented for the approval of the KAISA Executive Board. Identification of such projects is based on the assessment of the needs of the province. As with the irrigation projects, proposed KAISA enterprises will undergo detailed feasibility studies through Area

Office assistance and consultation with farmer-members. The studies will include technical, market, economic, and financial considerations. The proposal, together with the feasibility study and loan application, is reviewed at FSDC's Central Office and presented by the Administrator to the FSDC Board for approval. This is a new area for FSDC and will be monitored closely by both FSDC and USAID. Initially, AID funds will be available to finance up to six KAISA Enterprises. Additional AID funding will depend on the results of an evaluation of this activity as described in the Evaluation Section.

3. Commodities

The loan funds used to procure commodities using foreign exchange will be disbursed through Standard AID Letter of Commitment and Letter of Credit procedures. The amount of direct foreign exchange from the loan is estimated at $1.0 M. Standard IFB documents that have been successfully used under the previous loans will be used in this project. FSDC's Supply and Management Department will prepare the IFBs as they did under Small Farmer Systems I. The first IFBs to purchase vehicles will be prepared within 120 days after loan CPs have been satisfied.

The commodity portion will be utilized through offshore procurement procedure as per USAID procurement regulations. This portion will be used for the acquisition of vehicles to give field workers more mobility in doing their work, radio communications networks to facilitate transmittal of information between field offices and the Central Office, a computer system* to facilitate data processing needs for optimum farm plans and management information, audio-visual equipment to improve training and information dissemination techniques, and survey equipment for technical activities. FSDC has procured commodities under previous AID loans and, therefore, is familiar with our requirements.

4. Technical Assistance

Two rural enterprise specialists and two farm systems specialists will be contracted by FSDC under Institutional or Personal Service Contracts for the years 1982 and 1983. USAID and FSDC began in January of 1981 to accumulate data regarding individuals or firms known to have expertise in these areas. It is expected that FSDC will issue RFP's within ninety days following satisfaction of the Conditions Precedent. For this component, GOP through FSDC, will shoulder related local currency costs such as housing, incountry travel, and so on. FSDC has previously financed consultants with AID funds and is familiar with our requirements.

5. Research and Development

Implementation procedures currently used for the research and development activities under Small Farmer Systems I will be used under this project. Project related research in energy, improved irrigation systems, and fish and rice culture farming will be undertaken by FSDC's Research and Development Office. FSDC may contract with local firms for services they cannot undertake themselves. Commodities for pilot projects and prototype demonstrations will be procured by FSDC as required.

*Subject to AID approval.

6. Participant Training

Participant training will take place over the life of the project. Personnel will be selected from both KAISA and FSDC employees and trained at times when they can be spared from project activities. Approximately 200 people will receive short-term training in the following countries: the United States, Thailand, Taiwan, and the Philippines. The foreign exchange costs excluding international air fares, of participant training will be charged to USAID grant funds. The local currency costs for travel and pre-departure will be charged to GOP counterpart funds.

C. Timetable for Implementation

The project implementation schedule corresponds to the proposed schedule for loan utilization as shown in the Financial Plan. The implementation schedule considers the appropriate timing of introducing inputs as ISAs and KAISAs progress toward higher levels of maturity. The schedule also allows enough flexibility in local-level implementation of plans as these must be made in coordination with the farmer-members of KAISAs.

D. Reports from FSDC to AID

The following reports will continue to be submitted by FSDC to USAID:

1. Monthly progress reports containing the following information:

   -- institutional development activities completed for ISAs and KAISAs

   -- irrigation development activities completed, geographic area, and types of irrigation systems

   -- ISA management schemes implemented

   -- KAISA enterprises established

   -- lending program, credit granted to ISAs and KAISAs

2. Year-end reports containing the following information:

   -- status of completion of prior and present year's activities

   -- program targets for the succeeding year

   -- data on ISAs organized, training conducted, irrigation projects completed and ongoing, number of farmers served, KAISA projects completed and ongoing, and other details about the credit program for the year.

E. Drawdown Procedures

Project loan funds will be allocated for local currency reimbursement for irrigation projects, institutional development activities, and KAISA enterprises. The Fixed Amount Reimbursement (FARA) method will be used whereby FSDC initially uses its own funds to implement the project components and submits periodic requests for reimbursement.

V. EVALUATION ARRANGEMENTS

This project is concerned with assisting small farmers to increase the income they can gain from the land they cultivate and by so doing raise their standard of living.

The primary target beneficiaries for this project include farmers who are fortunate enough to have land that can be or already is irrigated. This has been the target group of the two predecessor AID assisted projects: Small Scale Irrigation and Small Farmer Systems I.

Another primary beneficiary group is being added--the small farmers who cultivate rainfed upland hilly areas. At best few of these farmers will have lands that can be irrigated only partially or intermittantly.

Evaluations undertaken during the life of this project will address a variety of questions, hypotheses, and assumptions that have not been tested or resolved through experience to date.

Experience in the predecessor projects has established that it is feasible to construct small-scale irrigation systems that increase farm production and lead to increased income for the farmers. It also has been established that it is possible to organize farmers into cooperatives (ISAs) and that these ISAs can manage the operation and maintenance of the systems. This has been confirmed in AID Impact Evaluation No. 4--Philippine Small Scale Irrigation, May 1980. In view of this, it will not be necessary to concentrate evaluation resources on the irrigation and ISA organization a activity scheduled for this project.

For the new activities, there are a number of concerns which have not been addressed in prior projects and will demand attention from both a monitoring and impact evaluation point of view. In the irrigated areas, most of these concerns are centered around the KAISA organization and whether or not these groupings of ISAs can:

1) Manage the institutional/extension services needed by ISAs and their farmers to provide sufficient instruction/training, dissemination of information and technology so that the farmer can optimize production from his land and for ISAs to be operated/managed efficiently.

2) Identify and initiate activities that will provide additional services to farmers such as milling, transportation, warehousing, etc. at a cost equal to or less than the farmer can buy from another source and of a quality equal to or better than now available to the farmer. In addition, these services must be supplied at a cost that will eventually earn sufficient income to cover all operating costs of the KAISA including cost of services (institutional/extension) provided free of charge.

It is expected that the institutional/extension services will provide the farmer with appropriate technology advances, advice on cropping systems,

farm management, appropriate use of soil, water and other resources and if employed properly, will result in increased production ultimately bringing the farmer improved economic gain from his lands. Whether or not such results are achieved will be subject to monitoring and evaluation during the life of the project.

The hilly/upland farmer is a recent target group for FSDC. The basis upon which FSDC will assist with creation of farmer organizations and the introduction of appropriate cropping, resource conservation and other appropriate technology will be quite different since few if any of the farmers cultivate land suitable for permanent irrigation. Crops will be different, farmer capability more limited, farmer ability to accept risk involved in change more restricted, and land tenure a question in a greater number of cases than in the flat lowlands.

The objectives of the project for this group are the same: to increase their income as much as possible through optimization of production from the land--in this case wise land use that protects and possibly improves the overall environment-watershed.

Evaluation will concentrate in the earlier phases of implementation on examination of the effectiveness in developing farmer organizations and the institution of farmer focused institutional/extension services in a few sites. Later, as the process continues, evaluation will concentrate on measurement of the effect the farmer organizations and the services provided to and through these organizations have in molding farmer practices, improving production, and increasing farmer income.

Increasing Farmer Income:

It is expected that in some cases farmer income will be increased by the project completion date. This is most likely to be true in the case of farmers whose production has significantly increased because they now farm irrigated land.

Increase in farmer income as a result of institional/extension services, income-generating activities of the KAISAs, etc., may not be as evident by the end of the project except for a very limited number of farmer groups. What should be evident is that the KAISAs are viable concerns that are capable of providing a range of services to the farmer and have become the established system of providing services that will eventually result in increased income. By the end of the project, the evaluation task will be to measure increased income and separate the factors that have resulted in this increase. Where no appreciable income increase can be traced to project activities because enough time has not elapsed, evaluation must concentrate on the institution of the farmer service component of the project and the viability and growth potential of the KAISAs. A more complete impact assessment will have to be left to a future date. However, by the end of the project it should be possible to predict with some certainty when this date will be.

Earlier in the project, evaluations will be scheduled to examine progress, especially, in two areas of activity, development of KAISA services and upland/hilly farm organization.

KAISA:

The project has planned to initially concentrate on the development of income-generating activities in up to four to six KAISAs. After these activities have been developed and at least one farming cycle has passed (most likely during year three of project implementation), an evaluation will be conducted to determine whether or not this activity is achieving the results expected. This evaluation will enable the Government of the Philippines and AID to decide whether to continue the activity for the balance of project life.

At about the same time it should be possible to examine the effectiveness and manageability of providing institional/extension services through KAISAs. Since by then most KAISAs will be providing such services, it should be possible to examine a large group.

It is less certain when it will be appropriate to examine progress in assisting hilly/upland farmers to improve their situation. Similar to the KAISA income-generating activity section of the project, this activity will first be carried out in a few areas. After farmer organizations are formed in these first areas and extension services extended, it will be necessary to complete a farming cycle before the effect of the activity on farmer practices and results, in terms of production, can be assessed. It looks like this evaluation can also be conducted in the third year of implementation, again making it possible for the Government of the Philippines and AID to reach a decision about the continuation and expansion of this activity.

In the first few years of the project, most information needs should be satisfied through normal project monitoring. However, if the situation requires, evaluation exercises focused on particular questions may be conducted.

In sum, for planning purposes we foresee major evaluations in year three to look at:

- The institutionalization and performance of the KAISA managed institutional/extension service system.

- The progress in KAISA enterprise development and the dynamics of that process.

- The lessons learned from the Upland Development Component in terms of the appropriateness of irrigation and farmer organization development.

- The complementarity of new irrigation investments in CDSS regions with CDSS objectives.

VI. CONDITIONS, COVENANTS, AND NEGOTIATING STATUS

Conditions Precedent to Initial Disbursement of Funds:

The standard conditions precedent to disbursement regarding the opinion of the Secretary of Justice and the statement of names of the representatives of the Borrower and FSDC and evidence of their authority will be included in the loan agreement. In addition to the standard conditions, the following condition precedent to disbursement is proposed:

> An executed contract for a duration of at least one year, subject to renewal, between FSDC and a firm or individuals, for the provision of technical assistance in the fields of rural enterprise and farming systems, and other areas of expertise as may be agreed to in writing between AID and FSDC.

The following Condition Precedent to Disbursement for KAISA Enterprises is proposed:

1) Prior to the issuance by AID of documentation pursuant to which disbursement shall be made for a given KAISA Enterprise, FSDC will submit, in form and substance satisfactory to AID, for review and approval, an enterprise-specific feasibility study approved by the FSDC Board of Administrators.

All of the above conditions have been discussed with appropriate GOP personnel, and USAID will negotiate for their inclusion in the Project Agreement.

AID 1020-20 (1-73)

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project:
From FY 81 to FY 86
Total U. S. Funding $20 M Loan - 80.5 M Grant
Date Prepared: May 19, 1981

Project Title & Number: SMALL FARMER SYSTEMS PROJECT II - 492-0334

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Program or Sector Goal: The broader objective to which this project contributes: (A-1) Farmers realize optimum income potential from lands cultivated.	**Measures of Goal Achievement: (A-2)** Farmers adopt farm systems and practices and employ management techniques introduced through system. Farmers manage extension system efficiently resulting in sufficient quality services at reasonable prices. Farmers realize savings in inputs, production, processing, marketing expenses resulting in minimizing costs, maximizing income.	**(A-3)** Farms inspections - review of farm records (before and after) - survey of prices to farmer of physical advisory inputs and other services. Through system and from alternate resources, examination of records of ISAs, KAISAs and FSDC. Prices paid for farmer produce through system compared with other markets.	**Assumptions for achieving goal targets: (A-4)** 1) Farmers sufficiently educated accepted risks involved and employ benefits from system necessary to maximize income generated from cultivated land. 2) National food and agriculture policies, price suports etc., protect markets for farm produce and allow for prices high enough to cover cost of production, etc. and profit for the farmer.
Project Purpose: (B-1) To create an efficient, institutionalized, farmer managed (KAISA/ISA) system that provides small farmers with needed physical inputs, technology, and services for irrigation*, production, processing and marketing. *where appropriate	**Conditions that will indicate purpose has been achieved: End-of-Project status. (B-2)** 1. KAISAs provide full spread of needed irrigation, production, processing and marketing services not already available at reasonable price and sufficient quality. 2. Farmers employ technological innovations, etc., introduced and take advantage of services available through system. 3. KAISAs effectively managed by farmer directors and paid staff and responsive to needs of farmers they serve. 4. Production increases noted on farms irrigated under the project. 5. Income generating activities supply needed services to farmers and show potential to earn enough to cover entire KAISA costs. 6. Upland farmers formed into associations (upland counterpart to ISAs), receiving services and beginning to modify farming practices accordingly.	**(B-3)** 1. On-site visits - review of records of FSDC, KAISA and farmers plus survey of services available from other sources. 2. Farm visits - farmer interviews. 3. KAISA/FSDC records - farmer and staff interviews. 4. Farm visits - farm records 5. KAISA/FSDC records - farmer interviews. 6. Coop and FSDC records - farmer interviews farm visits.	**Assumptions for achieving purpose: (B-4)** National, Regional, Provincial, Municipal policies, regulations, etc. will allow the establishment of farmer managed coops and their operation as businesses without imposition of restrictive taxes, duties or regulations. Farmers will utilize an effective service system that can compete with other sources in both price and quality of service offered.
Project Outputs: (C-1) 1. New irrigating systems completed. 2. Irrigation systems improved. 3. ISAs established. 4. KAISAs managing ISA/Farmer training and technology extension services. 5. KAISAs developing income generating activities. 6. Initial income generating activities evaluated. 7. Initial upland farmer organizations created and operating. 8. Feasibility of this approach to improving upland farm production/income evaluated. 9. Variety of KAISA/FSDC staff trained (see breakdown table 9) 10. Research projects completed (see table 9).	**MAGNITUDE OF OUTPUTS: (C-2)** 1. 34 2. 60 3. 220 4. All 5. Up to six initially 6. If evaluation proves KAISA income generating project activity feasible activity expanded up to 20 KAISAs. 7. 6 sites 8. If evaluation proves upland farmer organization feasible, system for improving upland farming, activity expanded. 9. See table 9 10. See table 9	**C-3)** Through on-site monitoring - USAID/FSDC reports and records. Midpoint evaluations of KAISA income generating activity and upland farmer organization plus GOP/USAID decision re these activities. Training verified through FSDC/USAID records. Research verified by FSDC reports plus evidence of dissemination of results through system.	**Assumptions for achieving outputs: (C-4)** 1. Condition which to date have made improving or creating irrigation systems and managing them by ISAs feasible to date will not deteriorate. 2. A large enough pool of qualified people can be recruited or trained to operate KAISAs. 3. Farmer entrepreneurship qualities will be sufficient to manage the KAISA as a farm support business. 4. Access to land will be sufficient to allow farmers (especially upland) participate in coops. 5. Cultural, political, ethnic or other social conditions will allow upland farmers to cooperate and manage primary farmer organizations created in the project.
Project Inputs: (D-1) 1. U.S. loan funds 2. U.S. grant funds 3. GOP counterpart funds 4. Technical assistance 5. Participant training 6. FSDC/KAISA staff resources 9. Farmer-member support and investment	**Implementation Target (Type and Quantity) (D-2)** 1. Loan $20,000,000 2. Grant 500,000 3. GOP $22,810,000 4. 2 Rural Enterprise Specialists - 2 person-years 2 Farming Systems Advisors - 2 person-years - short term 5. U.S. and third country (see table 9) 6. Vehicles, computer, survey equipment, communication equipment (see table 9) 7. Provided by FSDC/KAISA Institutional workers - see project description 8. Sufficient qualified staff (after training) to manage all facets of projects (some staff originally FSDC has shifted as with shift during project to KAISA management).	**D-3)**	**Assumptions for providing inputs: (D-4)**

Best Available Document

STATUTORY CHECKLIST

Listed below are, first, statutory criteria applicable generally to FAA funds, and then criteria applicable to individual fund sources: Development Assistance and Economic Support Fund.

A. GENERAL CRITERIA FOR COUNTRY ELIGIBILITY

1. FAA Sec. 116. Can it be demonstrated that contemplated assistance will directly benefit the needy? If not, has the Department of State determined that this government has engaged in a consistent pattern of gross violations of internationally recognized human rights?	Yes
2. FAA Sec. 481. Has it been determined that the government of the recipient country has failed to take adequate steps to prevent narcotics drugs and other controlled substances (as defined by the Comprehensive Drug Abuse Prevention and Control Act of 1970) produced or processed, in whole or in part, in such country, or transported through such country, from being sold illegally within the jurisdiction of such country to U.S. Government personnel or their dependents, or from entering the U.S. unlawfully?	No
3. FAA Sec. 620(b). If assistance is to a government, has the Secretary of State determined that it is not dominated or controlled by the international Communist movement?	Yes
4. FAA Sec. 620(c). If assistance is to a government, is the government liable as debtor or unconditional guarantor on any debt to a U.S. citizen for goods or services furnished or ordered where (a) such citizen has exhausted available legal remedies and (b) the debt is not denied or contested by such government?	a. No b. No
5. FAA Sec. 620(e) (1). If assistance is to a government, has it (including government agencies or subdivisions) taken any action which has the effect	No

	of nationalizing, expropriating, or otherwise seizing ownership or control of property of U.S. citizens or entities beneficially owned by them without taking steps to discharge its obligations toward such citizens or entities?	
6.	FAA Sec. 620(a), 620(f), 620D; FY80 App. Act. Sec. (511, 512 and 513). Is recipient country a Communist country? Will assistance be provided to Angola, Cambodia, Cuba, Laos or Vietnam? Will assistance be provided to Afghanistan or Mozambique without a waiver?	No
7.	FAA Sec. 620(i). Is recipient country in any way involved in (a) subversion of, or military aggression against, the United States or any country receiving U.S. assistance, or (b) the planning of such subversion or aggression?	a. No b. No
8.	FAA Sec. 620(j). Has the country permitted, or failed to take adequate measures to prevent the damage or destruction, by mob action, of U.S. property?	No
9.	FAA Sec. 620(l). If the country has failed to institute the investment guarantee program for the specific risks of expropriation, inconvertibility or confiscation, has the AID Administrator within the past year considered denying assistance to such government for this reason?	N/A
10.	FAA Sec. 620(o); Fishermen's Protective Act of 1967, as amended, Sec. 5. If country has seized, or imposed any penalty or sanction against, any U.S. fishing activities in international waters,	N/A
	a. has any deduction required by the Fishermen's Protective Act been made?	

b. has complete denial of assistance been considered by AID Administrator?

11. FAA Sec. 620; FY 80 App. Act Sec. (518).

a. Is the government of the recipient country in default for more than six months on interest or principal of any AID loan to the country? — a. No

b. Is country in default exceeding one year on interest or principal on U.S. loan under program for which App. Act appropriates funds? — b. No

12. FAA Sec. 620(s). If contemplated assistance is development loan or from Economic Support Fund, has the Administrator taken into account the percentage of the country's budget which is for military expenditures, the amount of foreign exchange spent on military equipment and the amount spent for the purchase of sophisticated weapons systems? (An affirmative answer may refer to the record of the annual "Taking Into Consideration" memo: "Yes, taken into account by the Administrator at time of approval of Agency OYB." This approval by the Administrator of the Operational Year Budget can be the basis for an affirmative answer during the fiscal year unless significant changes in circumstances occur.) — Yes

13. FAA Sec. 620(t). Has the country severed diplomatic relations with the United States? If so, have they been resumed and have new bilateral assistance agreements been negotiated and entered into since such resumption? — No

14. FAA Sec. 620(u). What is the payment status of the country's U.N. obligations? If the country is in arrears, were such arrearages taken into account by the AID Administrator in determining the current AID Operational Year Budget? — Current

15. FAA Sec. 620A, FY 80 App. Act Sec. (521). Has the country granted sanctuary from proscription to any individual or group which has committed an act of international terrorism? Has the country granted sanctuary from prosecution to any individual or group which has committed a war crime? — No to both

16. FAA Sec. 666. Does the country object, on basis of race, religion, national origin or sex, to the presence of any officer or employee of the U.S. there is to carry out economic development program under FAA? — No

17. FAA Sec. 669, 670. Has the country, after August 3, 1977, delivered or received nuclear enrichment or reprocessing equipment, materials, or technology, without specified arrangements or safeguards? Has it detonated a nuclear device after August 3, 1977, although not a "nuclear-weapon State" under the nonproliferation treaty? — No to both

B. FUNDING SOURCE CRITERIA FOR COUNTRY ELIGIBILITY

1. Development Assistance Country Criteria.

a. FAA Sec. 102(b)(4). Have criteria been established and taken into account to assess commitment progress of country in effectively involving the poor in development, on such indexes as: (1) increase in agricultural, (2) reduced infant mortality, (3) control of population growth, (4) equality of income distribution, (5) reduction of unemployment, and (6) increased literacy? — Yes to all

b. FAA Sec. 104(d)(1); IDC Act of 1979. If appropriate, is this development (including Sahel) activity designed to build motivation for smaller families through modification of economic and social conditions supportive of the desire for large families in programs such as education in and out of — Yes

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school, nutrition, disease control, maternal and child health services, agricultural production, rural development, assistance to urban poor and through community-based development programs which give recognition to people motivated to limit the size of their families?

PROJECT CHECKLIST

Listed below are statutory criteria applicable generally to projects with FAA funds and project criteria applicable to individual funding sources: Development Assistance (with a sub-category for criteria applicable only to loans); and Economic Support Fund.

CROSS REFERENCES: IS COUNTRY CHECKLIST UP TO DATE?
HAS STANDARD ITEM CHECKLIST BEEN REVIEWED FOR THIS PROJECT?

A. GENERAL CRITERIA FOR PROJECT

1. FY 80 App. Act Unnumbered; FAA Sec. 634A; Sec. 653(b). (a) Describe how authorizing and appropriations committees of Senate and House have been or will be notified concerning the project; (b) is assistance within (Operational Year Budget) country or international organization allocation reported to Congress (or not more than $1 million over that figure)?

   a. Via Congressional Presentation, Annex II, p. 114

   b. Yes

2. FAA Sec. 611(a)(1). Prior to obligation in excess of $100,000, will there be (a) engineering, financial, and other plans necessary to carry out the assistance and (b) a reasonably firm estimate of the cost to the U.S. of the assistance?

   a. Yes

   b. Yes

3. FAA Sec. 611(a)(2). If further legislative action is required within recipient country, what is basis for reasonable expectation that such action will be completed in time to permit orderly accomplishment of purpose of the assistance?

   N/A

4.	FAA Sec. 611(b); FY 80 App. Act Sec. (501). If for water or water-related land resource construction, has project met the standards and criteria as per the Principles and Standards for Planning Water and Related Land Resources dated October 25, 1973?	Yes
5.	FAA Sec. 611(e). If project is capital assistance (e.g., construction), and all U.S. assistance for it will exceed $1 million, has Mission Director certified and Regional Assistant Administrator taken into consideration the country's capability effectively to maintain and utilize the project?	Yes
6.	FAA Sec. 209. Is project susceptible of execution as part of regional or multilateral project? If so, why is project not so executed? Information and conclusion whether assistance will encourage regional development programs?	No
7.	FAA Sec. 601(a). Information and conclusions whether project will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture and commerce; and (f) strengthen free labor unions.	Since the project involves credit to small farmers, the project will foster initiative and competition, cooperation, and credit. It will improve the efficiency of these farmers and strengthen their market position
8.	FAA Sec. 601(b). Information and conclusions on how project will encourage U.S. private trade and investment abroad and encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise).	Since some commodities will be purchased in the U.S. under the project, to a limited degree U.S. private trade will be arranged. Indirectly, as these farmers become more market-conscious, their spending habits may result in stimulated exports of U.S. materials and equipment.

9. FAA Sec. 612(b); Sec. 636(h). Describe steps taken to assure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services, and foreign currencies owned by the U.S. are utilized to meet the cost of contractual and other services.	Because the loan will finance only foreign exchange costs of commodities or reimbursement for no more than seventy-five percent of local costs, we are assured of local currency contributions to the project. This host country contribution will, among other things, cover the local currency costs of the TA.
10. FAA Sec. 612(d). Does the U.S. own excess foreign currency of the country and, if so, what arrangements have been made for its release?	No
11. FAA Sec. 601(e). Will the project utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise?	Yes
12. FY 80 App. Act Sec. (521). If assistance is for the production of any commodity for export, is the commodity likely to be in surplus on world markets at the time the resulting productive capacity becomes operative, and is such assistance likely to cause substantial injury to U.S. producers of the same, similar or competing commodity?	No

B. FUNDING CRITERIA FOR PROJECT

1. Development Assistance Project Criteria.

a. FAA Sec. 102(b); 111; 113; 281a. Extent to which activity will (a) effectively involve the poor in development, by extending access to economy at local level, increasing labor-intensive production and the use of appropriate technology, spreading investment out from cities to small towns and rural areas, and insuring wide participation of the poor in the benefits of development on a sustained basis, using the appropriate U.S. institutions; (b) help develop cooperatives, especially by technical assistance, to assist rural and	a. Beneficiaries of the project are poor rural farmers. As a result of the project, they will manage, operate, and maintain their own. They will be trained in farm system technologies and through cooperation will be better able to influence their markets and direct their lives. b. Farmer organizations being formed are cooperatives which will attempt to increase food production. c. Farmer organizations will provide some of the necessary labor to construct the irrigation systems.

urban poor to help themselves toward better life, and otherwise encourage democratic private and local governmental institutions; (c) support the self-help efforts of developing countries; (d) promote the participation of women in the national economies of developing countries and the improvement of women's status; and (e) utilize and encourage regional cooperation by developing countries?

d. Implementing agency will conduct training for farm families, with special attention to requirements of female family members.

e. N/A

b. FAA Sec. 103, 103A, 104, 105, 106, 107. Is assistance being made available: (include only applicable paragraph which corresponds to source of funds used. If more than one fund source is used for project, include relevant paragraph for each fund source).

(1) (103) for agriculture, rural development or nutrition; if so (a) extent to which activity is specifically designed to increase productivity and income of rural poor; (103A) if for agricultural research, full account shall be taken of the needs of small farmers, and extensive use of field testing to adapt basic research to local conditions shall be made; (b) extent to which assistance is used in coordination with programs carried out under Sec. 104 to help improve nutrition of the people of developing countries through encouragement of increased production of crops with greater nutritional value, improvement of planning, research, and education with respect to nutrition, particularly with reference to improvement and expanded use of indigenously produced foodstuffs; and the undertaking of pilot or demonstration programs explicitly addressing the problem of malnutrition of poor and vulnerable people; and (c) extent to which activity increases national food security by improving food policies and management and by strengthening national food reserves, with particular concern for the needs of the

a. The project will deliver installed irrigation systems, improved production technologies, and improved marketing techniques. The combinations of increased production and better marketing should result in increased incomes for the participating farmers.

b. A significant objective of project is to increase food production and thereby increases nutritional standards of participants.

c. Through objective of increased production, project will reduce dependence on national reserves, but will not directly impact on size or composition of national reserves.

poor, through measures encouraging domestic production, building national food reserves, expanding available storage facilities, reducing post harvest food losses, and improving food distribution?	
c. FAA Sec. 107. Is appropriate effort placed on use of appropriate technology? (relatively smaller, cost-saving, labor using technologies that are generally most appropriate for the small farms, small businesses, and small incomes of the poor).	Yes
d. FAA Sec. 110(a). Will the recipient country provide at least 25% of the costs of the program, project, or activity with respect to which the assistance is to be furnished (or has the latter cost-sharing requirement been waived for a "relatively least developed" country)?	Yes
e. FAA Sec. 110(b). Will grant capital assistance be disbursed for project over more than 3 years? If so, has justification satisfactory to Congress been made, and efforts for other financing, or is the recipient country "relatively least developed"?	No
f. FAA Sec. 281(b). Describe extent to which program recognizes the particular needs, desires, and capacities of the people of the country; utilizes the country's intellectual resources to encourage institutional development; and supports civil education and training in skills required for effective participation in governmental processes essential to self-government.	The project is designed to increase the productivity of poor rice farmers. While these people desire to improve their standard of living, they have historically been unable to doso. This project opens a door for them, draws upon their abilities and desires, and improves and focuses their efforts. By joining irrigators' associations, individual farmers may combine their strengths and minimize their weaknesses in an effort to deal with their world on a more equal and competitive basis.

g. FAA Sec. 122(b). Does the activity give reasonable promise of contributing to the development of economic resources, or to the increase of productive capacities and self-sustaining economic growth?	Yes

2. Development Assistance Project Criteria (Loans Only).

a. FAA Sec. 122(b). Information and conclusion on capacity of the country to repay the loan, at a reasonable rate of interest.	The World Bank, IMF and major commercial banks in the international market continue to monitor the Philippines' ability to service its outstanding debt now and projected into the future. The general consensus is that it is still a good credit risk.
b. FAA Sec. 620(d). If assistance is for any productive enterprise which will compete with U.S. enterprises, is there an agreement by the recipient country to prevent export to the U.S. of more than 20% of the enterprise's annual production during the life of the loan?	N/A

STANDARD ITEM CHECKLIST

Listed below are statutory items which normally will be covered routinely in those provisions of an assistance agreement dealing with its implementation, or covered in the agreement by imposing limits on certain uses of funds.

These items are arranged under the general headings of (A) Procurement, (B) Construction, and (C) Other Restrictions.

A. Procurement.

1. FAA Sec. 602. Are there arrangements to permit U.S. small business to participate equitably in the furnishing of commodities and services financed?	Yes
2. FAA Sec. 604(a). Will all procurement be from the U.S. except as otherwise determined by the President or under delegation from him?	Yes

3. FAA Sec. 604(d). If the cooperating country discriminates against U.S. marine insurance companies, will commodities be insured in the United States against marine risk with a company or companies authorized to do a marine insurance business in the U.S.?	Yes
4. FAA Sec. 504(e). If offshore procurement of agricultural commodity or product is to be financed, is there provision against such procurement when the domestic price of such commodity is less than parity?	N/A
5. FAA Sec. 608(a). Will U.S. Government excess property be utilized wherever practicable in lieu of the procurement of new items.	Yes
6. FAA Sec. 603. Compliance with requirement in Section 901(b) of the Merchant Marine Act of 1936, as amended, that at least 50 per centum of the gross tonnage of commodities (computed separately for dry bulk carriers, dry cargo liners, and tankers) financed shall be transported on privately owned U.S.-flag commercial vessels to the extent that such vessels are available at fair and reasonable rates.	Project complies
7. FAA Sec. 621. If technical assistance is financed, to the fullest extent practicable will such assistance, goods and professional and other services from private enterprise, be furnished on a contract basis? If the facilities of other Federal agencies will be utilized, are they particularly suitable, not competitive with private enterprise, and made available without undue interference with domestic programs?	Yes N/A

8. International Air Transport. Fair Competitive Practices Act, 1974. If air transportation of persons or property is financed on grant basis, will provision be made that U.S.-flag carriers will be utilized to the extent such service is available?	Yes
9. FY 80 App. Act Sec. (505). Does the contract for procurement contain a provision authorizing the termination of such contract for the convenience of the United States?	Any direct U.S. Government procurement contract will so provide.

B. Construction.

1. FAA Sec. 601(d). If a capital (e.g., construction) project, are engineering and professional services of U.S. firms and their affiliates to be used to the maximum extent consistent with the national interest?	Yes
2. FAA Sec. 611(c). If contracts for construction are to be financed, will they be let on a competitive basis to maximum extent practicable?	Yes
3. FAA Sec. 620(k). If for construction of productive enterprise, will aggregate value of assistance to be furnished by the U.S. not exceed $100 million?	No

C. Other Restrictions.

1. FAA Sec. 122(b). If development loan, is interest rate at least 2% per annum during grace period and at least 3% per annum thereafter?	Yes
2. FAA Sec. 301(d). If fund is established solely by U.S.? contributions and administered by an international organization, does Comptroller General have audit rights?	N/A

3. FAA Sec. 620(h). Do arrangements exist to insure that United States foreign aid is not used in a manner which, contrary to the best interests of the United States, promotes or assists the foreign aid projects or activities of the Communist-bloc countries? Yes

4. FAA Sec. 636(i). Is financing not permitted to be used, without waiver, for purchase, sale, long-term lease, exchange or guaranty of motor vehicles manufactured outside the U.S.? Yes

5. Will arrangements preclude use of financing:

   a. FAA Sec. 104(f). To pay for performance of abortions as a method of family planning or to, motivate or coerce persons to practice abortions; to pay for performance of involuntary sterilization as a method of family planning, or to coerce or provide financial incentive to any person to undergo sterilization? Yes

   b. FAA Sec. 620(g). To compensate owners for expropriated nationalized property? Yes

   c. FAA Sec. 660. To provide training or advice or provide any financial support for police, prisons, or other law enforcement forces, except for narcotics programs? Yes

   d. FAA Sec. 662. For CIA activities? Yes

   e. FY 80 App. Act Sec. (504). To pay pensions, etc., for military personnel? Yes

   f. FY 80 App. Act Sec. (506). To pay U.N. assessments? Yes

   g. FY 80 App. Act Sec. (507). To carry out provisions of FAA Section 209(d) (Transfer of FAA funds to multilateral organizations for lending)? Yes

h.	FY 80 App. Act Sec. (511). To finance the export of nuclear equipment, fuel, or technology or to train foreign nationals in nuclear fields?	Yes
i.	FY 80 App. Act Sec. (515). To be used for publicity or propaganda purposes within U.S. not authorized by Congress?	Yes

ANNEX C

U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT
Manila, Philippines

Ramon Magsaysay Center
1680 Roxas Boulevard

Telephone: 59-80-11

CERTIFICATION PURSUANT TO SECTION 611 (e)
OF THE FOREIGN ASSISTANCE ACT OF 1961, AS AMENDED

I, ANTHONY M. SCHWARZWALDER, the principal officer of the Agency for International Development in the Philippines, having taken into account, among other things, the maintenance and utilization of projects in the Philippines previously financed or assisted by the United States, do hereby certify that in my judgment, the Philippines has both the financial capability and the human resources to effectively maintain and utilize the proposed Small Farmer Systems II Project.

The judgement is based upon the project analysis as detailed in the Small Farmer Systems II Project Paper and is subject to the conditions imposed therein.

Anthony M. Schwarzwalder
Anthony M. Schwarzwalder
Director, USAID/Philippines

20 May '81
Date

Department of State

ANNEX D

INCOMING TELEGRAM

PAGE 01 MANILA 12017 291036Z 4089 016054 AID0913
ACTION AID-35

ACTION OFFICE ASTR-01
INFO AAAS-01 ASEM-01 ASPT-02 ASDP-02 PPCE-01 PDPR-01 PPPB-03
PPEA-01 STA-10 ASPD-03 AADS-01 DSAG-02 CH8-01 RELO-01
MAST-01 /032 A4 81

INFO OCT-01 /036 W
346532 291037Z /34

R 290522Z MAY 81
FM AMEMBASSY MANILA
TO SECSTATE WASHDC 7906

UNCLAS MANILA 12017

AIDAC

E.O. 12065: N/A
SUBJECT: SMALL FARMER SYSTEMS II - PROJ. NO. 492-0334

1. WE HAVE RECEIVED THE FOLLOWING LETTER DATED MAY 27, 1981 ADDRESSED TO DIRECTOR SCHWARZWALDER FROM MINISTER SICAT OF NEDA:

QUOTE - I WISH TO REFER TO THE PROJECT PAPER FOR SMALL FARMER SYSTEMS II.

FOLLOWING OUR REVIEW OF THE PROPOSAL, THIS OFFICE ENDORSES THE PROJECT PAPER COVERING AN AID LOAN IN THE AMOUNT OF $20M AND A GRANT OF $0.5M. IT IS HOWEVER OUR EXPECTATION THAT ACTIVITIES RELATING PARTICULARLY TO FARM ENTERPRISE AND UPLAND DEVELOPMENT WILL BE CLOSELY COORDINATED WITH OTHER AGENCIES OF GOVERNMENT RESPONSIBLE FOR THEIR PROMOTION AND DEVELOPMENT. END QUOTE.

2. THIS DOCUMENT IS ANNEX D TO THE PROJECT PAPER BEING HANDCARRIED BY THE DIRECTOR. MURPHY

VV MJA723EHK270
PP HUMJMA
DE HUMHC #2ECP 0931321
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UNCLAS STATE 082808

ANNEX E

03 MAR 79
TOR: 2334
CN: 00521
ACTION: AID 12
INFO AMB DCM ECON CRU 16/DB

AIDAC

E.O. 12065 N/A
TAGS:
SUBJECT: SMALL FARMER SYSTEMS II (492-0334)

REF: (A) MANILA 4352, (B) STATE 60084

1. WITH PROVISOS BELOW, AID/W APPROVES SUBMISSION SMALL FARMER SYSTEMS II PROJECT PAPER FOR "DOL" 51.5 MILLION:

A....IT MAY NOT BE POSSIBLE TO APPROVE PROJECT AT THE HIGHER LEVEL DUE, NOT TO MERITS OF PP, BUT TO OTHER CONCERNS SUCH AS NEED TO MINIMIZE PIPELINE, CUTS IN INDICATIVE PLANNING LEVELS FOR FUTURE YEARS, AND CONCERNS RECENTLY EXPRESSED ABOUT MORTGAGINGFUTURE AID LEVELS WITH LARGE, TRANCHED PROJECTS.

B....THUS YOU SHOULD STRUCTURE PROJECT SO THAT IT COULD BE APPROVED AT "DOL" 16 MILLION, OR PERHAPS "DOL" 39 MILLION, IF IT TURNS OUT NOT TO BE POSSIBLE TO APPROVE IT AT THE FULL "DOL" 51.5 MILLION LEVEL.

C....PP SHOULD ADDRESS NEED FOR AND IMPACT OF LONGER TERM ASSISTANCE TO SMALL RICE AND CORN FARMERS. GIVEN APPROXIMATE RICE SUFFICIENCY NOW AND ANTICIPATED 1987 COMPLETION OF IRRIGATION ON MOST IRRIGABLELAND,PPSHOULD ADDRESS WHETHER THE PRESENT STRESS ON INCREASING RICE AND CORN PRODUCTION WILL CONTINUE TO BE THE MOST APPROPRIATE AREA FOR AID ASSISTANCE TO SMALL FARMERS. TECHNICAL ASSISTANCE MAY HAVE TO PROVIDE FOR GREATER EMPHASIS ON DIVERSIFICATION. MIX OF OTHER INPUTS MAY HAVE TO BE REVISED OVER EXTENDED LOP. EVALUATIONS SHOULD RECHECK VALIDITY OF PURPOSE AND ASSUMPTIONS WITH RESPECT BASIC CROPS DURING PROJECT LIFE.

2. IN DECIDING APPROPRIATE DOLLAR LEVELAT WHICH PROPOSED PROJECT IS SUBMITTED FOR AUTHORIZATION, MISSION MAY WISH TO CONSIDER PROCEDURE OUTLINED REF B, PROVIDING FOR CABLE EXCHANGE IN LIEU OF PIDS FOR FOLLOW-ON PHASES OF APPROVED PROJECTS. ADVANTAGE OF THIS SIMPLIFIED PROCEDURE IS THAT IT DOES NOT COMMIT AID AND GOP TO A MULTI-YEAR PROJECT, WHILE AT SAME TIME PERMITTING AID TO AUTHORIZE ANNUAL (OR BIENNIAL) EXTENSIONS, IF APPROPRIATE, WITH MINIMAL DOCUMENTATION. VANCE
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TTY		
AG/RN		
TRC		

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Best Available Document

INNOVATIVE PACKAGES (IPs)

I. Organized Rice Production Project

A. Rationale

The installation of an irrigation system is not enough to realize the maximum potential yield of farm land. Other production inputs and the efficient management of resources must be introduced and developed. A program must be designed to maximize the utilization of the ISA resources of land, manpower, capital, irrigation system, and management capabilities to achieve higher yields.

B. Objectives

The Organized Rice Production Project aims to maximize yield at reasonable cost thereby increasing the farmer's income. Specifically, it aims to:

1) develop the management skills of the ISA on resource allocation and mobilization;

2) develop the production skills of the ISA through education and training on latest rice production technology;

3) maximize the utilization of water, land, and labor resources of the ISA.

C. Concept

The Organized Rice Production Project is a management system designed to integrate and optimize the ISAs farm resources to increase yield and income. These resources include water, manpower, production inputs, farm tools, and equipment. The ISA therefore adopts a package of technology which includes improved cultural and management practices needed in successful rice production.

II. Institutional Credit and Organized Buying Project

A. Rationale

The purchase or production inputs and the present practice of loan availment has adversely affected the operational activities of the individual farmer. The effects are enumerated as follows:

1) undiscounted rates on small volume purchases;

2) losses in time, effort, cost of securing loans and purchase of production inputs;

3) non-availability of appropriate quantity and quality of desired items of production inputs;

4) untapped production potentials due to hampered production schedules

To offset these impediments, the farmers as an association should collectively organize their buying activities and negotiate for an institutional credit scheme.

B. Objectives

Through the ICP/OBP, the ISA will achieve economies of scale in the long run and provide for a timely credit assistance, thus benefiting from savings in time, effort, manpower, and production costs. Specifically, ICP/OBP aims to:

1) Reduce the cost of production inputs.

2) Provide timely credit assistance at the least cost for production inputs and upgrading of irrigation.

3) Improve services rendered by suppliers and lending institutions.

4) Provide readily available inputs in accordance with the farmer production activities.

C. Concept

1) The ICP/OBP is a scheme whereby the production inputs are pooled and purchased collectively through a financing scheme that adheres to the principle of mutual liability and common responsibility.

2) The ISA members as an organized group represented by a single management has the purchasing and bargaining power to demand for better quality products, delivery of items according to production schedule and discounts from suppliers through bulk purchasing.

3) It also makes possible these purchases through local financing institutions and firms covered by General Order No. 47. *

4) The scheme treats the needs of individual farmer-members as components of one project represented by the association.

5) It is applied to the needed production inputs per cropping season.

6) This scheme shall involve the farmer-members collectively and shall thus promote maximized use of the ISAs irrigation system through organized rice production activities.

7) ICP/OBP directly influences income by lowering production costs and indirectly inputs.

* This is a Philippine government directive requiring financially viable firms with 500 and above employees to supply the rice requirement of their employees.

III. Farm Tools and Equipment Pooling

A. Rationale

An effective and efficient irrigation system, improved rice technology and

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time and labor saving equipment are basic factors for increased rice production. After acquiring an irrigation system and improved skills in rice production and irrigation management, the ISA faces a new need--the need for acquiring, utilizing, and managing farm tools and equipment.

B. Objectives

The Farm Mechanization and Farm Tools and Equipment Pool Project aims to provide needed farm machinery and management schemes for efficient utilization of these by the ISA. Specifically, it aims to:

1) Assist the ISA in acquiring necessary farm tools and equipment;

2) systemize the utilization of these tools and equipment for maximum productivity;

3) develop the management and technical skills of the ISA;

4) maximize time and labor usage; and

5) instill cooperation through labor and equipment pooling.

C. Concept

The FTEP Project is a scheme designed to enable the ISA to acquire, utilize, and manage farm tools and equipment otherwise accessible only to individual farmers. The project focuses on the identification, demonstration, procurement, and delivery of farm equipment. The farm tools and equipment pooling will be manifested in the management, utilization, maintenance, and payment of acquired equipment.

IV. Organized Selling Project

A. Rationale

After each harvest, farmers are faced with situations wherein many are forced to sell their crops without maximizing profit potentials. Some of these constraints are as follows: a) low prevailing market prices and b) high transportation costs. This dilema is faced by the farmers yearly--especially if they sell individually. As such, there exists the need to increase the farmers' bargaining power. This can be achieved through pooling of resources and marketing of crops collectively.

B. Objectives

The ISA Organized Selling Project (OSP) seeks to strengthen the bargaining power of farmer-members by developing a marketing system that will maximize profit potentials. Specifically, OSP aims to provide the ISAs farmer-members the following:

1) a fair selling price for their produce
2) a selling scheme and marketing system
3) reduced cost of selling

C. Concept

Organized Selling is the initial stage of the development of a marketing

system among the ISAs. It involves systematizing the flow of the produce from the individual producer to the wholesaler. It provides a system of identifying market outlets that will assure the most advantageous terms. The scheme provides the farmers with a means to attain bargaining power and then obtain better prices for their products.

V. Seed Production Project

A. Rationale

The use of high quality seeds is considered essential and found to be one of the primary factors in increasing crop yield. Yield increase of 20 percent in rice harvest can be obtained with the use of certified seeds. (IRRI Rice Production Manual.) The development of high yielding varieties of rice and other subsequent acceptance have spurred an increasing demand on these newly developed varieties. However, production of these seeds could not cope with demand. Newly opened irrigated areas under the BISA Program will add to the dilemma and considerably upset all projections for its adoption to meet demand for increased production. The ISAs are very ideal areas to produce seeds because of their well-managed irrigation systems. Assuring the ISA members with certified seeds will mean a significant increase in production and partly solve the problem of providing a system of producing and distributing certified seeds.

B. Objectives

The ISA Seed Production Project seeks then to assure the availability of certified seeds to sustain high level of productivity in the ISA. More specifically, the project aims to:

1) provide a convenient source of certified seeds;
2) develop the ISA farmer's technical skills for the production of certified seeds; and
3) provide for additional sources of income.

C. Concept

The Seed Production Project is an effort to produce the basic requisites of increased production in the ISA. It aims to provide farmers with high quality seeds without the constraints of high cost, inconveniences, and uncertainty of supply. It is a design that will develop the technical capability of the farmers to produce high quality seeds which will untimately be adopted for their production activities.

Salient Features:

1) Production of Adaptable Varieties--seeds that will be produced are those that are the most adaptable to the areas. This is based on recommendations by National Food and Agriculture Council technicians.

2) Continuous Production Program--seed production project is a continuing concern of the association to meet the requirement of an intensive cropping pattern.

3) Source of Additional Income--surplus seeds of the ISA can be sold at regular market prices to provide additional sources of income.

ISSUES ADDRESSED FROM THE 1980 AID IMPACT EVALUATION

1. The Issue of Increased Production and Increased Farmer Income

FSDC has given due consideration to the Philippine Government policies affecting both production and income and has initiated a number of improvements in program linkages to facilitate the delivery of rural development services to the ISA farmer. (These are discussed in the Administrative Feasibility Section.) The rice price policy, however, is not within the direct control of FSDC. As rice is the staple food of the Philippines, its price cannot be raised merely in consideration of the production sector. The GOP must balance this with repercussions from the consumer sector and, understandably, approaches the issue with caution.

To increase productivity and farmer income, however, certain farm support packages have been developed by FSDC. For example, the Corporation has initiated the Organized Rice Production Project wherein production schedules are devised and training is held on effective rice production. Supportive of this program is the Seed Production Project in which the ISA itself raises certified seeds for its own use elminating the necessity of buying from outside markets at higher prices. To facilitate negotiations for needed capital and material inputs, the Institutional Credit Project was created so that farmers can work through one association to avail themselves of credit from government agencies. Simultaneously, the Organized Buying Project was designed to enable farmers to collectively purchase production inputs, receive them on time, and at better prices. The Farm Tools and Equipment Pooling Project gives farmers access to farm equipment too expensive to own individually. The Organized Selling Project strengthens the bargaining power of farmers by developing a marketing system that will maximize their income.

Despite these gains, FSDC recognizes that considering the small landholdings, income from rice farming alone is insufficient to support a family of six. FSDC further recognizes that despite the improvements in farm profits, they were still below the expected levels previously set by program planners. FSDC appreciates that if the BISA Program is to increase the standard of living for farm families, additional income generating enterprises must be initiated. Having established the ISAs, the Corporation now seeks to make operational the farm systems approach whereby the elements of farmer, land, and water are integrated and their utilization more fully realized. By viewing the farm as a system, FSDC plans to develop its entrepreneurial potentials for maximum productivity and greater economic returns.

In general, the AID Impact Evaluation confirms what FSDC has learned in the course of program implementation. As a result, the Corporation has already instituted strategies to make irrigation truly a catalyst to successive economic advances for the Filipino farmer. As early as 1978, FSDC geared itself to this responsibility by designing the Farming Systems Optimization Model which promotes crop diversification and seeks to determine the optimum mix of farm-based enterprises. ISAs are assisted by FSDC in implementing their site specific farm plan and in collectively working for the realization of the greatest economic returns.

2. The Issue of Continued Institutional Development

The Corporation fully understands that careful management of the ISA and continued institutional growth are critical to its long-term viability. While FSDC agrees that emphasis has been given to the infrastructure aspect of irrigation, the Corporation has since 1975 supplemented irrigation development with institutional development. The Filipino farmer has been central to every strategy FSDC has conceptualized and to all projects undertaken. Field workers have sought to impart skills and knowledge touching on operational, managerial, production, and entrepreneurial development of the ISA and the farmer.

3. The Issue of Production Credit is discussed in the Project Description.

4. The Issue of Land Tenure is discussed in the Administrative Feasibility Section under the heading: Ministry of Agrarian Reform.

5. The Issue of Electric Power Service to ISAs is discussed in the Administrative Feasibility Section under the heading: National Electrification Administration.

6. The Issue of Irrigation System Maintenance is discussed in the Technical Feasibility Section.

7. The Issue of the Role of Women in the BISA Program is discussed in the Social Soundness Analysis.

KAISA PROGRAM MANUAL

I. Background

The Barangay Irrigators Service Association (BISA) Program is FSDC's plan of action aimed to accelerate rural development by increasing agricultural productivity and farmer income. Through irrigation development activities, FSDC has financed and facilitated the construction of irrigation infrastructure to harness water resources for increased production. Through the adaptive farm technology component, the Corporation has identified and facilitated the assimilation of appropriate farm technology for higher quantity and better quality in farming output. And by means of its institutional development component, FSDC has organized farmers into Irrigators Service Associations--institutional venues through which FSDC and other agencies' development inputs such as education, agricultural credit and technology may be channeled.

The evolution of the ISA from a farmer organization of about 50 members to an apex organization at the national level is programmed to undergo three development stages.

A. Institution-Building at the Project Level

Since FSDC's establishment in 1975, corporate resources have been focused on Stage I--the organization of farmer associations. Projects were formulated and implemented with the basic objective of building ISAs' capability for self-management. Education and training programs, management schemes for production, credit, buying and selling, and technical assistance were extended to hone farmers' knowledge and skills in decision-making and management.

To date, more than 1800 ISAs have been organized. With irrigation and improved farm technology, the farmer-members have been able to reap substantially higher returns from production. In addition, the opportunity given them to oversee the operation of their irrigation system and to manage their association has instilled an appreciation of the value of self-reliance and their capacity for self-management.

Because of improved production resulting from irrigation, the ISAs at this point face the challenge of secondary needs such as marketing, transport and storage of their produce. The membership base of ISAs has expanded considerably, producing as a consequence varied service needs. Primarily, the need to strengthen and improve the marketing capabilities of our ISAs have increasingly demanded immediate action. While farmer income has increased, the continuing rise in the cost of production inputs has pressed ISAs to look for additional sources of income.

B. Economic Integration of ISAs

The foregoing conditions had been foreseen and in fact were indicators for opening the ISA to its second stage--economic integration. The organization of ISAs into provincial federations (Kalipunan ng mga ISA or KAISA) now paves the way for farmers to exercise their decision-making skills in enterprise and organizational management. The KAISA shall operate central economic facilities for the operation and maintenance of irrigation and farm support systems. This shall enable farmers to enjoy economies of scale not otherwise possible

as individual associations. The KAISA can also venture into other farm-based ventures, using as production base the ISAs themselves. Sales of ISA produce shall be facilitated by means of marketing services extended by the KAISA. Therefore, the second development stage offers ISA farmers new opportunities for increasing income and employment.

Furthermore, the shift in the national policy toward involving the grass-roots in actual policy formulation and implementation heightens the significance of establishing the KAISA. The farmers' actual involvement in enterprise management and in building ISAs as institutions concretize their participative role in improving their livelihood.

In time, the KAISAs shall progress toward the third development stage--when they unify and integrate into a national union of ISAs. At that point, the apex organization is envisioned to be a policy-making body which would become an active government partner in rural development.

II. THE KAISA -- ITS CONCEPT AND FEATURES

The KAISA Program manifests FSDC's continuing efforts at institution-building. The corporate strategy of weaning ISAs away from dependence on government assistance is now made evident with the transfer of institution-building tasks from FSDC to the KAISA. As such, the KAISA has been conceived to provide developing and maturing ISAs with the responsibility for self-management and with greater opportunities for increasing their income. Through the KAISA, greater farmer participation in the development of farm systems and in the implementation of the BISA Program shall be achieved.

A. Objectives

Through an umbrella organization of ISAs in each province, the KAISA Program aims to:

- provide a forum that would foster unity among ISAs towards attainment of self-reliance;
- enhance ISAs' capability for self-management in the development of farm systems; and
- provide opportunities to the KAISA to engage in income-generating and self-sustaining projects that will enhance the overall growth and development of the ISAs.

B. Functions

The KAISA is the umbrella organization in the province. It shall be a non-stock, non-profit private corporation. It shall be capable of entering into contracts and acquiring financial assistance in the form of grants, loans, and contributions. The KAISA shall be the vehicle through which various interests, attitudes, and capabilities are brought together, instilling better coordination and cooperation among farmers. The KAISA shall have the following functions:

- Serve as clearing house for organization issues and as medium for identifying common needs and problems of member ISAs;
- Undertake administrative functions like hiring, managing, and

training personnel who shall implement and manage the programs and enterprises of the KAISA;

- Undertake institution-building activities like fielding institutional officers who shall train ISA farmer-members on irrigation, farm, and enterprise management;

- Undertake income-generating activities, the type and level of which shall be based on the capabilities, resources, and needs of member ISAs for economic services; and

- Act as the accelerating force of ISAs in seeking assistance/services from government and private agencies.

C. Operational Framework

The operational framework translates the KAISA concept, as discussed in the preceding section, into more operational terms. The purpose of the framework is to provide a clear perspective for identifying the necessary program inputs to achieve the desired development of the KAISA.

The goal of the KAISA which is to enhance the organization and financial viability of ISAs can be further detailed as follows:

1. To sustain and expand institutional support to ISAs; and

2. To provide additional income to ISAs.

The program is therefore founded on the capability of the KAISA to function as the BISA Program's implementing network at the provincial level and its capability to generate profits to sustain these activities and boost farmer incomes.

1. Institutional Development of the KAISA

The first objective indicates the needs to transfer the management of the FSDC Provincial Office to the KAISA for the operation of projects. To defray expenses incurred by the KAISA in the implementation of the BISA Program, FSDC will extend institutional development assistance. This assistance will finance only part of the budget requirements so the remaining balance shall be put up by the KAISA as its equity contribution. This type of assistance shall be made available to the KAISA until it is deemed viable enough to fully shoulder its own expenses for institutional development activities.

Aside from extending financial assistance to the KAISA, FSDC will provide other forms of assistance or program inputs to ensure smooth turnover of the operation of the Provincial Office to the KAISA, and fully harness the managerial capability of the KAISAs. Among these inputs are management skills training for KAISA Officers and General Managers, and other training programs for KAISA general assembly, ISA members, and Provincial Staff. These training programs are closely tied up with a communication program addressed to various target audiences. For administrative support, KAISA manuals shall prescribe systems and procedures for personnel management, financial control, project monitoring, and evaluation, among others.

The KAISA will be instrumental in ensuring the long-term continuity of the BISA Program. This will open new opportunities for the vertical integration

of farm operations for existing member ISA farms and extension of program coverage to other farms and farmers.

As an effective farmer-based institution, the KAISA mechanism for self-management will provide opportunity for farmers to decide on business and organizational issues. Individual farmers will have a chance to express their views and problems, share these with fellow farmers and thereby learn from the experiences of others. Cognizant of their contribution to the agricultural performance of their province, BISA farmers shall more easily appreciate the importance of cooperation and collective effort.

2. Development of KAISA Enterprises

The establishment and development of income-generating projects in the KAISA is a major strategy addressed to the second objective, which is to provide additional income to ISAs. Moreover, the profits of the KAISA shall be used for capital build-up to repay the institutional development assistance and the KAISA share of the annual costs. Income from enterprises will be augmented by revenues from management fees charged by the KAISA for services rendered for FSDC and other government agencies or private firms (e.g. as collection agent for irrigation loans, etc.).

To be able to operate a business enterprise, the KAISA staff will have to develop skills in managing capital resources profitably. FSDC program inputs in this regard will be technical assistance for project identification, feasibility study and management of operations. This will be supported by manualized systems and procedures for business management which can be adapted to particular conditions at the project level. Skills training and communication programs are also designed for the needs of the enterprises.

The KAISA enterprises shall be selected and planned according to the needs of its member-ISAs, especially their second generation problems in rice production (i.e., storage and marketing). The KAISA can therefore operate post-harvest facilities or establish markets for ISA produce. Marketing operations and market research are also envisioned to inform farmers of potential demand for certain crops in nearby provinces. This will be vital in encouraging crop diversification and/or expansion of existing farm enterprises on the basis of actual demand. The enterprises will also assist the farmers through the ISA in supplying production inputs and tapping ready markets for their produce.

D. KAISA Organization

The management of the KAISA involves a reciprocal relationship among members of the Sanggunian or General Assembly, the Patnugutan (Board) and the Tagapangasiwa (General Manager). None of them can operate effectively and efficiently without the others.

The General Assembly will be responsible for major decision-making functions with regard to the management, production, and policies of the KAISA. It shall be comprised of all farmer-members of participating ISAs. They will be represented by their corresponding ISA Presidents and/or Tagapagbunsods.

The Board functions are directed to the study and formulation of rules, regulations, and policies governing the operations of the KAISA. It is from among the Board members that the KAISA President, Secretary, and Treasurer

are chosen.

The position of General Manager will be the official designation of the Program Manager of the FSDC provincial office. He automatically becomes the ex-officio member of the Board. He shall have the overall responsibility in the management and operations of both entrepreneurial and institutional undertakings of the KAISA. To effectively carry out the basic operations of the KAISA, he shall directly supervise two functional units, namely, the Institutional Development Unit and the Business Management Unit. These are function-specific line units in charge of institutional and production/ marketing operations, respectively.

The Institutional Development Unit (IDU) will absorb the Institutional Officers (IOs) of every participating ISA from the Provincial Office and enlist their services along the lines of technical requirements for continued institutional development of member ISAs. Their responsibilities will be toward production and irrigation assistance; research, communication and linkage; collection and ISA Management. The General Manager shall have the discretion of assigning specific Institutional Officers according to to their fields of specialization.

The Business Management Unit (BMU) shall undertake the responsibility of determing the financial viability of the enterprises that the KAISA plans to enter into. It is also the task of this unit to come up with projects for additional business enterprises tapping indigenous resources and to participate actively in their implementation, monitoring, and evaluation.

It shall carry out specific functions through its two sub-units: production and marketing. The latter section will accomplish the marketing needs of the KAISA particiularly in the area of identifying markets for the produce of ISA members and their eventual sale. Its functions will extend to the efficient operation of trucking services and other post-harvest activities which the KAISA may engage in as its area coverage increases.

It is envisioned that with the advent of Phase II which involves the expansion of enterprises, the operational units under the BMU will be enterprise-based. Each unit will have an enterprise operator and coordination will be made by a BMU enterprise supervisor.

III. KAISA PHASES OF DEVELOPMENT

In relation to the KAISAs, the role of FSDC is envisioned to gradually evolve from a regulatory to a coordinative agency as the KAISA progressively becomes more capable of self-management. It has therefore become necessary to define the basic stages of development that the KAISA will undergo. To maximize the impact of the inputs, they shall be designed in accordance with the stages of development, considering the KAISAs' level of management capability and financial viability and the immediate goal of such KAISAs at a particular phase of development.

A. Phase I - Establishment and Stabilization of the KAISA

As in any new organization, the initial stage is the most crucial learning stage. Most of its activities will be devoted to the training of its members and staff through formal programs on their respective functions and responsibilities. Through close supervision from FSDC Area Offices, systems

and procedures shall be studied, adapted and carried out in the various aspects of its operations. For the KAISA to cope with these organizational processes of establishing itself, it will still depend on FSDC for administrative support and financial control. Hence, there is no need to set up an administrative staff for the KAISA during this stage.

Since it is not yet financially viable, the KAISAs undergoing Phase I will be availing of development assistance for budget requirements of field operation under the BISA program. This will be diminishing gradually over the years as the KAISA is able to generate higher levels of income. FSDC will also provide training inputs and consultancy services to instill the necessary skills in business management. Administrative support and financial control shall be provided entirely by the Area Office to ease the KAISA of some of the burden of absorbing the provincial office of FSDC.

Even at this phase in the KAISA's development, the KAISA will still be as effective in carrying out the BISA program as it was when it was still an FSDC Provincial Office. Hence, it will be able to provide all of the institutional support for programmed activities of the BISA Program. Regarding the enterprise, it will have moderate profit targets at this stage. The KAISA enterprise also aims to involve its farmer-members in its operations. Initially, it will be envisioned to be able to get the participation of at least 50 percent of its total members.

B. Phase II - Expansion and Complementation of KAISA Services

Like any established business firm in any industry, the KAISA enterprise has to be able to expand or else be edged out by its competitors. For the next stage, the KAISA shall therefore be readied for expansion of its enterprise not only to enhance its earning potential, but also to provide more services for KAISA-level production activities. FSDC will have an active role in synchoronizing expansion plans of KAISAs to maximize benefits from complementary services.

With the KAISA enterprises generating sufficient income to finance the cost of the BISA Program's institutional development activities, there will be no need to avail of financial assistance from FSDC. There will be less need for FSDC to closely monitor or directly control the KAISA's financial operations. The KAISA will also be able to maintain its own administrative staff. By this time, the KAISA will have had enough experience and technical capability for formulating expansion strategies with the appropriate systems and procedures.

FSDC's inputs for KAISAs in Phase II shall therefore be limited to monitoring and coordination of KAISA activities. Coordinative mechanisms shall be maintained to promote complementation of KAISA enterprises through trade among the provinces. Through linkages with other agencies or private institutions, FSDC will also provide specialized trainings and technical services required for the expansion of enterprises. Evaluation activities shall be continually undertaken to identify needed assistance for problems encountered by the KAISAs and refinement of existing organizational arrangements and management systems and procedures.

IV. FSDC-KAISA-ISA FUNCTIONAL RELATIONSHIPS

Because of the expanded role of ISA farmer-members, the implementation of

the BISA Program and in managing agro-based enterprises through the KAISA, there is a need to define the inter-relationships involving the nature and extent of authority, responsibility, and transactional contacts arising out of greater farmer involvement in institutional and enterprise development. The functional role also derives basis from modifications in program administration which shall be implemented to open opportunities for farmers' exercise of self-management.

The matrix of FSDC-KAISA-ISA functional relationships presents the specific activities to be undertaken by FSDC, KAISAs, and ISAs during Phase I of the KAISAs' development stage. Inter-relationships have been defined for the following programs: irrigation development, farm mechanization, ISA-level production, enterprise management, administrative and financial management, and for special projects. Following are the salient features of each program element:

Irrigation Development

FSDC's Area Office shall continue to provide ISAs with technical assistance in construction activities. Project identification, conduct of baseline surveys, conduct of ISA training, organization of ISAs, however, shall now be the responsibilities of the KAISA which has absorbed the FSDC provincial staff which was previously performing such functions. The KAISA shall also render management services to FSDC among which entails the collection of ISA irrigation loan repayments. In this line, all irrigation loan applications must pass through the KAISA prior to filing with FSDC, and ISA loan defaults can serve as grounds for KAISA take-over of ISA management and production activities. The KAISA likewise assumes responsibility for upgrading/rehabilitation of irrigation facilities, and for this purpose is staffed with one construction supervisor and one mechanic-electrician.

The ISA farmer-member continues to provide the equity participation in construction and upgrading of ISA facilities through labor, materials, or monetary forms. The members shall prepare production calendars and water use schedules on the basis of policies and standards set by the KAISA.

Farm Mechanization*

Economies of scale shall be the guiding principle governing the farm mechanization program. There is now increased opportunity for individual farmers to utilize required farm machinery by acquiring and managing mechanization facilities through the ISA or the KAISA.

Farm mechanization requirements of farmer-members shall be the basis of the KAISA in projecting the magnitude and specification of farm mechanization financing needs. FSDC shall assist in the preparation of feasibility studies, in supplier accreditation, testing of technology appropriate to KAISA needs, and in farm mechanization loan evaluation/release.

As a farm mech borrower, the KAISA shall own, manage, and rent out farm equipment with priority to ISA farmer-members. For old ISAs already with farm equipment from FSDC, ownership shall continue to remain with the ISA. The KAISA shall assume their loan balance and take over their equipment in case of default (i.e., 12-month non-payment of amortization). A redemption period of 12 months shall be granted to ISAs who decide to reacquire their equipment.

Animal loans, on the other hand, may extend to the ISA level subject to endorsement by the KAISA. The KAISA acts as collection agent for animal

*In promoting selective mechanization, FSDC and the ISAs shall give due considerations to balancing efficiency and employment objectives.

loans and farm mechanization repayments of borrower-ISAs. Furthermore, equity contribution of borrower ISAs may be shouldered by the KAISA, subject to repayment schemes mutually agreed upon.

ISA-Level Production

The ISA shall serve as production base of KAISA enterprises. FSDC support to the ISA shall be focused on providing technical assistance in determining appropriate crops and cropping technology, on training and tools for farm management, planning, and budgeting, and coordination of program-wide implementation of appropriate cropping systems.

The KAISA shall program ISA production based on enterprise requirements and market potentials. The KAISA shall assist member-ISAs in securing production loans. ISA produce, which now serve as raw materials of the KAISA, shall be of better quality due to production management training, fertilizer/soil conservation programs, pest and disease control, soil classification and analysis activities conducted for ISA members by the KAISA.

Enterprise Development

A. Marketing

The KAISA shall be the marketing arm of member ISAs. Production at the ISA level shall follow volume and standard specifications of the KAISA which were determined from market surveys or actual marketing contracts negotiated by the KAISA.

FSDC shall assist the KAISA in identifying/negotiating for Metro Manila or foreign markets, by providing market supply/demand information, by developing marketing strategies to be adapted to local conditions, and legal assistance in marketing operations requirements such as permits, licenses, and contracts.

B. Service Enterprises

KAISA services to farmer-members shall be based on needs identified by members themselves, subject to clearance from FSDC. Members shall be given priority in availing of any of the services found to be viable, such as: hauling, warehousing, drying, threshing, milling, land preparation, purchasing, supplying, selling, management take-over or consultancy, and collection. These services may be extended for non-members only during periods of under-utilization of facilities.

The feasibility of service enterprises shall be determined by the KAISA through project studies. FSDC shall extend assistance in project study preparation. It shall hire consultants at the provincial level to assess assumptions based on their knowledge of local conditions. A Technical Review Committee shall be organized by FSDC-s Central Office to make final evaluation of enterprise development loan (EDL) application of the KAISA. The Central Office shall also provide linkage support for approved enterprises.

While FSDC shall monitor enterprise performance (particularly in initial stages), its effective management now rests with the KAISA.

C. Infrastructure

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Inter-relationships regarding infrastructure components of KAISA enterprises shall basically follow existing procedures. Again, functions previously performed by FSDC provincial staff now enter the KAISA's range of responsibility.

FSDC shall provide KAISAs with technical assistance for infrastructure development. This covers development of standard designs and estimates, coordination/assistance in bids and awards, in licensing requirements, and supplier accreditation.

The KAISA provides labor or other forms of equity contribution for construct struction, secures the necessary permits/licenses, identifies potential suppliers through canvassing, and so on. The KAISA shall always be represented during bidding activities conducted in FSDC-Area Offices. KAISA repayment performance and credit worthiness shall be monitored by FSDC for replacement or expansion loans that may be applied for.

Administrative Management

A. Personnel Services

All KAISA personnel actions, including employee benefits and incentives, shall be subject to confirmation by FSDC-Central Office. The KAISA operating budget, as confirmed by FSDC-CO, shall comprise the KAISA Institutional Development Assistance.

FSDC-AO shall perform administrative functions covering KAISA operations. It shall maintain KAISA personnel files, prepare/process personnel documents and payroll and monitor KAISA personnel performance using evaluation measures formulated by FSDC-CO.

All administrative functions being handled by AO shall be transferred to the KAISA as soon as the latter has attained financial viability.

B. General Services

FSDC shall detail one vehicle per KAISA. These vehicles shall be insured by FSDC-CO with GSIS. The KAISA shall be responsible for repairs/maintenance of said vehicles. Gas, oil, and other vehicle service requirements shall be closely monitored by FSDC-AO for control purposes. In this line, the KAISA shall submit monthly reports of official travel to FSDC-AO, which in turn reviews and audits said reports.

C. Procurement and Property Management

Procurement of construction materials, equipment and supplies amounting to less than ₱500 shall be done by the KAISA. FSDC-AO shall assist the KAISA in the identification and procurement of materials worth ₱500 and above, while FSDC-CO shall procure Manila-based commodities. These transactions, however, shall be treated as KAISA transactions.

Financial Management

A. Budget

The KAISA shall prepare its annual work program and budget for determing its

institutional development assistance and shall prepare project studies on selected enterprises for determining such assistance. Work programs and budgets shall be evaluated by AO, which then prepares assistance contracts of KAISAs. KAISA assistance shall be subject to approval by FSDC-CO. Approved loans shall be released by AO. A revolving fund shall be maintained by AO for each KAISA to cover operating and enterprise expenses.

B. Bookkeeping

FSDC shall maintain separate books for each KAISA. AO shall keep records of all KAISA financial transactions, while CO shall ensure that bookkeeping systems and procedures are properly installed and implemented.

C. Billing and Collection

All collections made by the KAISA shall be deposited intact in a KAISA bank account to be opened and maintained by FSDC-AO for the KAISA. AO shall see to it that all KAISA collections are properly accounted for and deposited in the KAISA account.

D. Disbursement

FSDC shall manage/disburse loan proceeds for the KAISA. This arrangement shall be formalized through a memo of agreement between the KAISA and FSDC, wherein FSDC is authorized to manage KAISAs' idle funds and to manage KAISA loan proceeds.

A revolving fund shall be maintained and administered at KAISA level. The KAISA submits its financial requirements every quarter to the Area Office which processes the release/replenishment of KAISA revolving fund.

E. Audit/Internal Control

Internal control of financial transactions shall be followed at all times. Disbursements of FSDC for the account of the KAISA shall be pre-audited. The Area Office shall conduct periodic cash examinations of KAISA accountable officers to determine whether disbursements follow existing policies/ procedures. Financial reports shall be submitted by AO to FSDC-CO and KAISA Board.

The KAISA too shall implement internal control systems to be prescribed by FSDC-AO. Furthermore, all FSDC loans to KAISAs shall be checked at CO and AO levels to ensure that they are effectively utilized by KAISAs for purposes of institutional and enterprise development only.

Special Projects

A. Research and Development Projects

All Research and Development prototype projects ready for implementation shall be undertaken at the ISA level. The ISA shall apply for financing from FSDC, secure ROW, provide labor equity and identify farmer-cooperators. Identification of ISAs qualified for R & D projects shall be determined by the KAISA, which endorses the ISA's financing application to FSDC. The KAISA shall conduct the baseline survey, assist in the conduct of research projects and perform the same functions regarding infrastructure development as previously summarized. Actual construction of infrastructure components

shall be done by FSDC-AO based on specific project plans/designs made at CO level.

KAISA PROGRAM MANUAL

Prepared by the KAISA TASK FORCE

FARM SYSTEMS DEVELOPMENT CORPORATION

COMMODITY PROCUREMENT PLAN

A. Responsible Agency:

All commodity procurements for this project will be undertaken by the Farm Systems Development Corporation (FSDC). The requisite in hous ability of FSDC to adequately carry out commodity procurement under AID regulatory strictures has been demonstrated under previous AID development loans to FSDC. Technical assistance and advice in procurement matters will be furnished by USAID as requested or needed.

B. Method of Procurement:

Procurements will be accomplished in accordance with AID regulations and good commercial practices. It is presently anticipated that two Invitations for Bid will be published per the schedule in Section H, to accomplish all offshore procurement. As the need arises, local shelf item purchases of small value items may be made under AID financing. Shelf item purchases will be authorized by USAID in accordance with local cost financing regulations contained in HB 1B, Chapter 18.

C. Waivers:

No commodity procurement waivers are anticipated for project purchases at this time.

D. Source/Origin of Procurements:

The authorized source/origin of commodities for this project is AID Geographic Code 941 except that indigenous goods and free world shelf items may be purchased per HB 1B Chapter 18.

E. Payment Procedures:

Payment of suppliers of offshore commodities will be accomplished by commercial bank letters of credit or AID direct letters of commitment, whichever is most fessible and advantageous.

F. Delivery:

All commodities purchased offshore will be shipped on a CIF Port of Manila basis. Suppliers will be required to obtain all risk marine insurance at 12% C&F value of commodity and similar coverage for inland freight. Responsibility for port clearance will rest with FSDC. Tax exempt certificates of evidence of sufficient funds set aside by FSDC to pay import duties will be a prerequisite to USAID approval of IFBs. Receiving reports on all equipment will be furnished by FSDC to USAID.

G. Marking:

FSDC is aware of AID marking requirements, and will assure that all commodities financed by AID will be properly marked. Appropriate marking emblems or

materials will be purchased by FSDC and used on locally-purchased equipment or equipment imported from non-U.S. AID Geographic Code 941 sources.

H. Procurement Schedule:

Preliminary work on procurement of supplies will occur concurrently with FSDC efforts to meet conditions precedent. Target date numbers refer to the number of days cited after conditions precedent have been met and disbursement is authorized. These target dates should be viewed on goods and may vary for 60-90 days over the cycle of procurement.

Target Date	Action To Be Taken
+ 30	IFB No. 1 submitted to USAID for review and approval.
+ 60	IFB No. 1 finalized, issued, and advertized.
+ 120	Bid opening IFB No. 1.
+ 160	Bid awards issued to suppliers under IFB No. 1, Direct L/Coms and/or L/Cs issued.
+ 175	IFB No. 2 submitted to USAID for review and approval.
+ 200	IFB No. 2 issued and advertised.
+ 260	Bid opening IFB No. 2
+ 290	Awards to suppliers IFB No. 2, Direct L/Coms or L/Cs issued.
+ 260 to + 500	Arrival of commodities at Port of Manila and transportation to project sites.

See Page 3 of this Annex for Illustrative Equipment List

Illustrative Equipment List:

IFB No. 1

Item	Quantity	Approx. CIF Unit Cost	Approx. CIF Total Cost
4-Wheel Drive Utility veh.	20	$10,000	$200,000
20-Seat Busses	4	22,000	88,000
10-T Dump Truck	4	30,000	120,000
6-T Dump Trucks	8	20,000	160,000
Engineer Transits	30	1,200	36,000
Engineer Levels	30	700	21,000
Radio Equipment	1 set	22,000	22,000
	Sub-Total		$647,000

IFB No. 2

Item	Quantity	Est. Cost
Computer System and necessary software*	1	$200,000

Local Purchases

Small value items for FSDC Office: (over life of project)	225,000
Total Commodity Cost	1,072,000
+ 15% contingency (rounded)	178,000
TOTAL	$1,250,000

*Subject to necessary AID/W approval.

KAISA Enterprise Development

The development of income-generating projects in the KAISA is a major strategy addressed to the objective of providing additional income to ISAs. Moreover, the profits generated by these enterprises will be used to sustain the institutional development needs of member ISAs.

KAISA enterprises will be selected and planned according to the available resources and needed services of the member ISAs, and in accordance with the desires and capabilities of the ISA farmers. The feasibility of enterprises will be determined by the KAISA's Business Management Unit through project feasibility studies. Identification of potential enterprises is made through consultations with farmers, member ISAs, and local businessmen, and through baseline surveys conducted by Institutional Officers and ISA representatives. If the enterprise appears to have merit, a full feasibility study is conducted through assistance from FSDC. FSDC will hire consultants, at the provincial level when available, to gather data from the proposed site of the enterprise and to assess assumptions based on their knowledge of local conditions. In the origin and selection of proposed enterprises, FSDC will rely heavily on the opinions and experiences of ISA farmers and local businessmen and on the past performance of the ISAs themselves.

Aside from assistance in identifying and planning enterprises, FSDC extends Enterprise Development Loans (EDLs) to finance the investment requirements. KAISAs will avail themselves of these loans through written application supported by the formal project feasibility study. The final review of the proposal is done at FSDC's Central Office by a committee of specialists from various departments and also by the contracted agricultural consultants. If this committee and the consultants judge the application loan-worthy, it will then be submitted for endorsement to and approval by the FSDC Board of Administrators. (FSDC's Board is composed of the following members: Alfredo L. Juinio, Minister, Ministry of Public Works; Onofre D. Corpuz, Minister, Ministry of Education and Culture; Jesua T. Tanchangco, Administrator, National Food Authority; Domingo F. Panganiban, Executive Director, National Food and Agriculture Council; Pedro G. Dumol, Administrator, National Electrification Administration; Fiorello R. Estuar, Administrator, National Irrigation Administration; and Ex-Officio Member, Theodoro C. Ray, Jr., Administrator, Farms Systems Development Corporation.) Once the enterprise has been approved, the Area Office releases the cash portion of the enterprise loan to the KAISA. This will be done on a staggered basis to ensure that the KAISA equity--cash, land, labor, materials--is paid within one year after the date of the first release.

Under FSDC's policy, KAISA equity usually amounts to approximately ten percent of the estimated total cost for enterprise development. As to how net profits earned by the enterprises will be distributed, plans have not yet been made. Net profits may be distributed in the form of dividends or used for capital formation or for expanded services to the KAISA members. However, the exact way in which profits are distributed will be determined by the KAISAs themselves.

Before the enterprise gets underway, however, FSDC will arrange training programs for the managers who will operate the enterprise. These programs

are intended to build the KAISA's ability to effectively operate the business. Such training is conducted through formal classes and apprenticeships in existing firms engaged in the same kind of enterprise. Corresponding activities will also be conducted for other personnel involved in line operations.

FSDC's Area Offices will keep records of all KAISA financial transactions while the Central Office will ensure that bookkeeping systems and procedures are properly implemented. The Area Office will see that all KAISA collections are accounted for and deposited in a KAISA bank account. Internal control of financial transactions will be followed at all times. Disbursements of FSDC for the account of the KAISA will be pre-audited. Financial reports will be submitted by the Area Offices to the Central Office and to the KAISA Board. The KAISA too will implement internal control systems to be prescribed by the Area Offices.

The Business Management Unit will also carry out specific functions through two sub-units: production and marketing. The latter will identify markets for the produce of KAISA members. Its functions will extend to the efficient operation of trucking services and other post-harvest activities in which the KAISA may engage. As the KAISA enterprises expand, it is envisioned that the operational units under the Business Management Unit will be enterprise-based, each with an enterprise operator and supervisor.

FSDC will assist the KAISAs in identifying and negotiating for Metro Manila or foreign markets by providing market supply and demand information, developing marketing strategies to be adapted to local conditions, and through legal assistance in marketing operations such as permits, licenses, and contracts.

An Example of a KAISA Enterprise: Integrated Rice Processing

At this point, the enterprise deemed most illustrative of that which KAISAs may be expected to select is the integrated rice processing enterprise. This enterprise is a package of complementary services directed toward answering the processing and marketing needs now prevalent among ISAs. The services consist of: threshing, trucking, drying, milling, warehousing, and rice trading. This enterprise is based on the following three considerations:

a) It is the product of experiences and lessons learned from the first KAISA, the Capiz Federation, established in 1977. Composed of twelve ISAs covering 720 hectares and 553 farmer members, the Capiz Federation's enterprise consisted only of trucking, drying, and warehousing services. The storage facility was built in answer to storage needs arising from farmers' anticipation of higher palay prices during lean months. As such, only trucking and drying were tied up with storage services. However, farmer patronage did not reach expected levels because of the absence of the other complementary services such as milling and trading. The Capiz Federation had no facilities to mill the farmers' produce, nor the trading capital to purchase their palay upon harvest. Farmers simply preferred ready cash payment from middlemen rather than the expectation of higher palay prices in the future.

b) The integrated rice processing enterprise provides the needed participation of the private sector in helping solve a critical bottleneck to increased farmer income--marketing. The National Food Authority's marketing support has been inadequate and unable to keep pace with increased production. This enterprise helps to bridge the gap between NFA's services and the demands arising from increased rice production.

c) The enterprise is aligned with AID's recommendations stated in the 1980 Impact Evaluation--that FSDC concentrate on developing and improving the productive capacity of farming systems in operational irrigation areas. BISA farmers are now consolidated to serve as the resource base for processing and marketing enterprises.

KAISAs selecting this enterprise will do so on the basis of the following criteria: first, that there is a deficit in drying and milling capacity within the province of the proposed integrated enterprise, and second, that ISAs within the service area of the enterprise must be able to supply at least 45,000 cavans per year net of their marketable surplus to the KAISA.

Project studies will be made at the project level in consultation with the National Food Authority consultants and the agricultural consultants funded under this loan. The training support from FSDC for this enterprise covers technical skills and on-the-job training for the operations supervisor, ricemill operators, and drier operators. (For an analysis of this enterprise, see the Economic Feasibility Section. For a detailed description of the KAISA Program, see Annex G.)

The federation component of this AID loan represents an innovative departure from past assistance to FSDC. It is recognized as being experimental; ISA federations and enterprise development have always been a part of FSDC's long-term strategy. As an integrated plan, the BISA Program is envisioned to undergo three stages of development. Stage I saw the organization of farmers into ISAs and the development of irrigation systems. Stage II, the stage into which the Program is now moving, is the consolidation of ISAs into provincial federations and the development of farm business enterprises. (Stage III is the further integration of ISA federations into a national union.)

Again, both FSDC and USAID recognize that the development of business enterprises in the ISA federations is not yet a proven activity and, therefore, it will require a cautious approach. The number of KAISAs selected to initiate enterprises under this loan is stated as "approximately twenty." However, if fewer than twenty appear feasible, then fewer will be selected. There is nothing fixed in the number of KAISAs to undertake enterprises, nor is there anything fixed in the kinds of enterprises to be proposed. Also, each enterprise proposed will have been scrutinized on several levels before submission to the FSDC Board of Administrators. The submission and approval of enterprises is not viewed as a mere paper exercise. FSDC agrees with USAID that the kind of enterprises selected is more important than the number, and the Corporation is prepared to reject them. Loan funds programmed for enterprise development, but not used, will be re-programmed to assist FSDC in other components of this project. Through close project monitoring and an evaluation at the end of three years, the decision will be made on this matter.

ANNEX J

FSDC is aware that to operate a business enterprise, the KAISA staff must develop skills in managing capital resources profitably. To that end, the Corporation is providing extensive technical assistance and training. Also, one million dollars in AID loan funds have been allocated for farm systems and rural enterprise consultants. FSDC remains realistic as it embarks on this second stage of Program development, and should their own or external evaluations of the project indicate that re-design or major modifications are in order, FSDC is prepared to make them. Routine adjustments as a result of day-to-day monitoring are assumed.

WITHOUT PROJECT ECONOMIC FARM PLAN[1]

(PESOS)

ITEM	Dry First Crop	Wet Second Crop	Annual Years 1-25
I. Net Yield (cavans)	38	43	
Gross Production Value[2] (Shadow Price)	3078	3483	6561
II. Farm Level Production[3]			
A. Hired Labor (shadow price)[4]			
1. Land Clearing	18	24	
2. Land Preparation			
a. Plowing	148	148	
b. Harrowing	148	148	
c. Puddling	-	-	
3. Clearing/Repairing of Dikes	22	24	
4. Transplanting/Planting	136	175	
5. Replanting	17	11	
6. Weeding	71	50	
7. Spraying	16	11	
8. Harvesting & Threshing	269	243	
9. Drying	14	28	
10. Hauling	6	8	
Sub-Total (A)	865	870	
B. Material Cost			
1. Seeds	83	68	
2. Fertilizer (shadow price)[5]	270	270	
3. Chemical	63	40	
Sub-Total (B)	416	378	
C. Other Expenses			
Miscellaneous	20	20	
Sub-Total (C)	20	20	
III. Total Costs	1301	1268	2569
IV. Net Production Value	1777	2215	3992

1/ All figures are calculated on a "per hectare" basis. Shadow prices are calculated in footnoted tables. All other figures are previously calculated in the FINANCIAL SECTION of the appendix and can be found in Annexes N-17 and N-18 "Income Statement - Farmer Level".

2/ Shadow price calculated in Stat Annex 9.

3/ Due to the lack of alternative employment opportunities family labor has been shadow priced at ₱0.00.

4/ Shadow price calculated in Stat Annex 11.

5/ Shadow price calculated in Stat Annex 12.

NEW CONSTRUCTION: IRRIGATION PROJECT

ECONOMIC FARM PLAN 1/

Annex K-2

(PESOS PER HECTARE)

	Dry Season 1	2	3	4	5	6-25	Wet Season 1	2	3	4	5	6-25
I. Net Yield (cavans)	38	70	75	77	80	85	43	60	60	67	70	75
Gross Production Value 2/ (Shadow Price)	3078	5670	6075	6237	6480	6885	3483	4860	4860	5427	5670	6075
II. Farm Level Production												
A. Hired Labor (Shadow Price) 3/												
1. Land Clearing	18	25	19	19	19	19	24	29	29	22	22	22
2. a. Plowing	148	126	165	165	165	165	148	126	126	164	164	164
b. Harrowing	148	126	126	126	126	126	148	126	126	126	126	126
c. Puddling	-	42	42	42	42	42	-	42	42	42	42	42
3. Clearing/Repair of Dikes	22	24	24	24	24	24	24	46	46	24	24	24
4. Transplanting/Planting	136	198	117	117	117	117	175	224	224	134	134	134
5. Replanting	17	8	22	22	22	22	11	17	17	16	16	16
6. Weeding	71	59	66	66	66	66	50	82	82	67	67	67
7. Spraying	16	11	19	19	19	19	11	10	10	17	17	17
8. Harvesting & Thresing	269	248	318	318	342	364	243	340	224	251	261	280
9. Drying	14	20	26	26	27	30	28	29	29	29	29	29
10. Hauling	6	10	13	13	14	14	8	11	11	13	13	15
Sub-Total (A)	865	897	957	957	983	1008	870	1082	966	905	915	936
B. Material Cost												
1. Seeds	83	80	59	59	59	59	68	55	55	58	58	58
2. Fertilizer (Shadow price) 4/	270	270	405	405	405	405	270	270	270	405	405	405
3. Chemical	63	60	77	77	77	77	40	45	45	68	68	68
Sub-Total (B)	416	410	541	541	541	541	378	370	370	531	531	531
C. Other Expenses												
Construction Cost 5/	4737	-	-	-	-	-	-	-	-	-	-	-
Irrigation Fee 6/	-	31	36	40	49	49	-	31	36	40	49	49
Semestral Fee	-	5	5	5	5	5	-	5	5	5	5	5
Institutional Cost 7/	-	-	-	-	-	-	168	168	168	168	168	168
Engineering Items 7/		-	-	-	-	-	12	-	-	-	-	-
Technical Assistance 7/	-	-	-	-	-	-	11	11	-	-	-	-
Miscellaneous	20	20	20	20	20	20	20	20	20	20	20	20
Sub-Total (C)	4757	56	61	65	74	74	211	235	229	233	158	158
III. TOTAL COSTS	6038	1363	1559	1563	1598	1623	1459	1687	1565	1669	1604	1625

1/ All figures are calculated on a "per hectare" basis. Shadow prices are claculated in footnoted tables. All other figures are previously calculated in the FINANCIAL SECTION of the annex and can be found in Annexes N-17 and N-18, "Income Statement - FARMER LEVEL".

2/ Shadow price of palay calculated in Stat Annex-9.

3/ Shadow price of unskilled labor calculated in Stat Annex-11. Family labor is shadow priced as 0 due to a lack of alternative employment opportunities.

4/ Shadow price of fertilizer calculated in Stat Annex-12.

5/ Construction cost found in Annex N-26.

6/ Calculation of Irrigation Fee is found in Stat Annex-13.

7/ Calculation of these costs found in Stat Annex-15.

ANNEX K-2

ANNEX K-3

UPGRADING/REHABILITATION: IRRIGATION PROJECT
ECONOMIC FARM PLAN 1/
(PESOS PER HECTARE)

	DRY SEASON						WET SEASON					
	1	2	3	4	5	6-25	1	2	3	4	5	6-25
Net Yield (cavans)	38	70	75	77	80	85	43	60	60	67	70	75
Gross Production Value 2/ (shadow price)	3078	5670	6075	6237	6480	6885	3483	4860	4860	5427	5670	6075
Farm Level Production 3/												
A. Hired Labor (shadow price)												
1. Land Clearing	18	25	19	19	19	19	24	29	29	22	22	22
2.a Plowing	148	126	165	165	165	165	148	126	126	164	164	164
b Harrowing	148	126	126	126	126	126	148	126	126	126	126	126
c Puddling	-	42	42	42	42	42	-	42	42	42	42	42
3. Clearing/reparing dikes	22	24	24	24	24	24	24	46	46	24	24	24
4. Transplanting/planting	136	198	117	117	117	117	175	224	224	134	134	134
5. Replanting	17	8	22	22	22	22	11	17	17	16	16	16
6. Weeding	71	59	66	66	66	66	50	82	82	67	67	67
7. Spraying	16	11	19	19	19	19	11	10	10	17	17	17
8. Harvesting/threshing	269	248	318	318	342	364	243	340	224	251	261	280
9. Drying	14	20	26	26	26	26	28	29	29	29	29	29
10. Hauling	6	10	13	13	13	13	8	11	11	13	13	15
Sub-Total (A)	865	897	957	957	983	1008	870	1082	966	905	915	936
B. Material Costs												
1. Seeds	83	80	59	59	59	59	68	55	55	58	58	58
2. Fertilizer (shadow price) 4/	270	270	405	405	405	405	270	270	270	405	405	405
3. Chemicals	63	60	77	77	77	77	40	45	45	68	68	68
Sub-Total (B)	416	410	541	541	541	541	378	370	370	531	531	531
C. Other Expenses												
Upgrading/Rehabilitation Cost 5/	618	-	-	-	-	-	-	-	-	-	-	-
2. Irrigation Fee 6/	-	40	49	49	49	49	-	40	49	49	49	49
3.b Semestral Fee	-	5	5	5	5	5	-	5	5	5	5	5
Institutional Dev. 7/	-	-	-	-	-	-	168	168	168	168	84	84
Engineering Items 7/	-	-	-	-	-	-	12	-	-	-	-	-
Technical Assistance 7/	-	-	-	-	-	-	11	11	-	-	-	-
Miscellaneous	20	20	20	20	20	20	20	20	20	20	20	20
Sub-Total (C)	638	65	74	74	74	74	211	244	242	242	158	158
Total Costs	1919	1372	1572	1572	1598	1623	1459	1696	1578	1678	1604	1625

1/ All figures are calculated on a "per hectare" basis. Shadow prices are calculated in footnoted tables. Allother figures are previously calculated in the Financial section of the annex and can be found in Annexes N-24 and N-25.

2/Shadow price of palay calculated in Stat Annex -9.

3/Shadow price of unskilled labor calculated in Stat Annex-11. Family labor is shadow priced at ₱0 due to a lack of alternative employment opportunities.

4/Shadow price of fertilizer calculated in Stat Annex-12.

5/Upgrading/Rehab cost found in Annex N-27.

6/Calculation of irrigation fee is found in Stat Annex -14.

7/Calculation of these costs found in Stat Annex-15.

Best Available Document

BENEFIT/COST ANALYSIS (BCA)

IRRIGATION PROJECT

Because of the differences in irrigated areas in wet and dry seasons a BCA cannot be done at the FARMER LEVEL--it must be calculated at the ISA LEVEL. It will be beneficial to restate the following facts to facilitate working through the analysis and calculations:

- Average ISA size - 100 has.
- Average irrigated area under project:
  - (wet season) - 100 has.
  - (dry season) - 30 has.

The first step in the analysis is to take the "per hectare" gross production values and total costs (previously calculated in Annexes K-1, K-2, and K-3 and recalculate them for the ISA level of operations. This can be done by multiplying these "per hectare" figures by the number of hectares affected by the project in each season.

WITHOUT PROJECT ECONOMIC PLAN - ISA LEVEL

The dry season (first crop) and the wet season (second crop) areas are both 100 hectares so gross production values and total costs per hectare (Annex K-1) are multiplied by 100 for each year (I-25) of the project life.

NEW CONSTRUCTION
UPGRADING/REHABILITATION ECONOMIC PLAN - ISA LEVEL

During wet season under the project the full 100 hectares will be irrigated so per hectare gross production values and total costs(Annexes K-2 and K-3) are multiplied by 100 for each year (2-25) of the project life.1/

During dry season only 30 hectares are irrigated under the project so per hectare gross production values and total costs (Annexes K-2 and K-3) are multiplied by 30 for each year (2-25) of project life.2/ The assumption is made that the remaining 70 hectares in dry season will be farmed under "rainfed" conditions. Therefore, the per hectare figures in the "Without Project Economic Farm Plan" (Annex K-1) will be multiplied by 70 for each year (2-25) of project life. All of these new figures will be aggregated to arrive at ANNUAL gross production and ANNUAL total costs at the ISA LEVEL.

1/ During Year 1 there is no irrigation because the project is being constructed. Year 1 figures have been adjusted to reflect this so they can be multiplied by 100.

2/ Ibid.

WITHOUT PROJECT ECONOMIC PLAN--ISA LEVEL 1/

(00 PESOS)

	GROSS PRODUCTION VALUE						TOTAL COSTS					
	(years) 1	2	3	4	5	6-25	(years) 1	2	3	4	5	6-25
DRY SEASON (FIRST CROP)												
(x 100)	₱3078	3078	3078	3078	3078	3078	₱1301	1301	1301	1301	1301	1301
WET SEASON (SECOND CROP)												
(x 100)	₱3483	3483	3483	3483	3483	3483	₱1268	1268	1268	1268	1268	1268
ANNUAL FIGURES	₱6561	6561	6561	6561	6561	6561	₱2569	2569	2569	2569	2569	2569

1/ These calculations are based on the figures in Annex K-1

NEW CONSTRUCTION ECONOMIC PLAN--ISA LEVEL
(00 PESOS)

DRY SEASON

	GROSS PRODUCTION VALUE (years) 1*	2	3	4	5	6-25	TOTAL COSTS (years) 1*	2	3	4	5	6-25
(IRR x 30)1/	--	1701	1823	1871	1944	2066	--	409	468	469	479	487
(RAIN x 70)2/	--	2155	2155	2155	2155	2155	--	911	911	911	911	911
	₱3078						₱6038					

WET SEASON

(IRR x 100)3/	--	-4860	4860	5427	5670	6075	--	1687	1565	1669	1604	1625
	₱3483						₱1459					
ANNUAL FIGURES	₱6561	8716	8838	9453	9769	10296	₱7497	3007	2944	3049	2994	3023

*Year 1 figures multiplied by 100 in both wet and dry seasons because project not yet operational.
1/ Calculations based on figures in Annex K-2.
2/ Calculations based on figures in Annex K-1.
3/ Calculations based on figures in Annex K-2

UPGRADING/REHAB ECONOMIC PLAN--ISA LEVEL
(00 PESOS)

DRY SEASON

	GROSS PRODUCTION VALUE (years) 1*	2	3	4	5	6-25	TOTAL COSTS (years) 1*	2	3	4	5	6-25
*(IRR x 30)1/	--	1701	1823	1871	1944	2066	--	412	472	472	479	487
(RAIN x 70)2/	--	2155	2155	2155	2155	2155	--	911	911	911	911	911
	₱3078						₱1919					

WET SEASON

*(IRR x 100)3/	--	4860	4860	5427	5670	6075	--	1696	1578	1678	1604	1625
	₱3483						₱1459					
*ANNUAL FIGURES	₱6561	8716	8838	9453	9769	10296	₱3378	3019	2961	3061	2994	3023

*Year 1 figures are multiplied by 100 in both wet and dry seasons because the project is not yet operational.
1/ Calculations based on figures in Annex K-3.
2/ Calculations based on figures in Annex K-1.
3/ Calculations based on figures in Annex K-3.

DEPRIVATION OF YEARLY INCREMENTAL PRODUCTION[1/] VALUES AND COSTS FOR NEW ISA CONSTRUCTION
(00 PESOS)

	GROSS PRODUCTION VALUES			TOTAL COSTS		
YEAR	*WITH PROJECT	WITHOUT PROJECT	ANNUAL INCREMENT	WITH PROJECT	WITHOUT PROJECT	ANNUAL INCREMENT
1	6561	6561	0	7497	2569	4928
2	8716*	6561	2155*	3007	2569	438
3	8838*	6561	2277*	2944	2569	375
4	9453*	6561	2892*	3049	2569	480
5	9769*	6561	3208*	2994	2569	425
6-25	10296*	6561	3735*	3023	2569	454

1/ These figures are taken from Annexes K-4 and K-5.

DERIVATION OF YEARLY INCREMENTAL PRODUCTION VALUES[1/] AND COSTS FOR ISA UPGRADING/REHABILITATION PROJECT (00 PESOS)

	GROSS PRODUCTION VALUES			TOTAL COSTS		
YEAR	*WITH PROJECT	WITHOUT PROJECT	ANNUAL INCREMENT	WITH PROJECT	WITHOUT PROJECT	ANNUAL INCREMENT
1	6561	6561	0	3378	2569	809
2	8716*	6561	2155*	3019	2569	450
3	8838*	6561	2277*	2961	2569	392
4	9453*	6561	2892*	3061	2569	492
5	9769*	6561	3208*	2994	2569	425
6-25	10296*	6561	3735*	3023	2569	454

1/ These figures are taken from Annex K-4 and K-5.

A-1 BENEFIT/COST ANALYSIS: NEW CONSTRUCTION CASE - ISA LEVEL
(00 PESOS)

YEAR	TOTAL ECONOMIC BENEFITS 1/	TOTAL ECONOMIC COSTS 2/	PRESENT VALUE @15% BENEFITS	PRESENT VALUE @15% COSTS	NET UNDISCOUNTED BENEFITS	PRESENT VALUE NET BENEFITS @ 48% DISCOUNT RATE
1	0	4,928	0	4,285	(4,928)	(3,330)
2	2,155	438	1,629	331	1,717	739
3	2,277	375	1,497	247	1,902	587
4	2,892	480	1,654	274	2,412	503
5	3,208	425	1,595	211	2,783	392
6	3,735	454	1,615	196	3,281	312
7	3,735	454	1,404	171	3,281	211
8	3,735	454	1,221	148	3,281	143
9	3,735	454	1,062	129	3,281	96
10	3,735	454	923	112	3,281	65
11	3,735	454	803	98	3,281	44
12	3,735	454	698	85	3,281	30
13	3,735	454	607	74	3,281	20
14	3,735	454	528	64	3,281	14
15	3,735	454	459	56	3,281	9
16	3,735	454	399	49	3,281	7
17	3,735	454	347	42	3,281	4
18	3,735	454	302	37	3,281	3
19	3,735	454	262	32	3,281	2
20	3,735	454	228	28	3,281	1
21	3,735	454	198	24	3,281	1
22	3,735	454	173	21	3,281	.
23	3,735	454	150	18	3,281	.
24	3,735	454	130	16	3,281	.
25	3,735	454	113	14	3,281	.
			17,998	6,762		

Total = -145

Benefit/Cost @ 15% = 2.66
Present Value = ₱ 11,236

IRR = 48%

1/ This column is taken from Annex K-7 where it is identified as "Gross Production Value - Annual Increment"
2/ This column is taken from Annex K-7 where it is identified as "Total Costs - Annual Increment"
Note: Figures may not add exactly to totals due to rounding.

A-2 BENEFIT/COST ANALYSIS: SENSITIVITY TEST - NEW CONSTRUCTION
(00 PESOS)

YEAR	TOTAL ECONOMIC BENEFITS[1] - 20%	TOTAL ECONOMIC COSTS[2] + 20%	PRESENT VALUE @15% BENEFITS	PRESENT VALUE @15% COSTS	NET UNDISCOUNTED BENEFITS	PRESENT VALUE NET BENEFITS @ 30% DISCOUNT RATE
1	0	5,914	0	5,142	(5,914)	(4,549)
2	1,724	526	1,304	398	1,198	709
3	1,822	450	1,198	296	1,392	624
4	2,314	576	1,323	329	1,738	609
5	2,566	210	1,276	254	2,056	468
6	2,988	545	1,292	236	2,443	506
7	2,988	545	1,123	205	2,443	506
8	2,988	545	977	178	2,443	299
9	2,988	545	849	155	2,443	230
10	2,988	545	739	135	2,443	177
11	2,988	545	642	117	2,443	136
12	2,988	545	558	102	2,443	105
13	2,988	545	486	89	2,443	81
14	2,988	545	422	77	2,443	62
15	2,988	545	367	67	2,443	48
16	2,988	545	319	58	2,443	38
17	2,988	545	278	51	2,443	28
18	2,988	545	241	44	2,443	22
19	2,988	545	210	38	2,443	17
20	2,988	545	183	33	2,443	13
21	2,988	545	159	29	2,443	10
22	2,988	545	138	25	2,443	8
23	2,988	545	120	22	2,443	6
24	2,988	545	104	19	2,443	5
25	2,988	545	91	17	2,443	3
			14,399	8,115		Total = 161

Benefit/Cost @15% = 1.8
Present Value = ₱6,284

IRR = 30%

[1] This column is derived from Annex K-7 "Gross Production Values - Annual Increment"
[2] This column is derived from Annex K-7 "Total Costs - Annual Increment"
Note: Figures might not add exactly due to rounding.

B-1 BENEFIT/COST ANALYSIS: UPGRADING/REHABILITATION CASE - ISA LEVEL

YEAR	TOTAL ECONOMIC BENEFITS 1/	TOTAL ECONOMIC COSTS 2/	PRESENT VALUE @ 15% BENEFITS	PRESENT VALUE @ 15% COSTS	NET UNDISCOUNTED BENEFITS	PRESENT VALUE NET BENEFITS @ 200% DISCOUNT RATE
1	0	809	0	703	(809)	(270)
2	2,155	450	1,629	340	1,705	189
3	2,277	392	1,497	258	1,885	70
4	2,892	492	1,654	281	2,400	30
5	3,208	425	1,595	211	2,783	11
6	3,735	454	1,615	196	3,281	5
7	3,735	454	1,404	171	3,281	2
8	3,735	454	1,221	148	3,281	1
9	3,735	454	1,062	129	3,281	.
10	3,735	454	923	112	3,281	.
11	3,735	454	803	98	3,281	.
12	3,735	454	698	85	3,281	.
13	3,735	454	607	74	3,281	.
14	3,735	454	528	64	3,281	.
15	3,735	454	459	56	3,281	.
16	3,735	454	399	49	3,281	.
17	3,735	454	347	42	3,281	.
18	3,735	454	302	37	3,281	.
19	3,735	454	262	32	3,281	.
20	3,735	454	228	28	3,281	.
21	3,735	454	198	24	3,281	.
22	3,735	454	173	21	3,281	.
23	3,735	454	150	18	3,281	.
24	3,735	454	130	16	3,281	.
25	3,735	454	113	14	3,281	.
			17,998	3,207		Total = 39

Benefit/Cost @ 15% = 5.6
Present Value = ₱14,791

IRR = 200

1/This column is taken from Annex K-8 where it is identified as "Gross Production Value - Annual Increment"
2/This column is taken from Annex K-8 where it is identified as "Total Costs - Annual Increment"
Note: Figures may not add exactly to totals due to rounding.

B-2 BENEFIT/COST ANALYSIS: SENSITIVITY TEST - UPGRADING/REHAB

YEAR	TOTAL ECONOMIC BENEFITS[1] - 20%	TOTAL ECONOMIC COSTS[2] + 20%	PRESENT VALUE @ 15% BENEFITS	PRESENT VALUE @ 15% COSTS	NET UNDISCOUNTED BENEFITS	PRESENT VALUE NET BENEFITS @ 150% DISCOUNT RATE
1	0	971	0	844	(971)	(388)
2	1,724	540	1,304	408	1,184	189
3	1,822	470	1,198	309	1,352	87
4	2,314	590	1,323	337	1,724	44
5	2,566	510	1,276	254	2,056	21
6	2,988	545	1,292	236	2,443	10
7	2,988	545	1,123	205	2,443	4
8	2,988	545	977	178	2,443	2
9	2,988	545	849	155	2,443	1
10	2,988	545	739	135	2,443	.
11	2,988	545	642	117	2,443	.
12	2,988	545	558	102	2,443	.
13	2,988	545	486	89	2,443	.
14	2,985	545	422	77	2,443	
15	2,988	545	367	67	2,443	
16	2,988	545	319	58	2,443	
17	2,988	545	278	51	2,443	-
18	2,988	545	241	44	2,443	.
19	2,988	545	210	38	2,443	.
20	2,988	545	183	33	2,443	.
21	2,988	545	159	29	2,443	.
22	2,988	545	138	25	2,443	.
23	2,988	545	120	22	2,443	.
24	2,988	545	104	19	2,443	.
25	2,988	545	91	17	2,443	.
			14,399	3,709		Total = -29

Benefit/Cost @ 15% = 3.9
Present Value = ₱10,690

IRR = 150%

1/This column is derived from Annex K-8 "Gross Production Value - Annual Increment"
2/This column is derived from Annex K-8 "Total Costs - Annual Increment"
Note: Figures might not add exactly due to rounding.

[illegible] 1/

ANNEX E-13

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

1/ [illegible] Stat Annex-16.
2/ [illegible]
3/ [illegible]

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Annex K-14

SHADOW PRICE ADJUSTMENT FOR IMPORTED FUEL, OIL, AND LUBRICANTS[1/]

(PESOS)

	1	2	3	4	5-25
Threshing[2/]	0	27599	27599	27599	27599
Trucking[2/]	0	0	0	0	6584
Drying[2/]	0	42132	42132	42132	42132
Milling[2/]	0	13985	13985	13985	18398
Trading[2/]	0	9281	9281	9281	9281
Total Financial Cost @ ₱7.5 = $1	0	92997	92997	92997	103994
Economic Cost @ ₱9.00 = $1	0	111596	111596	111596	124793
Shadow Price Adjustment	0	18599	18599	18599	20799

1/ Imported fuel (including oil and lubricants) costs from Appendix J-20 were not previously shadow priced. An adjustment has been made for this oversight. In table an "economic" cost is calculated using the shadow exchange rate of ₱9.00 = $1.00 (Source: Project Economics Staff, NEDA). The difference between this economic cost and the actual financial cost is the shadow price adjustment.

2/ Figures taken from Annex -13.

CALCULATION OF TOTAL ECONOMIC COSTS: KAISA ENTERPRISES

(000 PESOS)

Year	Economic Costs 1/	Shadow Price Adjustment for Imported Fuel 2/	Total Economic Costs
1	1,510	0	1,510
2	3,171	19	3,190
3	3,011	19	3,030
4	3,011	19	3,030
5	2,993	21	3,014
6	3,477	21	3,498
7	2,984	21	3,005
8	3,092	21	3,113
9	2,916	21	2,937
10	2,984	21	3,005
11	3,868	21	3,889
12	2,984	21	3,005
13	2,993	21	3,014
14	2,984	21	3,005
15	3,092	21	3,113
16	3,477	21	3,498
17	2,993	21	3,014
18	2,984	21	3,005
19	2,984	21	3,005
20	2,984	21	3,005
21	3,877	21	3,898
22	3,092	21	3,113
23	2,984	21	3,005
24	2,984	21	3,005
25	2,993	21	3,014

1/ These figures taken from "Total Economic Costs" in Annex K-13.
2/ These figures taken from Annex K-14.

C-1. BENEFIT/COST ANALYSIS: KAISA ENTERPRISES (000 PESOS)

YEAR	TOTAL ECONOMIC BENEFITS 1/	TOTAL ECONOMIC COSTS 2/	PRESENT VALUE @ 15% BENEFITS	PRESENT VALUE @ 15% COSTS	NET DISCOUNTED BENEFITS	PRESENT VALUE NET BENEFITS @ 14.5% DISCOUNT RATE
1	0	1510	0	1313	(1510)	(1319)
2	2416	3190	1827	2412	(774)	(590)
3	3400	3030	2236	1992	370	246
4	3400	3030	1944	1732	370	215
5	3546	3014	1763	1498	532	270
6	3546	3498	1533	1512	48	21
7	3546	3005	1333	1130	541	210
8	3546	3113	1159	1018	433	147
9	3546	2937	1008	835	609	180
10	3546	3005	877	743	541	140
11	3546	3889	762	836	(343)	(77)
12	3546	3005	663	562	541	107
13	3546	3014	576	490	532	92
14	3546	3005	501	425	541	81
15	3546	3113	436	383	433	57
16	3546	3498	379	374	48	6
17	3546	3014	330	280	532	53
18	3546	3005	287	243	541	47
19	3546	3005	249	211	541	41
20	3546	3005	217	184	541	36
21	3546	3898	188	207	(352)	(20)
22	3546	3113	164	144	433	22
23	3546	3005	142	121	541	24
24	3546	3005	124	105	541	21
25	3546	3014	108	92	532	18
			₱18840	₱18840		Total -- 27

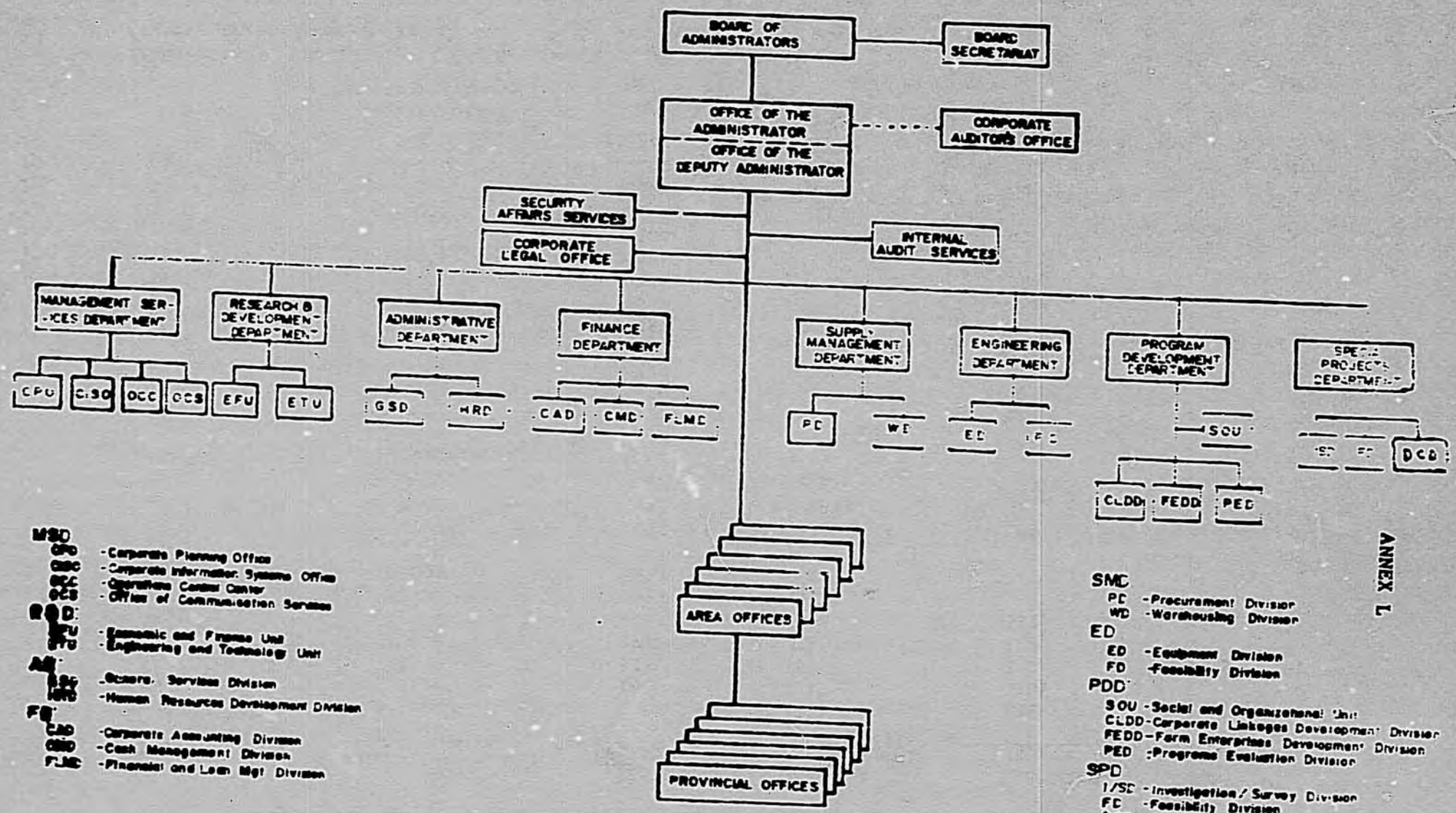
Benefit/Cost @ 15% = 1.0
Present Value = ₱0.0

IRR = 14.5%

1/ These figures taken from "TOTAL ECONOMIC BENEFITS" in Annex K-13.
2/ These figures taken from "TOTAL ECONOMIC COSTS" in Annex K-15.

NOTE: Total might not add exactly due to rounding.

FARM SYSTEMS DEVELOPMENT CORPORATION
ORGANIZATIONAL STRUCTURE



ANNEX 1

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FARM SYSTEMS DEVELOPMENT CORPORATION
BARANGAY IRRIGATORS SERVICE ASSOCIATION (BISA) PROGRAM
REPORT ON COLLECTION PERFORMANCE, 1976-80

(ISA REPAYMENT RECORD)

One of the goals of the BISA Program since its inception in 1974 has been to foster self-reliance among its farmer-beneficiaries. This has been the basic premise under which FSDC has drawn up intensive organizational development strategies to support its infrastructure program implemented through an agricultural credit program. Many facets of FSDC's development aspirations include increased productivity and income in the countryside, mobilization of farmers' active participation in government rural development projects and development of the entrepreneurial skills and capabilities of its farmer-clients.

One of the major indicators of self-reliance is the attainment of ISA financial viability or the ability of ISAs to settle their loan repayment obligations as they become due. The Corporation has therefore closely monitored the BISA Program's collection performance (ratio of amortization payments made to total obligations due for the period) to monitor developments in the Program's effectiveness with the end-view of identifying the possible factors which affect the farmers ability to repay their due obligations.

Over the five-year period, 1976-1980, the annual collection performance of the BISA Program averaged 51.4 percent. This is attributed to several problems which restrain the attainment of financial viability of ISAs. One of the major problems is the increasing operating expenses of ISAs for pump irrigation projects. The impact of the oil crisis has been felt in the increasing cost of diesel fuel and electricity which comprise the biggest portion of operating costs of ISAs. The second major factor which affects collection performance is the operational status of the irrigation systems. In some areas where typhoons and floods have brought about crop damage, the recovery of farmers is further hampered by technical damage in the irrigation system thereby discontinuing the supply of irrigation service for the next cropping period.

These two major problems have directly affected the BISA's collection performance as indicated by an analysis of past trends over the five-year period under study.

In 1976, amortization payments due amounted to ₱268,910 from both irrigation and farm mechanization loans. Of this amount, 54 percent was collected, indicating that the institutional development efforts to ensure timely payment ob debts were still taking root.

The annual collection rate peaked in 1977 at 71 percent of amortization payments due. Collections increased four-fold from ₱145,750 the previous year to ₱585,396 in 1977. This development largely owes itself to the boost in rice production during this year which enabled farmers to pay most of the loan payments which had become due. This was especially true in some provinces like Cagayan, Illocus Norte, Illocus Sur, and some

Mindanao provinces which not only fully met their obligations for the year, but also made advance payments.

The succeeding year, 1978, did not turn out as well. This was minly because of two major typhoons, "Weling" and "Kading" which occurred during the last quarter of the year, damaging wet-season crops of Central Luzon, Bicol, and Western Visayas. Many ISAs in these provinces were not able to meet their obligations because of the inability of affected farmers to pay irrigation fees. A collection rate of 30 percent during the year manifests the considerable repercussions suffered by many ISAs from these typhoons.

In 1979, many ISAs were still reeling from the damages brought by the previous year's typhoons. Their irrigation systems were still being rehabilitated. This situation was further aggravated with the round of oil price increases early in the year which exerted considerable inflationary pressures on the economy, particularly in the higher production costs of farmers and operating expenses of ISAs. On the part of the farmers, the positive gains from better production in the ISAs were offset by higher production costs, especially fertilizers and pesticides. At the ISA level, the impact of the oil price increase directly affected the cost of diesel fuel used in the operation of some pump projects. Electric power rates were also jacked up which further strained the financial resources of ISAs with electricially-driven pump irrigation projects. In spite of these financial difficulties, amortization collections doubled from ₱665,644 in 1978 to ₱1,280,215 in 1979. However, in terms of the payments which fell due, this amount only covers 31 percent.

Financial recovery of the ISAs and farmers has been slow and even further hampered by unanticipated adversities. In 1980, two major typhoons again brought crop damage equivalent to some 1.6 million cavans of palay. The first typhoon hit Northern Luzon provinces causing damage to 72 pump projects. These projects irrigate about 10,000 hectares for which the amount of ₱1.4 M has been released for restoration work. The second typhoon affected 120 pump projects with about 18,000 hectares tilled by some 6,000 rural families in Northern and Central Luzon. Calamity funds amounting to ₱2.6 M have been appropriated to these projects and in response to the ISAs' distress, loans were restructured to give farmers enough time to recover from their losses. Moratorium on principal and interest payments were granted to ISAs while technical restoration works were being undertaken. Collections amounted to ₱2,374,811 or 71 percent of the revised amortization schedule.

For the succeeding years, FSDC's program thrusts shall emphasize the attainment of financial viability at the ISA and at the farm level, which are clearly the main factors affecting amortization collections. Alternative sources of energy have been tapped by a new technology, the gasifier, which is currently being dispersed to ISAs. The project aims to help ISAs cut down expenses for diesel fuel. For ISAs with electricially-driven pump irrigation projects, special arrangements have been made with electric cooperatives to allow ISAs to stagger the payment of outstanding electric bills over a longer period of time.

To deal with the risk factors, i.e. typhoons, a new farm planning and management scheme is being developed and tested whereby thelevel of investment in production inputs is balanced with the possible losses that the farm sustains if a typhoon occurs. Simultaneously, other measures to provide more investment and employment opportunities are being taken to augment revenues of farmers and ISAs as well. It will take some time before all of these are institu-

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tionalized, but FSDC is optimistic that a better and more stabilized collection performance can be realized in the coming years as more and more ISAs will be attaining self-reliance.

ANNUAL COLLECTION PERFORMANCE
1976-1980

	1976	1977	1978	1979	1980
Collections	₱145,749	₱585,335	₱665,644	₱1,280,215	₱2,374,811
Amortization Due	268,910	819,023	2,212,844	4,171,838	3,343,000
Collection Rate	54%	71%	30%	31%	71%

Five-Year Average Collection Rate - 51.4%

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SUMMARY COST ESTIMATES BY SOURCE OF FUNDING (FINANCIAL PLAN)
U.S. DOLLAR EQUIVALENTS (000 DOLLARS)1/

PROJECT COMPONENTS	TOTAL COST	AID LOAN			AID GRANT			GOP
		TOTAL	LC	FX	TOTAL	LC	FX	LC TOTAL
I. Irrigation Development	2213	1660	1660	-	-	-	-	553
II. Institutional Development	10785	2745	2745	-	-	-	-	8040
III. Enterprise Development	4685	3514	3514	-	-	-	-	1172
IV. Upland Development	5264	2883	2883	-	-	-	-	2881
V. Commodities	780	780	-	780	-	-	-	-
VI. Technical Assistance	803	640	-	640	-	-	-	163
VII. Research & Development	120	-	-	-	120	120	-	-
VIII. Participant Training	283	-	-	-	189	-	189	93
IX. Evaluation	29	-	-	-	29	-	29	-
X. Project Administration	627	-	-	-	-	-	-	627
SUB-TOTAL	25092	12222	10802	1420	338	120	218	13532
Cost Escalation2/	11570	5169	4733	435	96	32	64	6305
15% Contingency	5650	2609	2330	279	65	23	42	2976
PROJECT TOTAL	43310	20000	17866	2134	500	175	325	22810

1/ Figures might not total exactly due to rounding.
2/ These figures are derived from the cost escalation figures in Annexes N-5 and N-7.

SUMMARY OF COST ESTIMATES BY SOURCE OF FUNDING (000 PESOS) 1/

PROJECT COMPONENTS	TOTAL COST	AID LOAN			AID GRANT			GOP
		TOTAL	LC	FX	TOTAL	LC	FX	LC TOTAL
I. Irrigation Development	16600	12450	12450	-	-	-	-	4150
II. Institutional Development	80888	20588	20588	-	-	-	-	60300
III. Enterprise Development	35138	26355	26355	-	-	-	-	8790
IV. Upland Development	43230	21623	21623	-	-	-	-	21608
V. Commodities	5860	5860	-	5850	-	-	-	-
VI. Technical Assistance	6020	4800	-	4800	-	-	-	1220
VII. Research & Development	900	-	-	-	900	900	-	-
VIII. Participant Training	2123	-	-	-	1418	-	1418	700
IX. Evaluation	218	-	-	-	218	-	218	-
X. Project Administration	4700	-	-	-	-	-	-	4700
SUB-TOTAL	195690	91665	81015	10650	2535	900	1635	101490
Cost Escalation	86775	38768	35498	3263	720	240	480	47288
15% Contingency	42371	19569	17476	2093	488	173	315	22314
PROJECT TOTAL	₱ 324820	₱ 150000	133990	16006	₱ 3750	1313	2431	₱ 171070

1/ These figures are derived from Annex N-1. The official exchange rate is: ₱7.5 = $1.00. Figures might not total exactly due to rounding.

PROJECT EXPENDITURE SCHEDULE BY ALL DONORS
(000 Dollars)

PROJECT COMPONENTS	1981	1982	1983	1984	1985	Sub-Total	Cost Escalation*	15% Contingency	Project Total
Irrigation Development	400	722	516	308	268	2213	800	452	3465
Institutional Development	-	3285	2826	2434	2240	10785	4803	2338	17926
Enterprise Development	1600	-	-	1491	1594	4685	2122	1021	7830
Upland Development	-	1718	-	1932	2116	5764	2931	1304	10000
Commodities	-	635	145	-	-	780	225	151	1156
Technical Assistance	-	401	401	-	-	803	263	160	1226
Research & Development	-	120	-	-	-	120	32	23	175
Participant Training	-	260	23	-	-	283	78	54	414
Evaluation	-	-	19	-	10	29	14	6	50
Project Administration	31	68	191	168	169	627	302	139	1068
SUB-TOTAL	2031	7210	4121	6333	6397	26092	-	-	-
Cost Escalation*	305	1911	1615	3363	4376	-	11570	-	-
15% Contingency	351	1368	861	1454	1616	-	-	5650	-
PROJECT TOTAL	2686	10488	6597	11152	12388	-	-	-	$43310

*Cost escalation is calculated based on the following assumptions: the inflation rate in 1981 = 15% and 10% each year thereafter. Therefore, the appropriate escalation factors are: 1981 - (.15) 1982 - (.265) 1983 - (.392) 1984 - (.531) 1985 - (.684)

Note: Figures might not total exactly due to rounding.

PROJECT EXPENDITURE SCHEDULE BY ALL DONORS
(000 PESOS)

Project Components	1981	1982	1983	1984	1985	Sub-Total	Cost Escalation*	15% Contingency	Project Total
Irrigation Development	3000	5413	3873	2308	2008	16600	5998	3388	25986
Institutional Development	-	24635	21198	18255	16800	80888	36020	17539	134446
Enterprise Development	12000	-	-	11183	11955	35138	15915	7658	58718
Upland Development	-	12886	-	14490	15870	43230	21983	9780	75000
Commodities	-	4763	1088	-	-	5850	1688	1133	8670
Technical Assistance	-	3010	3010	-		6020	1976	1203	9199
Research & Development	-	900	-	-	-	900	240	173	1313
Participant Training	-	1950	170	-	-	2123	585	405	3105
Evaluation	-	-	143	-	75	218	105	45	375
Project Administration	230	510	1430	1260	1270	4700	2268	1045	8013
SUB-TOTAL	15230	54075	30908	47498	47978	195690	-	-	-
Cost Escalation*	2285	14333	12113	25223	32820	-	86775	-	-
15% Contingency	2630	10260	6458	10905	12120	-	-	42371	-
PROJECT TOTAL	20144	78660	49478	83640	92910	-	-	-	₱324820

*Cost escalation is calculated based on the following assumptions: the inflation rate in 1981 = 15% and 10% each year thereafter. Therefore, the appropriate escalation factors are: 1981 - (.15) 1982 - (.265) 1983 - (.392) 1984 - (.531) 1985 - (.684)

The official exchange rate is: ₱7.5 = $1.00.

Note: Figures might not total exactly due to rounding.

PROJECTED EXPENDITURE SCHEDULE: USAID LOAN AND GRANT
(000 Dollars)

Project Components	Years 1981	1982	1983	1984	1985	Sub-Total	Cost 1/ Escalation	15% Contingency	Project Total
Irrigation Development	300	535	383	241	201	1,660	602	339	2,601
Institutional Development	-	978	893	874	-	2,745	1,073	573	4,391
Enterprise Development	1,200	0	0	1,106	1,208	3,514	1,594	766	5,874
Upland Development	-	859	0	966	1,058	2,883	1,464	652	5,000
Commodities	-	635	145	-	-	780	225	151	1,156
Technical Assistance	-	320	320	-	-	640	210	128	978
Research and Development*	-	120	-	-	-	120	32	23	175
Participant Training*	-	189	-	-	-	189	50	36	275
Evaluation*	-	-	19	-	10	29	14	6	50
SUB-TOTAL	1,500	3,636	1,760	3,187	2,477	12,560	-	-	-
Cost Escalation	225	964	690	1,692	1,694		5,265		
15% Contingency	259	690	367	732	626			2,674	
PROJECT TOTAL	1,984	5,290	2,817	5,611	4,797				$20,500

1/ Cost escalation is calculated based on the following assumptions: the inflation rate in 1981 = 15% and 10% each year thereafter. Therefore, the appropriate escalation factors are: 1981 - (.15) 1982 - (.265) 1983 - (.392) 1984 - (.531) 1985 - (.684)

*These are GRANT-FUNDED activities.

Note: Figures might not total exactly due to rounding.

PROJECTED EXPENDITURE SCHEDULE: USAID LOAN AND GRANT 1/
(000 Pesos)

Project Components	Years 1981	1982	1983	1984	1985	Sub-Total	Cost Escalation	15% Contingency	Project Total
Irrigation Development	2,250	4,013	2,873	1,808	1,508	12,450	4,515	2,543	19,508
Institutional Development	-	7,335	6,698	6,555	-	20,588	8,048	4,298	32,933
Enterprise Development	9,000	-	-	8,295	9,060	26,355	11,955	5,745	44,055
Upland Development	-	6,443	0	7,245	7,935	21,623	10,980	4,890	37,500
Commodities	-	4,763	1,088	-	-	5,850	1,688	1,133	8,670
Technical Assistance	-	2,400	2,400	-	-	4,800	1,575	960	7,335
Research and Development*	-	900	-	-	-	900	240	173	1,313
Participant Training*	-	1,418	-	-	-	1,418	375	270	2,063
Evaluation*	-	-	143	-	75	218	105	45	375
SUB-TOTAL	11,250	27,270	13,200	23,903	18,578	94,200	-	-	-
Cost Escalation	1,688	7,230	5,175	12,690	12,705		39,488		
15% Contingency	1,943	5,175	2,753	5,490	4,695	-	-	20,055	-
PROJECT TOTAL	14,880	39,675	21,128	42,083	35,978	-	-	-	₱153,750

1/ These figures are derived from Annex N-5.

The official exchange rate is: ₱7.5 = $1.00.

Note: Figures might not total exactly due to rounding.

* These are GRANT-FUNDED activities.

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PROJECTED EXPENDITURE SCHEDULE: GOP UNREIMBURSABLE CONTRIBUTION
(000 Dollars)

Project Components	Years 1981	1982	1983	1984	1985	Sub-Total	Cost Escalation*	15% Contingency	Project Total
Irrigation Development	100	187	133	67	67	553	198	113	864
Institutional Development	-	2,307	1,933	1,560	2,240	8,040	3,730	1,765	13,535
Enterprise Development	400	0	0	386	386	1,172	529	255	1,956
Upland Development	-	859	0	966	1,058	2,881	1,464	652	5,000
Commodities	-	-	-	-	-	-	-	-	-
Technical Assistance	-	81	81	-	-	163	53	32	248
Research & Development	-	-	-	-	-	-	-	-	-
Participant Training	-	71	23	-	-	93	28	18	139
Project Administration	31	68	191	168	169	627	302	139	1,068
SUB-TOTAL	531	3,573	2,361	3,147	3,920	13,532	-	-	-
Cost Escalation	80	947	926	1,671	2,681	-	6,305	-	-
15% Contingency	92	678	493	723	990	-	-	2,976	-
PROJECT TOTAL	702	5,198	3,779	5,541	7,591	-	-	-	$22,810

*Cost escalation is calculated based on the following assumptions: inflation rate in 1981 = 15% and 10% every year thereafter. The appropriate escalation factors are: 1981 - (.150) 1982 - (.265) 1983 - (.392) 1984 - (.531) 1985 - (.684)

Note: Figures might not total exactly due to rounding.

PROJECTED EXPENDITURE SCHEDULE: GOP UNREIMBURSABLE CONTRIBUTION*
(000 Pesos)

Project Components	Years 1981	1982	1983	1984	1985	Sub-Total	Cost Escalation	15% Contingency	Project Total
Irrigation Development	750	1,400	1,000	500	500	4,150	1,483	845	6,478
Institutional Development	-	17,300	14,500	11,700	16,800	60,300	27,972	13,241	101,513
Enterprise Development	3,000	0	0	2,895	2,895	8,790	3,968	1,913	14,663
Upland Development	-	6,443	0	7,245	7,935	21,608	10,980	4,890	37,500
Commodities	-	-	-	-	-	-	-	-	-
Technical Assistance	-	610	610	-	-	1,220	401	243	1,864
Research & Development	-	-	-	-	-	-	-	-	-
Participant Training	-	530	170	-	-	700	207	136	1,043
Project Administration	230	510	1,430	1,260	1,270	4,700	2,268	1,045	8,013
SUB-TOTAL	3,980	26,798	17 708	23,603	29,400	101,490	-	-	-
Cost Escalation	597	7,103	6,945	12,533	20,108	-	47,288	-	-
15% Contingency	687	5,085	3,698	5,423	7,425	-	-	22,314	-
PROJECT TOTAL	5,264	38,985	28,343	41,558	56,933	-	-	-	₱171,070

*These figures are derived from Annex N-7, using the official exchange rate of ₱7.50 = $1.00.

Note: Figures might not total exactly due to rounding.

COST OF PROJECT OUTPUTS BY SOURCE OF FUNDING (000 DOLLARS)

Project Outputs	Total Magnitude of Output	Total Project Cost	USAID Loan	USAID Grant	GOP
I. Irrigation Development		2,213	1,660	-	553
A. Upgrading/rehab. of irrigation projects (See Stat. Annex - 1)	60 projects (6,000 has.)	400	300	-	100
B. Construction of new irrigation systems (See Stat. Annex - 2)	34 projects (3,400 has)	1,813	1,360	-	453
II. Institutional Development		10,785	2,745		8,040
A. No. of new ISAs organized	220 ISAs		628		
B. Training for field implementors					
1. General Managers of KAISAs					
a) program mgt. trg.	64 GMs		15		
b) enterprise mgt. trg. I	64 GMs		18		
c) enterprise mgt. trg. II	64 GMs		18		
2. KAISA Board Members					
b) enterprise mgt. trg. I	90		6		
c) enterprise mgt. trg. II	90		6		
3. Institutional Officers					
a) basic institutional development trg.	1,023 IOs		279		
b) basic mgt. trg.	1,023 IOs		209		
c) enterprise mgt. trg. I	1,023 IOs		279		
d) enterprise mgt. trg. II	1,023 IOs		279		
4. Provincial communication/Training Officers					
a) Trainors' training I	30 PCTOs		4		
b) Trainors' training II	30 PCTOs		4		

Project Outputs	Total Magnitude of Output	Total Project Cost	USAID Loan	USAID Loan	GOP
C. ISA Level Trainings					
1. Phase I development consisting of 6 trg. packages for 1 to 2 year-old ISAs	500 ISAs trained		200		
2. Phase II development consisting of 10 trg. packages for 3 to 5 year-old ISAs	1,000 ISAs		667		
3. Phase III development consisting of 2 trg. packages for mature ISAs	500 ISAs		133		
III. Enterprise Development (See Stat Annex-8)		4,685	3,154		1,172
A. No. of KAISA enterprise projects	20 KAISAs*				
B. KAISA enterprise and people trained					
1. Operations Supervisors	20				
2. Ricemill Operators	20				
3. Drier Operators	120				
4. Thresher Operators	36				
5. Traders	20				
IV. Upland Development		5,764	2,883		2,881
A. ISA Organization	40 ISAs	740	370		370
B. Water Resource Development	40 Projects	3,250	1,625		1,625
1. Impounding Reservoir					
2. Irrigation System					
C. Enterprise Development (Establishment of crop, fisheries, livestock/ poultry, tree farming and cottage industry projects in each site.)	40 Projects	1,774	888		886

V. Commodities Procured under the Project
(See Stat Annex-3)

A. Jeeps		780	780
B. 10-12 tonner trucks	20		
C. Engr. Transits	4		
D. Engr. Levels	30		
E. 6 tonner trucks	30		
F. SSB Radio Test Equipment	10		
G. Computer System	1		
H. Passenger Vans	1		
	8		

*Assumes six pilot tests justify implementation of all twenty KAISA enterprise projects.

Project Outputs	Total Magnitude of Output	Total Project Cost	USAID Loan	USAID Grant	GOP
VI. Technical Assistance (See Stat. Annex -4)		803	640	-	163
- Consultancy services acquired thru this project					
A. Rural enterprise spec.	2				
B. Farming systems advisor	2				
VII. Research and Development (See Stat. Annex-5)		120	-	120	-
A. Projects to be assisted					
1. Non-irrigation application of producer gas	2 projects				
2. Solar energy utilization	1 project				
3. Hydro-power utilization	2 projects				
4. Low-cost irrigation technology	1 project				
VIII. Participant Training (See Stat. Annex-6)		283	-	189	93
People trained on:					
A. Grain storage and marketing	6				
B. Livestock and crop management	6				
C. Mgt. of agricultural coop	21				
D. Computer technology	2				
E. Farming systems/rural based enterprises	680				
F. Agribusiness management	1				
G. Farm planning and budgeting	40				
IX. Evaluation		29	-	29	-
X. Project Administration (See Stat. Annex-7)		627	-	-	627
SUB-TOTAL		26,092	12,222	338	13,532
Cost Escalation		11,570	5,169	96	6,305
15% Contingency		5,650	2,609	65	2,976
PROJECT TOTAL		$43,310	20,000	500	22,810

COST OF PROJECT OUTPUTS BY SOURCE OF FUNDING (000 PESOS)[1/]

Project Outputs	Total Magnitude of Output	Total Project Cost	USAID Loan	USAID Grant	GOP
I. Irrigation Development		16,000	12,450		4,150
A. Upgrading/rehab. of irrigation projects	60 projects	3,000	2,250		750
B. Construction of new irrigation systems	(6,000 has)	13,600	10,200		3,400
II. Institutional Development		80,888	20,588		60,300
A. No. of new ISAs organized	220 ISAs		4,710		
B. Training for field implementors					
1. General Managers of KAISAs					
a) program mgt. trg.	64 GMs		113		
b) enterprise mgt. trg. I	64 GMs		135		
c) enterprise mgt. trg. II	64 GMs		135		
2. KAISA Board Members					
b) enterprise mgt. trg. I	90		45		
c) enterprise mgt. trg. II	90		45		
3. Institutional Officers					
a) basic institutional development trg.	1,023 IOs		2,092		
b) basic mgt. trg.	1,023 IOs		1,568		
c) enterprise mgt. trg. I	1,023 IOs		2,092		
d) enterprise mgt. trg. II	1,023 IOs		2,092		
4. Provincial Communication/Training Officers					
a) Trainors' training I	30 PCTOs		30		
b) Trainors' training II	30 PCTOs		30		

1/ These figures are derived from Annex N-9. The official exchange rate is ₱7.5 = $1.00

Project Outputs	Total Magnitude of Output	Total Project Cost	USAID Loan	USAID Grant	GOP
C. ISA Level Trainings					
1. Phase I development consisting of 6 trg. packages for 1 to 2 year-old ISAs	500 ISAs trained		1,500		
2. Phase II development consisting of 10 trg. packages for 3 to 5 year-old ISAs	1,000 ISAs		5,003		
3. Phase III development consisting of 2 trg. packages for mature ISAs	500 ISAs		998		
III. Enterprise Development		35,138	26,355		8,790
A. No. of KAISA enterprise projects	20 KAISAs*				
B. KAISA enterprise and people trained					
1. Operations Supervisors	20				
2. Ricemill Operators	20				
3. Drier Operators	120				
4. Thresher Operators	36				
5. Traders	20				
IV. Upland Development		43,230	21,623		21,608
A. ISA Organization	94 ISAs	5,550	2,775		2,775
B. Water Resource Development	94 Projects	24,375	12,188		12,188
1. Impounding Reservoir					
2. Irrigation System					
C. Enterprise Development (Establishment of crop, fisheries, livestock, poultry, tree farming and cottage industry projects in each site.)	94 Projects	13,305	6,660		6,645

V. Commodities Procured under the Project		5,850	5,850
A. Jeeps	20		
B. 10-12 tonner trucks	4		
C. Engr. Transits	30		
D. Engr. Levels	30		
E. 6 tonner Trucks	10		
F. SSB Radio Test Equipment	1		
G. Computer System	1		
H. Passenger Vans	8		

*Assumes six pilot test justify implementation of all twenty KAISA enterprise projects.

Project Outputs	Total Magnitude of Output	Total Project Cost	USAID Loan	USAID Grant	GOP
VI. Technical Assistance		6,020	4,800		1,220
- Consultancy services acquired thru this project					
A. Rural enterprise spec.	2				
B. Farming systems advisor	2				
VII. Research and Development		900		900	
A. Projects to be assisted					
1. Non-irrigation application of producer gas	2 projects				
2. Solar energy utilization	1 project				
3. Hydro-power utilization	2 projects				
4. Low-cost irrigation technology	1 project				
VIII. Participant Training		2,123		1,418	700
People trained on					
A. Grain storage and marketing	6				
B. Livestock and crop management	6				
C. Management of agricultural coop.	21				
D. Computer technology	2				
E. Farming systems/rural based enterprises	60				
F. Agribusiness management	1				
G. Farm planning and budgeting	40				
IX. Evaluation		218	-	218	-
X. Project Administration		4,700			4,700
SUB-TOTAL		195,690	91,665	2,535	101,490
Cost Escalation		86,775	38,768	720	47,288
15% Contingency		42,371	19,569	488	22,314
PROJECT TOTAL		324,820	150,000	3,750	171,070

MAGNITUDE OF OUTPUTS

PROJECT OUTPUTS	1981	1982	1983	1984	1985	TOTAL
I. Irrigation Development						
a. Upgrading/rehab. of irrigation projects (See Stat Annex 1)	60 projects (6,000 has.)	-	-	-	-	60 6,000
b. Construction of new irrigation systems (See Stat Annex 2)		14 projects (1,400 has.)	10 1,000	5 500	5 500	34 3,400
II. Institutional Development						
a. No. of new ISAs organized	-	70	50	50	50	220
b. Training for field implementors						
- General Managers						
Project Management Training	-	32	32	-	-	64
Enterprise Management I	-	-	32	32	-	64
Enterprise Management II	-	-	-	32	32	64
- KAISA Board Members						
Enterprise Management I	-	90	-	-	-	90
Enterprise Management II	-	-	90	-	-	90
- Institutional Officers						
Basic Institutional Dev. Training	-	1.023	-	-	-	1,023
Basic Management Training:	-	-	1,023	-	-	1.023
Enterprise Management I	-	50	450	523	-	1,023
Enterprise Management II	-	50	450	523	-	1,023
- Provincial Communication/Training Officers						
Trainors' Training I	-	30	-	-	-	30
Trainers' Training II	-	-	-	30	-	30
c. ISA Level Trainings						
- Phase I development consisting of 6 training packages for 1 to 2 year-old ISAs						500

ANNEX N-11

PROJECT OUTPUTS	1981	1982	1983	1984	1985	TOTAL
- Phase II development consisting of 10 training packages for 3 to 5-year old ISAs						1,000
- Phase III development consisting of 2 training packages for mature ISAs						500
III. Enterprise Development (See Stat Annex 8)						
- No. of KAISA enterprise projects	-	6	-	7	-	20*
- KAISA enterprise and people trained						
- Operations Supervisors	6	7	7	-	-	20
- Ricemill Operators	6	7	7	-	-	20
- Drier Operators	36	42	42	-	-	120
- Thresher Operators	12	14	14	-	-	36
- Traders	6	7	7	-	-	20
IV. Upland Development						
A. ISA Organization						40
B. Water Resource Development						40
1. Impounding Reservoir						
2. Irrigation System						
C. Enterprise Development (Establishment of crop, fisheries, livestock/ poultry, tree farming and cottage industry projects in each site.)						40
V. Commodities Procured under the Project (See Stat Annex 3)						
- Jeeps	-	20	-	-	-	20
- 10-12 Tonner Trucks	-	4	-	-	-	4
- Engr. Transits	-	30	-	-	-	30
- Engr. Levels	-	30	-	-	-	30
- 6 Tonner Trucks	-	10	-	-	-	10
- SSB Radio Test Equipment	-	1	-	-	-	1
- Computer System	-	-	1	-	-	1
- Passenger Vans	-	8	-	-	-	8
VI. Technical Assistance (See Stat Annex 4)						
- Consultancy services acquired through this project						
- rural enterprise spec.	-	2	(from 1982 to 1983)			2
- farming systems advisor	-	2	(from 1982 to 1983)			2

*Assumes six pilot tests justify implementation of all twenty KAISA enterprise projects.

PROJECT OUTPUTS	1981	1982	1983	1984	1985	TOTAL
VII. Research and Development (See Stat Annex 5)						
a. Projects to be assisted						
- non-irrigation application of producer gas	-	2	-	-	-	2
- solar energy utilization	-	1	-	-	-	1
- hydro-power utilization	-	2	-	-	-	2
- low-cost irrigation technology	-	1	-	-	-	1
VIII. Participant Training People Trained on (See Stat Annex 6)						
a. Grain storage and marketing	-	3	3	-	-	6
b. Livestock and crop management	-	3	3	-	-	6
c. Management of Agricultural Coop.	-	21	-	-	-	21
d. Computer Technology	-	2	-	-	-	2
e. Farming Systems/Rural Based Enterprises	-	30	30	-	-	60
f. Agribusiness Management	-	1	-	-	-	1
g. Farm Planning and Budgeting	-	40	-	-	-	40

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NEW CONSTRUCTION PROJECT

SUMMARY OF FARMER NET RETURNS
(Pesos)

WITH KAISA SUPPORT

	Years					
	0 1/	1	2	3	4	5
Type I 2/	₱ 561	₱3,239	₱3,521	₱4,204	₱4,692	₱5,518
Type II 3/	₱ 561	1,030	1,282	1,731	1,965	2,339

WITHOUT KAISA SUPPORT

Type I 4/	₱ 561	₱2,936	₱3,176	₱3,745	₱4,148	₱4,901
Type II 5/	₱ 561	716	967	1,357	1,549	1,889

1/ Present situation - before project is "on-stream."
2/ Figures taken from "Net Returns", Annex N-13
3/ Figures taken from "Net Returns", Annex N-14
4/ Figures taken from "Net Returns", Annex N-15
5/ Figures taken from "Net Returns", Annex N-16

NEW CONSTRUCTION PROJECT WITH KAISA SUPPORT

TYPE I (IRRIGATION IN BOTH WET AND DRY SEASON

NET RETURNS - FARMER LEVEL 1/
(Pesos)

	Years					
	0	1	2	3	4	5
INCOME						
Dry	2,090	3,938	4,238	4,380	4,570	4,868
Wet	1,935	2,790	2,790	3,140	3,300	3,545
Sub-total	4,025	6,728	7,028	7,520	7,870	8,413
EXPENSES						
Dry	1,852	2,306	2,588	2,592	2,633	2,665
Wet	1,843	2,517	2,369	2,455	2,477	2,502
Sub-total	3,695	4,823	4,957	5,047	5,110	5,167
NET RETURNS (per hectare)	330	1,905	2,071	2,473	2,760	3,246
Average farm size	1.7	1.7	1.7	1.7	1.7	1.7
NET RETURNS for average farm	₱ 561	3,239	3,521	4,204	4,692	5,518

1/ Income and Expenses are found in Annexes N-17 and N-18.

NEW CONSTRUCTION PROJECT WITH KAISA SUPPORT

TYPE II (IRRIGATION - WET SEASON)
(RAINFED - DRY SEASON)

NET RETURNS - FARMER LEVEL 1/
(Pesos)

	Years					
	0	1	2	3	4	5
INCOME						
Dry	2,090	2,185	2,185	2,185	2,185	2,185
Wet	1,935	2,790	2,790	3,140	3,300	3,545
Sub-total	4,025	4,975	4,975	5,325	5,485	5,730
EXPENSES						
Dry	1,852	1,852	1,852	1,852	1,852	1,852
Wet	1,843	2,517	2,369	2,455	2,477	2,502
Sub-total	3,695	4,369	4,221	4,307	4,329	4,354
NET RETURNS (per hectare)	330	606	754	1,018	1,156	1,376
Average farm size	1.7	1.7	1.7	1.7	1.7	1.7
NET RETURNS for average farm	561	1,030	1,282	1,731	1,965	2,339

1/ Dry Season is "rainfed" so expenses and crop yields for years 0-5 are the same as those in year 0, Annex N-17 However, farmers are able to sell to a nearby KAISA so their incomes (after year 0) are based on the KAISA buying price of ₱1.15/kg.

Wet Season is irrigated so incomes and expenses are the same as those in Annex N-18

NEW CONSTRUCTION PROJECT WITHOUT KAISA SUPPORT

TYPE I (IRRIGATION IN BOTH WET AND DRY SEASONS)

NET RETURNS - FARMER LEVEL 1/
(Pesos)

	Years					
	0	1	2	3	4	5
INCOME						
Dry	2,090	3,850	4,125	4,235	4,400	4,675
Wet	1,935	2,700	2,700	3,015	3,150	3,375
Sub-total	4,025	6,550	6,825	7,250	7,550	8,050
EXPENSES						
Dry	1,852	2,306	2,588	2,592	2,633	2,665
Wet	1,843	2,517	2,369	2,455	2,477	2,502
Sub-total	3,695	4,823	4,957	5,047	5,110	5,167
NET RETURNS (per hectare)	330	1,727	1,868	2,203	2,440	2,883
Average farm size	1.7	1.7	1.7	1.7	1.7	1.7
NET RETURNS for average farm	561	2,936	3,176	3,745	4,148	4,901

1/ Expenses and crop yields are the same as those in Annexes N-17 and 18. However, since there is no KAISA for the farmer to sell to, his income is calculated using the "middleman" prices of ₱1.10/kg. in dry season and ₱.90/kg in wet season.

NEW CONSTRUCTION PROJECT — WITHOUT KAISA SUPPORT

TYPE II (IRRIGATION - WET SEASON)
(RAINFED - DRY SEASON)

NET RETURNS - FARMER LEVEL 1/

	Years					
	0	1	2	3	4	5
INCOME						
Dry	2,090	2,090	2,090	2,090	2,090	2,090
Wet	1,935	2,700	2,700	3,015	3,150	3,375
Sub-total	4,025	4,790	4,790	5,105	5,240	5,465
EXPENSES						
Dry	1,852	1,852	1,852	1,852	1,852	1,852
Wet	1,843	2,517	2,369	2,455	2,477	2,502
Sub-total	3,695	4,369	4,221	4,307	4,329	4,354
NET RETURNS (per hectare)	₱ 330	421	569	798	911	1,111
Average farm Average farm size	1.7	1.7	1.7	1.7	1.7	1.7
NET RETURNS for average farm	₱ 561	716	967	1,357	1,549	1,889

1/ Since Dry Season is "rainfed" and the farmer receives only "middleman" prices for his production, Income and Expenses in Years 0-5 are the same as those in Year 0, Annex N-17.

Wet Season Expenses and Crop Yields are the same as those in Annex N-18. However, because the farmer does not have KAISA support his income is based solely on the middleman price of ₱.90/kg.

ANNEX N-17

NEW CONSTRUCTION: IRRIGATION PROJECTS

DETAILED INCOME STATEMENT - FARMER LEVEL

WITH KAISA SUPPORT

DRY SEASON - AVERAGE 1.7 HECTARES FARM

(PESOS)

ITEMS	0[2]	YEARS AFTER CONSTRUCTION[1] 1	2	3	4	5
(INCOME AND COSTS ON PER HECTARE BASIS)						
I. INCOME						
Average Yield Per Ha (Cavan)[3]	38	70	75	77	80	85
A. % sold to KAISA[4]	-	50	60	75	85	90
1. Cavans	-	35	45	58	68	77
2. Value @ ₱1.15/kg[5]		2013	2588	3335	3910	4428
B. % sold to middlemen	100	50	40	25	15	10
1. Cavans[6]	38	35	30	19	12	8
2. Value @ ₱1.10/kg[7]	2090	1925	1650	1045	660	440
GROSS INCOME	2090	3938	4238	4380	4570	4868
II. PRODUCTION COST						
A. HIRED LABOR[8]						
1. Land Cleaning	₱ 23	₱ 31	₱ 23	₱ 23	₱ 23	₱ 23
2. Land Preparation						
a. Plowing	182	156	203	203	203	203
b. Harrowing	182	156	156	156	156	156
c. Puddling	-	52	52	52	52	52
3. Cleaning /Repairing of Dikes	27	29	30	30	30	30
4. Transplanting/Planting	168	244	144	144	144	144
5. Replanting	21	10	27	27	27	27
6. Weeding	88	73	82	82	82	82
7. Spraying	20	14	23	23	23	23
8. Harvesting & Threshing[8.1]	332	306	393	393	422	450
9. Drying[8.2]	17	24	32	32	34	37
10. Hauling[8.3]	8	12	16	16	17	18
Sub-Total (A)	₱1068	₱1107	₱1181	₱1181	₱1213	₱1245
B. MATERIAL COST[9]						
1. Seeds @ ₱1.20/kg	₱ 83	₱ 80	₱ 59	₱ 59	₱ 59	₱ 59
2. Fertilizer @ ₱103/bag	206	206	309	309	309	309
3. Chemical @ ₱42/qrt.	63	60	77	77	77	77
Sub-Total (B)	₱ 352	₱ 346	₱ 445	₱ 445	₱ 445	₱ 445
C. OTHER EXPENSES						
1. Land Rental/Tax[10]	₱ 402	₱ 456	₱ 556	₱ 556	₱ 556	₱ 556
2. Irrigation Fee[11]	-	348	353	357	366	366
3. Association Fee						
a. Membership Fee[12]	-	-	-	-	-	-
b. Semestral Fee[13] @ ₱5/member/semester	-	5	5	5	5	5
4. Interest on crop-loan[14]	10	24	28	28	28	28
5. Miscellaneous Expenses	20	20	20	20	20	20
Sub-Total (C)	₱ 432	₱ 853	₱ 962	₱ 966	₱ 975	₱ 975
III. TOTAL EXPENSES PER HA.	₱1852	₱2306	₱2588	₱2592	₱ 2633	₱2665
IV. RETURN ABOVE TOTAL EXPENSES PER HA.	₱ 238	₱1632	₱1650	₱ 1788	₱1937	₱2203
Average Farm Size (Has)[15]	1.7	1.7	1.7	1.7	1.7	1.7
V. Net Returns to Farm Household Above Total Expenses	₱ 405	₱2774	₱2805	₱3040	₱ 3293	₱3745

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1/ Years after construction
Year 1 - with irrigation systems
Year 2 - 5 with irrigation systems and innovation packages

2/ Year 0 - without irrigation systems - rainfed

3/ The average yield per hectare increases from year 2 because of the introduction of innovation packages in the ISA. These innovation packages include organized rice production, proper use and application of fertilizers and chemicals.
Source: FSDC Survey

4/ Farmers living within the vicinity of a KAISA will have the opportunity to sell directly to the KAISA buyer instead of the local middlemen.

5/ Price based on FSDC survey. 50 kg = 1 cavan of palay

6/ Included in this category is a 2-month supply of palay which is stored by the household for home consumption.

7/ Based on FSDC survey

8/ Based on FSDC studies
A Report of the Evaluation on Economic Impact of the BISA Program on Farmer-Beneficiaries (Crop-Year, 1978)
Man-day valued at ₱13
Man-animal-day valued at ₱24
Note: No family labor is included in production costs because family members are generally not paid for their work on the farm.

8.1/ Year 0 - Harvesting and Manual Threshing fees = 1% of total production
Year 1-5 Harvesting fees = 5% of total production
Source: Interview with ISA farmers
Mechanical Threshing fees = 6% of total production
Source: National Food Authority

8.2/ Drying cost (solar drying) = ₱0.50/cavan (equivalent payment per cavan to contractual workers for drying operations)

8.3/ Hauling cost from the farmers' house to the point of pick-up = ₱0.25/cavan

9/ Based on FSDC Studies
A Report of the Evaluation of Economic Impact of the BISA Program on Farmer-Beneficiaries (Crop-Year, 1978)

10/ Ibid

11/ Irrigation Fees are based on the "Cash Outflows" (operational costs) of the ISA and on the area of irrigated land. The cash outflows are calculated per year in Annex N-26.

Y_1 = ₱45,272 Y_2 = ₱45,862 Y_3 = ₱46,452 Y_4 = ₱47,632 Y_5 = ₱47,632

The average irrigated area on FSDC communal irrigation projects is:
Wet Season - 100 has. Dry Season - 30 has.

Source: Engineering Dept. - FSDC

Total Cash Outflow (dry season) = $\frac{\text{dry season irrigated area} \times \text{total cash outflows for year}}{\text{Total annual irrigated area}}$

$Y = \frac{30 \text{ has} \times ₱45,272}{130 \text{ has.}} = ₱10,447$

$Y = \frac{30 \text{ has} \times ₱45,862}{130 \text{ has.}} = ₱10,584$

$Y = \frac{30 \text{ has} \times ₱46,452}{130 \text{ has.}} = ₱10,720$

$Y = \frac{30 \text{ has} \times ₱47,632}{130 \text{ has.}} = ₱10,992$

Irrigation Fee (dry season) = $\frac{\text{Total Cash Outflow (dry)}}{\text{\#irrigated hectares (dry)}}$

Y_1 = ₱10,447 ÷ 30 = ₱348

Y_2 = ₱10,584 ÷ 30 = ₱353

Y_3 = ₱10,720 ÷ 30 = ₱357

Y_{4-5} = ₱10,992 ÷ 30 = ₱366

12/ Membership fee - no membership fee for it is only paid once.

13/ Semestral fee is for the operating expenses of the ISA = ₱5/semester/member

14/ Taken from the same report in 8/

15/ Area Reports
Project Management Information System - 701
FSDC

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Best Available Document

NEW CONSTRUCTION: IRRIGATION PROJECTS

DETAILED INCOME STATEMENT - FARMER LEVEL

Wet Season - Average 1.7 Ha. Farm

WITH KAISA SUPPORT

	0[2]	YEARS AFTER CONSTRUCTION [1] 1	2	3	4	5
I. INCOME		(INCOME AND COSTS CALCULATED ON PER HECTARE BASIS)				
Average Yield Per Ha. (cav)[3]	43	60	60	67	70	75
A. % sold to KAISA [4]	-	60	60	75	85	90
1. cavans	-	36	36	50	60	68
2. value @ ₱0.95/kg.[5]	-	₱ 1710	₱ 1710	₱ 2375	₱ 2850	₱3230
B. % sold to middlemen	100	40	40	25	15	10
1. cavans [6]	43	24	24	17	10	7
2. value @ ₱0.90/kg.[7]	₱1935	₱ 1080	₱1080	₱ 765	₱ 450	₱ 315
GROSS INCOME	₱1935	₱ 2790	₱2790	₱ 3140	₱ 3300	₱3545
II. PRODUCTION COST						
A. HIRED LABOR[8]						
1. Land Clearing	₱ 30	₱ 36	₱ 36	₱ 27	₱ 27	₱ 27
2. Land Preparation						
a. Plowing	182	156	156	203	203	203
b. Harrowing	182	156	156	156	156	156
c. Puddling	-	52	52	52	52	52
3. Clearing/Repairing of Dikes	29	57	57	29	29	29
4. Transplanting/Planting	216	276	276	165	165	165
5. Replanting	14	21	21	20	20	20
6. Weeding	62	101	101	83	83	83
7. Spraying	14	12	12	21	21	21
8. Harvesting and Threshing[8.1]	300	420	277	310	323	346
9. Drying[8.2]	35	35	35	35	35	35
10. Hauling[8.3]	10	14	14	16	16	18
Sub-Total (A)	₱ 1074	₱1336	₱1193	₱ 1117	₱ 1130	₱ 1155
B. MATERIAL COST[9]						
1. Seeds @ ₱1.20/kg.	₱ 68	₱ 55	₱ 55	₱ 58	₱ 58	₱ 58
2. Fertilizer @ ₱103/kg	206	206	206	309	309	309
3. Chemical @ ₱42/qrt.	40	45	45	68	68	68
Sub-Total (B)	₱ 314	₱ 306	₱ 306	₱ 435	₱ 435	₱ 435
C. OTHER EXPENSES						
1. Land rental/tax[10]	₱ 408	₱ 467	₱ 467	₱ 495	₱ 495	₱ 495
2. Irrigation Fee[11]	-	348	353	357	366	366
3. Association Fee						
a. Membership Fee[12]	-	10	-	-	-	-
b. Semestral Fee[13]	-	5	5	5	5	5
4. Interest on crop loan[14]	27	25	25	26	26	26
5. Miscellaneous Expenses	20	20	20	20	20	20
Sub-Total (C)	₱ 455	₱ 875	₱ 870	₱ 903	₱ 912	₱ 912
III. TOTAL EXPENSES PER HA.	₱ 1843	₱2517	₱2369	₱ 2455	₱ 2477	₱ 2502
IV. RETURN ABOVE TOTAL EXPENSES PER HA.	₱ 92	₱ 273	₱421	₱ 685	₱ 823	₱1043
Average farm size (has)[15]	1.7	1.7	1.7	1.7	1.7	1.7
V. NET RETURNS TO FARM HOUSEHOLD ABOVE TOTAL EXPENSES	₱ 156	₱464	₱716	₱1165	₱1399	₱1773

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1/ Years after construction
Year 1-2 with irrigation systems
Year 3-5 with irrigation systems and innovation packages
2/ Year 0 without irrigation systems - rainfed
3/ The average yield per hectare increases from year 3 because of the introduction of innovation packages. These innovation packages include organized rice production, proper use and application of fertilizers and chemicals.
Source: FSDC Survey

4/ Farmers living within the vicinity of the KAISA will have the opportunity to sell directly to the KAISA buyer instead of to the local middlemen.

5/ Price based on FSDC survey. 50 kg = 1 cavan of palay.

6/ Included in this category is a 2-month supply of palay which is stored by the household for home consumption.

7/ Based on FSDC survey
8/ Based on FSDC studies
A Report of the Evaluation on Economic Impact of the KISA Program on Farmer-Beneficiaries (Crop-Year, 1978)
Man-day valued at ₱13
Man-animal-day valued at ₱26
Note: No family labor is included in production costs because family members are generally not paid for their work on the farm.

8.1/ Year 0 - Harvesting and Manual Threshing Fees = 1/6 of total production
Year 1-5 Harvesting Fees = 5% of total production
Source: Interview with ISA farmers
Mechanical Threshing Fees = 8% of total production
Source: National Food Authority

8.2/ Only palay for home consumption are dried mechanically at a cost of ₱7 per cavan
Source of drying cost - KFI studies

8.3/ Hauling cost from the farmers' house to the point of pick-up = ₱0.25/cavan

9/ Based on FSDC Studies
A Report of the Evaluation on Economic Impact of the KISA Program on Farmer-Beneficiaries (Crop-Year, 1978)

10/ Ibid

11/ Irrigation Fees are based on the "Cash Outflows" (operational costs) of the ISA and on the area of irrigated land. The cash outflows are calculated per year in Annex N-26.

Y_1 = ₱45,272 Y_2 = ₱45,862 Y_3 = ₱46,452 Y_4 = ₱47,632 Y_5 = ₱47,632

The average irrigated area on FSDC communal irrigation projects is:

Wet season - 100 has. Dry season - 30 has.

Source: Engineering Dept. - FSDC

$$\text{Total Cash Outflow (wet season)} = \frac{\text{wet season irrigated area} \times \text{total cash outflows for year}}{\text{Total annual irrigated area}}$$

$$Y_1 = \frac{100 \text{ has} \times ₱45,272}{130 \text{ has}} = ₱34,825$$

$$Y_2 = \frac{100 \text{ has} \times ₱45,862}{130 \text{ has}} = ₱35,278$$

$$Y_3 = \frac{100 \text{ has} \times ₱46,452}{130 \text{ has}} = ₱35,732$$

$$Y_{4-5} = \frac{100 \text{ has} \times ₱47,632}{130 \text{ has}} = ₱36,640$$

$$\text{Irrigation Fee (Wet season)} = \frac{\text{Total Cash Outflow (wet)}}{\text{\# irrigated hectares (wet)}}$$

Y_1 = ₱34,825 ÷ 100 = ₱348

Y_2 = ₱35,278 ÷ 100 = ₱353

Y_3 = ₱35,732 ÷ 100 = ₱357

Y_{4-5} = ₱36,640 ÷ 100 = ₱366

12/ Membership fee - ₱10/member (once during his membership)
13/ Semestral fee is for the operating expenses of the ISA - ₱5/semester/member
14/ Taken from the same report in 8/
15/ Area Reports
Project Management Information Systems - 701
FSDC

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ANNEX N-19

UPGRADING/REHAB PROJECT

SUMMARY OF FARMER NET RETURNS
(Pesos)

WITH KAISA SUPPORT

	Years					
	0 1/	1	2	3	4	5
Type I 2/	₱ 561	₱ 3,803	₱ 4,072	₱ 4,769	₱ 5,287	₱ 6,113
Type II 3/	₱ 561	₱ 1,139	₱ 1,379	₱ 1,839	₱ 2,089	₱ 2,463
WITHOUT KAISA SUPPORT						
Type I 4/	₱ 561	₱ 3,500	₱ 3,726	₱ 4,310	₱ 4,743	₱ 5,496
Type II 5/	₱ 561	₱ 825	₱ 1,069	₱ 1,465	₱ 1,673	₱ 2,013

1/ Present situation - before project is "on-stream".
2/ Figures taken from "Net Returns" Annex N-20.
3/ Figures taken from "Net Returns" Annex N-21.

4/ Figures taken from "Net Returns" Annex N-22.
5/ Figures taken from "Net Returns" Annex N-23.

Annex N-20

UPGRADING/REHAB PROJECT **WITH KAISA SUPPORT**

TYPE I (IRRIGATION IN BOTH WET AND DRY SEASONS)

NET RETURNS - FARMER LEVEL 1/
(Pesos)

	Years					
	0	1	2	3	4	5
INCOME						
Dry	2,090	3,938	4,238	4,380	4,570	4,868
Wet	1,935	2.790	2.790	3,140	3,300	3,545
Sub-total	4,025	6,728	7,028	7,520	7,870	8,413
EXPENSES						
Dry	1,852	2,038	2,324	2,324	2,356	2,388
Wet	1,843	2,453	2,309	2,391	2,404	2,429
Sub-total	3,695	4,491	4,633	4,715	4,760	4,817
NET RETURNS (per hectare)	330	2,237	2,395	2,805	3,110	3,596
Average farm size	1.7	1.7	1.7	1.7	1.7	1.7
NET RETURNS for average farm	₱ 561	₱3,803	₱4,072	₱4,769	₱5,287	₱6,113

1/ Income and Expense figures are found in Annexes N-24 and N-25.

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Annex N-21

UPGRADING/REHAB PROJECT **WITH KAISA SUPPORT**

TYPE II (IRRIGATION - WET SEASON)
(RAINFED - DRY SEASON)

NET RETURNS - FARMER LEVEL 1/
(Pesos)

	Years					
	0	1	2	3	4	5
INCOME						
Dry	2,090	2,185	2,185	2,185	2,185	2,185
Wet	1,935	2,790	2,790	3,140	3,300	3,545
Sub-total	4,025	4,975	4,975	5,325	5,485	5,730
EXPENSES						
Dry	1,852	1,852	1,852	1,852	1,852	1,852
Wet	1,843	2,453	2,309	2,391	2,404	2,429
Sub-total	3,695	4,305	4,161	4,243	4,256	4,281
NET RETURNS (per hectare)	330	670	811	1,082	1,229	1,449
Average farm size	1.7	1.7	1.7	1.7	1.7	1.7
NET RETURNS for average farm	₱ 561	₱1,139	₱1,379	₱1,839	₱2,089	₱2,463

1/
Dry Season is "rainfed" so expenses and crop yields for Years 0-5 are the same as those in Year 0, Annex N-24. However, farmers are now able to sell to a nearby KAISA so their incomes (after year 0) are based on the KAISA buying price of ₱1.15/kg.

Wet Season is irrigated so incomes and expenses are the same as those in Annex N-25.

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Annex N-22

UPGRADING/REHAB PROJECT WITHOUT KAISA SUPPORT

TYPE I (IRRIGATION IN BOTH WET AND DRY SEASON

NET RETURNS - FARMER LEVEL 1/
(Pesos)

	Years					
	0	1	2	3	4	5
INCOME						
Dry	2,090	3,850	4,125	4,235	4,400	4,675
Wet	1,935	2,700	2,700	3,015	3,150	3,375
Sub-total	4,025	6,550	6,825	7,250	7,550	8,050
EXPENSES						
Dry	1,852	2,038	2,324	2,324	2,356	2,388
Wet	1,843	2,453	2,309	2,391	2,404	2,429
Sub-total	3,695	4,491	4,633	4,715	4,760	4,817
NET RETURNS (per hectare)	330	2,059	2,192	2,535	2,790	3,233
Average farm size	1.7	1.7	1.7	1.7	1.7	1.7
NET RETURNS for average farm	₱ 561	₱3,500	₱3,726	₱4,310	₱4,743	₱5,496

1/ Expenses and crop yields are the same as those in Annexes N-24 and N-25. However, since there is no KAISA for the farmer to sell his production to, his income is calculated using -"middleman" prices of ₱1.10/kg in dry season and ₱.90/kg in wet season.

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ANNEX N-23

UPGRADING/REHAB PROJECT **WITHOUT KAISA SUPPORT**

TYPE II (IRRIGATION - WET SEASON)
(RAINFED - DRY SEASON)

NET RETURNS - FARMER LEVEL 1/
(Pesos)

	Years					
	0	1	2	3	4	5
INCOME						
Dry	2,090	2,090	2,090	2,090	2,090	2,090
Wet	1,935	2,700	2,700	3,015	3,150	3,375
Sub-total	4,025	4,790	4,790	5,105	5,240	5,465
EXPENSES						
Dry	1,852	1,852	1,852	1,852	1,852	1,852
Wet	1,843	2,453	2,309	2,391	2,404	2,429
Sub-total	3,695	4,305	4,161	4,243	4,256	4,281
NET RETURNS (per hectare)	330	485	629	862	984	1,184
Average farm size	1.7	1.7	1.7	1.7	1.7	1.7
NET RETURNS for average farm	₱ 561	₱ 825	₱ 1,069	₱ 1,465	₱ 1,673	₱ 2,013

1/ Since Dry season is "rainfed" and the farmer receives "middleman" prices for his production, Income and Expenses in years 0-5 are the same as those in year 0, Annex N-24.

Wet season Expenses and crop yields are the same as those in Annex N-25. However, the farmer does not have the support of a nearby KAISA so his income is based solely on the "middleman" price of ₱.90/kg.

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UPGRADING/REHABILITATION: IRRIGATION PROJECT

DETAILED INCOME STATEMENT - FARMER LEVEL

DRY SEASON - AVERAGE 1.7 HECTARE FARM

(PESOS)

WITH KAISA SUPPORT

ITEMS	0[2]	YEARS AFTER CONSTRUCTION[1] 1	2	3	4	5
		(INCOME and Costs Calculated on Per Hectare Basis)				
I. INCOME						
Average Yield Per Ha. (cavan)[3]	38	70	75	77	80	85
A. % sold to KAISA[4]	-	50	60	75	85	90
1. Cavans	-	35	45	58	68	77
2. Value @ ₱1.15/kg[5]	-	₱2013	₱2588	₱3335	₱3910	₱4428
B. % sold to middleman	100	50	40	25	15	10
1. Cavans[6]	38	35	30	19	12	8
2. Value @ ₱1.10/kg[7]	₱2090	₱1925	₱1650	₱1045	₱660	₱440
GROSS INCOME	₱2090	₱3938	₱4238	₱4380	₱4570	₱4868
II. PRODUCTION COST						
A. HIRED LABOR[8]						
1. Land Clearing	₱ 23	₱ 31	₱ 23	₱ 23	₱ 23	₱ 23
2. Land Preparation						
a. Plowing	182	156	203	203	203	203
b. Harrowing	182	156	156	156	156	156
c. Puddling	-	52	52	52	52	52
3. Cleaning/Repairing of Dikes	27	29	30	30	30	30
4. Transplanting/Planting	168	244	144	144	144	144
5. Replanting	21	10	27	27	27	27
6. Weeding	88	73	82	82	82	82
7. Spraying	20	14	23	23	23	23
8. Harvesting and Threshing[8.1]	332	306	393	393	422	450
9. Drying[8.2]	17	24	32	32	34	37
10. Hauling[8.3]	8	12	16	16	17	18
Sub-Total (A)	₱ 1068	₱ 1107	₱ 1181	₱ 1181	₱ 1213	₱ 1245
B. MATERIAL COSTS[9]						
1. Seeds @ ₱1.20/kg.	₱ 83	₱ 80	₱ 59	₱ 59	₱ 59	₱ 59
2. Fertilizer @ ₱103/bag	206	206	309	309	309	309
3. Chemical @ ₱42/qrt.	63	60	77	77	77	77
Sub-Total (B)	₱ 352	₱ 346	₱ 445	₱ 445	₱ 445	₱ 445
C. OTHER EXPENSES						
1. Land rental/tax[10]	₱ 402	₱ 456	₱ 556	₱ 556	₱ 556	₱ 556
2. Irrigation Fee[11]	-	80	89	89	89	89
3. Association Fee						
a. Membership Fee[12]	-	-	-	-	-	-
b. Semestral Fee[13]	-	5	5	5	5	5
4. Interest on crop loan[14]	10	24	28	28	28	28
5. Miscellaneous Expenses	20	20	20	20	20	20
Sub-Total	₱ 432	₱ 585	₱ 698	₱ 698	₱ 698	₱ 698
TOTAL EXPENSES	₱ 1852	₱ 2038	₱ 2324	₱2324	₱ 2356	₱ 2388
RETURN ABOVE TOTAL EXPENSES	₱ 238	₱ 1900	₱ 1914	₱2056	₱2214	₱ 2480
Average Farm Size (Has)[15]	1.7	1.7	1.7	1.7	1.7	1.7
NET RETURNS TO FARM HOUSEHOLD ABOVE TOTAL EXPENSES	₱ 405	₱ 3230	₱ 3254	₱3495	₱3764	₱ 4216

ANNEX N-24

1/ Years after construction
Year 1 - with irrigation systems
Year 2 - 5 with irrigation systems and innovation packages

2/ Year 0 - without irrigation systems - rainfed

3/ The average yield per hectare increase from year 2 because of the introduction of innovation packages in the ISA. These innovation packages include organized rice production, proper use and application of fertilizers and chemicals
Source: FSDC Survey

4/ Farmers living within the vicinity of a KAISA will have the opportunity to sell directly to the KAISA buyer instead of to the local middlemen.

5/ Price based on FSDC survey.

6/ Included in this category is a 2-month supply of palay which is stored by the household for home consumption.

7/ Based on FSDC survey

8/ Based on FSDC studies
A Report of the Evaluation on Economic Impact of the NISA Program on Farmer-Beneficiaries (Crop-Year, 1978)
Man-day valued at ₱13
Man-animal-day valued at ₱26
Not included in production costs because family members generally are not paid for their work on the farm.

9.1/Year 0 - Harvesting and Mechanical Threshing fees = 1/6 of total production
Year 1 - 5 Harvesting fees = 5% of total production
Source: Interview with ISA farmers
Mechanical Threshing fees = 6% of total production
Source: National Food Authority

8.2/Drying cost (solar drying) = ₱0.50/cavan (equivalent payment per cavan to contractual workers for drying operations)

8.3/Hauling cost from the farmers' house to the point of pick-up = ₱0.25/cavan

9/ Based on FSDC Studies
A Report of the Evaluation on Economic Impact on the NISA Program on Farmer-Beneficiaries (Crop-Year, 1978)

10/ Ibid

11/ Irrigation Fees are based on the "Cash Outflows" (operational costs) of the ISA and on the area of irrigated land. The cash outflows are calculated per year in Annex N-19.

Y_1 = ₱ 10,354 Y_2 = ₱ 11,534 Y_3 = ₱ 11534 Y_4 = ₱ 11,534 Y_5 = ₱ 11,534

The average irrigated area on FSDC communal irrigation projects is:

Wet season - 100 has. Dry season - 30 has.

Source: Engineering Dept. - FSDC

Total Cash Outflows (dry season) = $\frac{\text{dry season irrigated area} \times \text{total cash outflow for year}}{\text{Total annual irrigated area}}$

$$Y = \frac{30 \text{ has} \times ₱\ 10,354}{130 \text{ has}} = ₱\ 2,389$$

$$Y = \frac{30 \text{ has} \times ₱\ 11,534}{130 \text{ has}} = ₱\ 2,662$$

Irrigation Fee (dry season) = $\frac{\text{Total Cash Outflow (dry)}}{\text{\# irrigated hectares (dry)}}$

Y_1 = ₱ 2,389 ÷ 30 = ₱80

Y_{2-5} = ₱ 2,662 ÷ 30 = ₱89

12/ Membership fee - no membership fee for it is only paid once

13/ Semestral fee is for the operating expenses of the ISA = ₱ 5/semester/member

14/ Taken from the same report in 8/

15/ Area Reports - FSDC
Project Management Information System - 701

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UPGRADING/REHABILITATION: IRRIGATION PROJECT

DETAILED INCOME STATEMENT - FARMER LEVEL

WET SEASON - AVERAGE 1.7 HECTARE FARM

(PESOS)

WITH KAISA SUPPORT

ITEMS	0[2]	YEARS AFTER CONSTRUCTION[1] 1	2	3	4	5
I. INCOME		(INCOME and Costs Calculated on Per Hectare Basis)				
Average Yield Per Ha. (cav)[3]	43	60	60	67	70	75
A. % sold to KAISA [4]	-	60	60	75	85	90
1. cavans	-	36	36	50	60	68
2. value @ ₱0.95/kg.[5]	-	1710	₱1710	₱2375	₱2850	₱3230
B. % sold to middlemen	100	40	40	25	15	10
1. cavans[6]	43	24	24	17	10	7
2. value @ ₱0.90/kg.[7]	₱1935	₱1080	₱1080	₱765	₱450	₱315
GROSS INCOME	₱1935	₱2790	₱2790	₱3140	₱3300	₱3545
II. PRODUCTION COST						
A. HIRED LABOR[8]						
1. Land Clearing	₱30	₱36	₱36	₱27	₱27	₱27
2. Land Preparation						
a. Plowing	182	156	156	203	203	203
b. Harrowing	182	156	156	156	156	156
c. Puddling	-	52	52	52	52	52
3. Clearing/Repairing of Dikes	29	57	57	29	29	29
4. Transplanting/Planting	216	276	276	165	165	165
5. Replanting	14	21	21	20	20	20
6. Weeding	62	101	101	83	83	83
7. Spraying	14	12	12	21	21	21
8. Harvesting and Threshing[8.1]	300	420	277	310	323	346
9. Drying[8.2]	35	35	35	35	35	35
10. Hauling[8.3]	10	14	14	16	16	18
Sub-Total (A)	₱1074	₱1336	₱1193	₱1117	₱1130	₱1155
B. MATERIAL COST[9]						
1. Seeds @ ₱1.20/kg	₱68	₱55	₱55	₱58	₱58	₱58
2. Fertilizer @ ₱103/kg	206	206	206	309	309	309
3. Chemical @ ₱42/qrt.	40	45	45	68	68	68
Sub-Total (B)	₱314	₱306	₱306	₱435	₱435	₱435
C. OTHER EXPENSES						
1. Land rental/tax[10]	₱408	₱467	₱467	₱495	₱495	₱495
2. Irrigation Fee[11]	-	80	89	89	89	89
3. Association Fee						
a. Membership Fee[12]	-	10	-	-	-	-
b. Semestral Fee[13]	-	5	5	5	5	5
4. Interest on crop loan[14]	27	25	25	26	26	26
a. Amortization of previous loan[15]	-	204	204	204	204	204
5. Miscellaneous Expenses	20	20	20	20	20	20
Sub-Total (C)	₱455	₱811	₱810	₱839	₱839	₱839
III. TOTAL EXPENSES	₱1843	₱2453	₱2309	₱2391	₱2404	₱2429
IV. RETURN ABOVE TOTAL EXPENSES	₱92	₱337	₱481	₱749	₱896	₱1116
Average farm size (has)[16]	1.7	1.7	1.7	1.7	1.7	1.7
V. NET RETURNS TO FARM HOUSEHOLD ABOVE TOTAL EXPENSES	₱156	₱573	₱818	₱1273	₱1523	₱1897

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ANNEX N-25

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1/ Years after construction
Year 1 - 2 with irrigation
Year 3 - 5 with irrigation systems and innovation packages

2/ Year 0 without irrigation systems - rainfed

3/ The average yield per hectare increases from year 3 because of the introduction of innovation packages. These innovation packages include organized rice production, proper use and application of fertilizers and chemicals.
Source: FSDC Survey

4/ Farmers living within the vicinity of a KAISA will have the opportunity to sell directly to the KAISA buyer instead of to the local middlemen.

5/ Price based on FSDC survey. 50 kgs = 1 cavan of palay.

6/ Included in this category is a 2-month supply of palay which is stored by the household for home consumption.

7/ Based on FSDC survey

8/ Based on FSDC studies
A Report of the Evaluation on Economic Impact of the KISA Program on Farmer-Beneficiaries (Crop-Year, 1978)
Man-day valued at ₱13
Man-animal-day valued at ₱26
Note: No family labor is included in production costs because family members generally are not paid for their work on the farm.

8.1/ Year 0 - Harvesting and Manual Threshing Fees = 1/4 of total production
Year 1-5 Harvesting Fees = 5% of total production
Source: Interview with ISA farmers
Mechanical Threshing Fees = 6% of total production
Source: National Food Authority

8.2/ Only palay for home consumption are dried mechanically at a cost of ₱7 per cavan
Source of drying cost - NFA Studies

8.3/ Hauling cost from the farmers' house to the point of pick-up = ₱0.25/cavan

9/ Based on FSDC Studies
A Report of the Evaluation on Economic Impact of the KISA Program on Farmer-Beneficiaries (Crop-Year, 1978)

10/ Ibid

11/ Irrigation Fees are based on the "Cash Outflows" (operational costs) of the ISA and on the area of irrigated land. The cash outflows are calculated per year in Annex N-19.

Y_1 = ₱10,354 Y_2 = ₱ 11,534 Y_3 = ₱ 11,534 Y_4 = ₱ 11,534 Y_5 = ₱ 11,534

The average irrigated area on FSDC communal irrigation projects is:
Wet season - 100 has. dry season - 30 has.
Source: Engineering Dept. - FSDC

Total Cash Outflow (wet season) = $\frac{\text{Wet season irrigated area x total cash outflows for year}}{\text{Total annual irrigated area}}$

$Y_1 = \frac{100 \text{ has} \times ₱10,354}{130 \text{ has}} = ₱7,965$

$Y_{2-5} = \frac{100 \text{ has} \times ₱11,534}{130 \text{ has}} = ₱8,872$

Irrigation Fee (wet season) = $\frac{\text{Total Cash Outflow (wet)}}{\text{\# irrigated hectares (wet)}}$

Y_1 = ₱7,965 ÷ 100 = ₱80

Y_{2-5} = ₱8,872 ÷ 100 = ₱89

12/ Membership Fee - ₱10/member (once during his membership)

13/ Semestral fee is for the operating expenses of the ISA = ₱5/semester/member

14/ Taken from the same report in 8/

15/ It should be assumed that the ISA did not fully repay the loan on the previous irrigation system (that is now being rehabilitated). These annual payments will be resumed as soon as the system is operational. An average 100 hectare CIP in 1970 cost approximately ₱220,000. Subtracting 10% ISA equity the previous loan would have been ₱198,000. A 6%, 15 year loan would require annual payments of ₱20,387 or ₱204/hectare payable at the end of wet season harvest.

16/ Area Reports - FSDC
Project Management Information Systems - 701

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ANNEX N-26

PROJECTED CASH FLOW STATEMENT - ISA LEVEL (PESOS)
NEW CONSTRUCTION

Cash Inflows and Outflows	Years After Construction 1	2	3	4	5
INFLOWS					
Irrigation Fees[a/]	45,272	45,862	46,452	47,632	47,632
Membership Fees[b/]	470	120	0	0	0
Semestral Fees[c/]	385	385	385	385	385
TOTAL INFLOWS	46,127	46,367	46,837	48,017	48,017
OUTFLOWS (Operational Costs)					
Repairs and Maintenance[d/]	3,000	3,500	4,000	5,000	5,000
Supplies, communication and transportation[e/]	525	615	705	885	885
Amortization Cost for FSDC Financing[f/]	41,247	41,247	41,247	41,247	41,247
Miscellaneous (representation expenses and donations)[g/]	500	500	500	500	500
TOTAL OUTFLOWS	45,272	45,862	46,452	47,632	47,632
NET INFLOWS	855	505	385	385	385
Add: Beginning Cash Balance	-	855	1,360	1,745	2,130
Ending Cash Balance	855	1,360	1,745	2,130	2,515

a/ Irrigation Fees = Total Cash Outflows

b/ Membership Fees - ₱10/member (once during his membership)

Y_1 = 47 members x ₱10/member = ₱470

Y_2 = Additional 12 members x ₱10/member = ₱120

Y_{3-5} = No additional members = 0

c/ Semestral Fees are charges for water used in irrigation. Fees are ₱5 per irrigated semester. In the dry season when only an average of 30 hectares is irrigated only 18 farmers (30 hectares ÷ 1.7 hectare plot) will pay the fee.

Per Year (59 members x ₱5/member) + (18 members x ₱5/member) = ₱385

d/ Repairs New System and Maintenance = ₱50/hectare

Source: Engineering Department - FSDC

Y_1 = 60 has. x ₱50/has. = ₱3,000

Y_2 = 70 has. x ₱50/has. = ₱3,500

Y_3 = 80 has. x ₱50/has. = ₱4,000

Y_{4-5} = 100 has. x ₱50/has. = ₱5,000

e/ Supplies, communication and transportation = ₱15/member/year

Source: Engineering Department - FSDC

Y_1 = 47 members x ₱15/member = ₱705

Y_{2-5} = 59 members x ₱15/member = ₱885

f/ Amortization Cost for FSDC Financing

Total Direct Cost (see Stat. Annex-1 for cost breakdown)-------- ₱ 473,662

Sources of Financing

FSDC Financing ---------- ₱ 400,602

FSDC Subsidy (General Overhead) ------ 43,060

ISA Contribution (10% of Total Direct Cost or ₱300 per hectare of area to be irrigated, whichever is lower)--- 30,000

Terms of Loans: Interest - 6%
Maturity Period - 15 years
Source: Statement of Policy and Financing Guidelines Governing the Communal(Gravity) Irrigation Projects of FSDC.

Life of Project: 25 years

Thus: Amortization cost for FSDC Financing, ₱400,602 amortized over 15 years at 6% = ₱41,247.

g/ Miscellaneous (includes representation expenses and donations) = ₱500/year

PROJECTED CASH FLOW STATEMENT - ISA LEVEL (PESOS)
- UPGRADING AND REHABILITATION

Cash Inflows and Outflows	Years After Upgrading 1	2	3	4	5
INFLOWS					
Irrigation Fees[a/]	10,354	11,534	11,534	11,534	11,534
Membership Fees[b/]	470	120	0	0	0
Semestral Fees[c/]	385	385	385	385	385
TOTAL INFLOWS	11,209	12,039	11,919	11,919	11,919
OUTFLOWS (Operational Costs)					
Repairs & Maintenance[d/]	4,000	5,000	5,000	5,000	5,000
Supplies, Communication and Transportation[e/]	705	885	885	885	885
Amortization Cost for FSDC Financing[f/]	5,149	5,149	5,149	5,149	5,149
Miscellaneous (representation expenses and donations)[g/]	500	500	500	500	500
TOTAL OUTFLOWS	10,354	11,534	11,534	11,534	11,534
NET INFLOWS	855	505	385	385	385
Add: Beginning Cash Balance	-	855	1,360	1,745	2,130
Ending Cash Balance	855	1,360	1,745	2,130	2,515

a/ Irrigation Fees = Total Cash Outfloows

b/ Membership Fees = ₱10/member (once during his membership)

Year 1	=	47 members x ₱10/member	=	₱ 470
Year 2	=	Additional 12 members x ₱10/member	=	120
Year 3-5	=	No additional member	=	0

c/ Semestral Fees are charges for water used in irrigation. Fees are ₱5 per irrigated semester. In dry season when only an average of 30 hectares is irrigated only 18 farmers (30 hectares ÷ 1.7 hectare plot) will pay the fee.

	WET		DRY	
Per Year	(59 members x ₱5/member)	+	(18 members x ₱5/member)	= ₱385

d/ Rehabilitated system (repairs and maintenance) = ₱50/hectare

Source: Engineering Department - FSDC

Y_1 = 80 has. x ₱50/ha. = ₱ 4,000/yr.

Y_2-Y_5 = 100 has. x ₱50/ha. = ₱ 5,000/yr.

e/ Supplies, communication and transportation = ₱15/member/year

Source: Engineering Department, FSDC

Y_1 = 47 members x ₱15/member = ₱705

Y_{2-5} = 59 members x ₱15/member = ₱885

f/ Amortization cost for FSDC Financing

Total Direct Cost (see Stat. Annex-2 for cost breakdown)--- ₱ 61,811

Sources of Financing

FSDC Financing ----------	₱ 50,011
FSDC Subsidy (General Overhead)-----	5,619
ISA contribution (10% of Total Direct Cost or ₱300 per hectare of area to be irrigated, whichever is lower)--	6,181

Terms of Loans: Interest - 6%

Maturity Period - 15 years

Source: Statement of Policy and Financing Guidelines Governing the Communal (Gravity) Irrigation Projects of FSDC.

Amortization cost for FSDC financing--₱50,011 amortized over 15 years = ₱500/year

g/ Miscellaneous (includes representation expenses and donations) = ₱500/year

FINANCIAL ANALYSIS 1/
RAIBA INTEGRATED RICE PROCESSING ENTERPRISE
PROJECT INCOME STATEMENT (PESOS)

ANNEX N-28

REVENUES & EXPENSES	(years) 0	1	2	3	4	5
I Threshing						
1 Revenues		225213	225213	225213	225213	225213
Expenses		131047	126487	121380	115660	109256
1 Fuel, oil and grease		27599	27599	27599	27599	27599
2 Repairs and maintenance		12070	12070	12070	12070	12070
3 Licensing		1000	1000	1000	1000	1000
4 Salaries		13130	13130	13130	13130	13130
5 Depreciation		48280	48280	48280	48280	48280
6 Interest		28968	24408	19301	13581	7177
Net Income		94166	98726	103833	109553	115957
II Trucking						
1 Revenues		.	.	.	79400	79400
Expenses		.	.	.	66737	61705
1 Fuel					6184	6184
2 Lubricants and oil					400	400
3 Repairs and maintenance					6427	6427
4 Licensing and insurance					4870	4870
5 Salaries					13776	13776
6 Depreciation					16068	16068
7 Interest					15574	14010
8 Miscellaneous					1488	.
Net Income		.	.	.	8663	13695
III. Drying						
A Revenues		.	.	.	.	.
Expenses		115862	111652	107463	102722	97516
1 Fuel		42132	42132	42132	42132	42132
2 Handling		450	.	.	.	.
3 Repairs and maintenance		9900	9900	9900	9900	9900
4 Interest		21760	20020	18231	16240	13884
5 Depreciation		39600	39600	39600	39600	39600
Net Loss		(115862)	(111652)	(107463)	(102722)	(97516)
IV Milling						
1 Revenues		121484	121484	121484	192044	192044
Sale of Rice Bran		121484	121484	121484	121484	121484
Milling Fee			.	.	70560	70560
Expenses		98570	97284	95844	103391	101585
1 Power		13319	13319	13319	17522	17522
2 Lubricants and oil		666	666	666	876	876
3 Repairs and maintenance		2895	2895	2895	2895	2895
4 Licensing		350	350	350	350	350
5 Salaries		46248	46248	46248	48928	48928
6 Depreciation		15440	15440	15440	15440	15440
7 Interest		12970	11684	10274	8637	6826
8 Miscellaneous		6682	6682	6682	8498	8498
Net Income		22914	24200	25640	88653	90459
V Warehousing						
A Revenues		.	.	.	.	.
Expenses		115356	114443	113421	112276	111007
1 Licensing and insurance		4500	4500	4500	4500	4500
2 Repairs and maintenance		4500	4500	4500	4500	4500
3 Depreciation						
3.1 Warehouse/land development		18000	18000	18000	18000	18000
3.2 Accessories		10560	10560	10560	10560	10560
4 Salaries		36000	36000	36000	36000	36000
5 Interest						
5.1 Warehouse/land development		37800	37516	37199	36843	36455
5.2 Accessories		3996	3947	3842	1873	992
Net Income		(115356)	(114443)	(113421)	(112276)	(111007)
VI. Trading						
A Revenues		1707386	2597737	2597737	2597737	2597737
Expenses		2214580	2035721	1991428	1901058	1895817
1 Purchase of palay		1499587	1699587	1699587	1499587	1499587
2 Licensing and insurance		12057	12057	12057	7237	7237
3 Salaries		47200	47200	47200	44224	48224
4 Sacks		240162	80927	80927	80927	80927
5 Fuel		8978	8978	8978	8978	8978
6 Lubricants and oil		103	103	103	103	103
7 Repairs and maintenance		15678	15678	15678	9249	9249
8 Depreciation		19190	19190	19190	23123	23123
9 Interest						
9.1 Loan for trucks		47078	44348	41347	22411	10190
9.2 Starting Capital		4399	3017	1334		.
9.3 Trading Capital		120000	84438	44609		
10 Miscellaneous			.		5020	
Net Income		(507194)	562016	606309	696679	701920
VII. Institutional Development						
A Revenues		304404	274144	243883	106611	91381
B Expenses		304404	304604	304604	152302	152302
Net Income			(30460)	(60721)	(45691)	(60921)
Total Net Income of all operations		(441112)	428387	453977	660859	652587

1/All figures are derived from Statistical Annex 8.

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ANNEX N-29

1/

FINANCIAL ANALYSIS
KAISA INTEGRATED RICE PROCESSING ENTERPRISE
PROJECTED CASH FLOW
(Pesos)

		Year 0	1	2	3	4	5
CASH INFLOWS							
VII	PSDC Loan Proceeds	2,361,000	-	-	-	-	-
VII	KAISA Equity	263,070	-	-	-	-	-
I A	Threshing revenue		225,213	225,213	225,213	225,213	225,213
II A	Thrucking revenue		-	-	-	75,400	75,400
IV A	Milling revenue						
	Sale of rice bran		121,484	121,484	121,484	121,484	121,484
	Military fee		-	-	-	70,560	70,560
VI A	Trading revenue		1,707,396	2,597,737	2,597,737	2,597,737	2,597,737
VII	PSDC Institution Development	304,604	304,604	274,144	243,683	106,611	91,381
	Total Cash Inflows	2,928,674	2,358,687	3,218,578	3,188,117	3,197,005	3,181,775
CASH OUTFLOWS							
VII	Acquisition of Fixed Assets	1,457,180	-	-	-	-	-
I	Threshing Operations		120,766	120,766	120,766	120,766	120,766
	1. Fuel, oil and grease		27,599	27,599	27,599	27,599	27,599
	2. Repairs and maintenance		12,070	12,070	12,070	12,070	12,070
	3. Licensing		1,000	1,000	1,000	1,000	1,000
	4. Salaries		13,130	13,130	13,130	13,130	13,130
	5. Amortization		66,967	66,967	66,967	66,967	66,967
II	Trucking Operations	-	-	-	-	63,533	60,045
	1. Fuel					6,184	6,184
	2. Lubricants and oil					400	400
	3. Repairs and maintenance					6,427	6,427
	4. Licensing and insurance					4,820	4,820
	5. Salaries					13,776	13,776
	6. Amortization					28,438	28,438
	7. Miscellaneous					3,488	-
III	Drying Operations		107,809	106,959	106,959	106,959	106,959
	1. Fuel		42,132	42,132	42,132	42,132	42,132
	2. Handling		450	-	-	-	-
	3. Repairs and maintenance		9,900	9,900	9,900	9,900	9,900
	4. Amortization		54,927	54,927	54,927	54,927	54,927
IV	Milling Operations		93,842	93,842	93,842	103,001	103,001
	1. Power		13,319	13,319	13,319	17,522	17,522
	2. Lubricants and oil		666	666	666	876	876
	3. Repairs and maintenance		2,895	2,895	2,895	2,895	2,895
	4. Licensing		350	350	350	350	350
	5. Salaries		46,248	46,248	46,248	48,978	48,978
	6. Amortization		23,682	23,682	23,682	23,682	23,682
	7. Miscellaneous		6,682	6,682	6,682	8,698	8,698
V	Warehousing Operations		94,401	94,401	94,401	94,401	94,401
	1. Licensing and insurance		4,500	4,500	4,500	4,500	4,500
	2. Repairs and maintenance		4,500	4,500	4,500	4,500	4,500
	3. Salaries		36,000	36,000	36,000	36,000	36,000
	4. Amortization						
	5.1 Warehouse/land development		40,163	40,163	40,163	40,163	40,163
	5.2 Accessories		9,238	9,238	9,238	9,238	9,238
VI	Trading Operations		2,537,102	2,377,867	2,377,867	1,898,447	1,893,427
	1. Purchase of palay		1,699,587	1,699,587	1,699,587	1,699,587	1,699,587
	2. Licensing and insurance		12,057	12,057	12,057	7,237	7,237
	3. Salaries		47,200	47,200	47,200	46,224	46,224
	4. Sacks		240,162	80,927	80,927	80,927	80,927
	5. Fuel		8,978	8,978	8,978	8,978	8,978
	6. Lubricants and oil		303	303	303	303	303
	7. Repairs and maintenance		15,676	15,676	15,676	9,249	9,249
	9. Amortization						
	9.1 Loan for trucks		69,360	69,360	69,360	40,922	40,922
	9.2 Starting capital		27,430	27,430	27,430	-	-
	99.3 Trading capital		416,349	416,349	416,349	-	-
	10. Miscellaneous		-	-	-	5,020	-
VII	Institutional Development	304,604	304,604	304,604	304,604	152,302	152,302
	Total Cash Outflows	1,761,784	3,258,124	3,098,439	3,098,439	2,539,409	2,470,856
NET INFLOWS		1,166,890	(899,437)	120,139	89,678	657,596	710,919
Beginning Cash Balance		-	1,166,890	267,453	387,592	477,270	1,134,866
Ending Cash Balance		1,166,890	267,453	387,592	477,270	1,134,866	1,845,785

1/ All figures are derived from Statistical Annex-8.

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