PDBAQ 973

OFFICIAL PROJECT DOCUMENT

PROJECT PAPER

SENEGAL

COMMUNITY AND ENTERPRISE DEVELOPMENT

(685-0260)

Authorized: September 6, 1983

AGENCY FOR INTERNATIONAL DEVELOPMENT

UNCLASSIFIED

1

APPENDIX 3A ATTACHMENT 1

AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT DATA SHEET

1. TRANSACTION CODE: A

Amendment Number: OFFICIAL PROJECT DOCUMENT

DOCUMENT CODE: 1

2. COUNTRY/ENTITY: Senegal

3. PROJECT NUMBER: 685-0260

4. BUREAU/OFFICE: Africa [06]

5. PROJECT TITLE (maximum 40 characters): COMMUNITY AND ENTERPRISE DEVELOPMENT

6. PROJECT ASSISTANCE COMPLETION DATE (PACD): MM 09 DD 30 YY 89

7. ESTIMATED DATE OF OBLIGATION (Under 'B.' below, enter 1, 2, 3, or 4)

A. Initial FY 83 B. Quarter 4 C. Final FY 89

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

A. FUNDING SOURCE	FIRST FY 83 B. FX	C. L/C	D. Total	LIFE OF PROJECT E. FX	F. L/C	G. Total
AID Appropriated Total						
(Grant)	(880.5)	(542)	(1442.5)	(3668.0)	(5332)	(9000)
(Loan)	( )	( )	( )	( )	( )	( )
Other U.S. 1. Peace Corps	5	15	20	50	150	200
Other U.S. 2.						
Host Country						
Other Donor(s) PVOs	* (See below; block 16)					
TOTALS	885.5	557.0	1442.5	3718.0	5482	9200

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) SH	250 B	290		0	0	3942	0	9000	0
(2)									
(3)									
(4)									
TOTALS									

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each): 070 | 110 | 248

11. SECONDARY PURPOSE CODE: 270

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

A. Code	BR	INTR	TNG	PART		
B. Amount						

13. PROJECT PURPOSE (maximum 480 characters)

To enable village organizations and small-scale enterprises in the region of Sine Saloum to manage and sustain their own development.

14. SCHEDULED EVALUATIONS

Interim MM 10 YY 85 | MM YY | Final MM 10 YY 87

15. SOURCE/ORIGIN OF GOODS AND SERVICES

[X] 000 [ ] 941 [X] Local [X] Other (Specify) 899

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

* PVOs will provide some of their own resources in support of projects they undertake with AID assistance. However, it is difficult to estimate the contributions that local PVOs will be able to make and similarly difficult to estimate how many international PVOs will participate in the project.

17. APPROVED BY

Signature: David Shear

Title: Director, USAID/Senegal

Date Signed: MM 09 DD 06 YY 83

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

AID 1330-4 (8-79)

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ACTION MEMORANDUM FOR THE DIRECTOR OF

USAID/SENEGAL.

TO: David Shear, Director

FROM: G. William Anderson, PDO GWA

SUBJECT: Authorization of the Community and Enterprise Development Project (685-0260).

I. PROBLEM

Your approval is required to execute a grant of Nine Million Dollars ($9,000,000) from Section 121 of the Foreign Assistance Act of 1961, as amended, (Sahel Development Program) to the Government of Senegal (GOS) for the PVO Community and Enterprise Development Project (685-0260). It is planned that a total of Three Million Nine Hundred and Forty-Two Thousand Dollars ($3,942,000) will be obligated in FY 1983.

II. DISCUSSION

A. Project Description:

The PVO Community and Enterprise Development Project will provide assistance to (1) enable village organizations to carry out agricultural production, food processing and preservation, and soil and energy conservation projects on their own and (2) assist rural entrepreneurs and enterprises to support agriculture and manage and sustain their own growth.

B. Summary of Analyses:

The project as designed is technically and socio-economically sound. The Africa Bureau Environmental Officer approved a negative determination in the Initial Environmental Examination (IEE) prepared for the PID. As required, a risk-benefit analysis for pesticide use in activities under the project has been prepared and will be submitted to AID/Washington for approval. Deferred IEE's of project activities not presently identified will be carried out as needed, as stated in the PID's IEE.

C. Project Implementation:

As Conditions Precedent, the Project Agreement will require the following:

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Prior to the first disbursement under the Grant, or to the issuance by AID of documentation pursuant to which disbursement will be made, the Grantee will, except as the Parties may otherwise agree in writing, furnish to AID (1) a letter from the Minister of Plan naming the Government of Senegal representatives to the National Project Policy Committee (described in Annex I), and (2) a statement of the name, together with a specimen signature of the person holding or acting in the office of the Grantee who for all purposes of the Agreement will represent the Grantee including making changes in the amplified project description if such changes are not inconsistent with the project description set out above. The Grantee can designate additional representatives for all purposes other than exercising the power to change the amplified project description.

The GOS will agree to the following covenants in the Project Agreement:

1. To establish an evaluation program as part of the Project.

2. To use reflows from loans made to village organizations and entrepreneurs for the purposes of rural credit.

3. To establish reasonable procedures and to act in a reasonable time to register PVOs.

4. To make all reasonable efforts to act on the recommendations of the National Project Policy Committee to improve the policy, legal, and regulatory climate for the development of village groups and small-scale entrepreneurs.

5. To take all reasonable actions to support and pursue credit collection under the Project.

The GOS implementing body in the National Project Policy Committee under the chairmanship of the Ministry of Plan.

The standard AID procurement procedures will be followed. The authorization includes waivers:

1. to purchase project vehicles;

2. to increase shelf-item procurement unit value and the total amount available for shelf-item procurement; and

3. to authorize procurement whose source and origin is Senegal or services whose nationality is Senegal.

U.S. non-profit or commercial organizations will be chosen under standard AID competitive selection procedures to provide technical services for project implementation.

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D. Committee Action and Congressional Apprisement:

A Project Review was held on September 2, 1983. The Project Committee recommended that the Director authorize the project.

An Advice of Program Change was submitted to Congress on July 15, 1983. The waiting period expired without objection on July 30, 1983.

III. RECOMMENDATION:

That you sign the Project Authorization and thereby authorize the PVO Community and Enterprise Development Project (685-0260) with a planned FY 1983 obligation of $3,942,000.

PROJECT AUTHORIZATION

Name of Country: Senegal
Name of Project: PVO Community and Enterprise Development
Number of Project: 685-0260

1. Pursuant to Section 121 of the Foreign Assistance Act of 1961, as amended, I hereby authorize the PVO Community and Enterprise Development Project for Senegal involving planned obligations not to exceed $9,000,000 in grant funds over a six-year period from date of authorization subject to the availability of funds in accordance with the AID OYB/allotment process, to help in financing foreign exchange and local currency costs for the project. The planned life of the project is six (6) years from the date of initial obligation.

2. The project consists of assistance to (1) enable village organizations to carry out agricultural production, food processing and preservation, and soil and energy conservation projects on their own and (2) assist rural entrepreneurs and enterprises to support agriculture and manage and sustain their own growth.

3. The Project Agreement which may be negotiated and executed by the officer to whom such authority is delegated in accordance with AID 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.

a. Source and Origin of Commodities, Nationality of Services

Commodities financed by AID under the project shall have their source and origin in the United States except as AID may otherwise agree in writing. Except for ocean shipping, the suppliers of commodities or services shall have the United States as their place of nationality, except as AID may otherwise agree in writing (but see Waivers which follow). Ocean shipping financed by AID under the project shall, except as AID may otherwise agree in writing, be financed only on flag vessels of the United States or of Senegal.

b. Condition Precedent

Prior to any disbursement, or the issuance of any commitment documents under the Project Agreement, the Government of Senegal shall furnish AID (1) a letter from the Minister of Plan naming the Government of Senegal's representatives to the National Project Policy Committee and (2) the name of the person who will represent the Grantee in making changes in the amplified project description in the grant agreement.

c. Covenants

The Government of Senegal shall covenant the following:

1) To use reflows from loans made to village organizations and entrepreneurs for the purposes of rural credit.

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2) To establish reasonable procedures and to act in a reasonable time in registering PVOs.

3) That one of the priorities of the National Project Policy Committee will be to address the problems for village organization and small-scale enterprise development arising from government policies and regulations. The Government of Senegal agrees to make all reasonable efforts to act on the recommendations of the National Project Policy Committee to improve the policy, legal, and regulatory climate for the development of village groups and small-scale entrepreneurs.

4) To take all reasonable actions to support and pursue credit collection under the project.

d. Waivers

The following waivers to AID regulations are hereby approved:

1) Based on the justification on pages 17-2 to 4 of the PP, I hereb approve a source/origin waiver from AID Geographic Code 000 (U.S. only) to Code 935 (Special Free World) to allow the procurement of 7 passenger vehicles for use in Senegal having a total value not to exceed $50,000; certify that special circumstances exist which justify the waiver of the requirement of Section 636(i) of the FAA; and certify that exclusion of procurement from Free World countries other than Senegal and countries included in Code 941 would seriously impede attainment of U.S. foreign policy objectives and objectives of the foreign assistance program.

2) Based on the justification on pages 17-5 to 7 of the PP, I hereb approve a source/origin waiver from AID Geographic Code 000 (U.S. only) to Geographic Code 899 (Free World): (1) to increase shelf-item procurement unit value from $5,000 to $20,000 and the total amount available for shelf-item procurement from 10 percent to 15 percent of local currency costs of the project; (2) to authorize procurement whose source and origin is Senegal or services whose nationality is Senegal (Host Country Procurement).

4. Clearances

	Typed Name	Office Symbol	Date	Initials
A.	Joel Schlesinger	PDO	Sept 6 1983	
B.	Sam Rea	PRM	6 Sept 83	SR
C.	Wayne Butler	RCON	6 Sept 83	SB.
D.	Mike White	HPNO	9/6/83	
E.	Judi Shane	SMO	9/6/83	
F.	Floyd Spears	MO	9/6/83	
G.	Jim Rogan	RLA/REDSO/WA	8/23/83	Draft*
H.	John Balis	ADO	9/6/83	

*Regional Legal Advisor Jim Rogan cleared the revised versions of the authorization, project agreement, procurement plan and waivers after having reviewed drafts of each on August 19, 1983.

PVO Community and Enterprise Development Project (685-0260)
Authorization of Project Paper for $9,000,000

5. Approval

David Shear
Director
USAID/Senegal

David Shear
Signature

Sept. 6, 1983
Date

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ACRONYMS

ADCP	Agricultural Decentralization and Credit Program
ASAFED	Association Africaine pour l'Education et le Développement (African Association for Education and Development)
CAPAS	Centre d'Assistance à la Pêche Artisanale au Sénégal (Center for Assistance to Senegalese Fishermen)
CARAT	Centre d'Assistance pour le Recyclage des Agents Techniques (Center for Retraining Technical Agents)
CDD	Comité Départemental de Développement (Department Development Committee)
CDH	Centre de Développement de l'Horticulture (Horticultural Development Center)
CDSS	Country Development Strategy Statement
CER	Centre d'Expansion Rurale (Rural Extension Center)
CERER	Comité d'Etudes et de Recherche pour les Energies Renouvelables (Committee for the Research and Study of Renewable Energy)
CIEPAC	Centre International d'Education Permanente pour l'Aménagement et la Coopération (International Center for Preparatory Education and Cooperation)
CIH	Centre d'Initiation Horticole (Horticultural Center)
CIP	Commodity Import Program
CLD	Comité Local de Développement (Local Development Committee)
CNCAS	Caisse Nationale de Crédit Agricole au Sénégal (National Agriculture Credit Bank of Senegal)
CNRF	Centre National de la Recherche Forestière (National Center for Forestry Research)
CPA	Centre de Perfectionnement pour l'Agriculture (Agricultural Preparatory Center)
CRD	Comité Régional de Développement (Regional Development Committee)
CRED	Center for Research and Economic Development
CRS	Catholic Relief Services

CRSP	Cooperative Research Support Program
CSS	Compagnie Sucrière Sénégalaise (Senegalese Sugar Company)
CWS	Church World Service
DDC	Direction de Développement Communautaire (Division of Community Development)
ECPR	Executive Committee for Project Review (AID/W)
ENCR	Ecole Nationale des Cadres Ruraux (National School for Rural Extension)
ENDA	Environnement et Développement dans le Tiers-Monde (Environment and Development in the Third-World)
ENEA	Ecole Nationale d'Economie Appliquée (National School for Applied Economics)
FAAD	Farmers Association and Agrobusiness Development
FAC	Fond d'Aide et de Coopération (Fund for Assistance and Cooperation)
FAO	Food and Agricultural Organization
FAO/WHO	Food and Agricultural Organization/World Health Organization
FCFA	Francs de la Communauté Financière Africaine (African Monetary Unit)
FVA/PVC	Food and Voluntary Assistance Bureau
FY	Fiscal Year
GDP	Gross Domestic Product
GNP	Gross National Product
GOPEC	Groupe Opérationnel Permanent d'Etude et de Concertation (Offices for Study and Planning)
GOS	Government of Senegal
IEE	Initial Environmental Examination
ILO-UNDP	International Labor Office - United Nations Development Program
IPD	Institut Pan Africain de Développement (Pan African Institute of Development, PAID)

IMF	International Monetary Fund
IPM	Integrated Pest Management
IRR	Internal Rate of Return
ISE	Institut des Sciences de l'Environnement (Institute of Environmental Science)
ISRA	Institut Sénégalais de Recherches Agronomiques (Senegalese Institute for Agricultural Research)
JAC	Jeunes Agriculteurs Croyants (Young Farmers Club)
LDC	Lesser Developed Country
MFR	Maisons Familiales Rurales (Rural Extension Units)
MO	Management Office
MU	Management Unit
NCNW	National Council of Negro Women
OEF	Overseas Education Fund
OFADEC	Office Africain de Développement et de Coopération (African Office of Development and Cooperation)
ONCAD	Office National de Coopération et d'Assistance au Développement (National Office of Cooperatives and Development Assistance)
ORT	Organization for Rehabilitation through Training
OXFAM	Overseas Famine Relief
PADEC	Pan Africain pour le Développement Communautaire (Pan African Community Development)
PFP	Partnership for Productivity
PID	Project Identification Document
PP	Project Paper
PPC/E	Program and Policy Coordination
PRECOBA	Programme de Reboisement Communautaire du Bassin Arachidier (Program for Community Reforestion in the Peanut Basin)

PVO	Private Voluntary Organization
RCON	Regional Controller
RDA	Rural Development Agency
RFCP	Regional Food Crop Protection Program
SBA	Small Business Advisory
SERAS	Société d'Exploitation des Ressources Animales au Sénégal (Office of Animal Resources in Senegal)
SMO	Supply Management Office
SODEC	Société de Décorticage (Milling Company)
SODESP	Société de Développement de l'Elevage dans la Zone Sylvo-Pastorale (Sylvo Pastoral Livestock Development Organization)
SODEVA	Société de Développement et de Vulgarisation Agricole (Agriculture Extension and Development Organization)
SONEPI	Société Nationale de Promotion Industrielle (National Company for Industrial Promotion)
SOPESINE	Société de Pêche du Sine (Sine Fishing Company)
SSE	Small-Scale Enterprise/Entrepreneur
UNDP	United Nations Development Program
UNSO	U.N. Sahelian Office
USAID	United States Agency for International Development
USEPA	U.S. Environmental Protection Agency
VO	Village Organization
WAMU	West African Monetary Union
WFP	World Food Program
YMCA	Young Men's Christian Association

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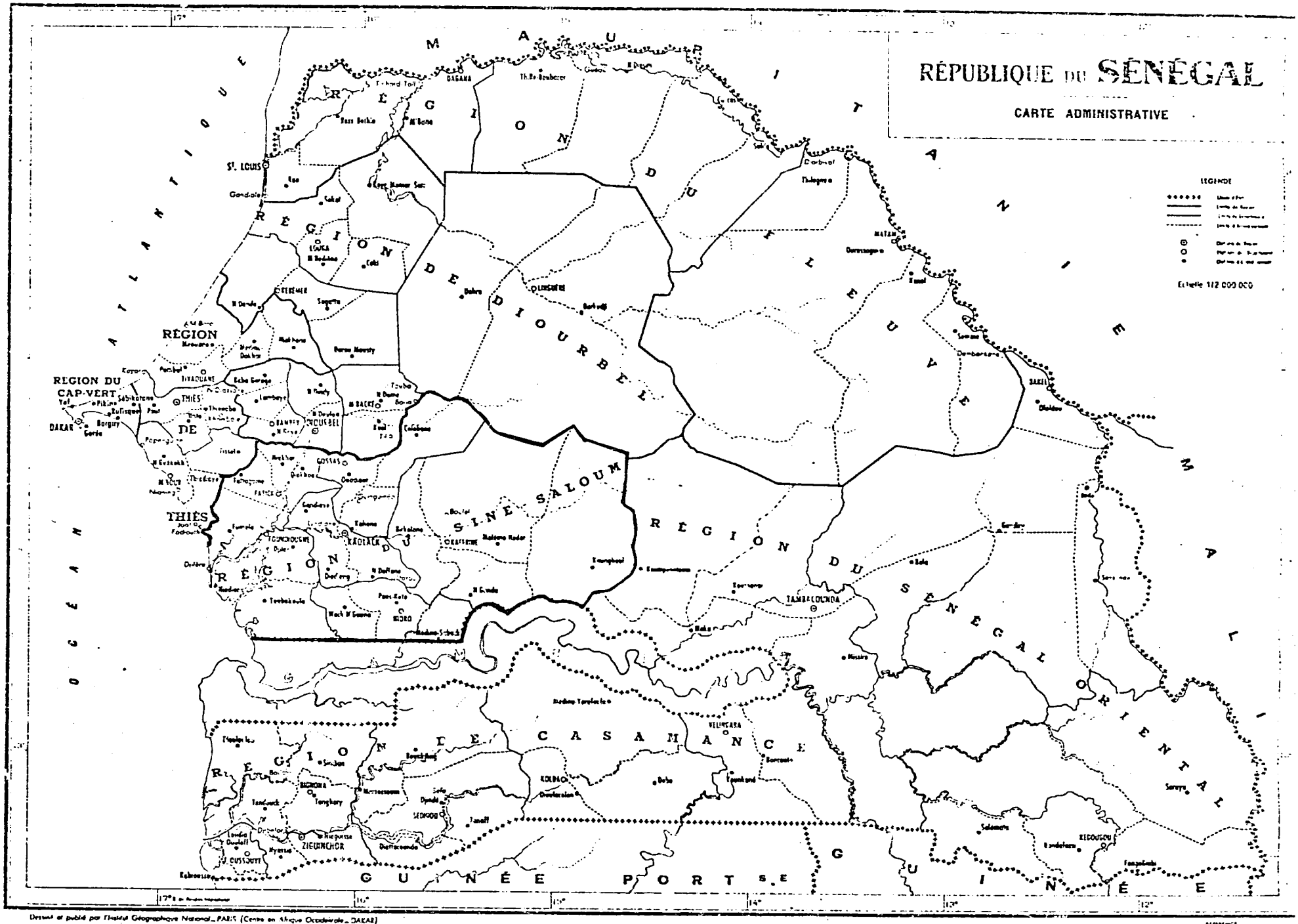

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EXECUTIVE SUMMARY

In 1980 in the midst of an economic crisis brought on by declines in agricultural production, increased government borrowing, and worsening terms of trade, the Government of Senegal (GOS) adopted an Economic Reform Plan. Developed in consultation with the World Bank and the IMF, the Reform Plan's purpose was to reduce balance of payments and budgetary deficits and stabilize the economy. In the agricultural sector, this meant reducing public sector and parastatal activity in favor of increased private sector responsibility.

The Private Voluntary Organization (PVO) Community and Enterprise Development Project (685-0260) will assist the GOS to meet its basic objectives of economic stabilization and food self-sufficiency. It will do so by assisting village organizations and small-scale entrepreneurs (SSEs) to increase their production of agricultural goods and services. Further, by enabling local organizations and SSEs to carry out their own development, the project contributes to GOS efforts to decentralize government and economic activity. Nine million dollars of assistance will be provided over six years.

This project directly supports the basic emphasis of USAID policy in Senegal, the achievement of food self-reliance by the year 2000. The project's goal is the progressive decontrol and commercialization of rural production, one of the four main targets of the Mission's agricultural program. The project will enable village groups and small-scale entrepreneurs in Sine Saloum to plan, manage, and continue their own development. PVOs will provide assistance to village groups in Sine Saloum, one of the three regions of AID concentration in Senegal. Through the management structure of this project, USAID/Senegal will be able to consolidate a number of separately-managed PVO activities.

Under the project PVOs will assist over 200 village producer groups to carry out production and environmental regeneration projects and will enable them to take charge of their own development. A contract Small Business Advisory Unit will assist over 600 agriculturally-related SSEs to provide goods and services needed for agricultural production. From Kaolack, the capital of Sine Saloum, a contract Management Unit will manage and monitor all project activities. In Dakar, a National Project Policy Committee, including representatives of concerned ministries, will review overall project policy, criteria for selection of beneficiaries, and will participate in periodic Project Reviews and evaluations. Project activities will begin in limited numbers in a defined area to develop sound packages of assistance and to resolve basic problems before expanding project activities throughout the region.

PVOs and village groups will consult with Rural Councils, Sous-Préfets and other administrative authorities, and technical services (agents of CERs, SODEVA) in designing projects and will present their proposals to local authorities. In processing proposals, the Management Unit will take into account the comments of local and regional officials. The National Committee will approve all PVO proposals.

Based on the criteria set by the National Project Committee, the Management Unit will establish a continuous monitoring system providing periodic reports to USAID and to the National Project Committee. Government officials from national and regional levels will participate in periodic Project Reviews every six months as well as in more in-depth external evaluations utilizing outside experts.

The basic principle of this project is that it be funded through and be implemented by non-governmental organizations. To succeed, the project must establish a flexible, quick-reacting mechanism that meets the expressed needs of rural producers while supporting activities that reflect the Government's development policy.

One of the principal innovations of the project involves assisting both on- and off-farm producers in a rural area. Such assistance to both sides of the rural economy can build linkages that will enable the increased production and incomes of each to reinforce the other. If the project's experience suggests that a self-reinforcing process of rural growth can occur in a favorable policy climate, the model would be of major importance to Senegal as well as to other AID and other donor programs in Africa.

I. PROJECT RATIONALE AND DESCRIPTION

A. Project Rationale

Senegal's economy has been declining since the great drought of 1973 which followed five years of below average rains. Complicating Senegal's recovery were the fall in world prices for peanuts combined with a decline in demand for phosphates. Rising import prices for food, manufactures, and petroleum and an overly ambitious program of public sector investment and intervention in the economy further contributed to Senegal's economic problems.

Low rainfall and adverse climatic conditions from 1977 to 1981 drastically cut cereal and peanut production. The real GDP per capita declined 18 percent. To compensate, the Government of Senegal (GOS) borrowed abroad and increased government spending. In 1981, foreign debts exceeded 60 percent of GDP, and the budget deficit for FY 1980-81 totaled 25 percent of domestic revenues. The current account deficit was 21 percent of GDP. Senegal was facing its worst economic and financial crisis since independence in 1960.

Senegal is not food self-sufficient. Food imports regularly make up approximately 20 percent of the total imports of the country. Because of the population rise placing increased demands on limited farming area and continuous cultivation of millet and peanuts, soil fertility in the Groundnut Basin is gradually declining. Fallowing has been reduced considerably in certain areas, and alternative methods of soil regeneration are not being applied. Over the last three decades, the forest reserve of the country has been reduced by approximately 30 percent because of the need for fuel. Because of population growth and limited agricultural production growth, migration from the countryside to urban areas, especially to the greater Dakar-Cap Vert area, continues at high rates. (See Spatial Analysis, Annex 11.)

Approximately 70 percent of Senegal's population of 6.0 million belong to farming and fishing families. Because they produce much of the food which feeds the country and make the major contribution to Senegal's exports, they are the key to the well-being and development of the country as a whole. Groundnuts and fish account for as much as 60 percent of exports in good crop years and as little as 35 percent in poor crop years. Farmers and fishermen rely heavily on small entrepreneurs and enterprises for goods and services related to food production and fishing and for the marketing of their products.

1. Relationship to Government of Senegal Strategy

In consultation with the IMF and the World Bank, the GOS adopted an Economic Reform Plan. The Reform Plan's purpose was to reduce the balance of payments and budgetary deficits and stabilize the economy. Other planned action by the GOS aimed at paring the public and parastatal sector while removing constraints on private sector production. The IMF and the World Bank committed a substantial amount in extraordinary assistance.

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In the agricultural sector, the GOS Economic Reform Plan focused on trimming the parastatal Rural Development Agencies (RDAs), revamping the agricultural credit and cooperative systems, and devolving more decision-making power to local producer groups. In 1980 and 1981, the GOS took a number of significant steps, such as raising farm-gate prices for cereals and peanuts, disbanding one parastatal, and preparing a reformed credit program. The new credit system would allow local producer groups to receive bank credit directly.

In assessing Senegal's performance in implementing its Economic Reform Plan, it should be noted that the GOS has taken steps to limit growth of current expenditures, reduce expenditures on personnel and reduce the role of public enterprises in the economy while improving their financial management. Some progress has been made. Growth in revenue is marginally above growth in expenditure (0.8 percent and 0.2 percent respectively). The share of personnel expenditure has decreased from 56 percent in 1980/81 to 48 percent in 1982/83. In addition, six public enterprises have signed new contracts with the GOS which strengthen their efficiency and limit government financial responsibility.

The Private Voluntary Organization (PVO) Community and Enterprise Development Project (685-0260) is a direct response to the joint GOS-USAID Assessment of Project Assistance carried out in 1980 which concluded that development assistance programs should identify new means to directly involve beneficiaries in their own development process. In addition, the joint assessment suggested the selection of alternative means to reach rural producers, many of whom have never been included in previous development schemes.

This project supports the GOS Economic Reform Plan. It focuses on decontrol and commercialization of rural production by assisting village organizations and small enterprises to increase their production of goods and services. This increased production will assist the GOS to meet its basic objectives of economic stabilization and food self-sufficiency. As it will enable local organizations and small rural enterprises to carry out their own development and increase autonomy, the project contributes to the movement away from a centralized development strategy. Following the February 1983 national elections, President Abdou Diouf created a Secretariat of Decentralization to focus and accelerate efforts to decentralize government activity. The project supports the GOS decentralization efforts by concentrating development activities at the level of the village organization and small-scale enterprise. The project strategy shifts responsibility for development decision-making from the donor-implementers to the beneficiary-participants. In addition, the objectives of Senegal's Sixth Economic and Social Development Plan (1981-85) which includes progress toward food self-sufficiency and diversification of production are supported in the project.

The project is consistent with and complements GOS efforts in cooperative and rural credit reform. The GOS is undertaking a reform of the rural credit system, and an inter-ministerial working group, including the USAID Chief Agricultural Development Officer, has been engaged since March 1981 in this effort. The basic proposal is to create an independent rural credit organization, the Caisse Nationale de Crédit Agricole du Sénégal (CNCAS), which would service a wide assortment of rural borrowers. The reform of the cooperative system envisages that the CNCAS will lend to groups of small farmers and other borrowers. The timing and sequencing of the reform has been worked out by the GOS with other donors, including AID and France's Caisse Centrale de Coopération Economique.

Given the planned sequence of the national credit reform, rural producers in Sine Saloum will not receive credit under CNCAS until later during the life of the PVO project. Therefore, a credit component in the project is necessary. The work of PVOs or others handling the credit component and following up on repayment, combined with the requirement that village groups contribute at least 25 percent of the investment costs of sub-projects, will constitute valuable experience for the gradual expansion of the CNCAS into Sine Saloum. The credit program in the project will be consistent with the national program so that the CNCAS can take over the credit component of the project.

2. Relationship to USAID Strategy

This project directly corresponds to the basic emphasis of USAID policy in Senegal--the achievement of food self-sufficiency by the year 2000 through an agricultural sector improvement strategy of production, storage and trade which was established in the Fiscal Year (FY) 1983 Country Development Strategy Statement (CDSS). The FY 1984 CDSS supplement (January 1982), the FY 1984 Annual Budget Submission (ABS) (June 1982), and the FY 1985 CDSS further elaborated the Mission's strategy in general and in the agricultural sector in particular. The village groups and small entrepreneurs assisted under this project will increase agricultural production.

The Mission chose one region, Sine Saloum, as the site for the project for several reasons. First, the principal innovation in the project is the attempt to increase simultaneously on- and off-farm production and income. As production and incomes in villages expand, villagers will demand more of the goods and services of rural entrepreneurs. Similarly, as the production and income of artisans and other entrepreneurs increase and as they hire more apprentices and other employees, their demand for farm products for consumption, for marketing, and for processing will rise. But for this mutual reinforcement of economic activity to occur, production and incomes on-farm and off-farm must increase and in the same geographic area.

Second, Sine Saloum, given its usually favorable rainfall level and the relative sophistication of farmers and entrepreneurs, has great potential for short-term increases in production.

Third, USAID is already assisting local village organizations in the Casamance (through its Casamance Regional Development Project, 685-0205) and in the Fleuve (through the Small Irrigated Perimeters Project, 685-0208). This assistance appears to have great potential for long-term development and it is thus anticipated that Sine Saloum has potential to be an area whose village groups would benefit greatly from similar assistance.

The project enables the Mission to consolidate what have previously been small, separate PVO activities under a single-focused activity utilizing a number of PVOs. It will be implemented by a single management unit. Since the approval of the FY 1983 Senegal CDSS in March 1981, the USAID program has aimed at reducing the regions with active projects from six to three and at reducing substantially the number of project management units. In early 1981 the number of management units was more than thirty. Over the period of the FY 1985 CDSS (1983-1987), the number of active projects will drop to thirteen, although the overall program in dollar terms is projected to substantially increase. In FY 1983, including PL-480 and regional programs, USAID had already reduced this number to seventeen activities. In FY 1984, USAID will manage only fifteen projects. Thus the PVO project assists the Mission in consolidating its program.

The project's goal is the progressive decontrol and commercialization of rural production, one of the four main targets of the Mission's agricultural program. Assistance to village groups and small-scale rural entrepreneurs in the region of Sine Saloum will increase the role of the private sector in servicing agricultural production as well as in strengthening village groups to take more responsibility for production. Through activities like village woodlots, windbreaks, and improved woodstoves, which the Mission has already successfully promoted on a small scale, the project aims at improving soil and water management. Through its encouragement of livestock feeding, the project will assist in the spread of mixed farming. Village gardens and fishing cooperatives will encourage increased production activities. Therefore, the project directly assists in attaining three of the four main targets of the Mission's agricultural strategy. The fourth target, the increase of cultivated land area, does not apply to Sine Saloum as much as to the other regions of AID concentration where there do exist large areas of uncultivated arable land.

The project ties in well with existing or planned USAID agricultural assistance programs. The Commodity Import Program (agricultural sector, 685-0249) will provide research results on rural producers' use of credit and savings which will be of benefit to this project.

When compared with the experiences in the Fleuve and Casamance of assisting rural producer groups, this project should lead to a more adequate and effective model for assisting village organizations. The experience with assistance to small entrepreneurs, when compared with the experience in the Fleuve under the proposed OMVS Integrated Development Project, whould suggest plausible future strategies for assisting Senegal's private sector. One of the project's principal innovations lies in assisting both the farm and off-farm producers of a rural area so that the increased production and incomes

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of each reinforces the other. If the project's experience suggests that a self-reinforcing process of rural growth can occur, given favorable policies, the resulting model would be of major importance to Senegal as well as to other AID programs in Africa. The second major innovation involves a coordinated and focused use of PVOs to achieve significant development impact in a limited geographic area. If this manner of working with PVOs proves feasible, it will offer a model for Senegal as well as other countries.

Local currencies generated under the one-year extension of the PL 480 Title III program (1983-84) will fund a number of activities which have some relationship to the PVO project. Those activities with the closest relationship to the PVO project are the following:

- The Land Regeneration Fund;
- The Environmental Rehabilitation Study for the Peanut Basin;
- Reforestation Activities;
- Promotion of Improved Cookstoves ("Ban-ak-Suuf");
- Hydrogeological study in Eastern Sine Saloum; and
- Small Development Projects linked to PPNS (National Health and Nutrition Protection) Centers.

For all these activities, it has been agreed that coordination in terms of similar criteria or geographic coordination will take place. This is particularly true in the case of Small Development Projects linked to PPNS centers and reforestation activities. Activities under these sub-projects will take place in regions other than Sine Saloum. Activities under the Land Regeneration Fund will use the same criteria as comparable activities under the PVO project. Studies, such as the Environmental Rehabilitation Study for the Peanut Basin and the Hydrogeological Study, will improve the basis the PVO Project uses for choosing types and sites of activities. Finally, continued extension of improved "Ban-ak-Suuf" cookstoves may establish conditions under which small entrepreneurs assisted by the PVO project may take over the promotion of the improved stoves. Similarly, as the expansion of the community reforestation and woodlot programs increases the demand for seedlings for shade, fuel, and fruit trees, entrepreneurs may begin raising and supplying seedlings to villages.

Therefore, activities and studies under the Title III extension are being coordinated with PVO project activities so that the two projects complement rather than duplicate or conflict with each other.

Phase I of the Sine Saloum Rural Health Project (SSRH) began in 1977 and will end in December 1983. Phase II, now being designed, will continue the development of a regional model for primary health care over the next five years. In keeping with the Mission's health strategy, the rural health

project's goal is to improve the health status of the rural population in order to increase agricultural production. The project focuses on maternal and child health and on basic health care for the rest of the labor force.

The goal of SSRH II is to assist the Mission achieve its overall goal of attaining food self-sufficiency in Senegal. This will be accomplished by: 1) increasing the productivity of agricultural workers through a reduction in morbidity and mortality; and by 2) reduction in the population growth via the establishment of a primary health care infrastructure through which family planning services can be delivered. By this means agricultural production can more easily meet the demands for food. The project will ultimately be reaching 70 percent of the rural population of Sine Saloum except principal cities and towns, through a series of disease control interventions administered by Community Health Workers based in 728 villages and serving outlying villages. It is supported through a Government health referral system though the health hut itself is to be financially self-sufficient.

Both SSRH II and the PVO project will be heavily relying for their success on a common link in village structure: that of the traditional village committee or in some cases more recently organized village groups. These committees often function in a multi-purpose role and their support and ability to manage projects, make decisions, handle finances and solicit community participation are critical factors. Both the PVO Community and Enterprise Development and SSRH will be working with these committees to increase their management capabilities. Coordination at the supervisory level (e.g. Management Unit and Health Coordination Office in Kaolack) and a consolidated effort at the village level will greatly enhance the effectiveness of the proposed activities and maximize the use of limited village resources. For example, training in certain management techniques and development activities would serve to strengthen village committees in the PVO and Health projects and training in literacy/numeracy, nutrition, gardening, food processing, and preservation meet goals of both projects.

While SSRH II recognizes the role of literacy in community development, it appears at this stage in design that such a component will be unable to be incorporated into the project considering its complex health strategy. Therefore, the PVO project can play a major role in literacy/numeracy dissemination which can well complement the Health Project.

3. Project Strategy

Economic growth in Senegal depends upon an expansion of rural production through progressive decontrol and commercialization of the rural sector. The major problem that this project must address is how to create and maintain an environment that encourages rural private producers.

Rural production consists, in part, of agricultural production, animal husbandry, fishing, and forestry. This production is undertaken by villagers working either independently or collectively.

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Rural production also consists of the goods and services provided by rural entrepreneurs and enterprises. They make the plows, carts, farm tools, and fishing boats and provide the maintenance and repairs that are needed for primary sector production. They also provide the goods and services required to process and market this production.

Villagers are increasingly grouping themselves into organizations for the expressed purpose of expanding existing production or undertaking new types of production. It is the only way that they can generate an investment budget of any significance. Also, many investments are best used in common. Examples are: the well, storage tank, tubing and fencing required for vegetable gardening; the cow-shed for cattle fattening; the boat and motor for fishing; and the fencing to protect seedlings grown for the village woodlots. Providing assistance to individual producers of this size is inefficient, requires a complex organizational and administrative structure, and implies resources that are beyond the scope of this project. Also, providing assistance to village organizations does not preclude the application of some of that assistance to individual production. Therefore, any assistance required to increase primary sector production will be provided to village organizations that have that same aim.

The GOS Rural Development Agencies (RDAs) that were established to provide assistance to villagers and village organizations have oftentimes been constrained by their breadth of responsibility and the immense management budget required to run such agencies. An alternative assistance strategy to aid village organizations and SSEs is through PVOs. They have been found to be able to do similar types of work; their flexibility and local character suit them for it; and they themselves are an active and vital part of the private sector. For these reasons primary assistance required by village organizations under the project will be provided through PVOs and RDAs will be utilized as secondary technical resources.

Rural entrepreneurs are central to the economy of the agricultural sector. Producers involved in fishing and farming rely heavily on the goods and services entrepreneurs produce in order to process, store, and transport their goods. The government has in the past tried to control the provision of these goods and services and to assist the Small-Scale Enterprises (SSEs). Most of these services went instead to medium- and large-scale enterprises and thereby restricted the growth of the diversified agri-related business sector needed to support agricultural growth in the region. The climate is therefore conducive to a new outreach strategy to enable the SSEs to increase their production and effectively assist the rural sector.

The most significant feature of the project is its use of PVOs and direct advisory support services to reach village organizations and SSEs. Groups are being targeted directly and intermediate organizations which are non-governmental are used as the means of transferring assistance to these groups. Development needs are being determined by the beneficiaries in a collaborative process which allows them to select the development activities which best suit their needs. A general project funding framework provides guidelines for priority activities to be funded which meet the environmental as well as agricultural needs of the region (See Spatial Analysis, Annex 11).

4. Relationship with Activities of Other Donors

Peace Corps: This project will work in close collaboration with the Peace Corps by providing assistance by PVOs to village organizations assisted by Peace Corps Volunteers. The project will also identify village organizations that need the longer term assistance generally provided by Peace Corps Volunteers. In addition, the project will collaborate with existing Peace Corps projects such as the improved mud stove (ban-ak-suuf) demonstration project. The PVOs funded under this project will identify village organizations that are interested in such demonstrations and will help to organize them. Finally, it is envisioned that some of the small enterprise advisory staff will be Peace Corps Volunteers. (See Annex 15, Peace Corps Involvement.)

Within the region of Sine Saloum, several other donors are sponsoring bilateral development projects, some to assist rural producer groups. Important for this project is an ILO-UNDP assisted Ministry of Industrial Development program to strengthen regional associations of small entrepreneurs known as Chambres de Métiers. In Kaolack, the capital of Sine Saloum, this program plans to set up brief training courses for small entrepreneurs to improve their technical skills as well as their management and record-keeping capacities and a regional material procurement and credit facility. The Mission will keep informed of this program, which appears to be behind schedule, to ensure that the project's assistance to entrepreneurs can complement the training and assistance planned under the ILO-UNDP assisted program, if and when it commences. (See Enterprise Development, Annex 8.)

In Sokone, the West German Government (GTZ) is promoting reforestation with cashew nut trees, while the British have planned to finance a cashew nut processing plant. The Belgians are financing a small integrated development project in several villages around Kaolack. They have two technicians working with agents from the CER (Centre d'Expansion Rurale) and Développement Social (The Ministry of Human Resources).

There are a variety of PVOs from many different countries working in Senegal. Most are completely autonomous from their embassies, often with next to no contact. There are three Italian volunteers giving assistance near Kaffrine. They are working with the Catholic Mission's JAC (Jeunes Agriculteurs Croyants). CARITAS has a substantial program in well construction combined with agricultural production.

The French Fonds d'Aide et de Coopération (FAC) has no programs in the Sine Saloum but has given financial assistance to many PVOs working throughout Senegal.

The majority of the other donors contacted seemed interested in this project. Some of the smaller embassies are looking for appropriate ways to funnel money to small rural development activities. This project, once fully operational, could provide that conduit.

Coordination with these donors has already begun so as to insure that activities complement each other and that duplication of efforts is avoided. Coordination will also involve the PVO information clearing house recently created in Senegal. (See PVO/Village Organization Analysis, Annex 7.)

The World Bank is currently financing a project which works with small groups in promoting village-level activities such as gardening and well-digging. USAID is monitoring progress on this project to be able to apply lessons relevant to implementation. Recommendations related to procurement, technical assistance, and coordination have already been applied to this design.

B. Project Description

The project targets development activities which are undertaken by the rural producers on their own behalf. Resources are transferred through PVOs and the Small Business Advisory Unit to the beneficiaries. The institutionalization of development capacity which is donor independent is a prime objective of the project.

The project will demonstrate the ability of village groups and small-scale enterprises to manage their own development with little or no government assistance. This demonstration will have substantial policy value because it will reinforce the government's movement away from centralized direction of the economy. It will also provide more impetus for reduction of parastatal and monopoly activity. Perhaps most importantly, the strengthened capacities of rural producers and entrepreneurs will recycle local resources back to small producer rural development. The growth of production and income of the mass of rural farmer and entrepreneurs by their own efforts can provide much of the impetus of sustained development for Senegal at a more efficient cost than massive assistance through government and parastatal institutions.

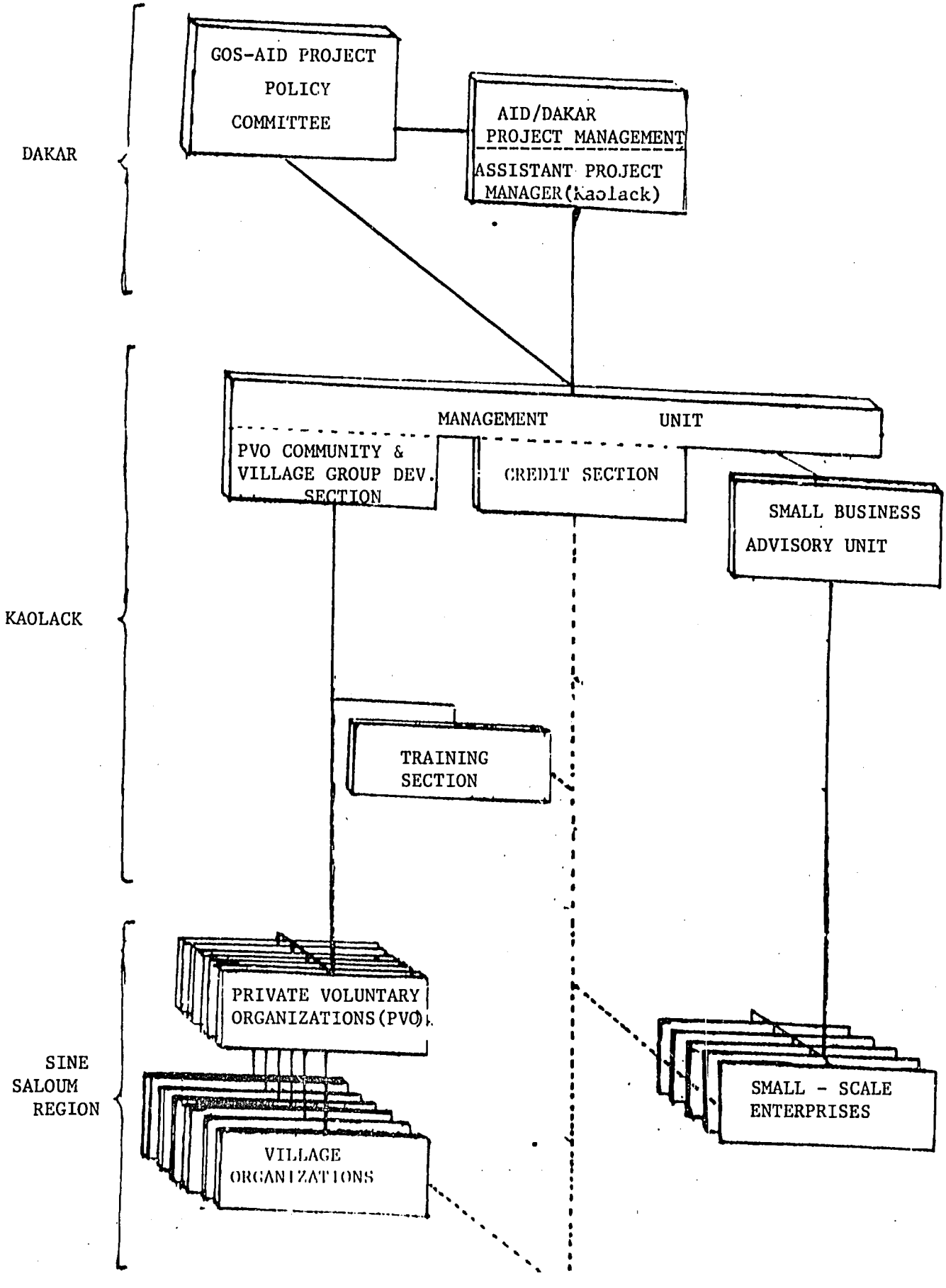
The goal of this project is to encourage decontrol and commercialization of rural production in the region of Sine Saloum. This is the first of the four main targets of AID/Senegal's agricultural program, as discussed in the FY 1983 CDSS. The project will also contribute to the overall USAID/Senegal goal of achieving food self-sufficiency by the year 2000 through production, storage, and trade. In the Economic Reform Plan, the Government of Senegal has recognized the need to give the private sector a much greater role in the development process. This implies the creation and maintenance of an environment which encourages and supports rural, private producers.

The project purposes are:

- To enable village organizations (VO) to carry out agricultural production, food processing and preservation, and soil and energy conservation projects on their own.

- To assist rural entrepreneurs and enterprises to support agriculture and manage and sustain their own growth.

Figure 1. PROJECT ADMINISTRATION & ORGANIZATION STRUCTURE



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1. PVO Component

The PVO section of the project will provide grants through the Management Unit to village organizations. The project will assist over 200 village organizations with an average number of 20 participants per organization. Projects to be undertaken include vegetable gardening, food processing, animal fattening, village woodlots and fishing. The spatial analysis (see Annex 11) will provide guidance to the PVOs in establishing projects which have greater likelihood of success based on environmental, market and demographic criteria in pilot zones of Sine Saloum.

To enable village groups to carry out these projects, PVOs will assist them in:

- Acquiring the skills required to identify opportunities for productive activity, make best use of their own resources, secure other resources, and organize themselves and their activities to insure maximum productivity;

- Becoming sufficiently literate and numerate to operate their own accounting systems;

- Learning the technical skills required to carry out projects or the ability to obtain technical assistance;

- Becoming sufficiently credit-worthy to secure any needed credit; and

- Financing capital investments essential to increasing productivity.

PVOs will use methodologies that will build the capacities of village groups to carry on without outside assistance.

Although project proposals will be passed through local government officials, the project will fund PVOs directly without passing funds through GOS technical ministries. USAID will sign a global funding agreement with the Ministry of Finance under which the funding channel will be specified. A joint AID/GOS National Project Policy Committee, similar to the Title III Management Committee, will provide policy guidance for the project and monitor progress. The Management Unit will process proposals and grants with input from local government officials and the Governor. (See Figure 1.)

In the early stages of the project, grants to PVOs will provide sufficient funding to permit the PVO to assist five to seven village organizations. In the middle and later stages of the project, PVOs may be funded to assist a larger number of village organizations. In either case, the grant to the PVO will be referred to as a sub-project to this project. PVOs will be funded if they are deemed capable of satisfactorily providing assistance to village organizations. Assistance to PVOs to strengthen their capacities to assist village organizations will occur before the PVOs begin working with villagers under the project. (See Annex 7, PVO/ VO Analysis, for a complete discussion of the strategy to be used.)

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2. Small-Scale Enterprise Component

Elements of the project designed to increase and improve local production of agri-related goods and services cover a comprehensive range of types of assistance to small-scale enterprises (SSEs). Assistance will be delivered to selected SSEs by project trained extension personnel working out of a Small Business Advisory (SBA) Unit in Kaolack. Assistance to each SSE will be designed and administered according to a business improvement plan worked out with entrepreneur and project personnel. Business improvement plans will reflect the entrepreneur's aspirations and incorporate types and levels of assistance conforming to the entrepreneur's capacity to absorb them.

Assistance to SSEs will be provided slowly and methodically by assisting a representative sample of agri-related SSEs. Base-line data will be collected on SSEs selected for assistance and on a control group of similar SSEs not selected for assistance. Modest intermediate improvement goals will be established for each individual SSE selected for assistance. Progress toward achievement of the goals will be measured frequently. Assisted entrepreneurs will be required to perform tasks on their own during the intervals between consultative visits.

Frequent "in-house" progress measurement and periodic outside evaluation, incorporating comparison of assisted with not-assisted SSEs, will lead to improvements in implementation methods.

Target SSEs will be encouraged and assisted to organize into groups and find their own ways to overcome common problems and generate a stronger, more unified voice in GOS policy decisions affecting their welfare and growth potential. (See Annex 8 for complete discussion of SSE strategy.)

Local administration authorities and regional representatives of GOS ministries, rural development agencies (RDAs), and governmental and non-governmental resource institutions, will be thoroughly briefed in advance on project plans. At frequent intervals they will be kept informed of results and plan modifications. Wherever possible the participation of existing institutional resources will be encouraged and welcomed, provided such participation does not entail changing the project's basic design, and provided the participation proposed is not so extensive and vital that project failure could result if it were not forthcoming, or if it should turn out to be ineffective. Explained differently, the project must be able to achieve its objectives with, or without, the participation of existing institutions.

The SSE component of the project will be administered by a Small Business Advisory Unit. The SBA will report to the project Management Unit in Kaolack so that its functions can be coordinated with other project components.

The SBA Unit will be headquartered in Kaolack and will incorporate:

- a business management advisory unit with training capability;
- a project trained extension service; and
- a service to facilitate materials, equipment, and spare parts procurement.

The SBA Unit will have direct access to other project common service components including:

- a revolving credit fund administered by a credit specialist; and
- a functional literacy and numeracy training capability.

3. Project Management Unit

Assistance to the PVOs undertaking village organization projects will be administered by a Management Unit located in Kaolack. This Unit will be responsible for overall project management, PVO grant processing, liaison with USAID/Dakar and the Project Policy Committee. It will further manage all aspects of project financing including transferring funds to PVOs and keeping financial records, as well as monitoring and evaluating project progress.

The Management Unit will coordinate PVO/SSE activities to ensure collaborative activities in technical assistance wherever possible. Primary areas to be coordinated will be training, credit, and procurement. (See Administrative Analysis, Annex 14, for complete discussion of Management Unit functions, staffing, and responsibility.) The Management Unit will be operated by a contractor selected by USAID.

4. GOS-AID Policy Committee

A National Project Policy Committee in Dakar will be responsible for setting overall policy and criteria for selection of PVOs, village projects and entrepreneurs, as well as monitoring and evaluation criteria. Proposals and progress reports will be provided by the Management Unit to the Committee at regular intervals. (Guidelines for proposed committee operation are included in Annex 7, PVO/VO Analysis.) The Committee will be composed of representatives from USAID and the Ministries of Finance, Industrial Development and Artisanat, Rural Development, Social Development, Plan and the Secretariat d'Etat for Decentralization. The Ministry of Plan will chair the Committee. An executive group from within the Committee will be selected to do business when full Committee participation is not required.

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5. Project Administered Credit

In order to carry out income-generating agricultural projects, village organizations will need a source of credit, as will SSEs, in order to implement production improvements and to finance diversification and expansion. No suitable source for this kind and size of credit exists in Senegal.

a. Project Credit Section

Under the direction of the Management Unit, the project will establish a Credit Section managed by a Credit Specialist. The Credit Section will administer a revolving credit fund for loans to village organizations and SSEs.

As a section in the Management Unit, the Credit Section will be independent of the PVO Community and Village Organization component and also independent of the Small Business Advisory Unit. The independent Credit Specialist will serve on the loan committees of both project components and bring to those committees the objectivity of a skilled credit analyst. The Credit Specialist's approval will be mandatory for any loan proposed to the committee of which he/she is a member (See Annex 10, Credit Analysis).

The policy of the Credit Section will be to limit project lending to loans for the purpose of financing the purchase of essential equipment, materials, and specific services required to assure the viability of the village organization's project or the SSE's expansion or improvement plan. It will be the responsibility of the Credit Section to supervise the use of approved credits by loan recipients for the procurement of goods and services detailed in loan applications.

b. Administration and Collection

The Project revolving credit fund will be received in quarterly tranches based on funds loaned out, committed, and projected needs. These sums will be deposited in an interest-earning local bank account. Interest earned on the credit account will be reimbursed to USAID per U.S. Government regulation. Interest collected from borrowers will be deposited in the Revolving Credit Fund account.

Collection of loan repayments is the responsibility of the PVO supervising the village organization, and, in the case of SSEs, of the Business Advisory Unit. Receipt, recording, and depositing of loan repayments will be administered by the Credit Section.

Credit will be administered cautiously in the light of USAID's stated intent to judge project success, or failure, in large part on the basis of its credit fund management. Frequent reports showing the precise status of the Revolving Credit Fund will be prepared by the Credit Specialist and submitted to the project Management Unit for review and forwarding to

6. Training

The project will provide training to village organizations and SSEs in literacy and numeracy and technical areas needed to carry out projects. The Management Unit will identify resources available in Sine Saloum and nationally to carry out literacy/numeracy training which is directly related to village organization and entrepreneurial activities. Existing Senegalese institutions engaged in this training such as ENEA will be used extensively on a consulting basis by the PVOs and the Small Business Advisory Unit to carry out base-level literacy and numeracy training.

In addition, special training will be provided the PVOs in areas related to project development, implementation, monitoring and evaluation, with particular emphasis given to program and financial management. This will assist PVOs in meeting donor accountability requirements, as well as building management capacity. The Small Business Advisory Unit will conduct staff training as well as business management skills training of client entrepreneurs.

7. Role of Spatial Analysis

The Sine Saloum region is far from being homogenous. Physical and human resources as well as a number of other socio-economic factors that constitute the inputs and implementation context to the activities envisioned, vary greatly from one sub-region to the next.

The purpose of the spatial analysis is to provide information and recommendations on the potential by location for successful implementation of the activities envisioned under the project. The analysis of the potentialities by location takes into account, depending on the type of activity being discussed, the following factors:

- Natural resources (i.e., availability and quality of water, availability of land, climatic conditions, availability of agricultural by-products);

- Human resources (density of population, location of main cities, consumers' purchasing power, availability of traders' services);

- Infrastructure (types of road); and

- Problems and constraints encountered by already existing similar projects.

The results of the spatial analysis take on a different format depending on the activity. For vegetable production, the analysis presents the sub-regions where the activity is physically possible, and within these sub-regions, the optimum sites. For livestock and forestry which can be done almost everywhere, the analysis provides information on the type of forestry or livestock activity by sub-region. Finally, the analysis for fishing presents the location of existing fishing cooperatives, their problems and constraints and how the project can best assist them.

The spatial analysis constitutes a working tool to take into account existing resources and constraints for the design and implementation of project activities. It should be considered as indicative, not constraining. For example, in an area singled out as unfit for vegetable production, a PVO may propose a gardening sub-project and the sub-project may be accepted if the proposal provides convincing evidence that the factors that hinder vegetable production in the area either do not apply for the specific sub-project location or can be overcome.

C. Project Elements

The basic elements used to produce project objectives are: long-term technical assistance (both U.S. and Senegalese), short-term technical assistance, grants to PVOs to carry out village sub-projects, credit to village organizations and small-scale entrepreneurs, and in-country training for literacy, numeracy and management skills.

Long-term technical assistance will be provided by 17 person-years of expatriate assistance in the Management Unit and Small Business Advisory Unit. The same Units will also have 15.5 person-years of Senegalese technical assistance. The areas of expertise covered are management, both financial and program, PVO capacity-building, credit administration, training, and small business skills. The technical assistance will be provided directly to the SSEs in the case of the Small Business Advisory Unit and to the VOs through the PVOs for the village organization component. Emphasis within the project will be on replacing key technical assistance staff persons--credit specialist, training specialist--with Senegalese specialists who work as their counterparts at fixed points in project implementation.

Short-term technical assistance (36 person months) is divided equally between U.S. and Senegalese sources. Areas for such assistance will include in-country literacy and numeracy materials development, special training for PVOs in grant management issues, and technical training for village organization sub-projects. In addition, 10 person-years of assistance will be provided to the SBA Unit through Peace Corps. Other volunteers will be utilized as appropriate on a non-formal basis to work with village organizations, forestry and improved stove techniques.

Grants to PVOs for village sub-projects will transfer resources to the village organizations to carry out project activities. Other assistance to VOs will be provided by the PVOs using additional skills acquired from Management Unit technical assistance.

The Revolving Credit Fund will furnish credit to VOs and SSEs according to project guidelines and will constitute a source of reflow revenue to the project in the last year. At the end of the project, the credit function will be taken over by the Caisse Nationale de Crédit Agricole Sénégalaise (CNCAS).

In-country training will focus on literacy and numeracy skill transfer to villagers and small-scale entrepreneurs and to providing PVOs with technical and management skills necessary to carry out their own programs.

The total cost of the Project is $9,000,000 to be disbursed over six fiscal years beginning in the first quarter of FY 1984. Of this, $3,668,000 are foreign exchange costs and $5,332,000 are in local currency. Table 1 shows a breakdown of Project direct costs by type of input. Table 2 presents an analysis of foreign exchange and local currency costs for Year 1 and Life of Project. A detailed financial breakdown is presented in Table 3.

Contracting for the two major technical assistance activities, the Management Unit and the Small Business Advisory Unit, will be done separately by competitive bid during the first six months of project life. A pre-qualification step will be required of potential bidders to ensure that language skills, experience and capability are appropriate to the tasks at hand and to reduce time needed to consider competitive proposals. Bidding will be open to non-profit organizations and commercial firms. Funds required to cover contracting overhead are included in Management Unit and Small Business Advisory Unit operating costs.

Costs to be contributed by the small-scale entrepreneurs, PVOs and village organizations are not included in the budget, but have been calculated in the analysis of small village production projects (see Economic Analysis, Annex 12). These contributions will be substantial, but are not calculable for budget purposes at this time since actual proposals including these activities will not be submitted until after the project is operational.

The budgets include limited contingency funds and these may need to be increased. While project costs are calculated at 325 CFA to the dollar, at the time of PP preparation CFA is currently at 400 or more. The amount of contingency needed in this rate of exchange situation is uncertain and should be monitored to increase project funding levels if necessary.

Costs of contracting (overhead) are included in the budgets under operating costs and are not fixed since actual overhead rates differ greatly among contractors. Should a contractor be selected with an overhead rate greater than the line item amount provided, changes in project funding will also have to be made.

The revolving credit account will be maintained in two separate bank accounts in Kaolack. Funds for credit will be held in one account and interest earned on those funds will be transferred regularly to a second account for return to the U.S. Treasury upon the recommendation of the USAID Controller in Dakar.

To insure financial accountability, the Mission will institute a system of financial reporting and management at the MU. The USAID/Senegal controller will approve this system at the beginning of the project. PVOs and other organizations implementing activities under this project will receive assistance from the MU in making any adjustments necessary in their accounting systems to provide quarterly financial reports to the MU. These reports will show disbursements and undisbursed balances in the line items included in each approved sub-grant proposal and will be accompanied by all bills, invoices, receipts, etc. relating to expenditures reported on. Whether or not PVOs, including the institution handling the MU, have the required capability to manage their funding levels will be established by PVO registration procedures. In addition, a pre-award survey will certify that the organizations handling the MU and the SBAU have the required financial management capacity.

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To insure that the project is auditable, the MU will retain all original bills, receipts, and other necessary documents. The MU will consolidate the various financial information it receives into a quarterly financial report which it will submit through the assistant project manager in Kaolack to the direct-hire project manager in Dakar. This financial information will become part of the project implementation reports prepared by the Mission for its own management and provided (in French) to the members of the National Project Policy Committee for periodic reviews of project progress.

At the end of the project, resources in the credit fund will be used first for project expenses in year 6 ($644,000 as estimated in the detailed budget). The remainder of funds available will be transferred to the CNCAS, the new rural credit organization which will be established in Sine Saloum at the end of the project.

The project's impact will be larger than the level of resources provided here by the addition of $3-4 million in local currencies generated from the sales of PL 480 Title I or Title III commodities. These local currencies will expand assistance to village groups and small entrepreneurs and thus increase the utilization of the management system established in Sine Saloum as project activities expand to full-scale.

Table 1: SUMMARY BUDGET TABLE BY CATEGORY OF EXPENDITURE

($000's)

		YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	TOTAL
I.	Personnel							
	A. Long-Term							
	U.S.	625	625	500	500	250	125	2625.0
	Local Hire	114.5	114.5	136.5	138.5	138.5	73.5	716.0
	B. Short-Term TA							
	U.S.	33	66	33	33	33		198.0
	Local Hire	8	8	6	6	4	4	36.0
	Sub-total	780.5	813.5	675.5	677.5	425.5	202.5	3575.0
II.	Training and Travel	126	73	83	48	40	28	398.0
III.	VO Assistance	55	295	439	738	818	183	2528.0 2/
IV.	Credit Fund	75	219	326	455	258	(644) 1/	1333.0 2/
V.	Commodities	75	--	38	90	10		213.0
VI.	Equipment	90	5	5	5	5	5	115.0
VII.	Operating Costs	151	161	171	121	90	146.5	840.5
VIII.	Evaluation		100			100		200.0
	TOTAL	1352.5	1666.5	1737.5	2134.5	1746.5	565	9202.5
	Contingency	70	70	70	70	82.5	79	441.5
	GRAND TOTAL	1422.5	1736.5	1807.5	2204.5	1829.0	644 1/	9644.0 3/

1/ This $644,000 in project costs in year 6 will be financed by the excess credit reflows in year 6. See detailed budget Table 2 of this section.

2/ Assistance to village organizations (VOs) and small-scale entrepreneurs (SSEs) will expand beyond the level of these resources as $3-4 million in PL 480 Title I or Title III local currencies are added to available funding.

3/ DA resources provided to this project will total $9,000,000. The $644,000 in project costs in year 6 will be financed by excess loan reflows in year 6.

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Table 2: PROJECT FINANCING
(First year)
($000's)

		AID COSTS		
		U.S.$	Local Currency	Total
I.	Personnel			
	Long-Term	625	114.5	739.5
	Short-Term TA	33	8	41
II.	Training and Travel	63	63	126
III.	VO Assistance		55	55
IV.	Credit Fund		75	75
V.	Commodities	60	15	75
VI.	Equipment	10	80	90
VII.	Operating Costs	100	51	151
VIII.	Evaluation			
IX.	TOTAL I - VIII	891	461.5	1352.5
X.	Contingency	43	27	70
	GRAND TOTAL	934	488.5	1422.5

Table 2A: PROJECT FINANCING
(Total in $000's)

	AID COSTS		
	US$	Local Currency	Total
I. Personnel			
A. Long-term			
U.S.	2625		2625
Local Hire		716	716
B. Short-term TA			
U.S.	198		198
Local		36	36
II. Training and Travel	63	335	398
III. VO Assistance		2528	2528
IV. Credit Fund		1333	1333
V. Commodities	120	93	213
VI. Equipment	10	105	115
VII. Operating Costs	534.5	306	840.5
VIII. Evaluation	200		200
TOTAL I - VIII	3750.5	5452	9202.5
IX. Contingency	179.9	261.6	441.5
GRAND TOTAL	3930.4	5713.6	9644.0 1/

1/ $644,000 in project costs in year 6 will be financed by the excess reflows in year 6. Thus, total USAID contribution is $9,000,000.

Table 3: DETAILED BUDGET TABLE BY CATEGORY OF EXPENDITURE
($000's)

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	TOTAL
PERSONNEL							
A. Long-Term (U.S.) at 125,000/yr.							
- Management Unit-							
Unit manager (5.5 py*)	125	125	125	125	125	62.5	687.5
PVO specialist (4 py)	125	125	125	125			500
Training specialist (2 py)	125	125					250
Credit specialist (4 py)	125	125	125	125			500
- SBA-SSE specialist (5.5 py)	125	125	125	125	125	62.5	687.5
B. Long-Term (Local Hire)							
- Management Unit							
Training Specialist (5.5 py)	15	15	15	15	15	7.5	82.5
Credit Specialist (5.5 py)	15	15	15	15	15	7.5	82.5
Accountant (5.5 py)	20	20	20	20	20	10	110
Logistics/Procure. (5.5 py)	20	20	20	20	20	10	110
Secretary/Off. Man. (5.5 py)	5	5	5	5	5	2.5	27.5
Building Maintenance (5.5 py)	1.5	1.5	1.5	1.5	1.5	1	8.5
Guardian (5.5 py)	2	2	2	2	2	1	11
Records Clerks (2) (9 py)	4	4	6	8	8	8	38
Drivers (11 py)	8	8	8	8	8	4	44
- SBA Unit							
Records Clerk (5.5 py)	4	4	4	4	4	2	22
Business Advisors (21.5 py)	20	20	40	40	40	20	180
B. Short-Term TA							
- Management Unit							
18 pm** at $11,000	33	66	33	33	33		198
Local 18 pm at $2,000	8	8	6	6	4	4	36
Sub-total I	780.5	813.5	675.5	677.5	425.5	202.5	3575.0

* Person years
** Person months

BUDGET TABLE BY CATEGORY OF EXPENDITURE
($000's)

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	TOTAL
I. TRAINING AND TRAVEL							
U.S. Short-Term							
7 pm at 9,000	63						63
In-Country							
PVOs/VOs	10	20	20	20	20	10	100
SSEs	5	10	20	20	12	10	77
Special Workshops (2 per year)	6	6	6	6	6	6	36
Conferences	2	2	2	2	2	2	12
Materials Dev.	25	20	20				65
Printing	10	10	10				30
Language Training (Peace Corps)		5	5				10
PVO Coordinator Travel	5						5
Sub-total II	126	73	83	48	40	28	398
III. VO ASSISTANCE							
PVO Costs	27	143	242	389	469	183	1453
Village Sub-projects Costs	28	152	197	349	349		1075
Sub-total III	55	295	439	738	818	183	2528
VI. CREDIT FUND							
VO Credit	48	191	311	518	613	253	1681
Minus VO Repayment		28	133	264	424	563	849 1/
SSE Credit	27	69	19[illegible]	331	331		953
Minus SSE Repayment		13	47	130	262	334	452 1/
Total Credit	75	219	326	455	258	(644) 2/	1333 3/
V. COMMODITIES							
Vehicles (6) x 2	60			60			120
Spare Parts 25%	15			15			30
Mobylettes 50 x $1000			25	15	10		50
Spare Parts 25%			13				13
Sub-total V	75	—	38	90	10		213
VI. EQUIPMENT							
MU/SBA Offices	50						50
Supplies - MU/SBA	5	5	5	5	5	5	30
Supplies - Monitoring	25						25
Micro-computer	10						10
Sub-total VI	90	5	5	5	5	5	115

1/ Year 6 repayment figures are not included in these totals because loan reflows exceed credit extended. Repayment figures do not include repayments in years 7 and 8 after project ends.

2/ This $644,000 represents loan reflows in year 6 in excess of credit extended. These reflows will be used for $644,000 in project costs in year 6.

3/ Assistance to VOs and SSEs will expand beyond the level of these resources as $3-4 million in PL 480 Title I or Title III local currencies are added to available funding.

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BUDGET TABLE BY CATEGORY OF EXPENDITURE
($000's)

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	TOTAL
VII. OPERATINC COSTS							
Fuel and Maintenance	30	30	30	30	30	30	180
Rent, etc.	15	15	15	15	15	15	90
Utilities	6	6	6	6	6	6	36
Contracting Cost - MU	50	65	70	40	9.0	67.5	301.5
Contracting Cost - SBA	50	45	50	30	30	28	233
Sub-total VII	151	161	171	121	90	146.5	840.5
VIII. EVALUATION (2)		100			100		200
IX. TOTAL I - VIII	(1352.5)	(1666.5)	(1737.5	(2134.5)	(1746.5)	(565)	(9202.5)
X. CONTINGENCY	70.	70.	70.	70.	82.5	79	441.5
GRAND TOTAL	1422.5	1736.5	1807.5	2204.5	1829.0	644 3/	9644.0 4/

3/ This $644,000 in project costs in year 6 will be financed by the excess credit reflows in year 6. See Section IV of this table.

4/ DA assistance will total $9,000,000. The $644,000 in project costs in year 6 will be financed as described in footnote 3 above.

III. IMPLEMENTATION PLAN

A. Project Phases

The Management Unit (MU) will be responsible for implementation and major monitoring functions for all project acticities. The AID project managers will have certain roles in monitoring and evaluation as well as substantial responsibilities for a number of start-up tasks during year 1 and share responsibility for close-out with the MU. Project implementation will have the following four phases:

- Preparation
- Project Start-up
- Full-scale Operations
- Phase-down

1. Phase 1: Preparation. This phase begins after the GOS and AID approve the project grant agreement. The Mission must issue the request for proposals for selection of the contractors for the Management Unit and the Small Business Advisory Unit and proceed with contractor selection. Selection should take six months. At the time the contract is negotiated, the Regional Contracting Officer with the assistance of the Regional Legal Advisor will work with the Mission project managers to refine prototype PVO grant agreements using the guidance in AID Handbook 13. (See Appendix B2 of Annex 7 for draft grant agreement.)

While contractors are being selected, a number of activities will take place. The GOS will name representatives to the National Project Policy Committee, and the Mission project managers with the assistance of the Mission PVO coordinator will brief the GOS Policy committee members and Sine Saloum regional officials on the project's objectives and management structure. The same Mission staff will also organize a PVO conference to inform interested PVOs of proposal and reporting requirements, and village project guidelines as well as to identify PVOs' needs for assistance. The USAID Assistant Project Manager will formally request Peace Corps to identify third-year volunteers for particular positions in the SBAU and to begin recruiting volunteers to take the places of the third year volunteers who will be available for only one year. Peace Corps will handle GOS clearance procedures for these volunteers. The USAID Assistant Project Manager will also initiate procurement of project vehicles and the Management Unit's micro-computer. During this same six-month period, the Mission PVO Coordinator will make a training/orientation visit to Washington to work out questions on local PVO registration procedures and audit requirements regarding sub-grantees. Upon her/his return, the PVO Coordinator and the Assistant Project Manager will begin registration of interested local PVOs and verify other PVO registrations as needed.

2. Phase 2: Project Start-Up and Pilot Phase. The project start-up and pilot phase begins when the contracts for the Management Unit and Small Business Advisory Unit are signed and extends through year 2. During this phase, which will begin after month6, the contractors will establish the Management and Small Business Advisory Units in Kaolack. They will hire and train Senegalese professional and support staff, procure necessary equipment, and begin funding pilot village and small enterprise activities with associated training, credit, and technical assistance. Monitoring and reporting systems will be established and the first periodic Project Reviews involving all project parties will occur. The

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Governor of Sine Saloum and the region's préfets will undergo short-term training and orientation in the US in the nature and functioning of US decentralized administrative and economic systems. At the end of year two, the Project's first external evaluation will analyze and interpret the results of the pilot activities. The evaluation will include GOS and PVO participation and will recommend necessary revisions in systems of project assistance and management. A review of evaluation findings involving all parties will decide on revisions in project systems. With this input, the Management Unit will coordinate expansion to full-scale project operations.

3. Phase 3: Full Scale Project Operations Assistance to larger numbers of village groups and small entrepreneurs will begin with year 3. Project staff, particularly small business extension advisers, will increase in number to reach more beneficiaries. Careful monitoring will be necessary, and interrelationships among village projects, small entrepreneur assistance, and appropriate technology development and diffusion will be in evidence. Senegalese counterparts will replace two expatriate advisors during this period. A second external evaluation early in year 5 will prescribe final adjustments in project systems and will also provide conclusions on project impact. If the project is succeeding in fulfilling its purpose, village organizations and small enterprises assisted should become more independent, and entrepreneurs should be producing and diffusing improved technologies needed for various productive activities. This full-scale phase will continue into year six although funding of new activities will cease early in that year.

4. Phase 4: Phase-Down Phasing down of project activities will begin midway through year 6. The Management Unit will continue monitoring functions but will turn to developing a recommended model for future replication of the project in other areas by USAID or other donors. This report will include lessons learned from the contractors' experience to improve implementation and impact and will draw on insights of all parties as presented in the final Project Review.

B. Sequencing of Major Activities

The following implementation plan presents the sequence of major project activities over the project's life. The monitoring and reporting systems have been designed to provide continuous feedback and, with the major evaluations, will allow corrections and necessary redesign. Upon arrival in-country, the contractor teams will undertake detailed implementation planning. Because delays will occur in certain activities (as well as acceleration), the following implementation plan should be taken mainly as a recommended sequence of activities.

The implementation plan shows three types of activities:

- Activities or tasks occurring at a single point;
- Repeated activities, such as reports and Project Reviews; and
- Continuous functions, such as assistance to village organizations which continue over several years.

C. Management of Financial Accounts

Financial accounts for the Management Unit (MU) and the Small Business Advisory Unit (SBAU) will be managed under usual USAID procedures with the Regional Controller's Office (RCON) in Dakar. Letters of Commitment will be signed with the parent organizations having contractual responsibility for the MU and the SBAU for the dollar, home office costs of these two contractors. Then separate CFA accounts will be established for local operating costs for the MU and the SBAU, for PVO grants, for credit to village organizations, and for credit to small-scale entrepreneurs.

The MU and the SBAU will request advances for up to 90 days for each of these accounts based on estimated expenses. As these advances are used, the MU and the SBAU will submit vouchers showing payments made and further advances needed for up to 90 days. The MU and SBAU can file vouchers as frequently as necessary to maintain an adequate level of operating funds, given the time necessary to receive a check after submitting a voucher (an average of one month).

Each voucher submitted will have to include a report of expenditures in the format described in the contract's general provisions. Because the MU will be providing grants to a number of PVOs, it must require the same financial reports from PVOs as it must provide to RCON in Dakar. Further, as described in Section II, Cost Estimates and Financial Plan, the MU must obtain from PVOs and keep on file all original receipts, bills, credit contracts, and other necessary documents to support its expenditures from any of its accounts. The SBAU must similarly forward to the MU original bills, receipts, and other documentation of its expenditures. The MU will then aggregate these reports from the PVOs, SBAU, and its own operations and provide a unified report with the vouchers it submits to RCON/Dakar for replenishment of its accounts.

IMPLEMENTATION PLAN

START-UP TASKS

Activity	Responsibility	Year 1 Quarter 1st	2nd	3rd	4th
- Assistant Project Manager hired	USAID/ADO	X			
- PVO Conference--introduce guidelines, proposal content, financial accountability requirements, identify assistance needs.	PVO Coordinator, Project Manager, Assistant Project Manager	X			
- Contractor selection for Mgmt. Unit and SBAU	Project Managers and Mission Selection Committee		*******		
- GOS names members of National Project Policy Committee	GOS	X			
- Preliminary orientation of National Project Policy Committee	Project Managers PVO Coordinator	X			
- Preliminary orientation of Governor, Préfets, chiefs of regional technical services (Sine Saloum)	Project Managers PVO Coordinator		X		
- Work with Peace Corps on recruiting volunteers for specific jobs	Assistant Project Manager	X			
- Training/orientation visit to AID/W re: PVO registration, audit of sub-grantees	PVO Coordinator		X		
- Begin registration of local PVOs	PVO Coordinator Assistant Project Manager			X	
- Procurement of project vehicles and equipment	Assistant Project Manager and SMO		***		

IMPLEMENTATION PLAN

COUNTRY: Senegal

MANAGEMENT UNIT (MU)

Project Year		FY84				FY85				FY86				FY87				FY88				FY89			
		Year 1 Quarter				Year 2 Quarter				Year 3 Quarter				Year 4 Quarter				Year 5 Quarter				Year 6 Quarter			
ACTIVITY	RESPONSIBILITY	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
- MU contract signed	USAID, RCO/REDSO/WA			X																					
- MU set up in Kaolack; procures equipment	Management Unit (MU)				X																				
- Senegalese staff hired	MU				X																				
- MU establishes supervision, reporting system with Small Business Advisory Unit (SBAU)	MU				X																				
- MU receives first PVO proposals	PVOs					X																			
- MU organizes first 6-Month Review with Governor and regional officials, National Project Policy Committee	MU, USAID, GOS, USAID Project Managers					X																			
- Fund development of literacy/ numeracy materials	MU					X																			
- MU prepares first quarterly financial and monitoring reports (continue quarterly) to USAID	MU, SBAU					X																			
- MU prepares detailed implementation plan for year 2	MU					X																			
- Credit Program established	MU					X																			
- Pilot activities sited and funded	MU, SBAU					******																			
- Training program established	MU, SBAU						X																		
- Monitoring system established for village projects/SSEs	MU						X																		

(Continued)

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IMPLEMENTATION PLAN

COUNTRY: Senegal

MANAGEMENT UNIT (MU)

Project Year / ACTIVITY	RESPONSIBILITY	FY84 Year 1 Quarter 1	2	3	4	FY85 Year 2 Quarter 1	2	3	4	FY86 Year 3 Quarter 1	2	3	4	FY87 Year 4 Quarter 1	2	3	4	FY88 Year 5 Quarter 1	2	3	4	FY89 Year 6 Quarter 1	2	3	4
- Assistance plan to PVOs established; first workshops held	MU					***																			
- Literacy numeracy trainers trained	MU						***																		
- Governor and Préfets to US on orientation tours (2 groups)	MU					X			X																
- First external evaluation	USAID/Project Managers								X																
- Project implementation and management systems revised in light of external evaluation	MU, SBAU, USAID, PVOs, GOS									XX															
- Project Activities expand to full-scale	MU, SBAU, PVOs										******														
- Procurement of replacement vehicles, equipment	MU, USAID													X											
- Counterpart training specialist replaces expatriate	MU											X													
- Second external evaluation	USAID																	X							
- Project systems revised in light of external evaluation	MU, SBAU, USAID, PVOs, GOS																		X						

(Continued)

IMPLEMENTATION PLAN

COUNTRY: Senegal

MANAGEMENT UNIT (MU)

Project Year		FY84				FY85				FY86				FY87				FY88				FY89			
		Year 1				Year 2				Year 3				Year 4				Year 5				Year 6			
		Quarter				Quarter				Quarter				Quarter				Quarter				Quarter			
ACTIVITY	RESPONSIBILITY	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
- Senegalese credit specialist replaces expatriate																				X					
- Prepare recommended model for replication of project	MU, SBAU																							X	
- Final Project Review	MU, SBAU, USAID, PVOs, GOS																								X
- Prepare final report	MU, SBAU																								X
- Prepare project close-out report	USAID																								X
- Registration of local PVOs	USAID, MU	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********				
- Technical Assistance and Training to PVOs	MU					**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
- PVO proposals evaluated and grants awarded on full-scale	MU									**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********				
- Technical assistance, training, and credit to billage organizations										**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********

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IMPLEMENTATION PLAN

		FY84	FY85	FY86	FY87	FY88	FY89
[illegible] legal							

SMALL BUSINESS UNIT (SBAU)

Project Year / Activity	Responsibility	Year 1 Quarter 1	2	3	4	Year 2 Quarter 1	2	3	4	Year 3 Quarter 1	2	3	4	Year 4 Quarter 1	2	3	4	Year 5 Quarter 1	2	3	4	Year 6 Quarter 1	2	3	4
- SBA contract signed	USAID, RCO/REDSO/WA			X																					
- SBU established in Kaolack, equipment procured	SBAU			X																					
- Secretaire staff hired; Peace Corps volunteers selected; extension advisors hired	SBAU				***																				
- SBU extension agents trained	SBAU				**	***																			
- Implementation Plan for year 2 prepared	SBAU				X																				
- Pilot groups of SSEs selected; baseline data collected	SBAU					***																			
- Business improvement and training plans created for pilot SSEs; assistance begins	SBAU					****																			
- Creditor SSEs begins	SBAU						X																		
- Prepare proposal for local organization of artisans										X															
- Additional business extension advisors hired/trained												***													
- Additional SSE extension advisors hired/trained															***										
- Terminal assistance, training, and credit to SSEs on full-scale	PVOs, SSEs										**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********

IMPLEMENTATION PLAN

REGULAR ACTIONS

Project Year		FY84				FY85				FY86				FY87				FY88				FY89			
		Year 1				Year 2				Year 3				Year 4				Year 5				Year 6			
Activity	Responsibility	Quarter				Quarter				Quarter				Quarter				Quarter				Quarter			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
- Quarterly Reports and Implementation Plan, SBAU to MU	SBAU	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
- Quarterly Reports and Implementation Plan, PVOs to MU	PVOs	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
- Quarterly Reports and Implementation Plan, MU to USAID	MU	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
- Periodic Reviews	MU, USAID, GOS		X				X				X				X				X				X		
- Annual Project Review	MU, SBAU, PVOs, GOS, USAID				X				X				X				X				X				X
- Amendment of grant agreement and obligation of funds (annual)			X				X				X				X				X				X		

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IV. MONITORING AND EVALUATION PLAN

Because the project is experimental in nature, at specific points in time corrections in operational models will be needed to insure that policy and management needs are being met. Without a regular monitoring system, it will not be possible to measure benefits at the level of the village and the small scale entrepreneurs as well as to trace progress in institutional development of implementing agencies (PVOs in particular). After phase 2 in particular (see Implementation Plan), it may be necessary to re-structure working models.

A. Primary Actors Involved and Baseline Data Sources

Monitoring and evaluation will involve a number of actors at different levels in the project hierarchy (see Figure 2). Primary responsibility for developing the monitoring system will be assigned to the Management Unit which will coordinate input from the SBA Unit and the PVOs as well as request data from the credit and training specialists. USAID will transmit monitoring information and reports to the National Project Policy Committee which will approve the monitoring plan before it is implemented.

Through the Ministry of Social Development's Division of Community Development (DDC), the GOS will exercise its PVO oversight function and participate in field monitoring of PVO activities in the project. In its monitoring activities, the DDC will advise the Policy Committee and the Management Unit on cases in which project activities depart: 1) from established policies and criteria and 2) from the regional development plan in Sine Saloum. USAID will monitor through the Assistant Project Manager and obtain all quarterly financial and progress reports through him/her from the Management Unit.

The PVOs will be responsible for monitoring all VO projects and for reporting to the Management Unit on progress. The monitoring criteria will be defined in conjunction with the PVO specialist in the Management Unit and will be set forth in the grant agreement. The Small Business Advisory Unit will monitor the progress of the SSEs assisted.

Primary baseline indicators to be charted throughout the course of the project are specific to the type of intervention proposed either with village organizations or small-scale enterprises. Main sources of data in addition to those discussed below are the beneficiaries themselves through project records kept on use of credit and information gathered before and after literacy and numeracy training on groups of villagers and SSEs. These data could later be correlated with information on project success to determine which socio-economic factors influence the villagers or the small-scale entrepreneurs' ability to handle his/her own development activities.

Basic socio-economic characteristics concerning, age, sex, marital status, family size, economic activity, etc. should be measured by persons conducting training sessions. Data on credit use by organization and enterprise will be kept by the credit specialist on the rate of reimbursement and the due dates on all loans. A quarterly credit statement should be provided to USAID on each project component (PVO and SSE) indicating: total amount due, reimbursement date, amount reimbursed and percentage rates of repayments for groups and individuals. This should be part of the quarterly financial report.

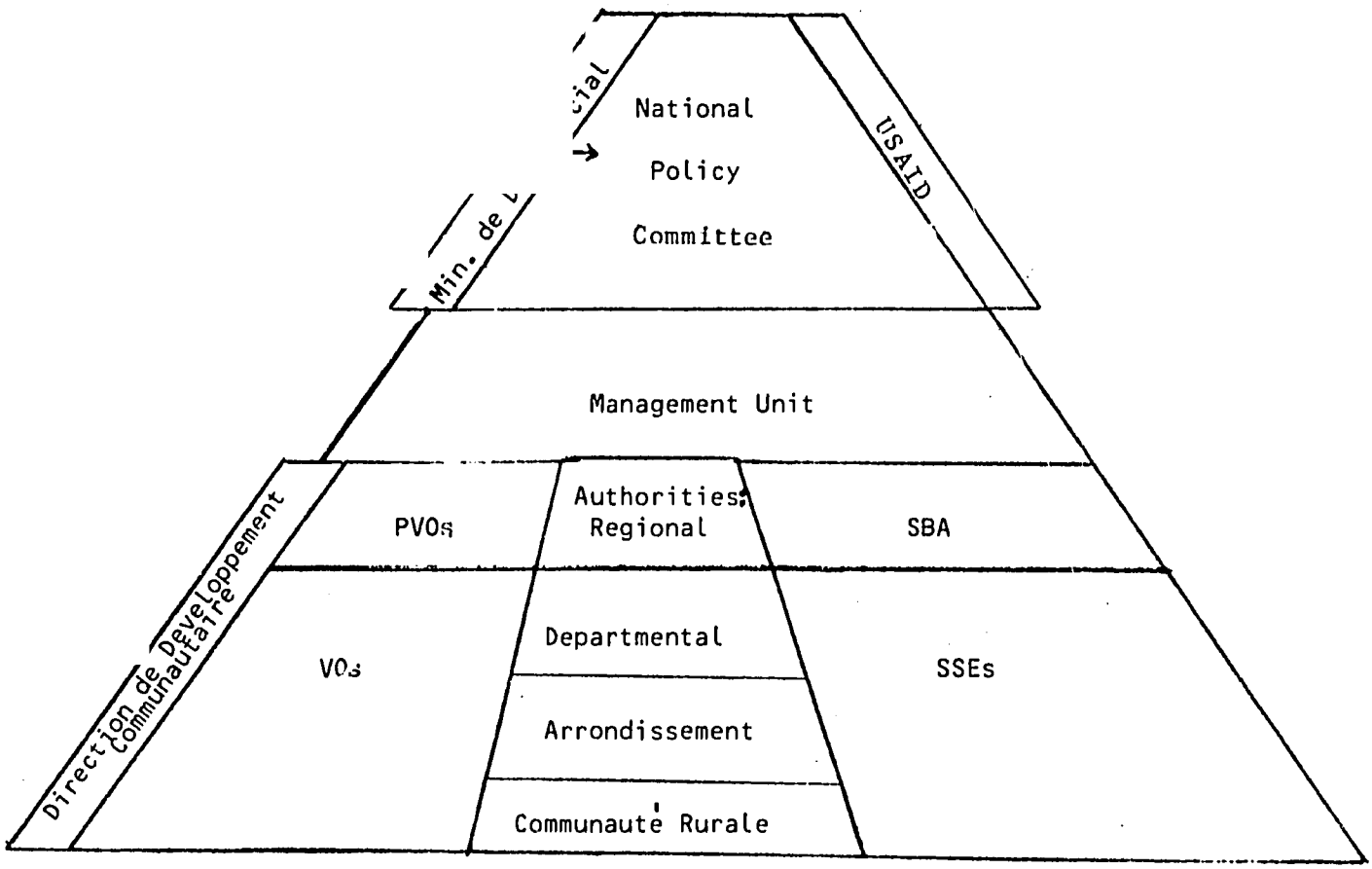

Figure. 2 Units in Monitoring/Evaluation System

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B. PVO/Village Organization Monitoring

The PVO and village organization will set up a monitoring system for each sub-project grant following the basic criteria for project success outlined in the objectives of the project proposal. These will include production targets, literacy and numeracy skills acquisition, indicators of village responsibility for finances and work organization. The PVO specialist from the Management Unit will collect data generated by the PVOs and set an overall project component monitoring system which will be able to make comparisons between VOs and PVOs and types of activities. These data will be used to adjust the findings of the spatial analysis so that optimum project conditions can be encouraged when new activities are undertaken. Basic criteria will be applied, such as percentages of loans repaid, ability to handle finances, rate of profit for production, and number of persons participating in group decision-making.

C. Small-scale Enterprise Monitoring

The baseline data to be obtained from SSEs selected for assistance, and from control-group SSEs, will become the starting point for measuring the progress and achievements of the SBA Unit. It will include:

- A complete description of the SSE giving location, products, and services, equipment and methods, key personnel, legal status (i.e., sole-proprietorship, partnership, society, cooperative, corporation);

- Number, educational levels, and functions of owner, partners,employees, and apprentices;

- Average monthly or annual:

  o Gross sales (in quantity and value),
  o Cost of materials and supplies used,
  o Business expenses (including payroll, rent, utilities, transportation, taxes, other),
  o Proprietor's cash withdrawals, and/or net profit;

- Number, types, and locations of customers and how customers use the products and services;

- Level of business management skill as evidenced by:

  o Records kept,
  o Business decision-making methods,
  o Attraction of customers,
  o Training and development of personnel;

- Level of technical management skill as evidenced by:

  o Quality of products and services produced,
  o Technologies used,
  o Organization of work-flow,
  o Condition of tools, equipment, and buildings,
  o Regularity of maintenance,
  o Attention to orderliness;

- Level of community awareness and participation as evidenced by:

  o Membership or leadership in community groups,
  o Comments of local officials concerning the entrepreneur's reputation.

- Description of the proprietor including family status, age, origin, background, social status, educational level, technical competence, apprenticeship experience, formal training, and other activities engaged in;

- The proprietor's own assessment of his/her entrepreneurial aspirations, constraints, and needs; and

- Report on the use of pesticides (if appropriate), including:

  o Records of quantity and types used;
  o Records of progress in training applicators; and
  o Problems.

Because the Management Unit has final responsibility for progress reporting and evaluation of the project as a whole, the SBA Unit will report progress quarterly to the Management Unit, and comply with any Management Unit request to participate in Project evaluations.

The quarterly SBA Unit Progress Report will include complete discussion in separate sections of:

- Individual SSE improvement;

- Status of all Project loans to SSEs;

- Training accomplished;

- Status of environmental impact issues, particularly reporting on pesticide use; and

- Local availability and distribution of materials, equipment, supplies, and parts.

D. Timing of Evaluation Reports

In addition to the quarterly financial and program reports provided to USAID and the Policy Committee by the Management Unit, USAID, regional officials, and members of the national project policy committee will participate in periodic Project Reviews every six months. Every other review will be an Annual Project Review involving PVO representatives as well.

Formal external evaluations contracted for by USAID will be made in year 2 and year 5 of the project to allow for corrections in project operation and in strategy. Funds are provided in project costs to cover these activities. An exact scheduling of evaluations and reports is included in the Implementation Plan (see Section III).

Following the external evaluation in year 2, the Mission will decide if its current decision is appropriate to add local currency funding from PL 480 or non-project assistance so as to utilize the management system already in place and to increase the impact of village level activities.

E. Monitoring of Policy Environment

One of the most important issues to be followed by the monitoring system is the policy and regulatory environment for village organization and small-scale enterprise development. The project must monitor the extent of GOS progress in administrative decentralization, cooperative reform, and credit reform. Are village groups able to increase their responsibility and authority over their own development? For SSEs, the project must identify changes in the regulatory environment for SSEs. For both components, the Management Unit will report negative changes or developments to the National Project Policy Committee. The GOS is committed under the Grant Agreement to take action on recommendations from the Policy Committee to improve the policy, legal, and regulatory climate for village organization and SSE development.

V. METHODS AND CONCLUSIONS

A. Data Collection

Analyses included in the project paper are the result of information gathered by the PID and PP design teams during October - November 1982 and June - July 1983. A significant amount of time was spent in the Sine Saloum discussing and presenting the project to local and regional authorities. Administrative models outlined in the paper are the result of these discussions. Information for the spatial analysis was collected by careful review of secondary sources and by intensive interviewing of technical personnel in the region to verify accuracy of information.

Findings presented in the analyses are the result of more than 40 person days of inquiry in the Sine Saloum during the PP design phase alone. PVOs located outside the region were also interviewed and a significant amount of information on policy issues and training needs was collected during the USAID-sponsored PVO Conference June 23-24, 1983.

B. Technical Analyses

1. PVO Village Organization Component

The primary beneficiaries of the income-generating and land regeneration activities to be undertaken by the project are the members of the village organizations which will receive grants. These organizations form the base level at which the majority of project outputs are produced.

Village organizations were chosen as the appropriate intervention level to achieve project objectives since they provide a unit of organization close enough to the farm level. Organized by its members, it permits the villagers to make their own decisions. Senegal's administrative reform which created the Communauté Rural has given the village organization official sanction to organize its own activities.

The project will utilize PVOs as the primary intermediaries between the source of funds and the village organizations. This means of project implementation was chosen because the PVOs represent an alternative institutional link to the village level which can then be used to transfer resources beyond the life of the project. A secondary project objective is to build PVO capacity in administering donor funds. The emphasis will be on management skills which are not donor-specific but which lead to effective administration and implementation through mastery of program and financial management. These skills can then be transferred to programs the PVOs are operating in other parts of Senegal outside the Sine Saloum.

PVOs are judged to be effective in identifying the needs of village organizations and in taking the time necessary to facilitate village decision-making needed to solve problems. They understand the need to involve local traditional, as well as governmental, decision-makers in project development. The PVOs currently active in Sine Saloum are largely staffed by Senegalese and represent a human resource base which will continue to be involved in Senegalese development in the future.

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2. Small-Scale Enterprise

The objective of this component is to enable SSEs assisted by the SBA Unit to manage and sustain their own growth; i.e., to be able to utilize the formal credit and banking system. It is anticipated that the goods and services produced by the entrepreneurs will be used by the rural population to increase agricultural production.

While the entrepreneurs interviewed during the design of this document appear to have had little effective business assistance, they have nonetheless been able to survive in the entrepreneurial system. This indicates that Senegalese SSEs have some positive characteristics which make them a viable group for project assistance. These characteristics include technical skills and industriousness, motivation and resourcefulness, and their services are in adequate demand. As well, the climate towards the entrepreneur in Senegal seems to be on the whole favorable for SSE development.

However in order for the SSE to improve his/her enterprise, the project has identified the following needs: financial and business management record keeping skills (functional literacy and numeracy); local sources of materials, equipment, supplies, tools, and parts; access to credit; and organizational skills in order to problem-solve. The project intends to address these needs through a strategy of a slow, methodical, well-documented beginning with all activities planned in advance. The aforementioned strengths of the SSE will be built on and new activities will have continuous feedback, evaluation, progress measurements, and revision contingencies. A regular liaison with government representatives and peer entrepreneurs will be established to reinforce the system. The project is designed to take advantage of available resources, but not at the expense of project success.

3. Training

Training activities have been identified as key tools to attain the project goal of increased self-reliance for village producer groups and small-scale entrepreneurs. During the project design training needs were defined for PVOs, village organizations, and SSEs. The PVOs will be responsible for providing extension services at the village level. However, it was found that some of the PVOs' capabilities require reinforcement in technical areas, pedagogical methodologies and financial management skills. The Management Unit will organize training courses for the PVOs using to the extent possible local organizations and government agencies. PVOs in turn will provide assistance to the village producer groups, involving in each project activity village leaders. Each sub-project activity will contain a detailed training component with a training needs statement for both PVOs and the VO. Training needs will range from basic production techniques and business management to functional literacy and numeracy. Here again PVOs will be responsible

The SBAU in coordination with the Management Unit will provide assistance to the SSE's.Training needs identified for this group include business management, administration, record keeping and functional literacy/numeracy skills.

In order to coordinate all training activities, a training specialist will be part of the Management Unit. He/she will be responsible for the collection and development of training materials and the monitoring of training activities. The specialist will be assisted by a Senegalese counterpart who will replace him/her after two years.

4. Credit Analysis

Rural credit in Senegal is a difficult operation. Since the failure of the previous credit scheme with the dissolution of ONCAD, the reasons for this failure have been examined thoroughly and there is a general consensus on the underlying causes of those difficulties. The definition of the basic principles which should be followed by the future National Rural Credit Organization (CNCAS), have been based on lessons learned from past experience. This project's credit scheme incorporates many of these principles, particularly since once CNCAS comes into operation in the project area, the credit component will be handed over to CNCAS. In the meantime, the project credit scheme is to be carefully monitored by the Senegalese authorities as this experience may set favorable or unfavorable precedents for CNCAS.

The following principles will be followed by this project credit scheme:

- Loans will be made only to organized village or producer groups and to small-scale enterprises. On the village or producer group side of the project, the role of the PVOs in analyzing the quality and seriousness of the motivation of these groups will be essential.

- It will be the PVO's responsibility to create a climate of confidence between the VOs and themselves; confidence is essential for the farmers or artisans to feel part of the project's success.

- The PVO's responsibility will be at both the level of project design and of loan repayment. Indeed both aspects are linked together; poorly designed projects do not have as good a prognosis for loan repayment.

  Consequently, the rate of repayment should be one of the criteria on which USAID will judge PVOs' capacity to channel AID money efficiently.

- In case of repayment difficulties, the project Management Unit must show a firm attitude and insist that credit be repaid, unless it appears clearly that the project has been poorly designed, or that outside factors have reduced or destroyed

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production. But in any case, new credit will not be given to an artisan who has not reimbursed their debt as agreed.

- Literacy/numeracy training and credit should be linked to sub-projects' design and implementation.

- An interest rate of 12 percent will be collected on both short- and long-term credits.

- Credit will be given in kind, and repayment will be requested in CFA Francs.

The major characteristics of the practical organization of the Credit Scheme are:

- The creation of a position of "credit specialist" within the Management Unit, who will be in-charge of helping the PVOs and the SBAU in the credit part of the project design. He/she will participate in the committee in charge of project selection in the Management Unit, and will also draft the contract between the Management Unit and the village organizations or artisans. In case of repayment difficulties, he/she will have to analyze the situation with the PVO and propose actions to the Management Unit.

  In addition, he/she will manage credit extended by the Management Unit's revolving fund and report regularly to USAID on the credit situation.

- The signature of a contract between the Management Unit and the village organization, should be signed during a general assembly of the association and translated and explained in the local language to the participants so that all concerned know what is expected from them. A similar contract will be made between the SSEs, the SBA Unit and the MU.

- The PVO will be responsible for the collection of the money in the case of village producer groups.

In conclusion, it appears that the two key elements in this credit program which should make the difference between success and failure are:

- First, the role of the PVOs in project designs and therefore credit repayment rates. This responsibility will require the PVO to exercise serious supervision over village organizations.

- Second, the firmness of the Management Unit in dealing with the cases of non-reimbursement (particularly the first ones). USAID should request from the Management Unit the maximum firmness in line with local regulation and be prepared if necessary to help the Management Unit obtain the support of Senegalese authorities for credit repayment.

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5. Summary of Spatial Analysis

The purpose of the spatial analysis is to provide information and recommendations as to the most potentially successful location for the activities envisioned under the present project. The need for such an analysis stems from the fact that the Sine Saloum region does not constitute a homogeneous zone as far as physical and human resources are concerned.

From north to south, the climate slowly evolves from a Sahelo-Sudanian type to a Soudane-Sahelian one, with rainfall ranging from about 450 to 750 mm. depending on the year. Along the coast, the temperatures are moderated by the proximity to the ocean, an influence that can be felt some eighty to one hundred kilometers inland. Patterns of population settlements vary greatly with very high population densities in the north-east (80 to 120 hab/Km^2 in certain areas of Fatick) while the east is quite scarcely populated (5 to 15 hab/Km^2 in Kaffrine). Population density in turn, affects the level of exploitation of natural resources at a given technological level. In the departments of Fatick, north of Kaolack and Gossas, population pressure coupled with other factors (see Annex 11) is at the crux of the severe depletion of resources that one can observe today. Yields are declining, fuelwood is becoming increasingly difficult to obtain and herds can no longer be adequately maintained; all of which will at term, endanger the capacity of the population to subsist on these resources and accelerate rural-urban migration. This situation is far from being as acute in the south and east.

Other factors that will affect the implementation of the activities envisioned are underground water quality and availability, distance to urban centers, road networks and subsequent availability of traders' services.

The specific factors that were taken into account for each activity are presented below:

- Vegetable Production

  - Salinity of underground water, which needs to be less than 0.5 g/l for irrigation purposes;
  - Depth of water table;
  - Climatic conditions (enabling one or two crops per dry season);
  - Proximity to urban centers;
  - Road networks; and
  - Existing vegetable production activities and their commercialization constraints which in part depends on their location.

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- Livestock Production

  - Availability of agricultural by-products, depending on human and animal population and on rainfall;
  - Proximity to urban centers (for poultry raising);
  - Cultural factors (for pork fattening);
  - Climatic conditions and availability of services (for bee keeping);and
  - Infrastructure (slaughtering capacity, availability of cold storage).

- Reforestation and Land Regeneration

  - Extent of environmental degradation and extent of the deficit and need for forest products;
  - Rainfall levels;
  - Soil conditions;
  - Existence of other projects; and
  - Infrastructure (cashew-nut processing plant in Sokone).

  Fishing

  - Location of fishing villages and of women's processing activities;
  - Road networks and availability of mareyeurs services; and
  - Existing infrastructure (diesel pumps, maintenance centers).

A summary of the results and recommendations in the spatial analysis are presented in Table 17, Annex 11. The spatial analysis constitutes a working tool to take into account existing resources and constraints for the design and implementation of project activities. It should be considered as indicative, not constraining. A PVO may propose an activity for a given location at variance with the recommendations from the spatial analysis. The proposal may be accepted, if it provides convincing evidence that the constraints that hinder such an activity in the area either do not apply for the specific location or can be overcome.

C. Economic Analysis

1. Rationale for the Activities Selected

The first two sections presented in the economic analysis discuss the necessity for the Senegalese economy to expand rural production by creating an environment which encourages and supports rural private producers. Assisting rural producers to achieve this goal through PVOs rather than through government structures presents a number of advantages that are also outlined.

Parastatal organizations have proven to be a management and financial burden on the government at the same time that their efficiency in terms of reaching the farmers and increasing rural production is constrained.

PVOs, as an alternative, operate with a minimum budget. They are flexible and can provide the same type of assistance as the parastatal agencies but through a more decentralized structure.

Four specific economic activities will be undertaken at the village level:

- vegetable and fruit production
- cattle and sheep fattening
- village woodlots
- fishing

Increasing production in these four areas will benefit the economy as a whole. Vegetable, fruit, and meat production do not meet the demand which presently has to be covered through imports at a time when the trade balance deficit is increasing. Furthermore, demand for these products is expected to rise. There is also ample room to increase local fish consumption which would improve overall nutrition levels. In developing these types of activities, the goals of diversifying rural production and attaining food self-sufficiency can be furthered.

For the farmers, these activities are likely to be highly profitable as illustrated in the text. Because they are dry season activities, they provide a net increase in monetary income above the rainfed production revenues. Developing these off-season activities is anticipated to lessen rural-urban migration at least in the villages where the subprojects are to be implemented.

The rationale for village woodlot planting is slightly different; because of population growth, fuelwood requirements far exceed what the existing forests can provide without depletion. Without reforestation programs, all forest resources will be exhausted by the year 2000. Declining forest cover has severe detrimental environmental/economic impacts (increasing desertification, top soil erosion, declining crop yields, loss of potential livestock fodder supplies) which adversely affect rural incomes and the national economy.

The rationale for assisting small rural enterprises has been discussed in other sections of this document, and need not be repeated at length here. However, it may be mentioned that progressive decontrol and commercialization of rural production requires a strong rural secondary sector that will support rural production demands for goods and services.

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2. Basic Assumptions for the Economic Analysis

One of the basic principles of this project is that the village organizations will decide which development activity they will carry out. Hence we do not know a priori how many gardening, livestock, etc. sub-projects will be implemented. However, in order to calculate an internal rate of return (IRR) for each activity, one has to assume the share of this activity in the overall project. This is needed in order to attribute to each activity its share of the overhead project costs (Management Unit costs and PVO assistance costs).

For the needs of the present analysis, the following distribution will be assumed:

- 25% vegetable and fruit production
- 30% cattle or sheep fattening
- 25% village woodlots
- 10% fishing
- 10% other activities (poultry, bee-keeping, vegetable and fruit drying and processing, ban-ak-suuf, etc.)

It will further be assumed that the overhead costs to the Management Unit and the PVOs will not depend on the type of sub-project carried out.

The project will assist approximately 216 village organizations and 675 small enterprises over 6 years, given cost estimates and project funding.

In addition, a number of assumptions have been made concerning the time schedule for project implementation. The following time schedule has been assumed:

	1	2	3	4	5	Project Years Total
Village Organization Sub-Projects	6	30	40	70	70	216
Small Enterprises Assisted	20	60	135	230	230	675

The size of sub-projects will depend on the size of the village organization considered. Average project size has been assumed for each sub-project based on the average size of village organizations interviewe

3. Profitability from the Point of View of the Beneficiaries

Profitability is quite high and varies depending on the types of sub-projects (see Table 4). After they have received assistance, small-scale enterprises, for example, will increase their profitability by an average of $1,930 per year. For the vill ge organization, the net increase in yearly monetary income per benei ciary ranges from $452 in the case of vegetable production (or 53 percent of household monetary income) to $87 in the case of cattle fattening (or 10 percent of household monetary income). Thus it is expected that villagers will be eager to undertake these activities.

Village woodlots do not appear to represent a profitable activity from a strictly financial perspective. However, monetary benefits from this activity are substantial, and an economic profitability may be obtained which is competitive with other sub-projects.

4. Internal Rate of Return

The likely level of production that was estimated for the analysis was averaged in the case of livestock and village woodlots. For fishing production and small rural enterprises, conservative production estimates were taken. For vegetable and fruit production, production levels that were taken for the base case may be somewhat high since they are the results of on-farm trials. However, assuming 20 percent less production still allows a high internal rate of return (18 percent) for vegetable and fruit activities.

The costs taken into account include the total costs of the sub-projects plus their proportional share of management and support costs.

The internal rates of return for the major types of sub-projects range from 51 percent for fishing to 31 percent and 20 percent for vegetable and livestock production respectively (See Table 5). The estimated IRR for small enterprise assistance is 23 percent. The various less favorable cases that were used for the sensitivity analysis also give quite adequate IRRs. Thus, by standards conventionally used, the proposed project is fully justifiable in economic terms. The overall IRR for the project is 25 percent.

Village woodlots, with an IRR of only 2 percent stand as a special case. However, the most important benefits from this activity were not quantified in the economic analysis. These include various positive impacts on the environment, such as soil erosion control and soil regeneration. Further, manure and millet stalks which otherwise would be burned can be used as fertilizer and livestock feed.

D. Social Soundness

Although the Sine Saloum region covers an area representing only 12 percent of Senegal's land mass, it contains 20 percent (1,200,000) of the country's total population as estimated in 1982. The two dominant ethnic groups are the Wolof and Serer who coexist peacefully. Islam, especially the Mouride brotherhood, dominates the region. Sine Saloum, being the major part of Senegal's Peanut Basin, produces 41 percent of the annual crop. Agricultural cultivation is essentially rainfed and centers on peanuts and millet though potential exists for off-season activities.

There are no major socio-cultural factors which should pose problems for the implementation of the project. Nevertheless, PVOs and the SBA Unit should be careful to inform government structures of the actions they are developing with village organizations and small-scale entrepreneurs in order to maintain open working relations between the

Table 4. PROFITABILITY OF VARIOUS SUB-PROJECTS

	NET INCREASE IN ANNUAL MONETARY INCOME (a)($)	NET INCREASE IN % OF TOTAL ANNUAL MONETARY INCOME (b)	NET MONETARY INCOME PER LABOR DAY ($)
Vegetable and Fruit Production (Base Case)	644	80%	3.0
Vegetable and Fruit Production (20% less yields)	452	53%	2.1
Livestock Production Cattle Fattening	87	10%	9.6
Sheep Fattening	319	38%	35.4
Fishing	526	---	2.7
Small Scale Enterprise	1,930	100%	--

NOTES:

(a) Per group member for vegetable and fruit, livestock and fish production; per enterprise for small-scale enterprise.

(b) Per household figures for vegetable and fruit production and livestock production; per enterprise for small-scale enterprise.

Table 5. INTERNAL RATE OF RETURN AND SENSITIVITY ANALYSIS

	BASE CASE	10% LESS PRODUCTION	20% LESS PRODUCTION	10% INCREASE IN COSTS	20% INCREASE IN COSTS	10% LESS PRODUCTION 10% INCREASE/COSTS
Vegetable and Fruit Production	31%	—	18%	—	20%	19%
Livestock Fattening	20%	10%	—	11%	—	—
Village Woodlot	2%	—	—	—	—	—
Fishing Production	51%	40%	—	—	—	—
Small Rural Enterprises	23%	—	7%	—	10%	—
Overall IRR	25%					

(—): IRR was not calculated for these cases.

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GOS and the private sector. Much of the project success depends on continued progress in the administrative reform initiated by the government.

Through the PVOs, the project will be assisting rural village organizations (men and women) to plan, manage and implement agri-related income generation activities. The Small Business Advisory Unit, organized by the project, will assist SSEs whose businesses are agri-related. PVOs will therefore be the indirect beneficiaries as their capacities will be strengthened to expand their village development activities. Secondary beneficiaries include children and family of village group members and new employees of entrepreneurs who expand their businesses.

Beneficiaries have participated substantially in the project design and will continue to participate in evaluations. Furthermore, VOs and SSEs will contribute financially to project activities benefitting them and will repay any credit with interest.

The project supports government objectives of decentralization, privatization and commercialization of agricultural production. In addition, the project intends to help improve the region's socio-economic status. The population assisted will be able to produce more food and agricultural services which will in turn increase available income to be used as purchasing power for additional goods and services (e.g. food, housing, and health care).

To test project approaches, activities will begin on a small scale in a limited area. However, certain questions remain concerning the stance some levels of government officials will take towards the expanded role of PVO activities. A further issue is the degree to which training and consultancy services can continue to SSEs after the end of the project.

E. Administrative

The Project is designed to allow for decision-making and implementation action at a level as close to the field activities as possible. Management activities are centered in Kaolack within the MU. The Management Unit which has responsibility for the outreach functions of the PVOs also serves an oversight function in managing the SBA Unit working with the SSEs. Common functions of the project: literacy/numeracy training, credit disbursement and supervision, procurement, training and evaluation will be housed in the Management Unit.

The project is designed so that the major burden of management and implementation will fall on the Management Unit. However, the Mission has certain management responsibilities for the project. These responsibilities will be fulfilled by a Direct Hire and a contract Deputy Project Manager in the Mission's Agricultural Development Office who will be assisted by an Assistant

Project Manager based in Kaolack. For certain tasks and liaison functions involving the PVO community, the Mission's PVO coordinator in the Project Development Office will work with the Project Managers.

At the national level will be established the National Project Policy Committee composed of technical ministry representatives and the AID Project Manager. This Policy Committee will be responsible for reviewing the criteria for selection of PVOs and village organizations for funding as well as the criteria for selecting entrepreneurs for assistance. In addition, it will participate in project monitoring and evaluation and receive periodic progress reports.

F. Environmental

The Initial Environmental Examination conducted during the PID concluded a negative determination was warranted as the project would not have significant negative effects on the environment. However, several matters for further study were recommended. These have been considered in detail in the Risk/Benefit Analysis for Pesticide Use for Vegetable Gardening and Woodlots, Annex 16. A list of acceptable pesticides is presented as well as procedural guidelines for approving chemicals not on the list.

The production of exotic vegetables in Senegal requires the use of pesticides to control a variety of insect and disease problems. Nonetheless, two situations caution the use of pesticides: an ever expanding and accessible array of chemicals on the open market being purchased by under-educated growers and an increasingly complex biological management problem. These issues and suggestions for their management are discussed in the Risk/Benefit Analysis. Similar recommendations are presented for the village woodlot component. Additional issues of safe composting techniques and water storage are addressed in the context of vegetable gardening and village woodlots.

Chemicals recommended for use in project activities are based upon the research of the FAO-funded Centre pour le Developpement de l'Horticulture (CDH) and the guidelines for Risk/Benefit Analysis established by the U.S. Environmental Protection Agency (USEPA) Environmental Procedures. Significant experience from the USAID-funded Regional Food Crop Protection Project has been utilized in developing this analysis.

VI. CONDITIONS AND COVENANTS

The project described in this paper has been developed in close consultation with concerned GOS ministries, such as the Ministries of Plan, Finance, and Social Development. In addition, extensive discussions have taken place with regional officials in Sine Saloum, including the Governor and the chiefs of technical services. Conse-

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quently, no substantive issues remain to be resolved prior to initial obligation of AID funds once the Mission has approved the Project Paper.

Because this is a project to be funded and implemented largely outside of government structures, only two Conditions Precedent to disbursement are recommended for inclusion in the Grant Agreement:

1) The Government of Senegal will furnish to AID a letter from the Minister of Plan naming the GOS representatives to the National Project Policy Committee.

2) The Government of Senegal will furnish to AID the name and specimen signature of the person holding or acting in the office of the Grantee who for all purposes of the Agreement will represent the Grantee including making changes in the amplified project description.

The following covenants will be included in the Grant Agreement to be negotiated with the GOS:

1) The Parties agree to establish an evaluation program as part of the Project.
Except as the Parties otherwise agree in writing, the program will include, during the implementation of the Project and at one or more points thereafter:

   (a) An on-going evaluation of progress toward attainment of the objectives of the Project;
   (b) Identification and evaluation of problem areas or constraints which may inhibit such attainment;
   (c) Assessment of how such information may be used to help overcome such problems; and
   (d) Evaluation, to the degree feasible, of the overall development impact of the Project.

2) The Government agrees to use reflows from loans made to village organizations and entrepreneurs for the purpose of rural credit.

3) In registering PVOs, the Government agrees to establish reasonable p cedures and to act in a reasonable time to register PVOs.

4) The Government agrees that one of the priorities of the National Project Policy Committee will be to address the problems for village organization and small-scale enterprise development arising from governmental policies and regulations. The Government agrees to mak all reasonable efforts to act on the recommendations of the National Project Policy Committee to improve the policy, legal, and regulator climate for the development of village groups and small-scale entrepreneurs.

5) The Government agrees to take all reasonable actions to support and pursue credit collection under the Project.

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ANNEX 1

LOGICAL FRAMEWORK

ANNEX 1

PVO COMMUNITY AND ENTERPRISE DEVELOPMENT

LOGICAL FRAMEWORK: PVO COMPONENT

August 1983

ACHIEVEMENTS	INDICATORS	VERIFICATION	ASSUMPTIONS
Program Goal: To progressively decontrol and commercialize rural production in Sine Saloum.	Private sector growing in real value compared to costs of production. Parastatal functions being replaced by private sector.	Regional production statistics. USAID ag sector research project statistics.	1. GOS economic Reform Plan implemented. 2. GOS administrative reform supports climate for village-based development. 3. Price structures are not production disincentives.
Project Purpose: Village organizations assisted by PVOs are capable of carrying out development projects which benefit themselves and the region.	End of Project Status: 1. Village organizations assisted can identify project needs, manage inputs, and select technical assistance from local sources, 2. PVOs are carrying out collaborative development projects with other village organizations not financed by USAID using project models and skills acquired.	1. VO's projects sent to CER. 2. Records kept by Gov. of SS and développement communautaire. 3. 6-mo. periodic review records. 4. Key project indicators in monitoring system.	1. Projects selected by VOs contribute to privatization of rural production. 2. Targeted activities correspond to [illegible] economic and ecological needs.
Outputs: 1. Village organizations implement 270 sub-projects in priority areas defined by project. 2. PVOs trained in project development, management, implementation, and evaluation by Management Unit. 3. Credit used in sub-projects and repaid.	1. 210 projects implemented by EOP. 2. 20 projects planned not requiring USAID assistance. 3. Staff of PVOs managing projects and fulfulling donor accountability requirements without assistance at EOP. 4. Credit repayment percentage is within project target and CNCAS assumes function at EOP.	1. Project proposals sent thru regional channels. 2. Information from other donors. 3. PVO plans and accounts. 4. Credit records kept by MU. 5. Project targets monitored by MU.	1. Spatial analysis findings prove applicable to VO needs and regional conditions. 2. PVO TA is sufficient to meet VO needs. 3. MU targets PVO needs accurately. 4. GOS attitude toward PVOs allows for project implementation. 5. PVOs are committed to VO self-sufficiency.
Inputs: 1. PVOs assist VOs in project implementation and channel grants. 2. MU trains PVOs and processes grants. 3. MU provides credit and administers repayment.	- 11.5 person-years (py) of Long-Term Technical Assistance (TA); - 18 person-months of Short-Term TA; - 15.5 py of local-hire staff; - 2 vehicles; - $800,000 for credit revolving fund; - $2.5 million through PVOs for village projects; - $400,000 for training materials development.	1. Project documents 2. USAID reports 3. Controller's records 4. PIO/C's	1. PVOs accept TA and apply it to their organizations and VOs. 2. CNCAS becomes functional by EOP. 3. In-country procurement system functions efficiently to provide inputs on time. 4. Local TA sources cooperate with [illegible]

PVO COMMUNITY AND ENTERPRISE DEVELOPMENT

LOGICAL FRAMEWORK: SSE COMPONENT

August 1983

ACHIEVEMENTS	INDICATORS	VERIFICATION	ASSUMPTIONS
Program Goal: To progressively decontrol and commercialize rural production in Sine Saloum.	Private sector production growing at 5% per year; parastatal economic activities and staff constant or declining.	Regional macro-economic analysis of Sine Saloum.	1. GOS economic Reform Plan implemented. 2. GOS policy continues to reflect decontrol and prioritization of agri-related production and services and to decentralize responsibility for SSE development assistance.
Project Purpose: SSEs assisted by Group are managing and sustaining their own growth; assistance is being provided to other SSEs in the region by a Senegalese institution.	End of Project (EOP)Status: 1. At EOP 50% of SSEs move into formal credit and banking system. 2. Goods and services produced by SSEs used by rural population to increase agricultural production in noticeable quantities by EOP.	1. Records of bank and CNCAS 2. Market spot checks in area. 3. Data collected in evaluation.	1. GOS policy and pricing policies are SEA conducive to SSE growth. 2. Senegalese institutions in Sine Saloum develop to the point that institutionalization of SSE assistance is possible. 3. Credit institutions in Sine Saloum are capable of meeting SSE needs.
Outputs: 1. 875 SSEs increase production of ag-related goods and services. 2. SSEs performing business management functions independently. 3. Credit used by SSEs and repaid.	1. Goods and services produced by project-assisted SSE are being used in the region in rural markets and elsewhere. 2. Books and records of assisted-SSE reflect skills taught in project. 3. After year 6, 60% of SSEs achieve projected increases in out-put, profitability and employment. 4. After year 4, 50% of SSEs follow improved methods and have repaid all credit. 5. After year 6, 70% of clients follow improved practice and have repaid all credit.	1. Business records. 2. Statistics provided by Chambre de Métiers. 3. MU credit records.	1. Goods and services produced correspond to ag production needs. 2. Credit and technical assistance/training are sufficient to yield productivity increases for SSEs.
Inputs: 1. Train entrepreneurs in improved business practice. 2. Provide credit needed for SSEs.	- 5.5 person years of Long-Term TA; - 18 person months of Short-Term TA; - 30 person years of extension and other staff; 2 pickup trucks; $500,000 for credit revolving fund; Office equipment and supplies; 2 Peace Corps volunteers.	1. MU financial records. 2. Commodity purchase records.	Training means selected are well adapted to needs of SSEs.

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ANNEX 2

STATUTORY CHECKLIST

5C(2) PROJECT CHECKLIST

Listed below are statutory criteria applicable to projects. This section is divided into two parts. Part A. includes criteria applicable to all projects. Part B. applies to projects funded from specific sources only: B.1. applies to all projects funded with Development Assistance Funds, B.2. applies to projects funded with Development Assistance loans, and B.3. applies to projects funded from ESF.

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

NOTE: COUNTRY CHECKLIST PREVIOUSLY DONE

A. GENERAL CRITERIA FOR PROJECT

1. FY 1982 Appropriation Act Sec. 523; 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 amount)?

   a) Through normal Congressional Notification process

   b) Yes

2. FAA Sec. 611(a)(1). Prior to obligation in excess of $100,00, will there be

   Necessary plans and cost estimates have been prepared.

	(a) engineering, financial or other plans necessary to carry out the assistance and (b) a reasonably firm estimate of the cost to the U.S. of the assistance?	
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 1982 Appropriation Act Sec. 501. If for water or water-related land resource construction, has project met the standards and criteria as set forth in the Principles and Standards for Planning Water and Related Land Resources, dated October 25, 1973? (See AID Handbook 3 for new guidelines.)	N/A
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 to 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; and (c) encourage development and use of cooperatives, and 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.	Project goal is to progressively decontrol and commercialize rural production in the Region of Sine Saloum. It will encourage private enterprise and supports the Government's desire to decrease the public sector. Therefore, benefits should be seen in (b), (c), (d), and (e).
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).	American technical assistance, through private consulting firms, will be utilized where appropriate.

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9.	FAA Sec. 612(b), 636(h); FY 1982 Appropriation Act Sec. 507. 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 in lieu of dollars.	Project is conducted outside the Government structure. However, the Government is participating through a National Policy Committee and monitoring of the project (PVCs and entrepreneurs)
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?	The U.S. does not own excess foreign currency in Senegal.
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 1982 Appropriation 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?	N/A
13.	FAA 118(c) and (d). Does the project comply with the environmental procedures set forth in AID Regulation 16? Does	Yes, substantial environmental assessment is included in the Project Paper. Land regeneration activities are included in the project

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the project or program take into consideration the problem of the destruction of tropical forests?

14. FAA 121(d). If a Sahel project, has a determination been made that the host government has an adequate system for accounting for and controlling receipt and expenditure of project funds (dollars or local currency generated therefrom)?

Determination made by AA/AFR (Acting) on 6/27/83

B. FUNDING CRITERIA FOR PROJECT

1. Development Assistance Project Criteria

a. FAA Sec. 102(b), 111, 113, 261(a). 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 urban poor to help themselves toward better life, and

The project is targeted to village organizations and small-scale entrepreneurs to increase agricultural income-generating activities. The project will provide the participants access to credit, management techniques and literacy/numeracy in order to improve the functioning and self-reliance of small businesses and village activities. Women will be accorded equal access to all activities for business and village organizations.

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?	
b. FAA Sec. 103, 103A, 104, 105, 106. Does the project fit the criteria for the type of funds (functional account) being used?	Funds from Sahel Appropriation Section 121.
c. FAA Sec. 107. Is emphasis 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, projects will be encouraged which utilize local materials and appropriate technologies.
d. FAA Sec. 110(a). Will the recipient country provide at least 25% of the costs of the program, project, or activitiy with respect to which the assistance is to be furnished (or is the latter cost-sharing requirement being waived for a "relatively least developed" country)?	Requirement waived for the Sahel.

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"? (M.O. 1232.1 defined a capital project as "the construction, expansion, equipping or alteration of a physical facility or facilities financed by AID dollar assistance of not less than $100,000, including related advisory, managerial and training services, and not undertaken as part of a project of a predominantly technical assistance character.	N/A
f. 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, to village organizations and small-scale entrepreneurs to take charge of their own development.
g. 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	This project was developed as a result of a joint GOS/USAID assessment of project assistance conducted in 1980. Senegalese will be active participants as beneficiaries as well as project staff and consultants. The project also utilizes indigenous PVOs to improve their capacities of self-management and reponse to rural needs. Also grassroot-level government officials and bodies are participating in the field.

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institutional development; and supports civil education and training in skills required for effective participation in governmental processes esential to self-government.

2. Development Assistance Project Criteria (Loans Only) N/A

a. FAA Sec. 122(b). Information and conclusion on capacity of the country to repay the loan, at a reasonable rate of interest.

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?

c. ISDCA of 1981, Sec. 724 (c) and (d). If for Nicaragua, does the loan agreement require that the funds be used to the maximum extent possible for the private sector? Does the project provide for monitoring under FAA Sec. 624(g)?

3. Economic Support Fund Project Criteria N/A

a. FAA Sec. 531(a). Will this assistance promote economic or political

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stability? To the extent possible, does it reflect the policy directions of FAA Section 102?

b. FAA Sec. 531(c). Will assistance under this chapter be used for military, or paramilitary activities?

c. FAA Sec. 534. Will ESF funds be used to finance the construction of the operation or maintenance of, or the supplying of fuel for, a nuclear facility? If so, has the President certified that such use of funds is indispensable to nonproliferation objectives?

d. FAA Sec. 609. If commodities are to be granted so that sale proceeds will accrue to the recipient country, have Special Account (counterpart) arrangements been made?

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5C(3) - STANDARD ITEM CHECKLIST

Listed below are the 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, contracts will be let for technical assistance in open competition.

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 marine insurance companies authorized to do business in the U.S., will commodities be insured in the United States against marine risk with such a company?

   N/A

4. FAA Sec. 604(e); ISDCA of 1980 Sec. 705(a). If offshore procurement of agricultural commodity or product is to be

   N/A

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financed, is there provision against such procurement when the domestic price of such commodity is less than parity? (Exception where commodity financed could not reasonably be procured in U.S.)	
5. FAA Sec. 604(g). Will construction or engineering services be procured from firms of countries otherwise eligible under Code 941, but which have attained a competitive capability in international markets in one or these areas?	N/A
6. FAA Sec. 603. Is the shipping excluded from 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?	Will comply with 50/50 Rule
7. FAA Sec. 621. If technical assistance is financed, will such assistance be furnished by private enterprise on a contract basis to the fullest extent practicable? If the facilities of other	Yes

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Federal agencies will be utilized, are they particularly suitable, not competitive with private enterprise, and made available without undue interference with domestic programs?	
8. International Air Transport. Fair Competitive Practices Act, 1974. If air transportation of persons or property is financed on grant basis, will U.S. carriers be used to the extent such service is available?	Yes
9. FY 1982 Appropriation Act Sec. 504. If the U.S. Government is a party to a contract for procurement, does the contract contain a provision authorizing termination of such contract for the convenience of the United States?	Yes
B. Construction	
1. FAA Sec. 601(d). If capital (e.g., construction) project, will U.S. engineering and professional services to be used?	Only minor village construction using local materials is projected.
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?	N/A

3. FAA Sec. 620(k). If for construction of productive enterprise, will agggregate value of assistance to be furnished by the U.S. not exceed $100 million (except for productive enterprises in Egypt that were described in the CP)?	N/A
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?	N/A
2. FAA SEc. 301(d). If fund is established solely by U.S. contributions and administed by an internatioal 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. Will arrangements preclude use of financing:	
a. FAA Sec. 104(f); FY 1982 Appropriation Act Sec. 525: (1) To pay for performance of abortions as a method of family	Yes

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planning or to motivate or coerce persons to practice abortions; (2) to pay for performance of involuntary sterilization as method of family planning, or to coerce or provide financial incentive to any person to undergo sterilization; (3) to pay for any biomedical research which relates, in whole or part, to methods or the performance of abortions or involuntary sterilizations as a means of family planning; (4) to lobby for abortion?

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

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. FAA Sec. 636(i). For purchase, sale, long-term lease, exchange or guaranty of the sale of motor vehicles manufactured outside U.S., unless a waiver is obtained? — Yes

f. FY 1982 Appropriation Act, Sec. 503. To pay pensions, annuities, retirement pay, or — Yes

adjusted service compensation for military personnel?	
g. FY 1982 Appropriation Act, Sec. 505. To pay U.N. assessments, arrearages or dues?	Yes
h. FY 1982 Appropriation Act, Sec. 506. To carry out provisions of FAA section 209(d) (Transfer of FAA funds to multilateral organizations for lending)?	Yes
i. FY 1982 Appropriation Act, Sec. 510. To finance the export of nuclear equipment, fuel, or technology or to train foreign nationals in nuclear fields?	Yes
j. FY 1982 Appropriation Act, Sec. 511. Will assistance be provided for the purpose of aiding the efforts of the government of such country to repress the legitimate rights of the population of such country contrary to the Universal Declaration of Human Rights?	No
k. FY 1982 Appropriation Act, Sec. 515. To be used for publicity or propaganda purposes within U.S. not authorized by Congress?	No

ANNEX 3

PID APPROVAL

685-260

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DE RUEFC #7611/01 1582149
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E.O. 12356: N/A
TAGS:
SUBJECT: PID APPROVAL CABLE FOR SENEGAL PVO COMMUNITY AND ENTERPRISE DEVELOPMENT (685-0260)

1. AN ECPR ON MAY 26, 1983, APPROVED THE SUBJECT PID FOR PP DESIGN AND FIELD AUTHORIZATION. REPRESENTATIVES FROM S&T/ND AND FVA/PVC INDICATED THEIR SUPPORT OF THE PID. ATTENDEES GENERALLY FELT THAT THE REVISED PID WAS COMPLETE, WELL-CONCEIVED, AND PROVIDED DETAIL WELL BEYOND OFFICIAL REQUIREMENTS FOR PID CONTENT. THE IEE INCLUDED IN THE PID AS APPENDIX D IS APPROVED, GIVEN THAT RISK-BENEFIT ANALYSES WILL BE CARRIED OUT FOR ANY PESTICIDES REQUIRED FOR VEGETABLE GARDENING AND VILLAGE WOODLOT SUBPROJECTS. THE CN FOR THE SUBJECT PROJECT MUST BE SUBMITTED TO AFR/PD/SWAP AS SOON AS POSSIBLE FOR SUBMISSION TO LEG NO LATER THAN JUNE 30. THE 121 D, CERTIFICATION MUST BE CABLED IMMEDIATELY TO PRECEDE THE CN.

2. THE ECPR RECOMMENDED THE FOLLOWING GUIDANCE FOR PP DESIGN:

--A. INSTITUTION FOR HANDLING THE CREDIT COMPONENT: THE PP TEAM SHOULD EXPLORE OPTIONS FOR HANDLING THE CREDIT COMPONENT THROUGH A COMMERCIAL BANK WITH A PVO LIKE CARITAS FACILITATING CONTACTS BETWEEN THE BANK AND VILLAGE GROUPS OR SMALL-SCALE ENTREPRENEURS. THE MISSION SHOULD UTILIZE LESSONS OF AID EXPERIENCE IN OTHER PROJECTS IN OBTAINING PARTICIPATION OF COMMERCIAL BANKS IN CREDIT COMPONENTS SUCH AS THAT ENVISIONED IN SUBJECT PROJECT. AID /WASHINGTON WILL PROVIDE INFORMATION ON AID EXPERIENCE IN THIS AREA AS SOON AS POSSIBLE.

THE USAID SHOULD EXAMINE EXISTING SENEGALESE AND U.S COMMERCIAL CREDIT INSTITUTIONS TO ASCERTAIN THEIR APPROPRIATENESS AND POSTURE TOWARDS THE DELIVERY OF CREDIT TO SMALL-SCALE ENTREPRENEURS AND VILLAGE PRODUCER GROUPS AS WELL AS THEIR LENDING VOLUME TO THESE INTENDED BENEFICIARIES OF THE PROJECT.

ON THE DEMAND SIDE, TARGET CREDIT MARKETS SHOULD BE

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Embassy

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CLEARLY SPECIFIED ACCORDING TO TYPE OF VILLAGE PRODUCTION SUB-PROJECT OR TYPE OF ENTREPRENEUR.

;BEN COMMERCIAL CREDIT INSTITUTIONS, THEIR OPERATIONS, AND CREDIT DEMAND BY TYPE OF BORROWER ARE KNOWN, THE FOLLOWING ALTERNATIVES SHOULD BE EXPLORED: (1) BUILD ON EXISTING PRIVATE CREDIT WINDOWS BY NEGOTIATING A LOAN AGREEMENT ON ACCEPTABLE TERMS; (2) NEGOTIATE WITH A PRIVATE COMMERCIAL INSTITUTION TO OPEN A NEW CREDIT WINDOW; OR (3) ESTABLISH A NEW PRIVATE COMMERCIAL CREDIT FACILITY. IF (1), (2), OR (3) PROVE UNWORKABLE, CONSIDERATION COULD BE GIVEN TO WORKING WITH ANOTHER INSTITUTION WILLING TO MANAGE A CREDIT WINDOW ON COMMERCIAL BASIS. IN THIS CASE, PROVISION SHOULD BE MADE FOR ARRANGING FOR THE EARLIEST POSSIBLE DIVESTMENT OF THIS FACILITY TO THE PRIVATE COMMERCIAL SECTOR.

--B. OTHER POINTS REGARDING THE CREDIT COMPONENT: THE PP AND THE RFP FOR THE ORGANIZATION TO HANDLE THE PROJECT MANAGEMENT UNIT SHOULD MAKE CLEAR THAT A MAJOR CONCERN OF THE PROJECT'S MONITORING SYSTEM AND A PRINCIPAL CONCERN OF THE FIRST OUTSIDE EVALUATION FOR THE PROJECT WILL BE THE PERFORMANCE OF THE CREDIT COMPONENT, PARTICULARLY THE LEVEL OF REPAYMENTS. THE PP SHOULD PROPOSE APPROPRIATE INTEREST RATES, APPLICATION FEES, AND OTHER CHARGES WHICH WILL PREVENT DECAPITALIZATION OF THE REVOLVING FUND FOR THE CREDIT COMPONENT. THE PP SHOULD IDENTIFY THE POTENTIAL USES AND MANAGEMENT OF THE REVOLVING FUND AFTER THE END OF THE PROJECT AND LAY OUT A PROCEDURE FOR AID APPROVAL OF THE DISPOSITION OF THE FUND. GC/AFR HAS BEEN REQUESTED TO PROVIDE INFORMATION TO THE MISSION ON THE POSSIBLE OPTIONS FOR USE OF THE REVOLVING FUND AT THE END OF THE PROJECT. THE MISSION SHOULD CONSIDER UTILIZING PRIVATE ACCOUNTING FIRMS IN DAKAR TO IMPROVE FINANCIAL MANAGEMENT CAPABILITIES OF PVO'S AND OTHER ORGANIZATIONS.

--C. ECONOMIC AND FINANCIAL ANALYSIS: THE ECONOMIC AND FINANCIAL ANALYSES ARE BASICALLY COMPLETE AND WELL DONE. HOWEVER, THE PP'S ECONOMIC ANALYSIS SHOULD CONSIDER THE LEVEL OF SUBPROJECT AND OTHER COSTS CONTINUING AFTER THE END OF THE PROJECT FOR TECHNICAL AND MANAGEMENT ASSISTANCE AS WELL AS FOR FINANCIAL SERVICES REQUIRED BY THE VILLAGE GROUPS AND ENTERPRENEURS ASSISTED UNDER THE PROJECT. THE PP'S ECONOMIC ANALYSIS SHOULD ALSO INCLUDE AN OVERALL RATE OF RETURN FOR THE PROJECT.

--D. SMALL-SCALE ENTERPRISE COMPONENT: THE PP SHOULD

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INCLUDE THE SELECTION CRITERIA FOR THE ORGANIZATION TO BE CHOSEN TO HANDLE THE SMALL-SCALE ENTERPRISE COMPONENT.

--E. PRIVATE SUPPLIERS: THE PP TEAM SHOULD EXPLORE HOW PRIVATE SUPPLIERS OF SUPPLIES, INPUTS, AND EQUIPMENT FOR VILLAGE GROUPS AND ENTREPRENEURS CAN BE INDUCED TO PROVIDE TECHNICAL TRAINING IN THE USE OF THESE MATERIALS.

--F. PROCUREMENT: THE PP SHOULD EXPLAIN MORE CLEARLY RESPECTIVE RESPONSIBILITIES FOR OFFSHORE AND LOCAL COMMODITY PROCUREMENT, INCLUDING WHICH ORGANIZATION WILL BE IN CHARGE OF INVENTORY CONTROL OF COMMODITIES. THE PROCUREMENT INSTRUMENT FOR THE PROJECT MANAGEMENT UNIT WILL BE A CONTRACT. THE MANAGEMENT UNIT WILL SUB-GRANT AND SUB-CONTRACT AS APPROPRIATE FOR OTHER PROJECT SUB-COMPONENTS.

--G. MARKETING ASSESSMENT: MARKETING POSSIBILITIES AND CONSTRAINTS SHOULD RECEIVE PARTICULAR ATTENTION, ESPECIALLY IN THE VEGETABLE PRODUCTION AND SMALL-SCALE ENTERPRISE ACTIVITIES. EXPERTISE TO ANALYZE MARKETING POSSIBILITIES AND CONSTRAINTS WILL BE MADE AVAILABLE TO PVO'S IN DEVELOPING THEIR PROPOSALS. SOUND ASSESSMENT OF THE MARKETING SITUATION WILL BE ONE CRITERION USED IN JUDGING PVO PROPOSALS.

--H. PP TEAM'S SPATIAL ANALYSIS SHOULD BE FOCUSSED UPON MAXIMIZING SPREAD EFFECTS OF THE PROJECT AS WELL AS ON SELECTING PROJECT AREAS WITH APPROPRIATE INTERNAL LINKAGES.
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ANNEX 4

611(e) AND 121(d) DETERMINATIONS

MISSION DIRECTOR'S 611 (e) CERTIFICATION

I. PROJECT DATA:

A.	Country	Senegal
B.	Project	PVO Community and Enterprise Development (685-0260)
C.	Funding	$9.0 million
D.	Live of Project	6 years

II. JUSTIFICATION:

This project supports the Government of Senegal's economic Reform Plan and the USAID strategy by opening a direct line of assistance to rural producer groups and to the small enterprises in the region of Sine Saloum that assist agricultural production. The project will strengthen village organizations so that they can carry out development projects without external assistance. It will assist small enterprises so that they can sustain their own development. Indigenous and international Private Voluntary Organizations will provide assistance to the producer groups and enterprises.

Because the project will enable the village organizations and small enterpreneurs assisted to carry on their own further development, the beneficiaries will have the capability to maintain and utilize the assistance provided. Further, the continuing initiatives by the government in progressively opening the economy to private sector initiative, in reforming the cooperative structure, and in establishing a new system of rural credit will support the continued growth and development of village organizations and small entrepreneurs.

III. CERTIFICATION:

As the principal officer of the Agency for International Development in Senegal, I affirm that, in my judgment, Senegal has both the financial capability and the human resources to effectively maintain and utilize the goods and services to be provided by the PVO Community and Enterprise Development Project (685-0260).

David Shear
Director
USAID/Senegal

April 27, 1983
Date

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CLASS: UNCLASSIFIED
CHRGE: AID 6/7/83
APPRV: ADIR:CTYSON
DRFTD: AID:JGILLIS:RQ
CLEAR: 1.RCO:DFRANKLIN
2.PRM:BHOWARD
DISTR: AID AMB DCM

ADM AID

E.O. 12356:N/A
SUBJECT: PVO COMMUNITY AND ENTERPRISE DEVELOPMENT PROJECT 685-0260, MISSION CERTIFICATION AND REQUEST FOR DETERMINATION

USAID/SENEGAL DIRECTOR HEREBY CERTIFIES THAT FUNDS FOR SUBJECT PROJECT WILL NOT BE RELEASED DIRECTLY TO THE GOVERNMENT OF SENEGAL. ALL DISBURSEMENTS WILL BE MADE DIRECTLY BY USAID OR THE INTERNATIONAL PVO COORDINATOR CHARGED WITH MANAGING SUB-PROJECT ACTIVITIES. PLEASE PROVIDE NECESSARY 121 (D) DETERMINATION. BRAY
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INFO: AMB
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E.O. 12356N/A
TAGS
SUBJECT: 121(D) CERTIFICATION - COMMUNITY AND ENTERPRISE DEVELOPMENT PROJECT (685-0260)

REFERENCES: (A) DAKAR 14806 (B) DAKAR 11316

DETERMINATION MADE BY AA/AFR (ACTING) ON SUBJECT PROJECT ON JUNE 27, 1983. SHULTZ
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UNCLASSIFIED STATE 215203

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ANNEX 5

REQUEST FOR ASSISTANCE

ABS/ad2

REPUBLIQUE DU SENEGAL
Un Peuple — Un But — Une Foi

MINISTERE DU PLAN
ET DE LA COOPERATION

Le Ministre

681-260

N° 1/M .c /DLP/PI

Dakar, le

USAID, SENEGAL
Date received AUG 09 1983
Registry Nber 001129
Date Action Taken
Action Taken
Signature :

TRES URGENT

OBJET : Projet O N G. de développement des Collectivités locales et entreprises privées en milieu rural.

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Embassy

Monsieur le Directeur,

Le Gouvernement de la République du Sénégal a collaboré avec l'US AID dans le cadre de l'élaboration du projet ONG de Développement de Collectivités locales et de l'Entreprise Privée en milieu rural.

Ce projet qui sera doté d'une enveloppe de 9 millions de dollars, s'exécutera sur une période de 6 années.

Il aura pour objectif, d'aider les groupements villageois et les artisans du Sine Saloum à prendre en charge leur propre développement et utiliserait des O N G comme agents d'exécution du projet.

Le projet appuiera également la réforme administrative et politique de décentralisation entreprise par le Gouvernement.

L'idée de ce projet remonte à l'évaluation du programme de l'US AID au Sénégal menée conjointement par l'US AID et le Gouvernement du Sénégal en 1980; une des recommandations de cette évaluation était que l'US AID recherche d'autres formes d'assistance aux producteurs ruraux.

.../...

à Monsieur le Directeur
de l'US AID

Immeuble B I A O

- DAKAR -

Au cours de six années que durera ce projet, il appuyera les organisations villageoises dans le cadre des petits projets de production, assistera les artisans et petits entrepreneurs ruraux qui jouent un rôle important dans la production agricole.

Une cellule de consultations, Gouvernement du Sénégal - US AID, sera également créée dans le cadre de ce projet pour en suivre l'exécution.

Etant donné l'importance que le Gouvernement du Sénégal attache à la mise en place de structures types destinées à assister les producteurs ruraux ainsi que les petits entrepreneurs, je vous saurais gré de toute disposition que vous voudrez bien prendre afin que ces programmes puissent être mis en oeuvre dans les meilleurs délais.

En vous remerciant de votre collaboration, je vous prie de croire, Monsieur le Directeur, à l'assurance de ma considération distinguée./-

Pour le Ministre du Plan
et de la Coopération
et par délégation :
Le Secrétaire Général
Cheikh KLEE

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ANNEX 6

611(a) DETERMINATION

UNITED STATES GOVERNMENT

memorandum

DATE: 7/21/83

REPLY TO ATTN OF: Barnabas Mosley, P.E., Engineering Office

SUBJECT: 611A Certification, PVO Community and Enterprise Development

TO: David Shear, Director

In accordance with the General criteria for Projects 2FAA section 611(a)(1) a determination must be made by a USAID Engineer that prior to obligation in excess of 100,000 dollars there will be:

a) engineering, financial and other plans necessary to carry out the assistance and

b) a reasonable firm estimate of the cost to the assistance.

I have examined the work done by the design team, the background material and the preliminary cost estimates for the proposed construction.

Wells:

Under subject project it is proposed to deepen several hand dug wells. This work will be performed by the traditional method utilizing the resident well drillers. Given the variable depths that will be encountered a sum of $400 has been provided for each well. It is estimated that the average well will be deepened by 2 meters, but in some cases it may be necessary to go deeper. The $400 includes cost of labor material, and transportation of the pipe to the individual sites.

A total of 56 well sites have been selected throughout the Sine Saloum. The regional Hydrology office will serve as the technical advisors on all relevant hydrological information.

Tool and Material Sheds:

The PP specifies that 56, 3 by 4 meter tool and material sheds will be constructed under the project. The sheds will be constructed with local banco and mud blocks, wooden door, windows, roof frames and zinc roofs. Based on the extensive USAID/Dakar construction experience the cost for each shed has been estimated at approximately 500 dollars. This cost estimate includes a 25% inflation factor utilizing present material and labor cost.

OPTIONAL FORM NO. 10
(REV. 1-80)
GSA FPMR (41 CFR) 101-11.6
5010-114
☆ U. S. GPO: 1980—311-153/5526

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Based upon the above, I believe the cost estimates for the limited construction component of this project are reasonably firm and I therefore recommend that you approve this 611(a)(1) certification.

Approved: David Shear
David Shear, Director

Date: 7/27/83

Disapproved: _____
David Shear, Director

Date: _____

ANNEX 7

PVO/VILLAGE ORGANIZATION ANALYSIS

ANNEX 7

PVO/VILLAGE ORGANIZATION ANALYSIS

I. INTRODUCTION

The primary beneficiaries of the village income-generating and land regeneration activities to be undertaken by the project are the members of the village organizations which will receive grants. These organizations form the base level at which the majority of project outputs are produced.

Village organizations were chosen as the appropriate intervention level to achieve project objectives since they provide a unit of organization close enough to the farm level. Organized by its members, it permits villagers to make their own decisions. Sénégal's administrative reform which created the Communauté Rurale has given the village organization official sanction to organize its own activities.

The project will utilize PVOs as the primary intermediaries between the source of funds and the village organizations. This means of project implementation was chosen because the PVOs represent an alternative channel to the village level which can then be used to assist village groups beyond the life of the project. A secondary project objective is to build PVO capacity in administering donor funds. The emphasis will be on management skills which are not donor-specific but which lead to effective administration and implementation. PVOs may then use these skills to operate programs in other parts of Senegal outside the Sine Saloum.

PVOs are judged to be effective in identifying the needs of village organizations and in taking the time necessary to facilitate village decision-making needed to solve problems. They understand the need to involve local traditional and governmental decision-makers in project development. The PVOs currently active in Sine Saloum are largely staffed by Senegalese and will continue to be involved in Senegalese development in the future.

A. Climate for Village Organizations

The Sine Saloum was the second region of Senegal to implement the administrative reforms which permitted the village through the Conseil Rural to develop its own development activities. The Centre d'Expansion Rural (CER) is intended to serve as a major coordinating and technical assistance structure and as a focal point for development efforts. The elected structures, beginning with the Conseil Rural, participate in the different levels of development decision-making. Councils at the arrondissement (district) level participate in the comité local de dével-

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oppement (CLD); departmental councils on the comité départmental de développement (CDD); and regional councils on the comité regional de développement (CRD). The CLD is chaired by the sous-préfet; the CDD by the préfet and the CRD by the governor. Assisted by the CER and RDAs these elected structures provide the decision-making mechanism for the villages to propose activities and receive funding for development activities.

In addition to changes in the administrative and political climate, rural credit structures will soon change at the base level also. The reform of the cooperative system will allow village organizations to receive credit directly from the new Caisse Nationale du Credit Agricole Senegalaise (CNCAS).

USAID experience through the Sine Saloum Rural Health project has demonstrated the possibility of effectively utilizing village organizations for support of community shared activities (health huts). Income-generating activities organized by the village organizations produce revenues to cover recurrent costs of the project (medicines, health workers).

B. Assistance to Village Organizations

The PVOs will provide village organizations with assistance in key areas: organization and planning, management, technical assistance in agriculture, and financing.

- Organization and planning. VOs need assistance in registering their group at the sous-préfecture; setting goals, objectives, and priorities for development activities.

- Management. Planning use of funds, calculating revenues and their use, keeping records, and delegating tasks.

- Technical assistance in agriculture. Practical assistance in raising vegetables, caring for animals, safe pesticide usage, marketing, and organizing production activities.

- Financing. Income-generating projects call for outlays to finance infrastructure and certain inputs.

The project will finance the PVOs to provide technical assistance, inputs, and infrasturcture costs to the VOs. The main objective for the PVOs will be to assist VOs in managing their own development activities so that at the end of the project they will be able to carry out programs unassisted. Primary focus will be given to transfer of technical skills needed to implement project activities (e.g., gardening, animal fattening, reforestation, soil regeneration, fishing, etc.) and to management skills needed to keep accounts and calculate revenues.

Their assistance will focus on:

- Identifying infrastructure needs;
- Identifying production inputs;
- Purchasing infrastructure, materials, and inputs;
- Explaining credit conditions;
- Assisting in prompt credit repayment;
- Training in credit use so that they may qualify for CNCAS; and
- Training in functional literacy and numeracy.

In assisting village organizations develop sub-projects the PVOs will assist the village organizations to:

- Identify needs;
- Contact technical services to ensure project feasibility;
- Determine financial resources needed and whether VOs can access them;
- Determine human resource needs external to project (agents of SODEVA, CER, etc.);
- Assure that all local administrative contacts have been made;
- Prepare proposals according to format devised by the MU;
- Transmit proposals to the MU.

C. Specific Assistance to Implement Projects

Each sub-project foreseen for the VOs has its own technical requirements for development of the activity and its implementation which must be identified and taken into account as activities begin. The Spatial Analysis (see Annex 11) discusses constraints on certain activities for specific areas of the Sine Saloum. These findings will be taken into account in developing project proposals.

After the PVO and the village have determined which group is going to be in charge of an activity, a number of special considerations must be taken into account for each type of project. (See Appendix A for suggested proposal guidelines.)

1. Vegetable Gardening

PVOs will ascertain project feasibility in examining water capacity and quality from information provided by the Service de l'Hydraulique. Technical agents from SODEVA and the CER will be consulted on best seed varieties. The land to be cultivated must be made available to the group and there must be agreement at the village level for its use in project activities. Assistance will be available for well deepening but rarely for new well construction because vegetable activities should be coordinated with existing wells and planned well construction.

A careful market study will be undertaken by the PVO with village participation and will be added to the project proposal prepared by the PVO and submitted to the MU. Once funded, PVOs will provide technical assistance to the villagers in infrastructure construction, gardening, safe pesticide use, and fertilizer application. This assistance has as its primary objective the transfer of skills which will permit the VO to run its own activities at the end of the project.

The PVOs along with the leaders of the VOs will be responsible for equipment and input purchases. PVOs will train the VOs in these activities so that at the end of the project they will be able to perform these functions unassisted.

Emphasis will be placed on learning marketing skills including negotiating prices and identifying potential clients. Skills in product conservation can also be integrated into vegetable growing projects to assure village consumption of produce in addition to marketing for revenue.

2. Animal fattening

PVOs will consult with the Service de L'Elevage and follow the spatial analysis guidelines to determine the feasibility of animal fattening projects and the choice of animals--beef cattle or sheep. A technician may be needed to assist in animal selection. The PVOs will assist in the animal purchase and will help identify sources of veterinary care to ensure good health for the animals.

VOs will select a desirable site for keeping the animals either together or at individual family units. PVOs will be present at the sale of animals and will assure any necessary credit repayment. In case of animal deaths, the PVO is responsible for notifying the MU and giving advice on adjustment of terms.

A by-product of the animal fattening activities is the production of manure which the PVOs will encourage villagers to use in soil regeneration. These auxiliary activities which aid in regeneration are important aspects of the project and represent secondary effects which may contribute to better land and resource use in the Sine Saloum.

3. Reforestation

PVOs will play an important part in interesting village organizations in the Sine Saluoum to initiate reforestation projects. The pressure for land in the region makes setting aside land for village woodlots a difficult undertaking. The project proposes to encourage PVOs to link reforestation with other income-generating activities as much as possible to provide incentives (e.g., vegetable gardening and fruit trees). PVOs will assist VOs in negotiating for land with the rural community leaders. Pesticides needed to protect the trees must be applied safely and be on the approved list for use in Senegal (see Annex 16, "Environmental Analysis".) Appropriate training in safe pesticide use will be part of project activities.

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Seedlings will be procured from existing nurseries all of which ca meet the needs for the projects which may be proposed. SODEVA and Eau et Forêts both have nurseries in the region as do special projects of other donors. If village nurseries are to be developed, this must be done with careful attention to technical training needed for plant survival and distribution.

4. Fishing

Assistance to fishing groups will primarily be provided by the SSE component of the project. The village organizations concerned with fishing are mainly women's groups which transform and market fish products.

Appropriate technology applications for drying fish could be provided by PVOs having experience in this area. The main area of technical assistance required is for marketing and distribution. Without their own means of transport, fish product marketing groups are dependent on middlemen and are subject to lower prices and lower revenues as a result.

5. Energy Conservation

Village organizations involved in income-generating activities could also serve as means for introducing energy and time-saving devices, such as the "ban-ak-suuf" stoves and millet mills. Without new timesaving technologies women will find it difficult to participate in income-generating activities given their current labor requirements. Energy conservation activities focusing on women can reduce de-forestation and encourage soil regeneration by experimenting with new household consumption patterns for fuel, manure, and compost. PVOs will be guided into these kinds of new technology and cultivation practices as they work with the village organizations.

6. Training and Institutional Development

The project's purpose is to enable village groups to take charge of their own development. This requires the development or increased level of a number of skills. One of the most important capacities will be the ability of group leaders to establish and maintain simple but essential financial and management records. Therefore, PVOs must provide adequate, carefully focused functional literacy/numeracy training in addition to training members in the technical aspects of the particular activity the villagers are undertaking. Other basic management skills are also necessary to enable groups to evolve and begin new activities or expand existing ones. The style by which the PVOs work with village groups is important. It must be a style by which PVOs make clear at the outset that the village group is responsible for its own activities and must function independently as soon as is practicable.

b. Proposed Approval Channel

All proposals will be prepared in four copies. One will remain with the village organization and one will go to the sous-préfet, who will transmit a copy to the préfet with remarks from the CLD. The préfet will in turn send it on to the Governor with remarks from the CDD. After consideration by the CRD, the Governor will transmit comments to the MU. The MU will receive a copy of each proposal directly from the PVO. Proposals will generally be for multiple activities in several villages.

The MU will take into account advice supplied by the local and regional authorities. A copy of the approved proposal will be transmitted to the national policy committee by the MU.

Proposals which are rejected for financing will be returned to the PVO with an explanation as to why the proposal was unacceptable. Some proposals may be judged acceptable but may require additional information before approval can be granted.

Once a proposal is accepted, a grant agreement can be signed between the PVO and the Management Unit with the approval signature of the USAID project manager. A credit agreement will be signed between the village organization and the MU in the presence of the PVO. A copy of the credit agreement will be sent to the sous-préfet for information. If possible, the agreement should actually be signed before the sous-préfet.

Funds will be disbursed by the MU on a regular basis against justifications for previous expenses.

Once all conditions for project implementation have been met, the VO will proceed with the project activities. All equipment, infrastructure, technical assistance and inputs will be furnished by the PVO in collaboration with the VO.

II. PVO CAPABILITY

PVOs have been chosen as the implementers of the grants to VOs because they represent a source of in-country development assistance which can be reinforced to expand development efforts and which complement official government programs. Some PVOs are already working in the Sine Saloum in village production activities.

Maisons Familiales Rurals (MFR) are working in several sites in Sine Saloum with groups of men and women in agricultural production activities. MFR utilizes a long-term methodology in working with groups of villages (around 10 at a time). Each MFR is permanently installed

in a village and includes two persons who work as development agents. One works with the women's groups and the other with the men's groups. A period of 18 to 24 months is usually spent identifying with the villagers the kinds of activities needed to meet the objectives the people would like to achieve for the village and their families. The village provides lodging for the MFR agents and close liaison is maintained with local authorities in the region in which they are working.

CARITAS maintains a regional bureau in Kaolack to coordinate its activities. It is supported by the Conseil des Eglises Catholiques and has good relationships with government authorities. CARITAS works closely with associations of young agriculturalists. Program emphasis in the region has been on solving the serious water problems which exist. Special activities in drilling boreholes, installing appropriate water-pumping equipment, maintaining equipment and training people to operate the wells have been given precedence. Activities which are water-related (e.g., vegetable gardening) are also undertaken in conjunction with the well-digging program. CARITAS represents a base of knowledge on water problems and solutions in the region which can be useful to the project, although the project will not finance new well construction as such because of substantial activity by other donors.

Volunteers from Italy and France are currently in the region working in village level programs. Their knowledge will be useful in identifying village groups. Further, one French volunteer runs a training center at Keur Baba Diouf, southwest Kaolack, which already works with 50+ villages in production activities. CARITAS and the Catholic Mission assists this center. PVOs currently working elsewhere in Senegal may wish to apply for funds to assist villagers in the Sine Saloum under this project.

The emphasis on program development for the project relies on the choices the PVOs will make. Certain activities identified by development workers in the region have been given priority for funding because of economic and ecological needs. PVOs will be encouraged to submit proposals for these kinds of activities (see Annex 11, Spatial Analysis).

The PVO Conference organized by USAID on June 23-24, 1983, reinforced the individual contacts which the PID team had made. The PVOs attending confirmed their interest in working in the Sine Saloum. The knowledge which these organizations have accumulated about rural life in Senegal is significant and the questions posed during the conference gave testimony to the PVOs' experience. The PVOs reaffirmed their desire to have sufficient latitude to implement their programs and the government expressed its concern that activities be coordinated to avoid problems. PVOs supported government coordination at the local level in development activities (see Appendix B, Report on PVO Workshop, attached.)

In response to a request from the Ministry of Social Development, which has the oversight responsibility for PVOs in Senegal, CONGAD (Conseil des Organisations Non-gouvernementales en Aide au Développement) was formed in 1981. This coordinating organization can serve as a useful focal point for the Management Unit in disseminating information on the project to PVOs.

A. PVO Needs

Despite the PVOs capabilities at the rural level, certain skills must be reinforced to allow for adequate project management. Special training in this area will be the responsibility of the Management Unit. The main areas where additional assistance to PVOs are needed are: technical capability in agricultural-related topics; methodologies of technology transfer; and financial management to meet donor accountability standards.

Financial support will be available to PVOs in two stages: pre-proposal and post-approved projects. PVOs will develop a short project identification form for a project idea and present it to the MU for consideration. If the project idea fits the basic criteria for the project, the MU will provide the PVO with $2,000 to develop a full project proposal for consideration. This proposal, if approved by the MU and acceptable to local and regional authorities, will be funded. The budget provides funds for conferences, workshops and training activities which will be necessary to enable PVOs to prepare proposals and master AID accountability requirements.

B. USAID Requirements

PVOs interested in applying for funds to work with village organizations under the project will be briefed on USAID requirements for grant recipients in a continuing fashion by the MU. The USAID/Dakar PVO coordinator in conjunction with the Assistant Project Manager will keep the MU advised of current USAID policy affecting project implementation. The main areas of attention are PVO registration, procurement guidance, and accountability standards for auditing.

USAID has delegated authority for registration of local PVOs to individual missions. Circular A266 describes conditions and information needed to register PVOs. It is recommended that these guidelines be revised to a more simplified format which respects the U.S. Government's basic criteria, but which takes into account conditions for PVOs operating in Senegal. US PVOs are required to be registered with USAID/PVC and international PVOs operating in Senegal would be required to have USAID mission approval and to have the regional Assistant Administrator for Africa sign the registration based on information submitted by the Mission.

All PVOs wishing to receive funds under the project will be required to be registered with the Ministry of Social Development which has the official oversight function of PVOs for the Government of Senegal.

USAID accountability procedures will be communicated to PVOs through guideline documents prepared by the Assistant Project Manager and USAID PVO Coordinator during the start-up phase of the project. Workshops will be held for PVOs on financial management and procurement as needs are identified. Developing the workshop objectives and curriculum will be the responsibility of the PVO and training specialists in the Management Unit.

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III. IMPLEMENTATION OF PVO/VO ASSISTANCE

Grants are given to PVOs to work with village organizations in specific project activities. VOs are the beneficiaries of project activities and PVOs are the implementing agents. The Management Unit acts as the agent of USAID and is responsible for grant processing-management, and monitoring functions. The national policy committee sets policy and monitoring guidelines for the project (See Administrative Analysis, Annex 14).

PVOs themselves are not selected for funding under this project only on the grounds of their experience, but are also evaluated on the basis of the projects they submit for village organizations along with evidence of their ability to work with village groups to implement the project activities. Funds are not available for PVO strengthening activities alone but only in connection with project development and management activities.

A. Proposal Development

Two stages of project development are envisoned. First, a pre-project stage which will define basic project objectives, beneficiaries, estimated costs, etc., in a few pages. The PVO is then given a proposal preparation grant of $2000 to prepare proposals according to guidelines prepared by the MU with policy committee approval.

These proposals will follow guidelines which will be presented to PVOs by the MU in workshops. The PP design team has obtained the project proposal format used by the CER in working with village groups. This document could serve as a point of departure for the development of a proposal format by the MU. This design will need to be pre-tested by PVOs and modified as project develop.

The PVOs will be encouraged to submit proposals for three to seven villages at one time. Proposals must be developed with village organizations and show evidence that the préfets and sous-préfets are informed of the proposed activities. CER agents should also be involved as much as possible in proposal development since they are specifically trained in those skills and have a good deal of knowledge on field conditions.

VOs which would like to identify a PVO to work with them on a specific project can do so by contacting PVOs or the Management Unit which will put them in contact with an interested PVO. Similarly, some sous-préfets in the region have a large number of proposals from village groups which have been prepared but which have not received funding. PVOs will be encouraged to seek out these opportunities in the region and to present them to the MU for consideration, if appropriate.

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In addition to the basic criteria stated in Appendix A, the final PVO proposals should include the following information to be considered for funding (see Appendix A):

- Name of PVO;
- Name of villages concerned;
- Name of VOs;
- Proof that VO is registered with the sous-préfet along with a copy of their by-laws;
- Names of VO leaders;
- Names of government agents consulted for technical assistance;
- Principal objectives of project;
- Detailed description of main project activities;
- Indicators of project success;
- Role of women in program and what is necessary to ensure their participation;
- Resources needed (human, financial, technical, training, credit, equipment); and
- Complete budget describing both credit and grant funds needed (with repayment plan).

Forms on which proposals will be prepared will be made available by the MU to PVOs in multiple copies. The MU will refer PVOs to SSEs capable of providing equipment for specific projects if PVOs cannot discover these SSEs themselves.

All proposals must show evidence that village participants have the means to participate financially in the project and that their lives will be improved by the results anticipated. Care should be taken to ascertain which groups in the community may be negatively affected by the project. Environmental impact should be assessed whenever possible (See Environmental Analysis, Annex 16 for specific project considerations).

PVOs should have also thought out a monitoring system to measure progress in each sub-project. This will be done in conjunction with the MU so that basic project indicators can be followed. After experience with the first pilot projects, the MU and PVOs should revise proposal formats as experience indicates.

APPENDIX A

GENERAL PROJECT GUIDELINES

I. GENERAL GUIDELINES FOR PVO PROPOSALS

1. Should be written in French;

2. Project should be related to agricultural production;

3. Contains credit needs assessment,
   - Contains personnel needs assessment,
   - Contains training needs assessment,
   - T.A. needs assessment,
   - Equipment needs assessment;

4. Show participation of local elected and governmental structures, e.g., Communauté Rurale, Sous-préfet in design and in implementation plus identification of technical input by SODEVA and CERs;

5. Show participation of villagers in design;

6. Take into account recommendations from spatial analysis for the specific activity planned;

7. Calculate production costs and marketing potential;

8. Take into account environmental impact and energy use requirements;

9. Show complete financial plan with repayment schedule for credit, including best and worst case analysis;

10. How to integrate women in the activities--equipment needed to ease traditional tasks;

11. List activities in support of the project: literacy, etc.

12. Plan for continuation of activities at end of project, how village organization will meet technical assistance and credit needs (revolving fund, etc.);

13. A group of proposals for 3 to 7 village organizations will be considered at one time. PVOs will show how they will manage these activities and satisfy monitoring and accountability requirements for the Management Unit.

II. GUIDELINES FOR PVO PARTICIPATION

1. The PVO should be registered with GOS (Ministry of Social Development) and the Agency for International Development at the time of financing.

2. The PVO should be working in Senegal at the time of financing. If in partnership, one of them must be working in Senegal at the time of financing.

3. The PVO should have knowledge and familiarity with Senegalese rural society.

4. The PVO should have demonstrated experience in design, implementation, and evaluation of small rural development projects.

5. The PVO should have demonstrated experience in working independently with/through local level organizations and/or small rural enterprises.

6. The PVO should have a program adequate enough to provide a minimum of technical assistance to village organizations/small rural enterprises.

7. The PVO should have its own financial resources which are not entirely donor dependent. The international PVO should have financial resources in accordance with current AID policy and a local bank account for project funds.

8. The PVO must demonstrate its capability to manage the grant for which it is applying.

9. An international PVO should have the authority to be funded locally.

10. The PVO should accept the project structure as designed in the PP, especially the supervisory role of the Management Unit.

11. The PVO should agree to follow the established AID procedures in accounting and monitoring.

12. The PVO should have demonstrated its capacities to work with GOS technical services and administrative structures.

13. PVO staff members should have French language proficiency of at least S3, R3 in FSI terms and required local language proficiencies.

14. The PVO should have the capacity to work with at least 3 village organizations in the same zone at a given period.

III. GUIDELINES FOR SELECTING VILLAGE ORGANIZATIONS

In order to decide whether a village organization should participate in this project, the following issues should be addressed:

1. Registration with Sous-Préfecture.
2. Minimum of democracy with equitable distribution of members.
3. 20 members minimum.
4. Existing "Caisse de solidarité" (common savings).
5. Already involved in collective activities.

A. Specific Guidelines for Proposal of Fishing

- Detailed plan for marketing with agreements for transport.
- Plan for processing.
- Precise type of extension and by whom to be provided. Encourage targeting of women's groups for processing.
- Need for equipment services (motors, nets, etc.).

B. Specific Guidelines for Proposal of Vegetable Gardening

- Evidence of available and proper water supply--Service de l'Hydraulique and spatial analysis.

- Marketing study should appear in the proposal including means to ensure trade outside community, if necessary.

- Which group will be carrying out the activities--women's group, men's group, or youth group.

Repayment schedule linked to expected crop production.

- Specify type of needed equipment and other inputs and where to obtain them.

- Type of pesticides to be used selected from list of pesticides approved for project; equipment to be used; proposed training of applicators and system of monitoring pesticide use.
- Proposal should include activity schedule (planting times, etc.) so that marketing will take place at off-peak production periods.

- Type of vegetables and evidence of adaptability to growing environment.

- Limit initial cultivation to 2 ha. until commercial outlets and technical proficiency is assured.

- Proposal should include some plans for gardening with local nutrition benefits--increasing self-consumption of fresh vegetables, food processing (drying), etc.

C. Specific Guidelines for Proposal of Village Woodlots

- Evidence of enough water.

- Evidence of availability of land and acceptance by villagers.

- Evidence of existing nurseries or of a creation of nurseries for seedling supply.

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- Type of pesticides to be used from approved list.
- Written confirmation by Service des Eaux et Forêts that the species chosen is appropriate for the region.

D. Specific Guidelines for Proposal of Animal Fattening (Embouche)

- Define what kind of fattening (sheep, cattle) and number of animals.
- Type of system--collective or noncollective; give reasons for the choice.
- Availability of animal feed, agricultural by-products, and schedule for storing.
- If sheep, indicate use--Tabaski or other (with market study).
- Availability of a service de l'élevage agent or someone qualified for vaccinations and technical advice on feeding.

APPENDIX B

REPORT ON THE PVO WORKSHOP

HELD JUNE 23rd and 24th, 1983

AT THE HOTEL INDEPENDANCE - DAKAR

A workshop was held on June 23rd and 24th, 1983, at the Hotel Independance in Dakar, to bring together USAID staff and PVOs working in Senegal for the objective stated below (for participants attending, see the attached Participant list.) The Ministries of Social and Rural Development were also represented by three delegates.

WORKSHOP OBJECTIVE

The objective of this workshop was to allow USAID, especially the staff from the Project Development Office, to elicit the PVOs' reaction to the Project Identification Document for the PVO Community and Enterprise Development Project and to obtain their recommendations on the design of the Project Paper.

The agenda was as follows.

Morning sessions included:

- A presentation by Dr. Carole Tyson, Deputy Mission Director, who gave a description of Mission objectives.
- A presentation by Anna Bathily, PVO Coordinator, on the general framework of the project and the objectives of the workshop.
- A presentation by Bill Anderson, Interim Bureau Chief of the Project Development Office, on the general USAID project guidelines as well as the conditions required by Washington for the PID approval, especially in the areas of credit and procurement. Bill Anderson also described the framework and orientation of this working session. In addition, he outlined the tasks assigned to the various working groups.

A plenary discussion on the PID then took place. The PID document had been sent to all the PVOs prior to the conference with their invitations to attend.

Thirdly, the working groups were structured for the afternoon session.

The afternoon was spent in working groups. The various groups were responsible for the following subjects:

Group 1: Role of Government Agencies in the Project;

Group 2: Selection Criteria for PVOs, village organizations and sub-projects;

Group 3: Constraints faced by PVOs and Village Organizations;

Group 4: Financial Management and Procurement;

Group 5: Monitoring and Evaluation of Sub-Projects.

Each group was clearly briefed and had specific instructions as to the working methodology and their expected outputs by the end of the afternoon.

During the next morning's plenary session, Friday, June 24th, the various groups presented their recommendations from their respective working groups and held constructive discussions. The main points raised in the discussion were as follows:

1. The PVOs are aware that it is important to work in collaboration with government agencies and are ready to use, to the maximum extent possible, the competence of government agencies which work at the grassroots level.

   The PVOs request, nevertheless, that these government agencies do not impose undue controls on their activities.

2. The Office of Community Development of the Ministry of Social Development suggested that their office have the monitoring function of PVO activities.

3. The PVOs requested that a delegate from the Conseil des ONG en Aide au Devéloppement (CONGAD) be assigned to the Project Committee.

4. The PVOs requested an assurance that disbursement procedures be efficient (this is a problem faced by agricultural projects).

5. It was proposed that the number of Project Committee members be increased from 5 to 6, with representatives from the Ministry of Finance and the State Secretariat for Decentralization included. It was also suggested that a quorum of 3 members be sufficient (USAID, Ministry of Planning, Ministry of Social Development).

6. Strict criteria have been delineated for PVOs, village organizations and sub-projects and will be included in the Project Paper.

7. The PVOs were concerned about the Sine Saloum region absorbing some 9 million dollars without significant sociological upheaval.

8. PVOs need to be reinforced in management, monitoring, accounting and personnel capabilities in order to respond to the project.

9. Village organizations need help in managment, literacy, and agricultural techniques.

10. The 15 percent interest rate on credit to village organization is too steep. Reimbursement for infrastructural loans should have a year's grace period.

    Reimbursements for inputs should be due on the basis of harvests.

11. A monitoring and evaluation system which includes government agencies must be established. Periodic Project Reviews must be considered very important.

    Standardized reporting forms must be established.

12. It is important that beneficiaries participate in project design.

13. USAID's monitoring system must be flexible and the PVOs should be allowed maximum freedom.

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LIST OF PARTICIPATING ORGANIZATIONS IN PVO WORKSHOP

Service Oecumenique d'Entraide

Ford Foundation

Association des Jeunes de Thilogne "Bural"

Ministry of Rural Development

Office Africain pour le Developpement et la Cooperation (OFADEC)

YMCA/UCJGS

Church World Service

OXFAM

S.O.E. "Centre de Bopp"

Centre International d'Education Permanente pour l'Amenagement et la Cooperation (CIEPAC)

Amicale des Jeunes Agriculteurs du Walo

ENDA Tiers Monde

National Council of Negro Women

Association Francaise des Volontaires du Progres

Union Internationale pour la Protection de l'Enfance (UIPE)

Africare

Association Senegalaise pour le Bien-Etre Familial (ASBEF)

AID-Quart-Monde

CRS/Senegal

SOS Sahel International

Panafricain pour le Developpement Communautaire (PADEC)

Organization for Rehabilitation through Training (ORT)

Club UNESCO

CARITAS

Association Culturelle d'Aide a la Promotion Educative et Sociale (ACAPES)

CEPDA/Senegal

Ministry of Social Development Community Development Division

AFOTEC/ASAFED

Federation des Associations Feminines du Senegal (FAFS)

Ministry of Youth and Sports

Canadian University Students Overseas (CUSO)

AFARD/UNESCO

ACICOP

USAID/Senegal:

- Project Development Office
- Agricultural Development Office
- Food for Peace Office
- Program Resource and Management

APPENDIX B_2

PROJECT GRANT AGREEMENT WITH PVOs

The purpose of this (loan/grant) is to _____. By signing this (loan/grant) _____agrees to use the (loan/grant) only for that purpose, and in order to insure compliance with the conditions attached to this (loan/grant) _____ agrees to comply with all provisions of this (loan/grant) including without limitation the audit provisions at paragraph ____.

Loan Repayment Terms

To be prepared by Senegalese Counsel.

Security Interest

To be prepared by Senegalese Counsel.

Recording Audit and Records

Because this (loan/grant) is made as part of an economic assistance program of the Agency for International Development (AID), an organization of the Government of the United States of America, the (Grantee/Borrower) agrees that AID or any representative thereof shall have the right at any time or times and at AID's discretion to conduct an audit of the (Grantee's/ Borrower's) books and records to determine whether the (Grantee/Borrower) has expended the (granted/loaned) funds in accordance with the terms and conditions of this (grant/loan). The (Grantee/Borrower) agrees to make available any further information requested by AID with respect to any questions arising as a result of the audit.

Refund/Repayment

If at any time during the life of this (loan/grant) or as a result of an audit conducted within three years after the period for which the (loan/grant) is made, AID determines that funds provided under this (loan/ grant) have been expended for purposes not in accordance with the terms of this (loan/grant) the (Borrower/Grantee) shall (refund/repay) the amount of the (loan/grant) within 30 days of written notice that such (loan/grant) was used for a purpose not in accord with the terms of this agreement. (See Termination Clause).

Maintenance of Books and Records

All books and records of the (Grantee/Borrower) shall be maintained for a period of three years after the termination of the period of the (loan/grant). In addition, if any dispute (litigation or otherwise) should arise from this (loan/grant) then such three year period shall be extended until the final resolution of such dispute.

Procurement

1. All goods and services purchased with funds made available under this (loan/grant) shall be purchased in accordance with sound commercial practice, competing on the basis of price and service competition, and an explanation as to the economic rationale for each such purchase shall be maintained as part of the (Grantee/ Borrower) books and records.

2. The (Grantee/Borrower) can only purchase goods or services that are to further the purposes of this (grant/loan). If this provision is violated then the terms of the (grant/loan) can be held to be violated and the (grant/loan) can be terminated pursuant to the termination clause.

3. Under NO circumstances shall the (Grantee/Borrower) procure any of the following under the (grant/loan):

   - Military equipment;
   - Surveillance equipment;
   - Items from a country not friendly to the U.S.;
   - Commodities for services for support of police or other law enforcement activities;
   - Abortion equipment and services;
   - Luxury goods and gambling equipment;
   - Weather modification equipment

   And the (Grantee/Borrower) shall not procure any of the following goods or services without the prior written authorization of the _____:

   - Agricultural commodities;
   - Motor vehicles;
   - Pharmaceuticals;
   - Pesticides;
   - Rubber compounding chemicals and plasticizers;
   - Used equipment;

- U.S. Government-owned excess property;

- Fertilizer.

Termination/Suspension

This (grant/loan) may be terminated for cause at any time, in whole or in part, by _____ or AID upon written notice to the (Grantee/Borrower) that the (Grantee/Borrower) has failed to comply with the conditions of the (loan/grant). Within 30 days after such notice of termination for cause the complete amount of the (grant/loan), including accrued interest, shall become due and payable.

ANNEX 8

SMALL ENTERPRISE DEVELOPMENT ANALYSIS

I. OBJECTIVE OF SSE COMPONENT

The Project's Small-Scale Enterprise (SSE) development component intends to strengthen Sine Saloum SSE output of implements and services used in primary sector agricultural production (i.e., crop production, animal husbandry, forestry and fishing). In improving the quantity and quality of agricultural implements and services made and sold by local SSEs, the SSE component will affect the village organization component beneficially. More and better implements and services should be locally available at reasonable prices to village groups equipping themselves to undertake income-generating agricultural activities.

II. The Problem Addressed

In order to augment the capacity of the SSE sector to support agricultural productivity, the Project's SSE component will build on the vitality characteristic of Sine Saloum's small-scale entrepreneurs and address itself to channeling this vitality into self-generated solutions to SSE development constraints. The gap between the business sophistication of Sine Saloum small-scale entrepreneurs and the sophistication required to generate and manage self-motivated development is so great that an initial thrust is required to start the development process. The Project's SSE component will provide this thrust.

If artisans and traders are to solve their own individual and sectoral business problems, they must first perceive themselves as entrepreneurs. The traditional perception artisans have of themselves is that of a community employee having an inherited skill which he/she will make available in exchange for food and shelter. Therefore, many small-scale artisans in traditional rural African settings like Sine Saloum villages do not visualize their workshops and activity centers as enterprises with growth potential unrelated to their personal community status. The first task of the Project's Small Business Advisory Unit will be to train the working proprietors of artisanal production and service enterprises to perceive themselves as entrepreneurs (private sector businessmen).

Once this step has been accomplished, the SBA Unit will provide the initial thrust required to stimulate self-generating development. The SBA Unit will address itself to removing and overcoming constraints. After this change in perception has taken place, most constraints to entrepreneurial development relate to needs for management training and access to materials, equipment, credit, and technical assistance.

By limiting the number of SSEs selected for Project assistance, the SBA Unit can allocate enough resources to each client enterprise to provide the initial thrust required to set in motion a continuous process of self-improvement and growth.

III. THE TARGET GROUP - SINE SALOUM AGRI-RELATED SMALL-SCALE ENTERPRISES

The following is a classification of the types of entrepreneurs and small enterprises in the Sine Saloum.

- Rural Artisans are self-employed blacksmiths who make and repair a variety of metal tools and equipment, leather workers who make harnesses and other leather goods, masons, and carpenters. Gross investment in facilities and equipment ranges from 35 dollars for leather working tools to 3,000 dollars for welding and forging equipment.

- Small-Scale Service Enterprises consist of mechanical and other repair workshops and entrepreneurs who buy produce in the village and transport it and sell it in the markets of Kaolack and Dakar. Investment ranges from 200 dollars for tools to 15,000 dollars for an entrepreneur with two small pick-up trucks.

- Contractors are groups of masons, carpenters, electricians, and plumbers who assemble under informal leadership to undertake construction projects. Their investment in tools and equipment is modest, and they generally do not have enough working capital or formal structure to post bonds and compete for larger construction contracts.

- Small-Scale Processors are millet millers, fish driers, vegetable and fruit driers, and operators of mechanical threshers. Investment in equipment ranges from 900 dollars for a millet mill to 12,000 dollars for a tractor and tractor-powered thresher.

- Small-Scale Manufacturers consist of shops that make farm tools, plows, devices for drawing water from wells, animal-drawn carts, fishing boats, door and window casings, and various sheet metal products. Technologies in use are outdated and labor productivity is low. Investment in machinery and equipment may be as high as 10,000 dollars. Investment in stock ranges from 100 dollars worth of planks to 5,000 dollars worth of wheels, tires, axles, and angle and channel iron.

- Large-Scale Manufactures and Processors consist of approximately a dozen large enterprises that make peanut oil, manufacture sacks, produce ice, operate coldstores, freeze fish, make fish meal, process salt, and operate large-scale truck transport.

Assistance to large scale enterprises is not within the scope of this project, but they are mentioned here because of the role they play in the economy of the region, and the unfavorable impact they have on some SSE development when they are operating inefficiently or not operating at all. For example, closing down the Djifer fish processing plant hurt the fishing industry as a whole and all related SSEs. When the Fatick ice plant and cold store does not operate efficiently, all SSEs dealing with perishables are adversely affected.

A. Needs of Target Group SSEs

Small entrepreneurs and enterprises have been neglected by governmental and other assistance agencies. They have been "de facto" excluded from credit markets by documentation and collateral requirements that only larger scale enterprises can satisfy. Their specific needs are:

- Training in business management, administration, and record-keeping, including the relevant literacy and numeracy training;

- Improved access to good quality materials, tools, and equipment at reasonable prices, and the ability to purchase them on credit when necessary;

- Assistance in updating production and maintenance systems and mastering improved technologies;

- Better access to markets, including help in organizing themselves into groups of contractors so that they can take on larger projects and become eligible for government supply and construction contracts;

- Access to banking facilities, including operating capital credit; and

- A means of exchanging information with other entrepreneurs and of making authorities aware of the constraints and problems confronting small enterprises.

B. Characteristics of Target Group SSEs

Small-scale artisanal, service, and commercial agri-related entrepreneurs surveyed by the PID and PP teams (40 enterprises) had the following characteristics which influenced the design of the Project's SSE assistance component, and will effect the implementation of project assistance:

- In most surveyed SSEs, the entrepreneur, or a family member working with her/him, had acquired sufficient functional literacy in French to keep simple business records.

- With two exceptions, the enterprises kept no written records at all.

- All proprietors surveyed were reasonably skilled, worked hard, and worked long hours (more than 8 hours per day, usually 7 days per week).

- Approximately half of the proprietors interviewed had demonstrated some entrepreneurial motivation and resourcefulness.

- Three quarters of the proprietors were doubtful that enrollment in the Chambre de Métiers would result in any benefit to justify the expense of enrollment fees and meeting attendance.

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- With a few exceptions, proprietors were willing to discuss their enterprises and endeavored to estimate turnover, business costs and expenses, and profitability.

- Entrepreneurs with workshops and stocks of materials had no systems for:
  - inventory control
  - inventory protection
  - tool and equipment maintenance
  - work flow organization
  - general orderliness

- Almost all workshops were too small for the amount of work being done in them, and too insecure to protect assets from weather damage or theft.

- In SSEs using mechanical production, approximately half the machinery observed was not in operating condition, either because parts or technical repair services were not available, or because the enterpreneur could not afford them.

- In enterprises employing only hand tools, the tools were in poor condition, needing sharpening, straightening, rust prevention, burr removal, new handles, adjustment, or complete replacement.

- Despite the negative characteristics, the enterprises surveyed were sufficiently profitable, and resilient to have survived several years of unfavorable economic conditions.

C. Agri-Related SSEs

SSEs to be assisted by the project will be selected from an estimated 1,500 agri-related SSEs in Sine Saloum. These 1,500 are producing goods and services directly supportive of agriculture. Directly supportive SSEs include:

- farm and fishing equipment manufacturers and relevant supply and repair services;

- food processors and makers and repairers of processing equipment;

- buyers, transporters and sellers of produce and fish, and makers and repairers of transportation equipment;

- rural building, fencing, well digging, irrigation, and earth moving contractors;

- charcoal producers; and

- retailers of agri-equipment and supplies.

Described by category of skill and activity, agri-related SSEs include:

- mechanics, blacksmiths, founders, metalworkers, woodworkers and charcoal producers;

- millers, threshers, decorticators, and packers;
- builders, masons, carpenters, electricians, blockmakers, and well diggers;
- truckers and charetteers (operators of animal and human powered wagons);
- boat builders and net weavers;
- tanners and leatherworkers; and
- brokers and retailers.

Entrepreneurs such as jewelers, carvers, cloth dyers and printers, tailors, dressmakers, hairdressers, beauticians, restauranteurs, hotel keepers, and sundry retailers generate income, some of which may be invested in agriculture, but will not be considered sufficiently agri-related to be included in the Project's target group.

D. Size of Target Group

The figure of 1,500 agri-related SSEs in Sine Saloum eligible for Project assistance was estimated as follows:

a. 16,383 persons in Sine Saloum are employed using trade skills. Of these, approximately 5,000 are employed using potentially agri-related trade skills (L'Organisation de L'Artisanat, Ph. Belhomme OIT, Annex D).

b. Dividing 5,000 persons by an estimated average of 2.5 persons per SSE suggests the existence of 2,000 agri-related SSEs (PID, Appendix B49);

c. Subtracting from 2,000 SSEs an estimated 500 owned by foreigners or absentee elites, and therefore not eligible for Project assistance, leaves 1,500 agri-related SSEs.

E. GOS Assistance to Target Group SSEs

One hundred and seventy-seven (177) rural SSEs (rural meaning not within Kaolack city limits) are listed by the Ministry of Social Development as having had nine months of skill and functional literacy training at the Centre de Formation Artisanal in Kaffrine and as being current recipients of Ministry-administered follow-up consultation.

The category of skill and the location by Département and Arrondissement, of the Kaffrine trained artisanal entrepreneurs are shown in Table 1. As a result of interviews conducted teams at the Kaffrine Center and with personnel responsible for follow-up consultation, the PP team did not feel that the Ministry of Social Development's program of skill training and business consultation is as effective as it could be.

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Table 1. Artisans Trained in Kaffrine Centre de Formation Artisanal

Location	Building Trades	Woodworking	Metalworking	Totals
Kaffrine	4	9	3	
Koungheul.	1	2	6	
Birkelane.	14	9	9	
Malem Hodar. . . .	8	6	8	
Ngonda	9	3	12	
Totals	36	29	38	103
Kaolack				
Ndiedieng.	5	5	3	
Ndoffane	4		3	
Gandiaye	4	1	2	
Totals	13	6	8	27
Fatick				
Niakhar.	2		2	
Diakhao.			3	
Tattaguine	2			
Fimela		2	1	
Totals	4	2	6	12
Gossas				
Colobane		1	1	
Onadiour	1		1	
Kahone		1	1	
Guinguineo	1	4	2	
Totals	2	6	5	13
Foundiougne				
Sokone	2		1	
Toubacouta			1	
Djilor	4	3	2	
Totals	6	3	4	13
Nioro du Rip				
Paoskoto	1	4		
Medina Sabbath . .		2		
Wack Ngouna. . . .		1	1	
Totals	1	7	1	9
GRAND TOTALS	62	53	62	177

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One hundred and fifty-five (155) Sine Saloum SSEs are enrolled in the Chambre de Métiers as of July 1983. Enrollment by category of skill and location, including Département and Arrondissement, is shown in Table 2. Enrollment is encouraged on the basis that enrollees will be eligible for skill training, government contracts, and credit. As of August 1983 none of these benefits had reached any of the SSEs enrolled in the Chambre de Métiers surveyed by the PID and PP teams.

TABLE N°. 2 : SINE SALOUM SSEs ENROLLED IN THE CHAMBRE DE METIERS

LOCATION	MASON	BLOCK MAKER	PAINTER	ELECTRICIAN	WELL DIGGER	WOODWORKER	BLACKSMITH	IRONWORKER	WELDER	MECHANIC	TIRE REPAIRER	TOTALS
KAFFRINE	4					2						
Koungheul	1					2			1			
Birkelane								1				
TOTALS	5					4		1	1			11
KAOLACK												
Ndiengdieng	6				1	2	6					
Ndoffane	4	1			1		6	1				
Gandiaye	3					3	2			1		
TOTALS	13	1			2	5	14	1	1	1		38
FATICK	8		1			8	3	1		1	1	
Niakhar	6											
Diakhao	2											
Tattaguine	1											
Fimela	5					1						
TOTALS	22		1			9	3	1		1	1	38
GOSSAS	6			1	1	5	1			1		
Colobane	1											
Kahone	4						2					
Guinguineo	2					1						
TOTALS	13			1	1	6	3			1		25
FOUNDIOUGNE	3											
Sokone	4					1				1		
Djilor	13				4				1			
Passi	2					1	2		1	1		
TOTALS	22				4	2	2		2	2		34
NIORO DU RIP	4					1						
Paoskoto						1						
Medina Sabbakh	1											
Wack Ngouna	1						1					
TOTALS	6					2	1					9
GRAND TOTALS	81	1	1	1	7	28	23	1	4	5	1	155

Seventeen (17) rural blacksmiths in Sine Saloum are recipients of intensive SODEVA assistance including technical and record keeping training, credit, and follow-up enterprise management consultation. This program appeared to be operating effectively. The assisted blacksmiths are located in villages in the Départements of Kaolack and Foundiougne as follows:

Table 3. SODEVA Assisted Blacksmiths

Département of Kaolack, one blacksmith each in:

Gandiaye	Keur Socé	Thiare
Sibassor	Mbiteyene	Ndofane
Koun-Koung	Latmingué	Ndiedieng

Département of Foundiougne, one blacksmith each in:

Koular	Djilor	Sokou Bedi
Karang	Passy	Keur Serigne Bamba
Thiamène Diogo	Passy (east)	Sandicoli

It is expected that 15 more blacksmiths will be trained by SODEVA in 1984 by the Caisse Centrale. The locations of additional blacksmiths to be trained have not been determined (Title III Extension Projects, David Kingsbury, USAID/Dakar).

SODEVA-assisted blacksmiths should not be selected for Project assistance in order to avoid the possibility of overlapping responsibility, conflicting consultation, and resulting confusion.

F. SUMMARY

In spite of the selected efforts by various GOS agencies to assist SSEs mentioned above, Small Scale Enterprise development has been a low priority GOS concern until recently (August 1983). Few of the GOS assistance programs for SSEs have reached the target group effectively. Several types of assistance are in the planning stage and awaiting budgetary allocations, but the only ones which appear to have reached Sine Saloum SSEs are the technical skill and functional literacy training of 177 artisans at the Kaffrine Artisan Training Center, and the technical training, credit, and business counseling administered to 17 rural blacksmiths by SODEVA.

None of the training, Government guarantee fund credit, and Government contract awards to SSEs planned by the Ministry of Industrial Development, Direction de l'Artisanat, and to be administered by SONEPI, and the Chambre de Metiers, has materialized as of August 1983. The SONEPI sponsored industrial estate (SODIKA) in Kaolack is clearly not intended for SSE occupancy. It is empty at present. Workshop rents are estimated to start at 100,000 CFA per month. SODIKA's location is far enough out of the town center to require tenants to provide for taxi transportation to and from work each day. The SOFISEDIT credit program for SSEs appears not to have reached down below medium and large scale enterprises when it was operational.

IV. DEMAND FOR SSE GOODS AND SERVICES

In spite of a difficult national economic situation, opportunities for small enterprise activities exist. This is true because peanut prices paid to farmers have remained high. Farmers have had two good peanut crops (1981 and 1982). Hence, they have cash with which to buy the goods and services of local enterprises. With continued good harvests, this demand will continue. Construction opportunities exist for well-digging and deepening, small irrigation system installation, fencing, and storage buildings of various types. Citizens appear to have money enough to pay for millet milling. If millers were assisted to improve machinery maintenance and repair, they could double their aggregate volume of business. At least half of the milling machinery observed by the PID team was down for lack of maintenance or repair. There is general belief in Sine Saloum that peanut shelling will soon be removed from monopolistic protection and opened to small-scale decorticators. A larger demand exists for pirogues (fishing boats) and equipment, such as nets, sinkers, and floats, than current fabricators can supply. Locally produced farm tools and equipment can be made and sold profitably at lower prices than equivalent items imported by formerly protected parastatal monopolies. Farm and road transport equipment, such as horse drawn carts, wheelbarrows, water tanks, and watering cans, could be manufactured locally.

Perhaps the most immediate opportunities are for improved service and value adding enterprises for automotive, tractor, processing equipment, and tire repair; contract and independent truck and personnel transportation; vegetable and fruit buyers; fish driers and smokers, transporters, and sellers; small farm and woodlot management groups; private enterprise secretarial and business schools, and accounting firms.

As is usually the case in LDC's, retail selling is reasonably well organized and tends to materialize when and where needed without outside assistance. There is one significant opportunity, however. That is in the retailing of farm tools, supplies, and equipment, an activity which has just recently been made legal for independent retailers. Prior to mid-1982, retailing of farm tools, supplies, and equipment was an activity carried out exclusively by a government-sanctioned monopoly, SISMAR.

Opportunities exist also for new types of enterprise (or village group economic activity). These include:

- mobile mechanical services;
- credit unions;
- well improvement contractors;
- efficient vegetable and fruit buying, grading, preserving, transporting and marketing groups;
- fabricators of well water extraction devices, such as A-frames, containers, rigging;
- fabricators of poultry-keeping equipment, such as kerosene lamp brooders, feeders, waterers, and layer roosting units with egg protection and collection devices;
- Independent tractor/thresher operators working by hectare or by kilo of processed grain;

- appropriate technology charcoal producers, using portable kilns designed to convert any organic waste into charcoal, and operators of charcoal briquetting devices; and
- organized suppliers of seasonal and/or exotic produce (string beans, paupau, melons, pineapples, saffron, flowers, etc.) for export to Europe.

V. THE SMALL BUSINESS ADVISORY UNIT

The Project's SSE development component will consist of a Small Business Advisory (SBA) Unit with one long-term technical assistant:

- Chief and small enterprise specialist, who is a business management advisor and training officer.

The SBA Unit chief will be assisted by two Peace Corps volunteers:

- Extension Coordinator, whose role would be to supervise and coordinate the Senegalese extension advisors working with local entrepreneurs. This position would require someone with pedagogical skills, willing to organize and work as a catalyst rather than predominantly in a front-line activity; and

- Banking and Accounting Systems Expert, a person with intermediate but practical business skills and experience to develop a system of accounting and management of SSE credit in conjunction with specialists in the Management Unit.

During the life of the project, the volunteers will identify and train two of the extension advisors to take over their jobs in the fifth and sixth years of the project.

The SBA Unit will have a number of Senegalese staff members:

- Four Business Management Extension Advisors at the beginning of project activities, intensively Project-trained to deliver training, consultation, and other forms of assistance to SSEs; and

- Two records clerks to manage records on entrepreneurs assisted.

The SBA Unit will share with the Management Unit certain services, such as those of the credit specialist, the logistics and procurement specialist, and the accountant and drivers.

The SBA Unit will also be a facilitator for the procurement by SSEs of materials and supplies.

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The SBA Unit will establish good and close business relationships with existing suppliers of materials, equipment, supplies, parts and related services. Using these mutually beneficial relationships between the Project and existing commercial suppliers, SBA Unit management will prevail upon suppliers to increase local stocks of needed items, make local technical and repair services available more frequently, and to keep incremental price increases (i.e. such as the increase of a price in Kaolack over the price in Dakar) rational. In turn, the Project will refer cash and credit customers to those suppliers who cooperate.

During the life of the Project, approximately 675 SSEs will receive two years of intensive assistance (at least one consultative visit every 10 days), one training seminar every quarter, and one year of less intensive follow-up assistance (one visit per month and one seminar every 6 months).

A. SBA Unit Personnel Throughout Life of Project

The expatriate SBA Chief will be required for the life of the Project.

Business Management Extension Advisors will increase at the beginning of year three by four, and possibly will increase further in later years, depending on the work load.

The combined potential of the Project Management Unit and the SBA Unit to provide training, advice, inputs, and follow-up services to Village Organizations and SSEs should cover most of their needs. When target group beneficiaries require technical inputs not available from a Project component, it will be the Project's responsibility to locate an existing source and arrange for the required input to be provided therefrom. In the case of SSEs, there will be resources to draw from in the form of Chambre de Metiérs and other assistance programs projected to start in 1984, Social Development training and follow-up facilities already in place, and technical research centers in operation elsewhere in Senegal.

B. Eventual Institutionalization

The Project, including the SBA Unit, proposes to deliver services for a period of six years. During the first three years, the annual project cost per SSE assisted will be high. The only way such an investment in assistance can be justified is for it to start an SSE growth and improvement momentum which will be self-sustaining after the life of the Project.

Therefore, certain steps will be taken during the life of the Project. The process, for example, of folding the Project's revolving credit fund into the planned CNCAS small loan facility has started with Project design by the selection of an interest rate which will be comparable to that planned by CNCAS. The SBA Unit during the last three project years, will concentrate heavily on encouraging the formation of voluntary regional and trade associations of SSEs for the purpose of jointly strengthening the role and performance of SSEs in certain locations and in related types of production.

These associations, along with the already formed Chambre de Metiérs, will take over from the Project such responsibilities as facilitation of procurement, organization of training and informational exchange seminars, standardization of small enterprise record-keeping, and SSE representation at GOS policy levels.

Perhaps the most difficult project service to institutionalize will be the SBA's regional management seminars and on-site follow-up consultation. These may be essential inputs for the health and survival of SSEs in the United States. Efforts in other African countries, such as Kenya, Nigeria, and Liberia to cover the cost of management training and consultation by charging beneficiaries adequate fees have not been successful. The small size, and volume of business, of the majority of African SSEs, coupled with the high cost of getting qualified training and consultancy to rural areas has made it necessary for African governments to subsidize these services. Management training and consultancy services will require subsidy in Sine Saloum after the life of the Project. At the moment, the most likely arm of the GOS to undertake permanent delivery to rural SSEs of management training and consultancy appears to be the Ministry of Industrial Development via its regional Chambres de Métiers. The Chambres de Métiers have the advantage of being run by locally elected officers and therefore, in a sense, are voluntary SSE associations.

The Project will endeavor to improve the role, the functional efficiency, the relevance, and the reputation of the Sine Saloum Chambre de Métiers. During the last three or four project years, the SBA Unit will test the efficacy of organizing management training in conjunction with the Chambre de Métiers; conducting training seminars in Chambre de Métiers facilities; and training leading Chambre de Métiers members to conduct specialized training and on-site business consultancy for groups of SSEs in the same lines of business.

All of the above institutionalization activities conform to the plans which the Ministry of Industrial Development, with substantial ILO and UNDP assistance, have published in reports describing the intended roles and responsibilities of regional Chambres de Métiers. (See Appui Technique et Technologique Aux Chambres de Métiers, a 1982 publication of the Bureau International du Travail and The United Nations Program for assisting GOS small private sector development. See Annex D).

A continuing responsibility and function of the SBA Unit will be to keep a finger on the pulse of GOS policy which effects the climate for SSE development. Conceivably, policies could become restrictive if the strong RDAs and Ministries influence the GOS to back away from, or slow down, its decentralization and privatization reforms. In such a case it would be the responsibility of the SBA Unit to make the restrictive policies and their probable impact on SSE development known to project management. The monitoring and evaluation system will gather information on the effects of GOS policies and regulations on SSE development and inform the National Project Policy Committee.

VI. Appropriate Technology

The PID and PP design teams identified a number of needs for improved technologies for activities to be undertaken by village organizations as well as for production of goods and services by SSEs. In most cases, the needs of village organizations can be filled by entrepreneurs. Therefore, the SBA Unit would be the focus of information on needs and sources of appropriate technology for SSEs.

Particular areas requiring improved or adopted technologies which were identified during design work were the following:

- Research, study, development, and trials of vegetable garden fencing which can prevent crop destruction by animals and be purchased or erected by village organizations at a cost which renders the fencing economically viable in terms of the potential value of current and future crops protected.

- Well-water extraction and irrigation systems which conserve water and do not rely on high technology machinery which village organizations are not presently equipped to operate and maintain.

- Standardization and dissemination of simple millet mill maintenance procedures in the application of which mill operators can be rapidly trained regardless of their levels of education and literacy (graphic depictions of maintenance procedures and elapsed time periods may be effective).

- Integrated pest management techniques for vegetable and fruit production which are appropriate in terms of human safety and environmental protection.

- Development testing, and production by local SSEs of plowing attachments designed to accomplish the post-harvest, deep (8-10 inches) plowing which soil conservationists consider essential for the regeneration of overutilized, and rapidly deteriorating, Sine Saloum farmland.

- Application of already known, low-cost construction techniques, using materials produced on site, for the improvement of SSE workshops and business centers, in order to render them more secure, better suited to the work done inside, and credit worthy (building improvements are likely to be a pre-requisite to qualify for production equipment obtained via project credit).

The SBA Unit, with the assistance of the Management Unit, should investigate those research institutions already working in these areas (and referred to in various technical analyses, especially the spatial, training, and environmental analyses) for possible solutions to these questions.

In addition, a number of other national institutions are active in developing, testing, or diffusing appropriate technologies, such as the Institute of Food Technology (ITA), and ENSUT, the National School of Technology.

Several current USAID/Senegal-financed projects have supported the development and diffusion of improved technologies. These include the Renewable Energy Project (625-0937.7); support to CARITAS (685-0247), which has experimented with solar and wind water pumps for vegetable production; and the Regional Food Crop Protection Project (625-0928.1), which focuses on integrated pest management techniques.

Moreover, certain PVOs, such as ENDA (Environment and Development in the Third World) have been working on improved rural technologies in various areas. Other PVOs, such as the National Council of Negro Women (NCNW), are proposing appropriate technology projects with activities planned for Senegal,[1] and there are local centers of technology development in Sine Saloum, such as the training center at Keur Baba Diouf near Sokone, supported by the local Catholic Mission and CARITAS.

Finally, other donors such as the Canadian International Development Research Center (IDRC) and the European Development Fund (FED) have activities in technology development and adaptation.

From these varied sources, plus others which may not have been identified, it seems likely that most problems in technology identification and adaptation can be answered by contacting one of the centers or organizations already active in that particular area. Most of this work should be handled by the SBA Unit, except where a problem specifically relates to a village group and has no connection with services that an SSE might provide.

If a number of related technology problems are identified for which neither the SBA Unit nor the Management Unit can find answers, the Management Unit may consider a contract or grant with a PVO or other organization, preferably in Sine Saloum, to find answers to the particular problem or set of problems.

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1. See "Concept Paper in Request for a Support Grant to the International Division of the National Council of Negro Women, Inc.", Washington, D.C., July 15, 1983.

APPENDIX C

I. GUIDELINES FOR SELECTING SSE'S FOR PROJECT ASSISTANCE

The relatively slow rate at which Project assistance delivery to SSEs begins (i.e., 20 during the first year; 60 the second year; 135 the third year; and 230 each year thereafter to a total of 675 out of an estimated 1,500) should enable the Small Business Advisory Unit to select enterprises for first and second year assistance which meet the criteria recommended in the Guidelines below and comprise a representative sample of Sine Saloum agri-related SSEs.

In selecting the small enterprises to be assisted, the following guidelines should be applied:

- The enterprise should already be producing, or interested in and capable of producing, products or services related to primary sector production (ie., farming, animal husbandry, fishing, forestry).

- The owner should be a working proprietor. Enterprises with absentee ownership should be avoided, at least in the pilot stage.

- The owner should have a good reputation and be judged as a serious entrepreneur by the local Préfet, the local Chambre des Metiérs representative, neighboring businessmen, and others in his same line of business.

- The owner should be capable of comprehending the project's purposes and methods, receiving assistance, and knowing and accepting what is expected of him/her.

- The enterprise should have a family member working in it, or an apprentice who is sufficiently literate in French (or Wolof) and in numeracy, to follow simple record-keeping instructions.

- The owner should be dynamic to the extent that he/she desires to improve his production and his enterprise. It should be someone who has already made some effort on his/her own which sets him/her apart from the entrepreneurs who follow traditional cultural behavior (i.e., are simply available if someone needs them).

- Visible signs of a motivated entrepreneur are that he/she::

  . keeps a neat shop
  . keeps tools and equipment in better condition than others
  . has developed a new product or service
  . has done some market investigation, however crude
  . is able to answer questions about business finances with some accuracy

- appears reliable (i.e., is present at his/her place of business or, if away on business, has left someone in charge).
- has a busy enterprise producing products or services which appear to be needed.

II. GUIDELINES FOR SELECTING BUSINESS MANAGEMENT EXTENSION ADVISORS

In selecting persons to staff the Small Business Advisory Extension Service, an attempt should be made to hire persons who:

- have a positive attitude regarding small enterprises and small-scale entrepreneurs;
- have the patience to build a long relationship of mutual trust and respect with tradition-bound relatively uneducated entrepreneurs;
- have experience with manual labor and are willing to roll up their sleeves while investigating the messy stock accumulations, etc. of small enterprises;
- have mechanical aptitude or, at least, an appreciation thereof;
- are old enough, authoritative enough, and sufficiently extroverted to win the respect and trust of client entrepreneurs;
- have had experience working in an enterprise (as opposed to persons who have only been civil servants/bureaucrats);
- have enthusiasm for the objectives of the Project;
- have a warm personality;
- have a sense of humor;
- are reliable;
- are willing to acknowledge it when they need advice and to seek it out and accept it; and
- are willing to admit when they are not being effective and to ask for guidance and help.

III. DRAFT SELECTION CRITERIA FOR SBAU CONTRACTOR

- Previous development experience in West Africa.
- Sufficient staff available for overseas assignment with French capability of FSI 3 or above.
- Previous experience in implementing a small-scale enterprise assistance program.
- Previous experience in functional literacy/numeracy training.
- Previous management of contracts of approximately the size envisioned or larger.
- Previous management of a project with approximately the size of staff envisioned.

APPENDIX D

SUGGESTED READING FOR SMALL-SCALE RURAL ENTERPRISE COMPONENT IMPLEMENTATION MANAGEMENT

The management of the Small-Scale Rural Enterprise (SRE) component of the project will benefit from careful reading, and perhaps group discussion, of the following relevant reports:

1. PVO Community and Enterprise Development (685-0260) Project Identification Document (PID) and Project Paper (PP).
   In order to understand the evolution of the project design.

2. Appui Technique et Technologique Aux Chambres de Métiers Enquête sur Différents Secteurs Artisanaux à Kaolack, Ministère du Développement Industriel et de l'Artisanat, Direction de l'Artisanat, Bureau International du Travail (BIT), April 1982.
   Read in order to understand the national plan; much of what is planned unfortunately has not yet been undertaken.

3. Organisation Internationale du Travail, Rapport au Gouvernement de la République du Sénégal sur l'Organisation de l'Artisanat, Dakar/Genève, Novembre 1981, Ph. Belhomme.
   Written evidently without comprehensive field work, but does highlight problems faced by SREs and shortcomings of Chambre de Métier's efforts to organize SREs to solve their own problems.

4. Expanding the Role of the Private Sector in the Senegalese Economy, Thoughts about a Strategy for USAID, Howard B. Helman, February 1982.
   Exactly as titled, some thoughts and conjectures suggesting that GOS development philosophy and strategy should be changed from the top down, but vague on what changes, how accomplished, when, where, why, and by whom.

5. Guidelines for Management Consulting Programs for Small-Scale Enterprise, Peace Corps Information Collection and Exchange, Manual M-14, Appropriate Technologies for Development.
   Full of practical implementation guidelines which can be used for strategy development and checklists, but reader must be aware that the smallest, least sophisticated SSEs in Asia and South and Central America are already 2 or 3 generations ahead of the rural African entrepreneur in terms of business management comprehension.

6. Report Operation Forgerons, Action d'Artisanat Rural dans le Sine Saloum, Dept. de Kaolack, République du Sénégal, Ministère de Développement Rural, SODEVA, B. Chauvin, Août 1982, SATEC (Société d'Aide Technique et de Coopération).
   An excellent report on a clearly defined and thoroughly implemented project to upgrade selected rural blacksmiths. Illustrates how successful a project can be if it does not overextend.

   Note: Copies are difficult to obtain. SODEVA office in Kaolack has some.

7. Management Training for Small and Medium Scale Enterprise Development, Creative Associates, George P. Butler, written for USAID/PRE.
   Suggests ways to implement management training programs for SSEs and SMEs including training trainers, follow-up consultation, and coordination with other development project components such as technical assistance and credit.

8. Small and Medium Scale Enterprise Development Project, December 1982. Team Paper: Cliff Barton, Arthur Gibb, Harvey Wallender, Wilson Brown, Glen Brown, and Dale Adams.
   Comprehensive on some SME development strategy and lessons learned during implementation, but focused on experience in the Philippines where target entrepreneurs evolve from an entrepreneurial culture and respond to Western world entrepreneurial motivations. Nevertheless, much of the methodology used can be modified and simplified for use in Africa.

9. Aid to Entrepreneurs: An Evaluation of the Partnership for Productivity Project in Upper Volta, Development Alternatives, Inc., 1982, Goldmark, Mooney, and Rosengard.
   Important because project assists the same mix, size, and type of rural entrepreneur found in the Sine Saloum project area.

ANNEX 9

TRAINING ANALYSIS

ANNEX D

TRAINING ANALYSIS

I. PURPOSE OF THE TRAINING ANALYSIS

This section describes training which will be provided to:

- The PVOs as implementing agents;
- The villagers, beneficiaries of the first component of the project; and
- The small entrepreneurs, beneficiaries of the second component of the project.

The purpose of the project is to make villagers and rural entrepreneurs of the Sine Saloum region able to carry out their own development. The PVOs will enable VOs to plan, manage, and evaluate their activities. All assistance necessary to achieve this purpose will be channelled through them. The SBAU will be responsible for entrepreneurs. Training has been identified as a necessary activity of assistance in order for villagers and entrepreneurs to meet these self-reliance goals.

II. TRAINING MANAGEMENT

Several levels of training will exist in the project, all of which must be coordinated with each other by the training specialist in the Management Unit. Various types of orientation of national and regional GOS officials are also related to these training activities.

The early training activities will begin soon after establishment of the MU and SBAU in Kaolack. The MU, and particularly the training specialist, his/her Senegalese counterpart, and the Mission PVO coordinator must organize PVO workshops in proposal preparation and AID accountability requirements. They must also ascertain other PVO training needs. At the same time, the small enterprise specialist in the SBAU must hire and train the first small business extension advisors. The MU training specialist will monitor this training. After these basic workshops and training activities, assistance to village groups and to SSEs under the pilot phase can begin.

The focus will then pass to the training of ultimate beneficiaries under the project. The role of the training specialist, for these activities, shifts to:

- Developing the materials and identifying the trainers for functional literacy and numeracy activities for both village groups and SSEs;
- Assisting PVOs in finding the technical expertise needed in various areas;
- Monitoring PVO training activities for village groups regarding content and style;

- Training his/her Senegalese counterpart to take over in year 3;
- Monitoring the SBAU training and assistance to SSEs;
- Insuring that training sessions regarding credit activities and repayment are effective; and
- Coordinating specific technical training for certain artisans.

III. IDENTIFICATION OF TRAINING NEEDS

A. Training Needs of PVOs

Some PVOs capabilities need to be reinforced in one or more of the following areas:

- Methodology of assistance to rural populations,

- Pedagogical methods of technology transfer.

- Effective accounting and procurement procedures compatible with USAID requirements.

- Technical assistance in vegetable gardening, livestock fattening, reforestation, soil and energy conservation.

- Integrated pest management.

- Financial management.

B. Training Needs of Village Organizations

Villagers need specific training in a number of agricultural areas. The following sectors have been identified although PVOs and the Management Unit may identify other fields in the course of the implementation of the project:

- Planning skills. Village groups will be enabled to identify and prioritize their needs for development.

- Management. Villagers will be trained to record their expenses, revenues, and benefits. They will be taught how to determine more profitable activities.

- Management of credit. Villagers will learn how to organize their cash flow so they are able to repay credit on time. Concepts, such as money as a scarce resource, can be explained as a reason for interest rates. Procedures for applying for credit from a lending institution will be taught to village leaders in order that they will be able to apply to the CNCAS for loans at the end of the project.

- Management of a bank account. In Senegal, simple procedures for signing checks exist for non-literate people. Village leaders will learn how to verify bank statements.

- Procurement. Village leaders will learn how to purchase good quality products for projects and, to the extent possible, purchase from the artisans assisted by the project.

- Marketing. Villagers need to be trained how to organize their sales, how to seek markets, and how to present their products so they are more marketable.

- Agricultural technologies. Villagers need to improve their agricultural techniques to obtain better yields; in other words, improved irrigation methods, proper use of pesticide, use of manure, use of local technical resources (SODEVA, CER agents) more efficiently.

- Literacy and numeracy specifically related to financial records.

C. Training Needs of Small-Scale Entrepreneurs

Their training needs are:

- Business management: how to run a more profitable business.

- Administration: how to organize working hours, how to manage personnel, how to organize exhibition of their products.

- Record keeping: how to keep track of money flow, products flow, etc.

- Literacy and numeracy.

IV. PROPOSED TRAINING METHODS

The kinds of training proposed here are general guidelines for the Management Unit, the PVOs, and the SBA Unit. They should be developed and adapted during the implementation of the project with the training specialist and the organizations involved.

- PVOs are requested to design a training component in each sub-project proposal. This training component will be checked by the training specialist of the Management Unit.

- To the extent possible, training will be provided in local languages (Wolof and Serer); but when requested by villagers or small-scale entrepreneurs for specific purposes (bank transactions), training could be provided in French.

- To the extent possible, training will be provided on-site for village organizations. Special sessions for village leaders could be organized in a central village or in Kaolack. Specific training, of course, can be conducted at the training agencies, ENEA in Dakar, CDH in Cambérène. For PVO agents, there is no restriction concerning the locations of the training. For small-scale entrepreneurs, the training site will depend on the type of training needed.

- For villagers, training will be provided to women's groups and men's groups alike though in separate sessions. For small-scale entrepreneurs, individual or small group training adapted to each entrepreneur's needs will be required. Technical training will be in collective sessions in centers like the Centre de Kaffrine.

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- Literacy and numeracy will be functional and specific, i.e., related to the activities carried out under the project. To the extent possible, existing material will be used, but the training specialists have the responsibility of developing additional necessary literacy and numeracy material.

- To the extent possible, existing facilities should be used and available local personnel should be contracted to provide training.

The following facilities have been identified so far and the Management Unit will be responsible to contract with them and to pursue identification of other sources:

- For vegetable gardening: Centre d'Initiation Horticole (CIH) in Gandiaye, Centre de Développement pour l'Horticulture (CDH) in Cambérène.

- For cattle fattening: Centre de Perfectionnement pour l'Agriculture (CPA) in Nioro.

- For reforestation: CPA in Nioro.and Centre de Formation Forestiere du PARCE(Kaolack).

- For small-scale entrepreneurs: Centre de Kaffrine du Ministère du Développement Social.

The following institutions can provide training:

- Centre d'Expansion Rurale (CER) and SODEVA (at Pout) for agricultural technical and functional literacy for village organizations.

- Ecole Nationale d'Economie Appliquée (ENEA), for functional literacy and technical assistance to rural populations.

- Société d'Exploitation des Ressources Animales du Sénégal (SERAS) for honey production.

- Centre International d'Education Permanente pour l'Aménagement et la Coopération (CIEPAC) and Pan African Institute of Development (PAID) for accounting and bookkeeping.

- Centre d'Approvisionnement pour la Pêche Artisanale au Sénégal (CAPAS) for mechanics, and engine repairs for fishing activities.

- Centre d'Assistance pour le Recyclage des Agents Techniques (CARAT) for reforestation, vegetable production, animal fattening, and beekeeping techniques.

In addition, all technical administrative structures can provide training in their field of expertise: Eaux et Forêts, élevage, développement social.

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A. Training Mechanisms

Training will take place at the following levels: training of trainers; training of villagers in techniques of agricultural production; and training of village leaders and facilitators who, in turn, will train other village members in literacy and numeracy (See Table 2: Summary of Training Strategy).

1. Training of Trainers

PVOs are responsible for providing extension to village organizations. Therefore, they are responsible for the training of villagers. According to their capacity, they are expected to provide basic training in planning and management. For specific needs, i.e., technical expertise, they are responsible for locating external resources.

The trainers will be drawn from the staff of the PVOs and, where necessary, from the personnel of CER's multi-purpose Rural Extension Centers. Several existing regional facilities are available as training facilities and could be used for housing, classrooms, and demonstration plots.

The Center for Continuing Education of Technical Agents in agriculture, livestock, water and forests (CARAT) could be used to organize additional training in production techniques, in collaboration with the National School for Applied Economics (ENEA).

The Management Unit will organize a yearly session for PVO accountants to be trained in accounting according to USAID procedures and for financial management use. USAID/Dakar and the Regional Financial Management Unit will be consulted for technical input.

Short-term placement of PVO personnel will be organized by the Management Unit with other PVOs who have already developed certain expertise, i.e., CARITAS in M'Bour for vegetable gardening, ENDA for appropriate technologies.

The Management Unit will contract with national and international structures such as CARAT, CDH, CIEPAC, PAID (Douala) and ENEA to organize seminars which will provide PVO extensionists with basic production techniques, functional literacy skills, and pedagogical skills necessary to train villagers in the above areas.

2. Training of Beneficiaries

The main goal of the project is to make villagers able to carry out their own development. Thus, every activity developed with PVOs should be in association with village leaders: procurement, credit, etc. PVOs will also be responsible for organizing meetings in the village when development issues should be raised. Solutions should be sought in accordance with village capacities. PVO personnel will train VO members in basic production techniques and functional literacy. In addition they could refer to the Management Unit for any specific technical assistance.

- Vegetable Production. All PVOs are not expected to be experts in vegetable production. Considering the specific situation of the Sine Saloum region (see Spatial Analysis, Annex 11), they will be requested to seek assistance from CER agents, SODEVA agents, Service de l'Agriculture agents or other sources (Management Unit). Training will be given to villagers on-site. Training in vegetable production includes training in safe utilization of pesticides and fertilizers as well as assistance in marketing vegetables. Training in processing and drying of vegetables and fruits will be organized. This could be provided by agencies like ITA, CERER, or other PVOs (ENDA, NCNW) with whom the extension PVO could contract. If some villagers develop particular skills in vegetable gardening, PVOs should consider sending them to take internships in institutions like CDH.

- Livestock Production. The same agents as mentioned above could be contracted to provide training in embouche bovine and ovine. Construction of cattle sheds should be the result of a training process. Service de l'Elevage agents or others (hired by the Management Unit) will demonstrate how to determine that an animal is good for fattening and when it is ready to be sold. Producing animal feed from local resources will be part of the training provided to the villagers. Training will be on-site. If some villagers develop particular skills in this field, it is recommended that they be provided with more sophisticated training by attending seminars conducted by CARAT with which the Management Unit could contract.

- Chicken Raising. There is no particular training to be given in this activity. PVOs will provide assistance in determining diseases in chickens, how to isolate sick chickens and how to identify agencies where treatment could be provided to them. Improved feed could be developed as well as marketing skills. Villagers will select one or two persons responsible to be trained in marketing skills, e.g., identifying schools, hospitals, etc., as selling points. Those persons should be trained in a functional literacy/numeracy program to keep records of chickens sold, prices, and how to record orders from clients.

- Fishing. Training in this sector for VOs will be mainly in engine maintenance, processing, storage, and marketing. Women's cooperatives will be provided training in appropriate technologies for processing of fish and use of solar tent dryers. PVOs will be responsible for seeking the best appropriate technology; technology can be sought from organizations like ITA, CERER, and ENDA in collaboration with the Management Unit. Storage techniques will be taught by the same agencies. In addition, fishing programs will be strengthened in their management capabilities under functional literacy/numeracy courses: in bookkeeping, accounting, management of credit, and management of bank accounts.

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- Beekeeping. SERAS (Société d'Exploitation des Ressources Animales du Sénégal) has developed some techniques for the production of honey. Agents from SERAS could be contracted to provide extension services to villagers on a case by case basis. PVOs will be encouraged, to the extent possible, to enter into contract with SERAS so village organizations will have an outlet for honey on a regular basis. Commercialization and contracting issues can be solved through this procedure.

- Reforestation. Peace Corps and SODEVA have capabilities to provide training in reforestation and development of nurseries. Training will focus on the safe use of pesticides. This training could be organized in collaboration with CER agents and Eaux et Forêts agents under contract. Literacy training will be used to sensitize villagers to the necessity of reforestation.

- Other Activities. PVOs will be responsible for organizing training on-site for villagers in the development of compost, the use of manure and pesticides in vegetable gardening and, with assistance of Peace Corps volunteers, for building improved "ban-ak-suuf" stoves. "Ban-ak-suuf" stove-building sessions have been organized all around the country with real success. Women can be trained in two or three days in their villages.

3. Functional Literacy and Numeracy

Literacy and numeracy programs will be given priority in order to support the other activities of the project.

Courses will be given to village organizations by specialists hired by the PVO in collaboration with the Management Unit. These specialists could be from ENEA, CER, the Ministry of Social Development or the Direction de l'Alphabetisation of the Ministère de l'Education Nationale. Sociological constraints should be taken into consideration: i.e., separate groups of men and women as well as proper timing of courses in the village work cycle.

Villagers who develop particular skills will be considered for more training or for refresher courses so that they can become trainers to the villagers.

Numeracy courses will focus on accounting, simple bookkeeping, credit management, and bank account management. Literacy classes will focus on agricultural activities: woodlots, planting, integrated pest management, etc. More importantly, functional literacy will be used to sensitize villages to soil and energy conservation.

B. Conclusion

For village organizations, PVOs are responsible to provide training. Each sub-project will contain a detailed training component and a training needs statement for both PVOs and beneficiaries. In small-scale enterprise, the SBAU will be providing mainly individual training as specific as possible.

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To coordinate training activities and make them consistent with the project, a training specialist will be part of the Management Unit. The training specialist will be assisted in his work by a Senegalese counterpart who will be trained to replace him/her after two years.

The training specialist will also be responsible for collection and development of training materials. He/she will check on their adequacy to development needs and their relevance to project purposes. As part of his/her monitoring responsibilities, the training specialist will make sure that village participation in training activities is at an acceptable level.

As the project moves into a full-scale level of activities after the pilot phase, all the various training activities at all levels will be continuing. Further, PVO workshops will be necessary as new PVOs enter the program. The work of these new PVOs with village groups will therefore have to be monitored. On the SSE side, new extension advisors will be hired to reach larger numbers of SSEs and will have to be trained. Original SSE advisors will probably need additional training. And training content and styles will need to be reassessed and adjusted in light of overall project evaluation, project review, and monitoring system findings.

The training specialist will also help the PVOs and SBAU develop post functional literacy packages aimed at enabling farmers to maintain and improve literacy and numeracy skills that they acquired in the literacy training program of the project.

The following table presents a summary of VO project activities and the training opportunities possible.

Table 1. PVO PROJECT - TRAINING VO LEVEL

PRODUCTION ACTIVITIES SUB-PROJECTS	TRAINING NEEDS	ACQUIRED SKILLS	RESPONSIBLE	TRAINING PLACE	LOCAL HUMAN RESOURCES	TARGET PARTICIPANTS
Vegetable gardening enterprise	Vegetable production techniques Vegetable harvesting & processing skills	Soil preparation and seeding techniques Technical management of vegetable production Pesticides & fertilizer handling	PVO	In the field	Agricultural agents Monitrice rurale CERs one/arrondissement M.F. rurale	Farmers
	Accounting & bookkeeping in the area of crop production	Crop production accounting and bookkeeping Functional literacy		Same as above	Same as above	Same as above
Animal husbandry Cattle and sheep enterprise	Animal raising techniques Veterinary health care	Animal feeding schedules Veterinary preventive & curative care	PVO	Field	CER/SODEVA agents Livestock agents	Farmers
	Cow shed & sheep fold construction skills	Building animal shelters with local materials		with VO		
	Accounting & bookkeeping	Accounting & bookkeeping for animal raising farm enterprises	Same as above	Same as above	SODEVA agents	Same as above
Poultry raising enterprise	Poultry raising techniques Poultry veterinary care	Poultry feeding with local improved food Veterinary preventive & curative care	PVO	Field	ITF Dept. in Kaolack	Farmers
	Poultry shelter building	Building poultry shelters with local materials				
	Accounting & bookkeeping	Accounting & bookeeping for animal farm enterprises			Same as above	Same as above
Fishing	Maintenance Fish processing	Engine use & maintenance Fresh fish conservation Fish processing	PVO ATC project	Field	Fish agents and CAPAS cooperative leaders	Fishermen
	Accounting & bookkeeping	Accounting & bookkeeping of fish marketing and processing				
Forestry	Tree nursery Tree planting	Setting plants Pesticide handling and dosage Tree planting skills	PVO	Field	CER forestry agents + SODEVA	VO and leaders
Bee Keeping	Improving honey production in quantity and quality Accounting & bookkeeping	Hive location Improving honey harvesting and processing	PVO	Field	Forestry agents & Agents from Développement Social SERAS	VO

Table 2. Summary of Training Strategy

TRAINING LEVEL OF TARGET PEOPLE	TRAINER	PROGRAMS/WORKSHOPS
Training of Trainers PVO Staff Small-Scale Enterprises	Center for Training in Collaboration with CARAT, ENEA, CAPAS, IPD	Production Techniques Functional Literacy Management and Group Dynamics Community Development
Training for Villagers and Leaders	PVOs and eventually CER	Production Techniques Produce Processing Community Development
Training of Leaders Village Facilitators	PVOs (and CER if necessary) CARAT	Functional Literacy Management, Bookkeeping Community Development

*The leaders will be responsible for the project management at the village level and facilitators will be responsible for training the other villagers in functional literacy.

ANNEX 10

CREDIT ANALYSIS

ANNEX 10

CREDIT ANALYSIS

I. INTRODUCTION

Rural credit in Africa South of the Sahara is a difficult operation. This is particularly true in Senegal where past experience with rural credit has been fraught with failures culminating in the dissolution of the Office National de Coopération et d'Assistance au Développement (ONCAD, the parastatal which handled marketing and credit in the rural sector until 1980).

Private and development banks interviewed in the context of the preparation of this Project Paper have, without exception, indicated that they were not interested in lending money to the rural sector.[1/] For them, the risks are too high, the amounts involved too small, and consequently, the opportunity for profit too uncertain. Nevertheless, rural credit is essential in Senegal. After three years without access to credit, the effect is clearly visible in the rural sector. A case in point is this project, which despite the known difficulties involved in administering credit includes a credit component without which project implementation would be impossible.

Despite these very obvious difficulties, if certain conditions are strictly adhered to, there is reason to believe that a credit program can work in Senegal. The evolution of the credit component of this project is going to be carefully studied by the Senegalese authorities, as the experience here may set precedents for the proposed national rural credit organization (Caisse Nationale de Crédit Agricole du Sénégal, CNCAS).

This paper will summarize briefly the major reasons for the failure of past credit schemes, will present the basic principles which will govern this project, and finally will describe the practical organization of credit under this project.

II. THE CONTEXT

In order to set up a credit scheme which is likely to succeed, it is necessary to understand the reasons why rural credit schemes in the past have failed. This analysis presents a brief discussion of problems encountered in administering such programs. The literature on the subject is abundant and need not be cited here in order to develop the main themes of the proposed project credit component.[2]

1/ The following banks have been contacted: BNDS, BICIS, SGBS, BIAO, USB, Citibank, Chase-Manhattan.

1/ See in particular:
Beloucle, Guy: Peut on Sauver les Coopératives Senegalaises?, 1980.
Carvin, Joe, "Senegal's Cooperative Movement: Seventy Years Without the Cooperatives," prepared for USAID, March 1981.

The key issue, which is common to all rural credit schemes in Sub-Saharan Africa is the absence of traditional guarantees of collateral for loans. Since land is collectively owned and since individuals have very little in the way of durable goods or equipment, there is virtually nothing to be mortgaged or used as loan security.

A. The Cooperatives and ONCAD

In Senegal, the cooperative system was seen as a way out of this dilemma. The idea was to use the profits which the cooperative made on its marketing activities as a collective guarantee for the loans granted to its members. For example, if a cooperative bought 500 tons of peanuts and expected to make a profit of $2,000 on their resale, this profit margin served first as security for the loans the cooperative had contracted. If current installments on loans were properly paid, the $2,000 could be distributed as a rebate to the cooperative members prorata of their individual sales on the cooperative market. If on the other hand, these loans were not repaid, the bank was allowed to reduce total cooperative dividends by the sum of the outstanding credit. In effect, everyone in the cooperative guaranteed all the loans made by the cooperative. Although attractive on paper it became clear over time that this system did not work. Guy Belloncle sees 3 major reasons for this:[3]

- An economic reason: The profit margin of the cooperatives, which was used as collateral for the loans, was reduced progressively over time. In 1965 this margin amounted to 10 percent of the price paid to the producer, and represented 40 percent of the payments which were owed that year on the outstanding loans. In 1980 this margin amounted to only 3 percent and represented less than 5 percent of the current year's loan obligations.

- A pedagogical reason: The cooperatives were unable, due to a lack of people trained in simple accounting at the local level, to keep track of the individuals within the cooperatives who had repaid their debts and those who had not. Therefore it was not possible to attribute the remaining profit margin of the cooperatives to those who had repaid correctly. This meant in fact that the good payers were subsidizing the bad ones.

- A sociological reason: The principle of joint responsibility can work only if people know each other and have a social link with each other. The cooperative which grouped 5 to 10 villages was too large an institution for people to be concerned with the others' opinions and to feel any group obligation to repay loans.

In addition to these three reasons, and in fact underlying them all, is the role of the state, its relationship with the farmers, and the progressive corruption of the ONCAD/cooperative system. The problem started in fact at the time of the creation of the cooperative movement. This movement was

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3/ Belloncle, Guy. Non formal education and farm cooperatives in West Africa, occasional paper. (Non Formal Education Information Center, College of Education, Michigan State University, 1982), No. 8.

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originally conceived as a way for the farmers to organize themselves, to reduce their isolation and to introduce themselves to the modern economy. In practice, the cooperative movement was imposed by the state on the farmers. They had no real say in the decision-making process and in the choice of the leaders (coop presidents and weighers). The farmers have never felt that the cooperatives were their creation.

At the same time ONCAD appeared more and more as an unmanageable monster unable to satisfy the needs of the farmers on time and unable to supervise the credit repayment. The association between ONCAD and the cooperative leaders led to a wide misuse of funds: 80 percent of the errors discovered in the accounts were to the farmer's detriment; and in a single year (1977) 15 percent of the peanut weighers were fired because of embezzlement of ONCAD funds. (This does not take into account embezzlement of cooperative funds either not discovered or not reprimanded.)4/ The farmers were perfectly aware of this situation, but not knowing how to read and write, they felt helpless. At the same time they felt no moral obligation towards the State or its representatives, nor towards any supervisory organization. Therefore, farmers' confidence in the credit system disappeared.

The final blow to the credit system came again from the State through the forgiveness of debts during bad years, and in the late 1970s, through a decision to grant a five-year moratorium on debts. Given the impossibility to track down the debtors, the moratorium was transformed into total forgiveness of farmers' debts.

B. The Future CNCAS

After ONCAD's dissolotion, thorough analyses of the reasons for ONCAD's failure were made. The GOS searched for ways to avoid the socio-economic factors which led to this credit disaster. The basic idea which emerged from this research is that joint responsibility for credit is possible only where people know each other, and feel a "kinship solidarity". In Senegal, this exists only at the village level. Consequently, it was agreed that the future rural credit organization, the Caisse Nationale du Crédit Agricole du Sénégal (CNCAS), would not lend money to cooperatives, but only to village sections and to producer groups (in the absence of collateral).

This principle has been tested, in particular in Senegal Oriental with SODEFITEX, and to a lesser degree in Sine Saloum with SODEVA. The results are encouraging. The future CNCAS organization has derived other principles from this analysis, which should give it a much larger chance of success. These principles include, real independence from the State; decentralization of loan decisions (according to the size of the loans); creation of local credit committees composed of CNCAS representatives and local representatives (CER, SODEVA) prepared to give advice on the projects; credit in kind, rather than cash; and credit authorization conditional on reimbursement of previous debts vis à vis CNCAS.

4/ Carvin

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The principles which should be adopted for the credit component of this project will necessarily be based on those developed by CNCAS since it has been agreed that at the end of the project, or when CNCAS becomes fully operational in Sine Saloum, the credit component of the project will become the responsibility of this organization. Furthermore, given Senegal's context, it is probably the only possible approach to rural credit. Therefore, the loan conditions which are proposed should be at least as strict as those presented by CNCAS, and the credit organization should be compatible with the future CNCAS organization.[5/]

C. Context for the Project

Despite the appearance of a negative climate, certain factors are conducive to the implementation of a credit component. First, as mentioned earlier, credit at the village level has been tested and produces better results than at the cooperative level. Second, the absence of credit in the last three years has been felt by the farmers, who need it to replace their equipment and to start projects. They clearly make the link between past errors and the present situation. Therefore, they should be more careful about their reimbursement, especially if the organization sets accountability standards for repayment. Third, and more importantly, one tends to attribute non-reimbursement to the rural sector in general. In fact, repayment records indicate non-repayment was the act of a minority group which took advantage of an uncontrolled situation. In some cases, as for small rural artisans, there has never been any formal system of credit set up. Therefore, they cannot be accused of non-reimbursement.

Finally, one of the strong points of this project is that it utilizes the PVOs as intermediaries with the village organizations/SSEs. The PVOs, if they have been carefully selected by USAID, should be very well placed to control and monitor the activities of the VOs/SSEs and in particular the credit component. As mentioned earlier, the lack of supervision has been in the past one of the major causes of failure of credit.

III. THE PRINCIPLES

The following principles will be followed by this project's credit component:

- Loans to organized village groups or producer groups. It is essential that the farmers feel a real community of interest prior to the project design. The danger to avoid is that farmers, knowing that there is a possibility of credit, group themselves in a false association for the duration of the project design. The role of the PVOs will be essential to analyze the degree of motivation of the village group. Their task will not be easy since in some instances later in the project, it will be the PVOs' role to help unorganized farmers create an association. The PVOs will draw on field experience to be able to distinguish between long-term and short-term interest of the farmers in the project.

[illegible] générales sur les textes constitutifs de la CNCAS, Statuts, Projet de Règlement Intérieur, Règlement du Crédit, Procédures de Crédit," 1983.

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- Climate of confidence between PVOs and farmers/SSEs or between the SBAU and SSEs. In addition to those analytical skills mentioned above, it will be the role of the PVOs and the SBAU to create a climate of confidence between the village organizations or artisans and themselves. Both parties should know each other well before anything is done. The farmers must understand the PVOs objectives. The PVOs should know the farmers individually and have created a solid relationship with the leaders of the village or producer groups.

This may take a long time, but the PVOs and USAID should take as much time as necessary to obtain that confidence. It must not be forgotten that if a credit scheme is successful in one village, through word of mouth it will be known very quickly in the whole area. On the other hand, if some villagers decide not to reimburse, word of this will spread at least as quickly. The same will be true of credit to artisans.

- PVOs and the SBAU responsibility in project design and loan reimbursement. One of the major reasons for non-reimbursement of loans is that the project for which the loan is made does not generate enough income for the farmers/SSEs to reimburse and live at the same time. Since the PVOs are going to be responsible for the design of the projects and the SBAU for the design of assistance packages to entrepreneurs, they will be responsible for the reimbursement rate of the credit. Consequently, the rate of repayment should be one of the criteria on which USAID will judge PVOs' and the SBAU's ability to transform AID assistance into development impact. Therefore a permanent monitoring system of credit reimbursement will have to be set up in order for USAID, PVOs, and the SBAU themselves to follow the credit situation. This will be the responsibility of the Management Unit.

This responsibility of the PVOs and the SBAU in project design and credit repayment means also that the PVOs, with the help of the credit specialist of the Management Unit, should set up a realistic repayment schedule, compatible both with farmers' income generation and with AID rules which correspond to CNCAS credit regulations, for length of credit as they are developed.

- Literacy/numeracy training and credit should be linked together. Literacy/numeracy programs should be associated with the credit so that it allows the village group representatives and entrepreneurs to understand clearly the process involved, and it will give literacy/numeracy instructors a case study on which to work. Literacy/numeracy training must focus on simple financial recordkeeping for credit as well as other needs.

- Interest rates. The interest rates charged under the credit component will be normal commercial market rates in Senegal as set under West African Monetary Union regulations (WAMU).

This credit program will help test whether a workable mechanism of credit can be reintroduced in Senegal to facilitate development. Consequently the primary objective of this credit program should be to obtain a high repayment rate. In addition, this program will have high management costs since it will operate only in one region of Senegal and is part of an experimental project with many innovative aspects. A larger credit organization would benefit from economies of scale. In this project, a primary function of the interest rate is educative. It has to make clear to borrowers that money is a scarce resource that one has to pay for.

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Consequently, it is proposed that the rate of interest be established as high as possible to prevent decapitalization but at a level which the Senegalese consider as acceptable for the rural sector.

A 12 percent interest rate (i.e., a 1 percent per month figure which can be easily understood by the farmers and artisans) is suggested for the beginning of the project. This rate would represent the normal Central Bank commercial discount rate plus 1.5 percent, and could be revised every year. It could be revised upward by the project once experience has been gained.

- The credit terms and conditions by type of sub-project should be identical for the whole project area. In other words, all cattle fattening projects will have the same credit conditions, which will obviously be different from the conditions for gardening projects. This means in particular that PVOs already working in Sine Saloum agree to revise their policy in terms of credit for the projects financed by USAID. For projects which have not been classified by type, the terms and conditions will be defined by the credit specialist of the Management Unit.

- Credit should be given in kind. Only exceptionally, if approved by the credit specialist, will it be possible to give credit in cash for SSE's working capital or for village organization purchases.

- In case of repayment difficulties: The general principle that should be followed is that in this project, credit will be repaid, and that USAID/PVOs will use reasonable means to reinforce this rule. In practice, one must be realistic. If the lack of reimbursement is due to a bad project design, complete reimbursement of the credit cannot necessarily be requested. It will be the role of the credit specialist of the Management Unit to estimate what percentage of the credit should be repaid, or what delay can be granted. If the non-repayment is due to outside factors, like weather conditions or death of cattle, the clause included in the contract signed between the village organizations/small-scale enterprises and the Management Unit (see Appendix F) should define the procedures to be followed in such cases. The general idea is that only what is directly attributable to outside factors can be written off. For example, if a gardening project is attacked by pests which destroy the crop, the credit on the inputs will be written off, but the credit on infrastructure costs should only be rescheduled.

- If non-repayment is due to obvious bad faith or dishonesty, the PVO will recommend to the Management Unit to use the means which are at its disposal under Senegalese law to collect credit. In any case, unless the VO/SSE has been absolved of responsibility by the Management Unit, this VO/SSE will not be eligible for another loan assistance by the PVO until full reimbursement has been obtained, interest included.

IV. PRACTICAL ORGANIZATION OF THE CREDIT SCHEME

In order to describe as clearly as possible the mechanism which is to be used for credit, a project needs to be viewed from its creation to its completion, focusing primarily on the credit component. The case of a village organization project will first be described, and then an SSE project.

A. Village Organization Project

- The village organization wants to start a project and contacts a PVO

- The PVO, in collaboration with the village organization and in consultation with the local government and elected representatives (Rural Council, CER, SODEVA), drafts a project proposal.

- This proposal include a "credit needs statement", which will describe in detail the financial needs of the project. It will distinguish in particular between investment costs and input costs, giving for the investments a detailed list of the items necessary with their prices.

- The PVO may, if necessary, be assisted by the Management Unit/procurement specialist to obtain the correct equipment and supplies at reasonable prices.

- This credit needs statement will be checked by the credit specialist of the Management Unit; he/she will indicate to the PVO the schedule of reimbursement and verify that the amounts to be repaid are compatible with the income to be generated by the project.

- The project proposal will be presented to the Management Unit by the village organization and the supervising PVO. A Management Unit committee consisting of three or four persons (the Management Unit chief, the PVO specialist, Management Unit, the credit specialist, and possibly the Small Business Advisory Unit chief) will either reject, approve, or send the project proposal back to the PVO for revision.

- Once the project is approved the credit specialist will draft the credit contract (see Appendix F for a model of this contract).

- The signing of the contract will determine the starting point of the project; it will take place during a meeting of the village organization, with all people concerned present. During this "ceremony" the village organization president will hand over the cash required for the participation of the VO and the contract will be signed. It will be signed by three representatives of the village organization (president, treasurer, secretary), by the credit specialist representing the Management Unit, and by the supervising PVO representative. The text of the contract, which will be in French, will be presented and explained in the local language during the meeting.

- The original of the contract will be kept by a notary. Copies will be given over to the Village Organization president, the Management Unit, the PVO, and the sous-préfet of the arrondissement.

- The PVO will take care of or supervise the delivery of the equipment and inputs of the project.

- Upon delivery of project supplies, a VO representative will sign a receipt. This receipt will be transferred by the PVO to the credit specialist for his/her file.

- The credit specialist will keep track of all reimbursement dates. He will remind the PVOs involved in advance so that they remind the VOs.

- The PVO will be responsible for the collection of the funds and their transfer to the credit specialist.

- This money will be transferred into a revolving fund for the VO and SSE credit program. This fund will be managed and monitored by the credit specialist of the Management Unit.

The monitoring of these repayments will be the key function of the credit specialist. He/she should be able at any time to indicate which village has reimbursed what when, and consequently, which village is late in its repayment. The credit specialist will also prepare a monthly statement, indicating the status of each village and PVO. In case of repayment difficulties, the credit specialist should analyze the situation in collaboration with the PVO concerned and recommend to the Management Unit action to be taken.

B. Small-Scale Enterprise Component

The Small Business Advisory Unit (SBA Unit) will select Small-Scale Enterprises (SSEs) in need of assistance. The SBA Unit will work with them as a business consultant to make them credit worthy before they can apply for credit. The SBA Unit will help the SSE prepare a loan application and assist the SSE to obtain references on past experience and work. The loan application will include a reference section containing statements expressing the opinion of the Chambre des Métiers, the préfet or sous-préfet, and other relevant institutions or individuals, such as SODEVA, as to the previous reputation of the borrower.

In this document the financial needs by type of equipment requested (and in some rare cases, the cash flow needs) should be stated. The loan application will be presented to the Management Unit committee composed of the Management Unit chief, the SBA Unit chief, the credit specialist, and possibly the PVO specialist.

The loan agreement is signed by the entrepreneur, the credit specialist representing the Management Unit, and the SBA Unit representative. In the loan agreement, the entrepreneur agrees that in case of non-repayment the amount due can be obtained by seizure of his assets, including but not limited to, the equipment obtained under the loan. The original of the contract will be kept by a notary. Copies will be given to the entrepreneur the SBA Unit, the credit specialist of the Management Unit, and the Prefet of the department.

The SBA unit person in charge of the SSE concerned will be responsible for collection of the loan. He/she will deliver the money, accompanied by a statement breaking down the sum by loans, to the credit specialist. This money will be transferred into the PVO-SSE revolving fund, managed by the credit specialist. Regular monitoring of this fund will be the key task of the credit specialist.

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In case of repayment difficulties, the credit specialist should analyze the situation in collaboration with the SBA Unit and recommend action to be taken. A file of the entrepreneurs should be kept by the SBA Unit specifying the credit rating of each SSE. This file could be presented to CNCAS at the end of the project so that these persons can be given credit preference under the new system.

V. CONCLUSION

The two key elements in this credit program design which will determine success are:

- The role of the PVOs in the credit scheme. They will be responsible to USAID for the sub-projects' design and will be directly implicated in the credit reimbursement rate as this rate is a function of the success of the sub-projects concerned. It is important that the PVOs understand that their participation in the project in future years is to be linked to their success both on the sub-projects themselves, and on the reimbursement rate.

- The firmness of the Management Unit in dealing with the first cases of non-reimbursement. It is clear that if the Management Unit is able to cope satisfactorily with the first difficulties in repayment, this will be known very quickly in the project area, and the villagers and SSEs concerned will be more careful, not only in their repayments, but also in their requests for credit.

In many instances the difficulties in donors' credit schemes are due to the donors themselves. Donors frequently convey the attitude that since the money is given to the host country, it is not necessary to insist on a rigorous reimbursement procedure. In fact, reimbursement of credit, and more generally the understanding by the farmers of the role of money, is a keystone of development. Small entrepreneurs should be trained to understand the difference between their own money and their enterprise's money.

A major role of the credit scheme in this project is an educational one, and if this project is able to deal successfully with credit management, this will be a major achievement in itself. Consequently, USAID should require from the Management Unit a very firm attitude toward credit and in the event of repayment difficulties USAID should assist the MU in its efforts to obtain necessary support from the Senegalese authorities.

APPENDIX E

CREDIT TERMS AND CONDITIONS

1. Interest rates: 12% on the capital to be repaid.

2. Gardening:

- Infrastructure costs: 75% given as a grant.
  5% paid in cash by the farmers at the signature of the credit contract.
  20% paid on credit.

  The credit will be reimbursed in 3 years maximum starting at the end of the 2nd crop. The exact schedule will be established by the credit specialist in coordination with the PVO and the VO.

- Input costs: 20% paid in cash by the farmers.
  80% paid on credit.

  The credit will be reimbursed at the end of the cropping season for which the inputs were utilized.

3. Cattle Fattening:

- Infrastructure costs: 75% given as a grant.
  5% paid in cash by the farmers at the signature of the credit contract.
  20% paid on credit.
- Cattle purchase: 20% paid in cash by the farmers.
  80% paid on credit.

  Reimbursement of infrastructure cost over a period of 2 years maximum. The exact repayment schedule isto be established by the credit specialist in coordination with the PVO and the VO, but each reimbursement should be scheduled just after the sale of the fattened cattle. Cattle purchase credit is reimbursed just after the sale of the fattened cattle.

  An insurance system should be set up. The village organization will pay a sum of money of 2,000 or 3,000 CFA per head of cattle at the time of purchase. If an accidental death occurs, the VO will be reimbursed the purchase price plus a certain sum to cover input costs and interest.

4. Fishing:

- Equipment costs (boat, engine, nets): 30% paid in cash, 70% paid on credit.

- Operating expenses: 50% paid on credit.

Repayment every month over a 28-month period.

5. Small-Scale Enterprises:

- Large equipment costs (over $5,000): 50% requested in cash.
  50% on credit.

- Smaller equipment costs (between $1,000 and $5,000):
  25% requested in cash.
  75% on credit.

- Equipment below $1,000: 10% requested in cash.
  90% on credit.

Reimbursement over a 3-year maximum period ; maximum grace period one year. The exact schedule should be decided upon in coordination between the SBA Unit and the credit specialist, according to the financial flows of the SSE. In case of need for cash for working capital, the credit specialist will design on a case by case basis the loans, and follow with particular attention in collaboration with the SBA Unit, the utilization of the funds.

6. Other Activities:

For activities financed under this project and not mentioned above, it will be the responsibility of the credit specialist to propose to the Management Unit credit conditions for these activities.

Once these conditions are approved by the Management Unit, all sub-projects corresponding to this activity should follow these guidelines.

CONTRAT DE CREDIT-ASSOCIATION VILLAGEOISE

Contrat N°.

- d'une part

Mr.

Mr.

Mr.

représentants l'association villageoise

le groupement de producteurs

dénommé ci-dessous le bénéficiaire

- d'autre part

Mr. représentant l'Unité de Gestion chargée de gérer les fonds fournis par l'USAID dans le cadre de l'assistance de développement du secteur agricole au SINE SALOUM.

En présence de Mr. représentant l'organisation non gouvernementale qui supervise la mise en place du projet.

Il a été convenu et arrêté ce qui suit:

Article 1 : L'Unité de Gestion mettra à la disposition du bénéficiaire le matériel décrit à l'article 4 dans le cadre du projet N° de approuvé par l'Unité de Gestion en date du . En échange le bénéficiaire s'engage à payer en FCFA, les sommes détaillées aux articles 4 et 5

Article 2 : Le matériel considéré comme investissement à l'article 4 restera la propriété de l'Unité de Gestion jusqu'à ce que payment complet des sommes à rembourser à crédit ait été effectué.

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% seront versés en liquide par le bénéficiaire au moment de la signature de ce contrat.

% seront payés à crédit avec un taux d'intérêt de 12% sur une période de mois en échéances avec un différé de mois. Le calendrier exact des échéances est fourni à l'Article 5.

Article 3 : Le matériel considéré comme nécessaire au fonctionnement courant du projet sera payé de la manière suivante:

% seront versés en liquide par le bénéficiaire au moment de la signature de ce contrat.

% seront payés à crédit, avec un taux d'intérêt de 12% sur une période de mois, en échéances, avec un différé de mois. Le calendrier exact des échéances est fourni à l'article

Article 4 : Description du matériel et de sa valeur.

1. Matériel considéré comme investissements.

Désignation	Valeur	A verser comptant	A verser à crédit (intérêts non compris	Don de l'USAID
TOTAL INVESTISSEMENTS				

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2. Matériel de fonctionnement

Désignation	Valeur	A verser comptant	A verser à crédit (intérêts non compris)
TOTAL FONCTIONNEMENT			

Article 5 : Le bénéficiaire s'engage à rembourser le prêt suivant la procédure convenue aux articles 2 et 3 selon le calendrier ci-dessous.

Dates	Investissement		Fonctionnement		Total	
	Capital	Intérêts	Capital	Intérêts	Capital	Intérêts

TOTAL						

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Le bénéficiaire a le droit s'il le désire d'effectuer des remboursements anticipés, auquel cas le calcul du montant des intérêts devra être révisé en conséquence.

Les versements seront effectués aux dates indiquées ci-dessous en FCFA par un représentant du bénéficiaire, auprès de l'organisation non gouvernementale qui se chargera de les faire parvenir à l'Unité de Gestion.

Article 6 : Clause de sauvegarde:

Au cas ou un événement prouvé indépendant de la volonté du bénéficiaire venait à compromettre sa production, ce dernier peut demander à l'Unité de Gestion de reconsidérer le calendrier de remboursement, et éventuellement le montant du prêt.

Article 7 : Si dans un délai de , le remboursement du prêt objet du présent contrat n'est pas effectué comme prévu à l'article 5, et si la clause de sauvegarde n'est pas applicable, l'Unité de Gestion se réserve le droit de faire appel à un huissier qui procédera à la saisie du matériel du bénéficiaire jusqu'à concurrence du montant restant dû suivant le présent contrat.

En cas d'intervention d'un huissier, les frais découlant de cette intervention seront à la charge du bénéficiaire du prêt.

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Article 8 : Le présent contrat devra être signé par 3 membres au moins de l'Association villageoise, du groupement de producteur, la signature s'effectuera au cours d'une assemblée générale de l'association/du groupement.

Le texte du présent contrat sera traduit oralement dans la langue parlée par les membres de l'association/du groupement, et lu avant la signature.

Le versement à l'Unité de Gestion des fonds demandés en argent liquide s'effectuera également au moment de la signature.

Article 9 : L'original de ce contrat sera déposé chez Maître Notaire à Kaolack.

Copies seront remises
- au bénéficiaire
- à l'Unité de Gestion
- à l'organisation non gouvernementale
- au préfet et/ou au sous préfet.

Article 10: Tout différent résultant de l'exécution ou de l'interprétation du présent contrat sera réglé à l'amiable.
Au cas ou les parties contractantes n'arriveraient pas à s'entendre, le différend sera porté devant les juridictions sénégalaises.

Fait à le

Pour le bénéficiaire
Mr.
Mr.
Mr.

Pour l'Unité de Gestion
Mr.

Pour l'Organisation non gouvernementale
Mr.

CONTRAT DE CREDIT PETIT ENTREPRENEUR

Contrat N°. entre

- d'une part Mr. , entrepreneur à dénommé ci-dessous le bénéficiaire

- d'autre part Mr. , représentant de l'Unité de Gestion chargée de gérer les fonds fournis par l'USAID dans le cadre de l'assistance au développement du secteur agricole au SINE SALOUM

- en présence de Mr. , représentant l'Unité de Conseil aux petites entreprises, qui supervise la mise en place du projet.

Il a été convenu et arrêté ce qui suit:

Article 1 : L'Unité de Gestion mettra à la disposition du bénéficiaire le matériel décrit à l'article 3, dans le cadre du projet N°. approuvé par l'Unité de Gestion en date du En échange le bénéficiaire s'engage à payer en francs CFA, les sommes détaillées à l'article 4.

Article 2 : Le matériel ayant individuellement une valeur supérieure à $5000 (soit FCFA au moment de la signature du contrat) sera payé de la manière suivante:

- 50% seront versés en liquide au moment de la signature de ce contrat,
- 50% seront payés à crédit, avec un intérêt de 12%, sur une période de mois, en échéances, avec un différé de mois.

Le matériel ayant individuellement une valeur comprise entre $1000 et $5000 (soit entre et FCFA au moment

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de la signature du contrat), sera payé de la manière suivante:

25% seront versés en liquide au moment de la signature de ce contrat,

75% seront payés à crédit, avec un intérêt de 12%, sur une période de mois, en échéances, avec un différé de mois.

Le matériel ayant individuellement une valeur inférieure à $1000 (soit FCFA au moment de la signature du contrat) sera payé de la manière suivante:

10% seront versés en liquide au moment de la signature de ce contrat

90% seront payés à crédit, avec un intérêt de 12% sur une période de mois, en échéances, avec un différé de mois.

Le calendrier exact des échéances est fourni à l'article

Article 3 : Description du matériel et de sa valeur

1. Matériel d'une valeur individuelle de plus de $5000.

Designation	Valeur	A verser comptant	A verser à crédit (intérêts non compris)
-			
-			

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2. Matériel d'une valeur individuelle comprise entre $1000 et $5000

Designation	Valeur	A verser comptant	A verser à crédit (intérêts non compris)
-			
-			
-			
TOTAL			

3. Matériel d'une valeur individuelle inférieure à $1000

Designation	Valeur	A verser comptant	A verser à crédit (intérêts non compris)
-			
-			
-			
-			
TOTAL			

Article 4 : Le bénéficiaire s'engage à rembourser le prêt suivant la procédure convenue à l'article 2 et selon le calendrier ci-dessous:

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Date	Matériel de plus $5000		Matériel de $1000 à $5000		Matériel de moins de $1000		TOTAL	
	Capital	Intérêts	Capital	Intérêts	Capital	Intérêts	Capital	Intérêts
TOTAL								

Le bénéficiaire a le droit s'il le désire d'effectuer des remboursements anticipés, auquel cas le calcul du montant des intérêts devra être revisé en conséquence.

Les versements seront effectués aux dates ci-dessous en FCFA par le bénéficiaire auprès de l'Unité de Conseil aux petites entreprises qui se chargera de les faire parvenir à l'Unité de Gestion.

Article 5 : Clause de sauvegarde:

Au cas ou un événement prouvé indépendant de la volonté du bénéficiaire venait à compromettre sa production, ce dernier peut demander à l'Unité de Gestion de reconsidérer le calendrier de remboursement, et éventuellement le montant du prêt.

Article 6 : Si dans un délai de le remboursement du prêt objet du présent contrat n'est pas effectué comme prévu à l'article 4 et si la clause de sauvegarde n'est pas applicable, l'Unité de Gestion se réserve le droit de faire appel à un

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huissier qui procédera à la saisie du matériel du bénéficiaire jusqu'à concurrence du montant restant dû suivant le présent contrat.

En cas d'intervention d'un huissier, les frais découlant de cette intervention seront à la charge du bénéficiaire du prêt.

Article 7 : Le texte du présent contrat sera traduit oralement dans la langue parlée par le bénéficiaire et lu à ce dernier avant la signature.

Le versement à l'Unité de Gestion des fonds demandés au comptant s'effectuera au moment de la signature.

Article 8 : L'original de ce contrat sera déposé chez Maître Notaire à Kaolack.

Copies seront remises : au bénéficiaire
à l'Unité de Gestion
à l'Unité de Conseil aux petites entreprises
au sous préfet.

Article 9 : Tout différend résultant de l'exécution ou de l'interprétation du présent contrat sera réglé à l'amiable.
Au cas ou les parties contractantes n'arriveraient pas à s'entendre le différend sera porté devant les juridictions sénégalaises.

Fait à le

Le Bénéficiaire
Mr.

Pour l'Unité de Gestion
Mr.

Pour l'Unité de Conseil aux petites entreprises
Mr.

SPATIAL ANALYSIS

ANNEX 11

SPATIAL ANALYSIS

I. FACTORS CONSIDERED UNDER THE SPATIAL ANALYSIS

The purpose of the spatial analysis is to provide information and recommendations concerning potential for successful implementation of the activities envisioned under the present project. Such an analysis is needed because the Sine Saloum region does not constitute a homogeneous zone as far as physical and human resources are concerned.

A. The Climate

From north to south, the climate slowly evolves from a Sudano-Sahelian type to a Sahelo-Sudanian one, with rainfall ranging from about 450 to 750 mm depending on the year. Rainfall levels affect not only crop production, but also the quantity of agricultural by-products and hay available for livestock production and tree growth.

The climate is also influenced by the proximity to the ocean. Along the coast and up to some 80 to 100 kilometers inland, temperatures are lower allowing for two vegetable crops per year.

B. Soils

Soils are, generally speaking, fairly homogenous throughout the Sine Saloum; mostly deep sandy soils with varying degrees of clay content (dior soils to deck-dior soils) with the exception of the tanns zone. The tanns zone is an area that extends from the coast inland to the city of Kaolack, some parts of Foundiougne, and a large part of Fatick. Soils there differ as to their salt content and depth of their sandy layer which accordingly affects the type of reforestation activity that can be envisioned.

C. Underground Water Quality and Availability

The shallow water table and the deep water layers (from the Maestrichien) are too salty (salt concentration higher than 0.5 g/1) in certain zones for irrigation uses.

D. Population Density and Its Impact on Natural Resources

Patterns of population settlement vary greatly with very high population densities in the northeast (80 to 120 hab/km^2 in certain areas of Fatick) while the east is quite sparsely populated (5 to 15 hab/km^2 in Kaffrine). Figure 1 presents the population densities by arrondissement.

Population density in turn affects the level of natural resources exploited at a given technological level. In the departements of Fatick, north of Kaolack, and Gossas, population pressure coupled with monetary needs and the introduction in the 1960s of mechanized cultivation have led to a continuing expansion of the area under cultivation at the expense of forest cover, pastures and fallow land. As a result, the traditional system of soil regeneration based on a careful use of limited natural resources involving the integration of crop and livestock production, fallowing practices and the sophisticated use of acacia albida has been deeply disrupted.[1] Forest areas and fallow land are dwindling everywhere and have almost disappeared in certain parts of these departements. It is estimated that fallow land represents between 0 and 5 percent of the land in Fatick, Kaolack and Gossas, and between 20 and 30 percent in the south. A new system of soil regeneration (use of fertilizer, etc.) developed by agronomic research has yet to be successfully adopted.

These factors are at the origin of a severe depletion of natural resources in the aforementioned departements, endangering the capacity of the populations to subsist on these resources. Yields are declining, fuelwood is becoming increasingly difficult to obtain and herds can no longer be adequately maintained. In the medium term this situation, if left unchecked, will accelerate rural-urban migration.

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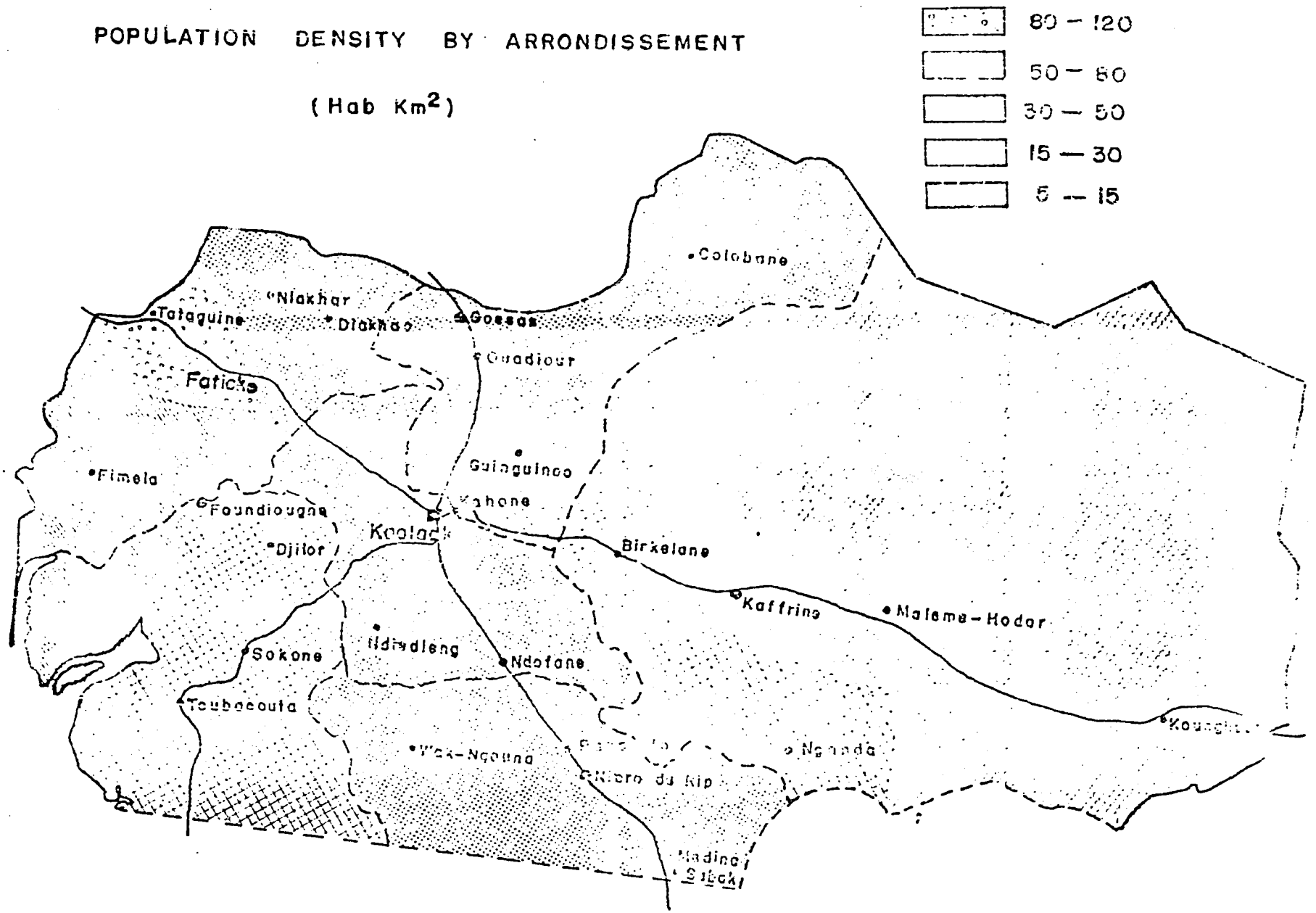
1. This is the Serer traditional production system. The Wolof have never made full use of the association between livestock and crop production. The Serer system results in higher natural resource productivity without depleting the system. Though the system is being disrupted, recent village level research shows that the Serer get much higher yields on their fields than do the Wolof . See Josseran, Henry and Ross, Clark, "Food Consumption Effects of Agricultural Policies: Senegal Case Study." CRED/University of Michigan, Ann Arbor, 1981, p. 61.

Figure 1 POPULATION DENSITY BY ARRONDISSEMENT

(Hab Km^2)



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The above analysis has a number of implications for the present project. First, though there is a need everywhere in Sine Saloum for the rural population to develop income-generating activities other than rainfed agriculture, this need is particularly acute in the départements of Fatick, Kaolack, and Gossas. Yet, while these départements need off-season economic opportunities the most, they are at the same time the least endowed for these types of activities as will be discussed below.

Secondly, the competition for resources has a direct impact on the availability of agricultural by-products that conditions livestock fattening activities. Finally, the need for reforestation and land regeneration activities is more acute in the aforementioned départements than elsewhere, where availability of land for such activities is a constraint.

E. Distribution of Urban Centers and the Road Network

Proximity to urban centers and/or to a well frequented transportation axis plays a crucial role in the possibility to expand production of such perishable products as vegetables beyond local market demand.

F. Other Infrastructure

Other infrastructure such as the Sokone cashew nut processing plant, Kaolack slaughterhouse, cold storage facilities, ice plant, and maintenance centers for fishing equipment will be taken into account as factors for siting project activities.

G. Existing Projects

Existing projects and where they are being implemented have been considered under the spatial analysis as they may lessen the need for similar activities under this project.

II. VEGETABLE AND FRUIT PRODUCTION

A. Present Situation and Expected Future Demand

Vegetable production falls short of meeting the demand which is increasing due to population growth and, to a certain extent to increased incomes mainly in urban areas. Far from keeping up with the demand, vegetable production decreased in absolute terms from 102,250 tons in 1977/78 to 81,500 tons in 1979/80, following the closing down of several large agro-industrial firms (BUD, in particular). Areas cultivated decreased 15.4 percent from 6,943 ha. in 1977/78 to 5,875 ha. in 1979/80. This situation improved in 1981/82 when production reached its 1977/78 level (See Table 1.)

Table 1. Vegetable Production

	1981/82	1982/83 (estimated)
Production	103,000 tons	107,000 tons
Area	7,000 ha.	7,000 ha.
Yields	14.8 t/ha.	15.3 t/ha.

Several years of drought and the poor organization of the market for vegetables have resulted in a quasi-permanent deficit situation. Vegetable prices have gone up substantially, especially in Dakar and the main urban centers. Per capita vegetable consumption with the lowest income households being the most affected, went from 24 kg/year in 1974/75 to 19.6 kg/year in 1978/79.

Parallel to local production decline, imports have increased. While the Fifth Four-Year Plan (1977/81) planned for an import reduction from 24,000 tons to 13,000 tons, in 1981/82 imports reached 28,000 tons, representing $6.8 million. The largest import increase was for onions (6,000 tons or 39.5 percent of value) and potatoes (12,000 tons or 35.4 percent). Yet onions can be easily grown in Senegal.

In addition, with the folding of the agro-industrial firms, exports fell from 10,250 tons in 1975 to 4,300 tons in 1979, though then rose again slightly in 1981/82 to 5,100 tons. Europe is the main market for winter vegetable exports. There may be possibilities for exports to other African countries, but this market has not yet been developed. Senegal remains dependent on air freight for its exports because refrigerated ships for perishable products are lacking. Considering the costs involved, it is obvious that only the products most valuable on the European market can be exported, mainly green beans and cantaloupe. Therefore, until refrigerated sea shipping is available, production outlets through exports remain limited.

With population growth, the demand for vegetables is expected to reach 130,000 tons in 1985 and 200,000 tons in 2000, even without an increase in per capita consumption. Thus, in order to meet the increased demand, 1985 marketed production will have to be 21 percent over present production if imports are to remain constant.

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Tomato production for processing also falls short of meeting the current demands, although the situation has improved considerably during the last two years. It is estimated that the cultivated area will almost double from 1,000 ha. in 1981/82 to 1,850 ha. In 1982/83, with an expected production of 42,500 tons this year compared to 20,000 last year. If this trend continues, one may expect the Sixth Plan's objective of self-sufficiency for this item to be met.

As far as fruit production is concerned, Senegal is importing, on the average, 22,000 tons of fruit per year, representing $8 million. The 1978/79 production was 16,000 tons of citrus fruit and 2,000 tons of bananas. The objective of the Sixth Plan is to meet the demand for bananas with local production by 1986, thus alleviating the need for imports. For citrus fruit, the objective is to produce 90 percent of the needs.

Table 2. Fruit Production (1978/79) and Objectives (1984/85)

Products	Production 1978/79	Planned Production 1984/85
Citrus Fruits	16,000 tons	21,000 tons
Bananas	2,000 tons	5,100 tons

B. The Need to Develop Vegetable Production in Sine Saloum

Most of Senegal's vegetable production (96 percent) comes from a narrow strip of land, the Niayes, along the coast of the Cap Vert and Thiès regions, which benefits from particularly good climatic conditions. The climate, moderated by the cold current coming from the Canary Islands, makes three crops a year possible. In addition vegetable growing, a long tradition in the Niayes, is a full-time activity for these skilled gardeners and marketing is well organized and reliable.

The conditions are far from being as favorable in Sine Saloum. As we shall see later on in detail, the following constraints face the development of vegetable production:

- The temperature is too high for a good part of the dry season in certain zones;
- Availability and quality of water;
- The lack of reliable marketing channels and secure outlets;
- The need for new and more advanced skills to grow vegetables; and
- The initial capital outlay for infrastructure and inputs.

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And yet, developing vegetable production is highly desirable economically, both from the point of view of the individual and the region as a whole. The situation for rain-fed agricultural production in Sine Saloum, as discussed in the introduction, is such that there is a pressing need to diversify income-generating activities and provide off-season economic opportunities, thereby increasing rural incomes and decreasing the flow of seasonal and permanent rural-urban migrants. Vegetable growing provides an off-season economic activity which can generate considerable income if successful, as well as provide additional highly nutritional food for home consumption.

Vegetable production in Sine Saloum falls short of meeting the demand. The Service de l'Agriculture estimates that out of the 15,000 tons per year consumed, only 3,000 tons come from Sine Saloum; hence 80 percent of the demand is covered through imports, either from the Niayes or from outside Senegal (mainly Europe and Northern Africa).

The Centre pour le Développement de l'Horticulture (CDH) projects that between the year 1985 and the year 2000, annual demand will grow from 15,000 to 22,000 tons. In order to meet the projected demand and if imports into the region are to remain the same, 600 additional hectares will have to be set aside for vegetable production by 1985. Hence, the deficit is such that there is ample room to develop vegetable production to a considerable extent without saturating local markets or driving down prices if production is carefully planned as we shall see later on.

C. Spatial Distribution and Characteristics of Vegetable Production in Sine Saloum

Table 3 summarizes some of the characteristics of vegetable production in Sine Saloum.[2] In 1981, the area cultivated was estimated at 330 ha.[3] while in 1974/75, it was estimated at 54 ha. Vegetable production is thus a fairly recent activity, except for the small house gardens where women traditionally grew African vegetables for home consumption.

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2. For the details by village, see Appendix G.
3. This is a Centre pour le Développement de l'Horticulture figure, which seems to have been overestimated.

Table 3. Vegetable Production in Sine Saloum: Location, Area, Number of Producers
(dry season 1980/81)

Département	Arrondissement	Area (ha)		Number of Producers		Average Area (m^2) per producer	
KAOLACK	1. City of Kaolack	50		101		4.950.5	
	2. Gandiaye	72.5		787		921.2	
	3. Ndoffane	1		46		217.4	
	4. Diedieng	4		70		571.4	
	Sub-total		127.5		1,004		1,270
FATICK	1. Diakhao	18.2		315		577.7	
	2. Niakhar	0.5		23		217.4	
	3. Tattaguine	1		10		1,000	
	4. Fumela	23.7		335		707.5	
	Sub-total		43.4		683		635.4
FOUNDIOUGNE	1. Toubacouta	83.5		720		1,159.7	
	2. Djilor	0.5		51		98	
	3. Niodior	—		—		—	
	Sub-total		84		771		1,089.5
NIORO	1. Paoscoto	30		150		2,000	
	2. Wack Ngouna	31		440		704.5	
	3. Medina Sabbakh	6.5		275		236.4	
	Sub-total		67.5		865		780.3
KAFFRINE	1. Birkelane	0.78		64		121.9	
	2. Malem Hodar	0.91		195		46.7	
	3. Koungheul	5.125		201		255	
	4. Nganda	1.32		166		79.5	
	Sub-total		8.1		626		130
GOSSAS	1. Colobane	—		—		—	
	2. Ouadiour	2		20		1,000	
	3. Kahone	0.2		2		1,000	
	Sub-total		2.2		22		1,000
TOTAL (Regional)			332.7		3,971		838

The largest areas under cultivation are found in the arrondissement of Toubacouta (83.5 ha.), followed by the arrondissement of Gandiaye (72.5 ha.), and the commune of Kaolack (50 ha.). Farmers in the Gandiaye area specialize in melon growing for export to Europe, with a production between 300 and 500 tons per year. In the Kaffrine and Gossas départements, vegetable production is a very marginal activity (8.1 and 2.2 ha. respectively).

In 1981/82, about 4,000 people were involved in gardening, with plots ranging from an average of 0.13 ha. in Kaolack to 0.01 in Kaffrine (See Table 3). The main crops cultivated during the dry season are the following (ranked by importance):

- Cabbage
- Melon
- Hot Red Pepper
- Tomato
- Onion
- Lettuce
- Diaxatu
- Turnip
- Eggplant
- Sweet Potato

The following various government services and PVOs are providing technical assistance to gardening:

- Government Services

  . Centre d'Expansion Rurale (CER)
  . Service d'Agriculture
  . SODEVA
  . ISRA (On-farm experimentation stations)
  . Ministère du Développement Social

- PVOs

  . Maisons Familiales Rurales
  . Catholic Missions

In addition, the Peace Corps is assisting in gardening.

Appendix G presents the type of technical assistance provided by vegetable production location.

D. Constraints to the Development of Vegetable Production

The development of vegetable production in Sine Saloum is faced with a number of constraints. An analysis of these constraints by sub-region will enable us to determine the best location for additional gardening activities.

1. Chemical Quality and Availability of Water

The level of salt concentration in the water used for irrigation is of crucial importance for vegetable production. A salt concentration above 0.5 g/l will result in poor vegetable growth. In addition, if saline water is used for irrigation, salt concentration in the soils themselves will rapidly (over a 2 to 5 year period) preclude any future agricultural use.

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Water for irrigation comes from two sources: the water table tapped with wells and deep water layers (in the Maestrichien mainly), reached by boreholes. Due to the proximity to the ocean and the existence of fossil valleys, the water table is too salty (0.5 g/l) in a large part of Sine Saloum. Water obtained from deep layers is oftentimes equally unfit for irrigation.

Figure 2 shows the 0.5 g/l line of equal salt concentration in the water table. In general, the area inside the 0.5 g/l line must be considered as unfit for gardening. This area covers most of Fatick, part of Foundiougne (the coastal line and the islands), a large part of Gossas and Kaolack, and some of Kaffrine and Nioro du Rip. Table 4 presents the characteristics of the water table by Communauté Rurale (salt concentration, depth of water table, and type of soils).[4]

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4. There are some discrepancies between Figure 2 and Table 4 as far as salt concentration is concerned. For example, the map gives part of the arrondissement of Fimela as suitable for gardening while the table does not. Similarly, the fossil valley of the Bao Bolon is unfit for gardening according to the map, which is not reflected in the data in Table 4. The lines of equal salt concentration in the water table are taken from: Bureau de Recherches Géologiques et Minières, Carte Hydrochimique des Nappes Phréatiques de la République du Sénégal, 1966. Information from Table 4 was provided by Service de l'Hydraulique, Kaolack.

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ARRONDISSEMENT	COMMUNAUTES RURALES	DEPTH OF WATER TABLE	SALT CONCENTRATION
DIAKHAO	Diakhao	15 - 20m	0,5 - 3gr/1
	Diaoule	20 - 25m	0,5 - 1,5gr/1
	Mbellakadiao	15 - 20m	0,1 - 0,5gr/1
	Ndiop	15 - 20m	0,5 - 3gr/1
FIMELA	Fimela	10 - 20m	0,5 - 3gr/1
	Loul-Sessene	25 - 30m	0,5 - 1gr/1
	Dioffior	7 - 15m	0,5 - 1gr/1
	Palmarin Facao	5 - 16m	0,5 - 1gr/1
	Patar	15 - 20m	0,5 - 1gr/1
NIAKHAR	Niakhar	15 - 20m	0,5 - 1gr/1
	Ngoyokheme	15 - 20m	0,5 - 1gr/1
	Tattaguine	15 - 20m	0,5 - 1gr/1
	Diouroup	15 - 20m	0,5 - 1gr/1
	Diarere	15 - 20m	0,5 - 1gr/1

Table 4 Main Characteristics of the Water Table in Sine Saloum

2. Département of Foundiougne

ARRONDISSEMENT	COMMUNAUTES RURALES	DEPTH OF WATER TABLE	SALT CONCENTRATION
DJILOR	Djilor	10 - 15m	0,1 - 0,3gr/1
	Passy	10 - 15m	0,1 - 0,3gr/1
NIODIOR	Dionevar	7 - 13m	5gr/1
	Djrda	7 - 13m	5gr/1
	Bassoul	7 - 13m	5gr/1
	Toubacouta	15 - 20m	0,1 - 0,3gr/1
	Keur Saloum Diane	25 - 30m	0,1 - 0,3gr/1
	Keur Samba Gueye	25 - 30m	0,1 - 0,3gr/1
	Nioro Alassane Tall	20 - 25m	0,1 - 0,3gr/1

ARRONDISSEMENT	COMMUNAUTES RURALES	DEPTH OF WATER TABLE	SALT CONCENTRATION
COLOBANE	Sadio	65 - 75m	0,3 - 0,5gr/1
	Taif	65 - 75m	0,3 - 0,5gr/1
	Colobane	65 - 75m	0,3 - 0,5gr/1
	Mbar	80 - 85m	0,3 - 0,5gr/1
KAHONE	Mbadakhoune	25 - 35m	0,5 - 5gr/1
	N'Diago	60 - 70m	0,5 - 5gr/1
	Gagnick Khodjil	40 - 45m	0,5 - 5gr/1
	Ngathie Naoude	25 - 30m	0,5 - 5gr/1
OUADIOUR	Ouadiour	35 - 40m	0,5gr/1
	Patar - Lia	35 - 40m	3gr/1
	Diene - Lagane	70 - 75m	3gr/1
	Ourour	20 - 25m	1,8 - 5gr/1

Table 4 Main Characteristics of the Water Table in Sine Saloum

4. Département of Kaolack

ARRONDISSEMENT	COMMUNAUTES RURALES	DEPTH OF WATER TABLE	SALT CONCENTRATION
NDOFFANE	Latmingue	30 - 35m	0,2 - 1gr/1
	Thiare	35 - 40m	0,1 - 2gr/1
	NDoffane	30 - 45m	0,1 - 2gr/1
GANDIAYE	Gandiaye	25 - 30m	0,1 - 0,5gr/1
	N'DIEBEL	30 - 35m	0,5 - 1,5gr/1
	Dya	30 - 35m	0,5 - 1,5gr/1
NDIEDIENG	N'Diedieng	20 - 25m	0,1 - 0,2gr/1
	Keur Soce	30 - 35m	0,1 - 0,2gr/1
	NDiafatte	15 - 20m	0,2 - 0,5gr/1

Table 4 Main Characteristics of the Water Table in Sine Saloum

5. Département of Nioro

ARRONDISSEMENT	COMMUNAUTES RURALES	DEPTH OF WATER TABLE	SALT CONCENTRATION
PAOKOTO	Paokoto	35 - 40m	0,2 - 1gr/1
	Gainthe Kaye	30 - 35m	0,2 - 1gr/1
	Prokhane	30 - 35m	0,2 - 0,5gr/1
	Taiba Niassene	30 - 35m	0,2 - 0,5gr/1
WACK - NGOUNA	Keur Madiabel	25 - 30m	0,2 - 0,5gr/1
	Keur Maba Diakhou	25 - 30m	0,2 - 0,5gr/1
	Ndrame Escale	20 - 25m	0,2 - 0,5gr/1
	Wack-Ngouna	20 - 25m	0,2 - ,5gr/1
MEDINA - SABAKH	Medina-Sabakh	35 - 40m	0,1 - 0,5gr/1
	Kayemore	30 - 35m	0,1 - 0,5gr/1
	N'Gayene	55 - 60m	0,1 - 0,5gr/1

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Table 4 : Main Characteristics of the Water Table in Sine Saloum

6. Département of Kaffrine

ARRONDISSEMENT	COMMUNAUTES RURALES	DEPTH OF WATER TABLE	SALT CONCENTRATION
NGANDA	NGanda	45 - 60m	0,1 - 0,5gr/1
	Kathiotte	30 - 40m	0,1 0,6gr/1
	Diokoul Mbelbouck	55 - 65m	0,1 - 0,2gr/1
	Medina - Salam II	55 - 60m	0,1 - 0,2gr/1
MALEM-HODDAR	Boulele	50 - 85m	0,1 - 1,5gr/1
	Malem-Hodar	65 -71m	0,04 - 0,2gr/1
	NDioum Gainthe	45 - 55m	0,1 - 0,3gr/1
	Gniby	75 - 90m	0,2 - 0,5gr/1
	Kahi	40 - 50m	0,05 - 2gr/1
	Darou Minam	55 - 65m	0,1 - 0,3gr/1
	Dianke - Souf	45 - 60m	0,1 - 0,5gr/1
BIRKELANE	MBoss Escale	55 - 65m	0,4 - 4gr/1
	Birkelane	25 - 40m	0,5 - 3gr/1
	NDiognick	45 - 50m	0,1 - 0,5gr/1

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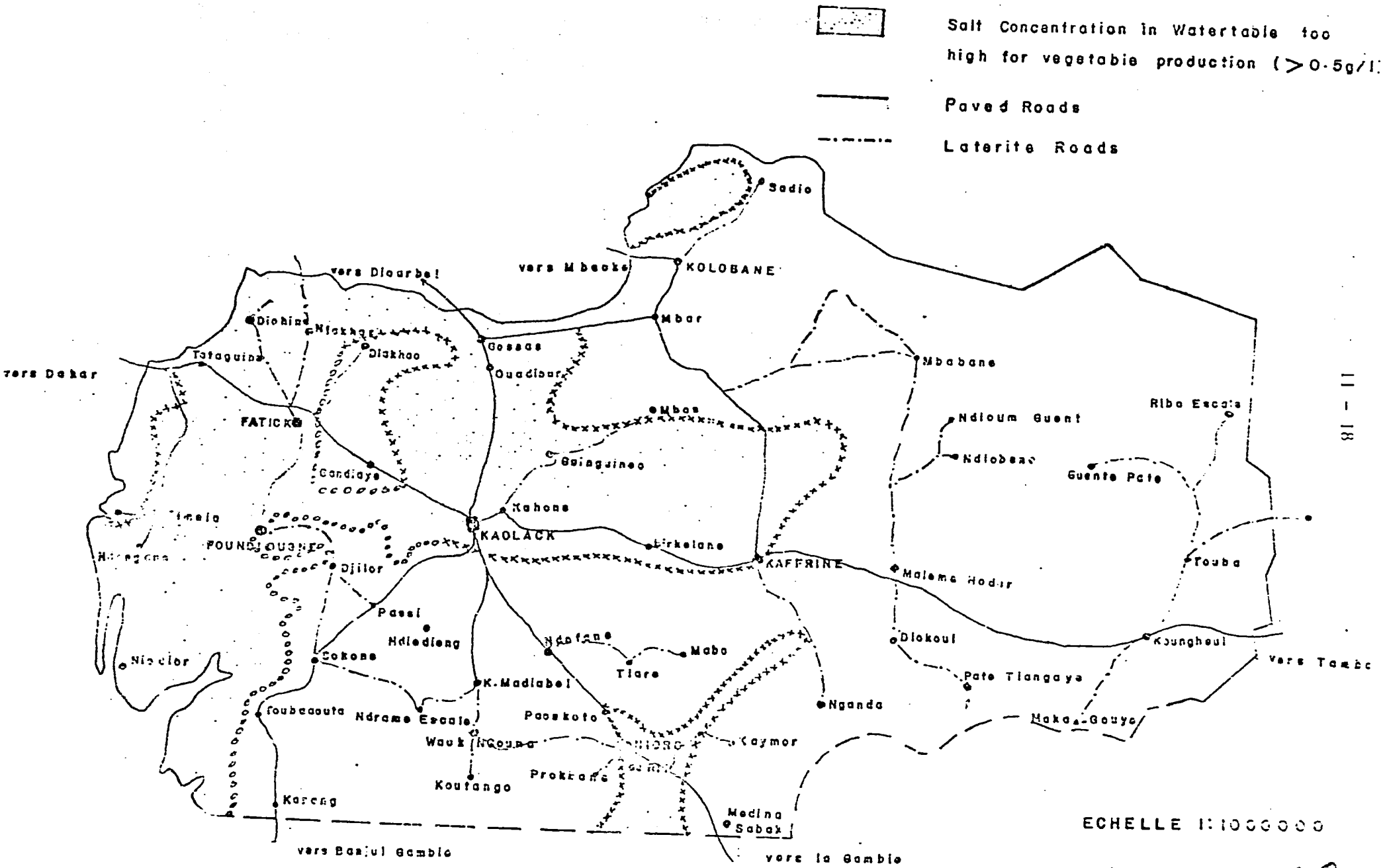
Table 4 : (cont'd)

ARRONDISSEMENT	COMMUNAUTES RURALES	DEPTH OF WATER TABLE	SALT CONCENTRATION
KOUNGHEUL	Ribot Escale	55 - 65m	0,5 - 2gr/1
	Gainte - Pathe	45 - 80m	" " "
	Lour Escale	55 - 65m	" " "
	Koungheul	25 - 35m	" " "
	Maka Yop	55 - 75m	" " "
	Saly-Escale	25 - 45m	0,05 - 0,2gr/1

Figure 2 Hydrological Potential for Sine Saloum

(Watertable)



Nonetheless, inside the 0.5 g/l line, it is possible to find small pockets of sweet water in the otherwise salty water table. For example, 50 ha. of dispersed gardens may be found around Kaolack, though the water table is generally speaking highly saline in this zone (from 1 g/l to 10 g/l at certain points).

Hence, new vegetable production activities are not totally precluded in this zone. However, the pockets of sweet water, wherever available, are very fragile and one runs the risk of exhausting them by pumping water for irrigation. Therefore, these pockets should not be used for irrigation without a specific hydrological survey by the Service de l'Hydraulique.

Even where the salinity of the water table is adequate for vegetable production, the water table should be used with caution. The present dry climatic trend in the Sahel, with rainfall 40 percent less than average, has resulted in the lowering of the water table. As a consequence, some wells have dried up, others are yielding less water. This is already a problem for the existing gardening activities in the Sine Saloum. Insufficient water is a problem in 13 out of 21 of the arrondissements where vegetable production is taking place. (See Table 5.)

Pumping more water for gardening, if done massively, would only worsen the situation, to the extent of possibly exhausting the layer of sweet water and/or pumping up the salt water layers located under it. Hence, the preference should be given to small and dispersed gardening units and to pumping techniques adapted to the physical resources (i.e., manual or animal versus motorized pumps).

Figure 3 also presents the existing boreholes, yielding water less than 0.5 g/l of salt, as well as the boreholes to be drilled in the next three years (Caritas or Belgian assistance program). The water salinity of the boreholes to be drilled is obviously unknown. Most of the suitable existing boreholes are located in the same area where the shallow water table is also adequate. Therefore, the areas identified as unfit for irrigation from the shallow water table are equally unfit for irrigation from the boreholes. Appendix H gives the list of boreholes presented on the map (Figure 3).

2. Climatology

One can roughly distinguish three seasons for gardening in Sine Saloum:

- November to February: dry cool season
- March to June: dry hot season
- July to October: rainy season

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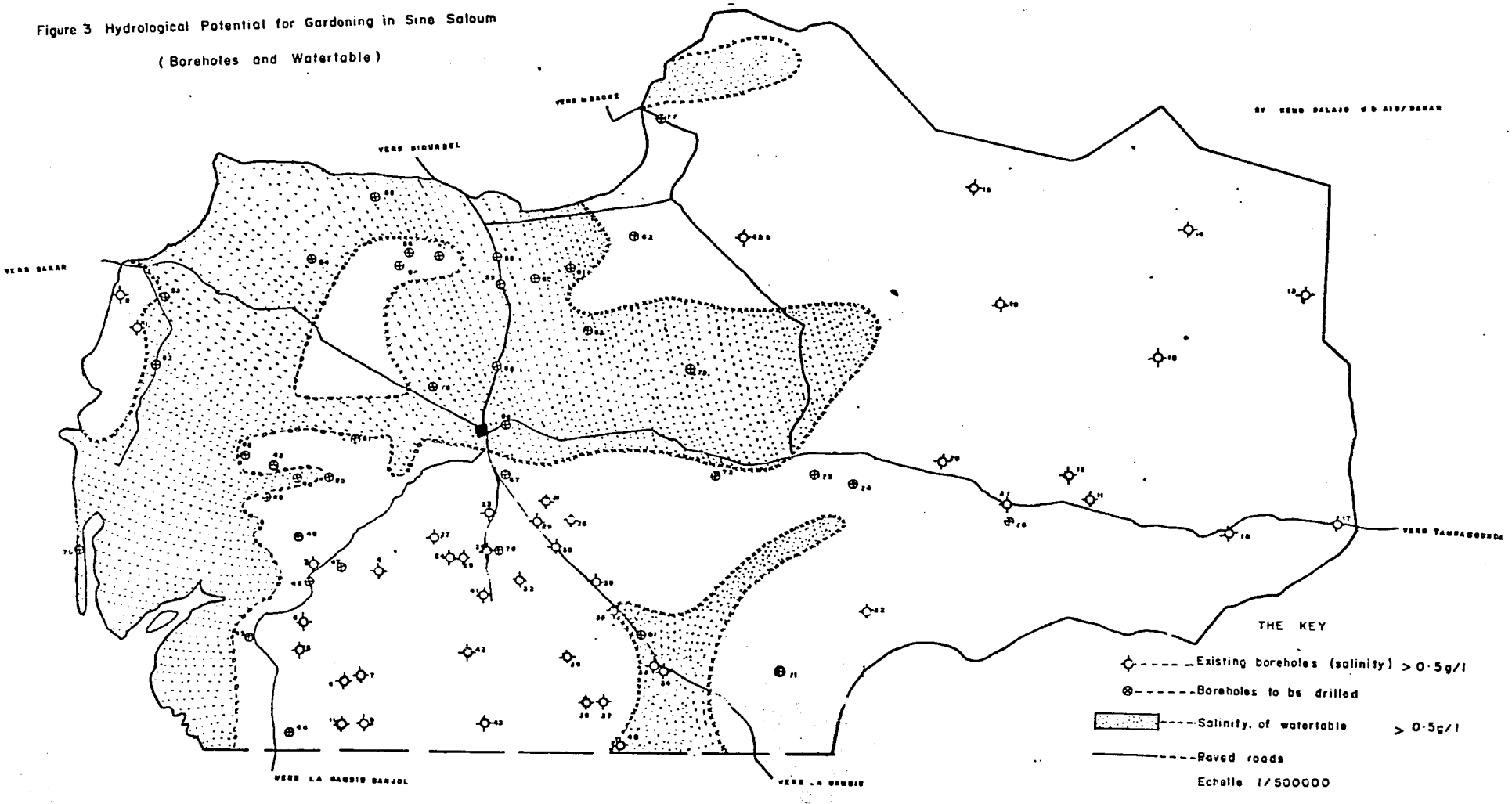
Table 5. Availability of Water Problems

- no problem
+ not enough water in wells

KAOLACK	
Commune of Kaolack	-
Gandiaye	+
Ndoffane	+
Diendieng	+
FATICK	
Diakhao	-
Niakhar	+
Tattaguine	+
Fimela	+
FOUNDIOUGNE	
Toubacouta	-
Djilor	+
Niodior	-
NIORO DU RIP	
Paoscoto	-
Wack Ngouna	-
Médina Saback	-
KAFFRINE	
Birkelane	+
Malem Hodar	+
Koungheul	+
Nganda	+
GOSSAS	
Colobane	+
Ouadiour	+
Kahone	+

Figure 3 Hydrological Potential for Gardening in Sine Saloum

(Boreholes and Watertable)



The most favorable period is the dry cool season, when most European vegetables can be grown without problems. During the following season, March to June, vegetable growing becomes more difficult: temperatures are too high; the Harmattan, a hot dry wind, blows from the Sahara desert; and wells yield less and less water, all of which result in a slowing down of gardening activities. However, these conditions worsen from west to east. Roughly east and north of the city of Kaolack (Kaffrine, Gossas, part of Nioro du Rip), a second growing season is precluded. In the Gandiaye and Kaolack zones, a second growing season is possible for certain varieties of vegetables. The most favorable zone is the Toubacouta-Sokone area up to the Wack-Ngouna-Kaolack road. There, the ocean's influence moderates the temperatures so that a second growing season is possible without major problems.

During the rainy season, temperatures also represent the major constraint for European vegetables but favor the growing of African vegetables (okra, diaxatu, red hot pepper, sweet potato). However, during this period, another constraint becomes important - availability of labor. Most of the farmers doing gardening are in fact working full-time on their rainfed crops during that period except for very small house plots kept by women. Around Kaolack, though, 92 percent of the gardens are cultivated even during the rainy season: the gardener either works full-time (72 percent of the cases) or he/she is replaced by another gardener during the rainy season (20 percent)[5].

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5. Centre pour le Développement de l'Horticulture, Note concernant une Prospection de la Ceinture Maraichère autour de la ville de Kaolack, Janvier 1983.

As an indicative example, Table 6 presents the types of vegetables grown around Kaolack, according to the period. African vegetables are underlined.

Table 6. Types of Vegetables Grown by Period (in Kaolack area)
(In % of Total Cultivated Area)

	Dry Cool Season		Dry Hot Season		Rainy Season	
	Type	%	Type	%	Type	%
1.	Lettuce	47.8	Lettuce	58.7	Lettuce	35.2
2.	Parsley	9.5	Parsley	11.7	Mint	12.0
3.	Mint	9.4	Mint	11.6	Parsley	11.6
4.	Cabbage	7.1	Cowpea	4.0	Cassava	7.6
5.	Kohlrabi	5.0	Bissap	1.9	Red Hot Peppers	5.7
6.	Onion	5.0	Tomato	1.8	Cowpea	5.4
7.	Beet	3.6	Leek	1.8	Okra	4.8
8.	Cowpea	3.2	Eggplant	1.6	Sweet Potato	4.8
9.	Tomato	2.9	Beet	1.5	Bissap	3.9
10.	Carrot	1.9	Turnip	0.9	Diaxatu	2.3
11.	Misc.	4.6	Misc.	4.5	Misc.	6.7
		100		100		100

Source: CDH, p. 26.

3. Marketing Constraints

As seen earlier, Sine Saloum must import 80 percent of its vegetable needs, yet marketing constitutes a major constraint to the development of vegetable production. There are three facets to the problem: 1) a planning problem; 2) the isolated location of some of the areas where gardening is physically possible; and 3) the need to promote vegetable home consumption and processing.

a. A Planning Problem

As mentioned above, except for gardeners around Kaolack, most farmers practice gardening as a secondary activity, their main one being rainfed (peanut and millet) cultivation. Harvest of various rainfed crops ties them up until December even though it would be possible to start the gardens as early as the end of September. As a result, vegetables tend to arrive on the markets all at once (end of February - March), with the result that markets are rapidly glutted. From April on, local production dwindles and vegetables have to be imported. Hence, if vegetable production is to increase in Sine Saloum it needs to be with careful planning of the planting times so as to market at off-peak production periods.

b. Isolated Location

Two outlets may be envisioned for any vegetable production: 1) the surrounding local villages and small towns; and 2) Kaolack and the main secondary cities (département capitals).

Production planned for local markets (mainly African vegetables) presents less transportation problems and is more reliable in the sense that it may not require the services of long distance traders who may or may not come on time to purchase the produce. However, the absorptive capacity of local markets is quite limited not only because of the small population size, but also because rural consumers' purchasing power is limited. Therefore local markets can become quickly saturated.

Kaolack and the main cities can absorb a larger and more diversified production (i.e., African and European type vegetables), but this requires careful planning to ensure the services of one or several long distance traders. The problem is less acute for production activities located on the main traffic routes (mainly Kaolack-Dakar, Kaolack-Banjul, or Kaolack-Nioro). On these routes, at least part of the production can be disposed of by selling alongside the road to passing traders.

c. Vegetable Home Consumption and Processing

A partial solution to the marketing problem is to increase home consumption and to process vegetables that cannot be sold fresh. Vegetable home consumption in rural areas is extremely limited and could be increased with appropriate nutritional extension services. As far as processing (mainly vegetable drying), ISRA has done some research in this area and techniques developed should be implemented in coordination with the project and PVOS.

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E. Commercialization Situation of Existing Production

1. Kaolack

Most production is destined for Kaolack. At some periods, the market is saturated. In the Gandiaye area, production (mainly melons) is for export to Europe and marketing agreements are entered into with Dakar and Rufisque businessmen at the beginning of each growing season. In the Ndiedieng area, there is very little vegetable growing activity although, considering the high population density there (50-80 per km^2), the market could absorb more. In addition, physical conditions are quite good for gardening: sweet water, a water table close to the surface and climatic conditions that allow for two crops during the dry season.

2. Fatick

Existing production in the area of Diakhao is easily sold in Diakhao and Patar. There is almost no gardening activity in Nakhiar and Tattaguine, though the demand is high considering the high population density (50-120 per km^2). But water salinity is too high for gardening. In the area of Fimela, vegetable production already exceeds the local demand and commercialization beyond local villages is not organized.

3. Foundiougne

Vegetable production mainly located in the Toubacouta area is important and destined for Kaolack. Commercialization for Kaolack presents difficulties even though production is located on a main road and relatively close to Kaolack. The Bas-Saloum project, 17 ha. of gardens financed by the German assistance through the Service de l'Agriculture, solved the problems by organizing its own commercialization. Under the responsibility of a full-time Service de l'Agriculture agent, production is sold in the Kaolack and Sokone markets and special sales agreements have been made with Banjul hotels.

4. Nioro

Melons are produced in the area of Paoscoto for export to France. Other vegetables are sold on the Nioro-Kaolack road.

The area of Wack-Ngouna is particularly favorable to vegetable growing with valleys where sweet water is no more than 10 meters deep (Keur Mamadou Néné, Ndienguène Modi, etc...). However, the existing production already satisfies the local demand. Because of the location (the road Wack-Ngouna-Kaolack is a dead-end road with little traffic), commercialization to Kaolack or Nioro poses serious difficulties.

5. Karrrine

This département is quite sparsely populated. The only important vegetable production is concentrated around Koungheul (experimentation station of ISRA). Production tends to exceed the local demand, and commercialization, because of the distances involved, is difficult outside of Koungheul. In 1981/82, some of the production was marketed in Koumpentoum, outside Sine Saloum.

6. Gossas

There are only 2 ha. of vegetable production for the entire département, mainly in Ouadiour. Produce is sold without problem in Gossas and Ouadiour.

F. Conclusions and Recommendations for New or Expanded Vegetable Production Activities

From the above analysis, it is possible to single out certain areas most likely to be successful for new or additional gardening activities.

1. Expanded Production for Kaolack or Export

a. Département of Foundiougne, Arrondissement of Toubacouta, Nema Valley

Specific possible villages: Nema Nding, Sabouya, Nema Ba, Bani Saurou, Keur Seni Gueye.

In this area, the most favorable conditions can be found: temperatures allowing two crops per dry season, low water salinity (between 0.1 g/l and 0.3 g/l), the water table close to the surface (about 20 m deep and only a few meters at certain points), and easy access to main cities (Kaolack and Banjul). On the other hand, gardening activities are already quite developed: 83.5 ha. of gardens according to CDH (See Appendix J) can be found in this area. Additional vegetable production will necessarily supply Kaolack or possibly Banjul and will have to be carefully planned as far as production timing and commercialization are concerned.

b. Département of Kaolack, Arrondissement of Gandiaye and Dèpartement of Fatick, Arrondissement of Mbellakadio

Though the physical resources are not as favorable as for the Toubacouta area (temperatures somewhat higher), it is still a priveleged zone for vegetable production. About 73 ha. are cultivated, 80 percent of which is melon for export. Melon production for export could be expanded if outlets are secured. However, there are some risks attached to single cropping, mainly pest invasion and dependance on one single outlet. It would be advisable to diversify production with vegetables for the Kaolack market, with some caution (i.e., careful production timing and commercialization planning). Crop diversification may not be as easy as it appears, however. Due to monoculture, the soils in the area are infested and trials with a mixture of vegetable types have so far given only poor results. Crop rotation practices could help alleviate this situation.

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c. Département of Nioro, Arrondissement of Wack-Ngouna

Specific areas: Ndienguène Modi, Valley of Keur Mamadou Néné

Physical resources are quite similar to the ones prevailing in the Toubacouta area. In the valley of Keur Mamadou Néné, the water table is only 1 meter deep. The major constraint to the development of vegetable production in this otherwise favorable zone, is an access problem (dead-end laterite road). Inputs are difficult to obtain and the existing production already exceeds local demand. Any additional production will have to be planned for the Kaolack market.

2. New or Expanded Production for Local Markets

Outside these three areas, vegetable production should be limited to supply local markets and/or the closest rural towns. Such constraints would imply smaller units, the area under cultivation being determined by the size of the potential market.

a. Arrondissement of Ndiedieng (Kaolack)

The arrondissement has favorable conditions (two crops per year) and a high population density. The existing vegetable production does not meet local demand.

b. South of the City of Kaffrine (Area of Ngodiba)

Vegetable production could be expanded somewhat to supply Kaffrine.

c. Maleme Hodar (Kaffrine)

Possibility to use the existing borehole to increase vegetable production for the town of Maleme Hodar.

d. Ouadiour (Gossas)

The possibility exists to use the recently drilled CARITAS borehole which appears to provide water suitable for irrigation. The production could supply Ouadiour, Gossas, and to some extent Diourbel.

II. LIVESTOCK (Cattle and Sheep)

A. Present Situation and Sixth Plan's Objectives

Losses resulting from the 1972/73 drought amounted to about 15 percent of the country's herd. Prior to the 1972-73 drought, domestic production covered about 80 percent of the meat requirements, with the balance coming from Mauritania. Since the drought, prices of imported live cattle and sheep from Mauritania have gone up substantially.

The share of the livestock sector in the primary sector has increased from 19 percent during the First Plan to 29.7 percent during the Fifth Plan (1977/81). However, this increase reflects less an increase in livestock activity than a decrease in agriculture's contribution to the primary sector.

As a result of tighter meat supplies and rising prices, per capita meat consumption is now lower (12.5 kg per capita per year in 1980) than before the drought (about 15 kg). Meat imports have also gone down to 4 percent of the total consumption. The Sixth Plan (1982/86) expects to achieve an average meat consumption of 15.7 kg per capita/year, a target which was already set, but met unsuccessfully, by the Fifth Plan for 1981.[6] In order to meet this objective, 23,600 additional tons of meat per year will have to be produced which represents a 34 percent increase over the 1981 production, estimated at 69,100 tons. The objective is obviously quite ambitious and will require considerable effort to meet. Table 7 presents the distribution of planned 1985 meat consumption by category.

Table 7. Distribution of Planned 1985 Meat Consumption by Category of Meat

	Total Consumption (In Tons)	Per Capita (In Kg.)
Beef		
Traditional	48,000	7.30
Fattening Programs	6,900	1.04
Sheep/Goat	17,800	2.70
Pork	2,500	0.4
Poultry	17,500	2.65
Imported Meat	10,900	1.7
	103,600	15.79

6. The Fifth Plan's objective was actually even higher: 16.8 kg/person/year.

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The Senegalese livestock production system remains by and large traditional, characterized by its low productivity in spite of relatively favorable conditions (traditionally skilled herding population, animal species well adapted to local conditions, good sanitary conditions, availability of water). Until recently, livestock production was not given a high priority by the government. No coherent government price policy that would have encouraged an intensification of the production had been elaborated. Except for vaccination programs, livestock extension services were poor or altogether nonexistent. In addition, no policy for local use of industrial by-products had been elaborated and cattle feed thus produced often ended up being exported despite potential use locally.

In the past years, however, the government has become increasingly concerned with raising the productivity of this sector. A number of recent development projects are centered on intensifying livestock production. The creation of SODESP (Société de Développement de la Zone Sylvo Pastorale) reflects such a concern. The World Bank, FED, USAID and Caisse Centrale are all presently funding livestock projects in Senegal. In addition, official retail prices for first choice beef in Dakar went up from 350 CFA/kg in 1974 to 650 CFA/kg in 1982. For goat and sheep meats, prices which were 325 and 400 CFA/kg respectively in 1974 were 650 and 700 CFA/kg in 1982. In fact, market prices tend to be substantially higher than the official ones, reflecting the increasing gap between supply and demand.

B. Situation of Livestock Production in Sine Saloum

The traditional production system carefully integrates livestock and crop production in combination with sophisticated land management practices and methodical use of leguminous trees, especially the *acacia albida*. Since the mid-1960s, various factors have seriously disrupted this production system, carefully adapted to a particularly fragile eco-system. Under the triple influence of demographic pressure, growing monetary needs, and the introduction of mechanized cultivation techniques, the area under cultivation has extended at the expense of fallow land, pastures, and forests. With the diminishing availability of grazing areas, the association of livestock/crop production is in jeopardy. The health status of the herds in Sine Saloum is one of the worst in the country and casualties are high at the end of the dry season. This situation is particularly acute in the *départements* of Fatick, Kaolack and Gossas where the population densities are the highest and where rainfall over the last fifteen years has been too low to produce adequate vegetation growth.

It has thus become necessary for the present extensive livestock production system to evolve towards a more intensive one, with less animals but increased productivity. Cattle and sheep fattening, by making the best use of available agricultural by-products, should be one component of a more intensive production system.

C. Role of Cattle and Sheep Fattening in Sine Saloum in the Overall GOS Livestock Development Strategy

Increasing meat production objectives will be achieved not only through an increase of herd sizes but also through upgrading and increasing meat yield per slaughtered animal. A short fattening period prior to slaughtering is required, either in industrial feedlots or as individual on-farm fattening activities. Because of the availability of agricultural by-products, the Peanut Basin, and Sine Saloum in particular, is a choice region for on-farm fattening activities.

Animal fattening by farmers may be more profitable than an industrial feedlot as no costly infrastructure is required. In addition, it has the advantage of adding value to home-produced agricultural by-products, thus increasing farmers' income by providing much needed off-season economic activity. Furthermore, it increases the availability of manure for crop fertilization. Therefore, animal fattening is one of the essential components of an agriculture-livestock association; it is part of a strategy which has oftentimes been proposed as one of the most promising solutions for the regeneration of the Peanut Basin, particularly depleted soils.

1. Existing Animal Fattening Programs in Sine Saloum

In the past two years, SODEVA has been promoting on-farm cattle and sheep fattening in Sine Saloum. Table 8 presents the number of heads fattened under the SODEVA program by département in 1981/82. In 1982/83, the number of cattle fattened will be 3,400.

Table 8. Number of Heads Fattened Under SODEVA Program in 1981/82

	Cattle	Sheep
Fatick	860	1,375
Gossas	650	2,050
Kaolack	308	1,066
Nioro	302	1,229
Kaffrine	279	1,986
Foundiougne	199	1,665
TOTAL	2,598	9,371

SODEVA recommends the construction of individual stables and a nutrition program based as much as possible on available agricultural by-products: hay stalks, chopped millet and sorghum stalks, peanut hay, millet bran, and peanut cakes. Peanut cakes are available locally (as the by-product of traditional oil processing) or from industrial oil presses. In addition, SODEVA operates a small unit for feed processing in Kaolack mainly for experimentation and on-farm trials. The feed produced constitutes a mixture of bicalcium phosphate (produced in Thiès), bonemeal, salt, locally made peanut cakes, and vitamin supplements.

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SODEVA's approach to on-farm fattening appears to be the most sensible and rational one. Nutrition based on industrial by-products may lead to higher and quicker weight gains but may be far less profitable. Besides, access to these industrial by-products, except for peanut cakes, is unreliable and difficult for the farmers to obtain. The three following examples highlight these difficulties: 1) SODEC, a peanut and cotton processing factory located in Kahone, near Kaolack, produces cotton cake, but the production is entirely exported. 2) The Dakar-based wheat mills produce wheat bran but the demand far exceeds the supply and speculation on wheat bran commercialization is fierce. As a result, farmers' and herders' cooperatives have not been able to obtain the quotas (2/5 of the production) which they are officially entitled to. 3) Finally, C.S.S. (Compagnie Sucrière Sénégalaise) located in Richard Toll (Fleuve Region) produces molasses, most of which is dumped even though this feed is highly palatable for animals and could be commercially exploited. However, the transportation of molasses is difficult, not organized and prohibitively costly under local conditions.

Besides SODEVA's activities, a four-year FAC (Fonds d'Aide et de Coopération) financed project is expected to start in 1983 in the département of Kaolack, then, if successful, in Cossas. Its purpose is to upgrade sheep production with two specific objectives: increased weight gain of animals to be slaughtered, and increased fecundity rate of females.

2. Existing Infrastructure

In Sine Saloum, livestock commercialization remains in the hands of traditional brokers and traders (téfanké and dioula). Prices are agreed upon according to the characteristics of the animal, rarely according to its weight, even where a scale is available. Price fluctuations are considerable depending on the period of the year and the zone (distance to main urban centers).

There are two cold storage facilities (one in Kaolack and one in Guinguineo) and an ice factory with a capacity of 5 t/day in Kaolack. A modern slaughterhouse, with a slaughtering capacity of 40 head of cattle and 110 sheep or goats per day is presently being built in Kaolack. It will be equipped with two cold storage rooms representing a capacity of 6.4 ton (the equivalent of 45 carcasses). In addition, the slaughterhouse will operate a 13 ton refrigerated truck. With these new facilities, the Sine Saloum region will be able to process effectively all its livestock production.

D. Potential for On-Farm Cattle and Sheep Fattening

Cattle and sheep fattening are probably the most promising dry-season activities in Sine Saloum. Unlike vegetable production, marketing problems are unlikely. The only place where SODEVA found marketing somewhat difficult was the area of Koungheul because of the distance to Kaolack. According to Service de l'Elevage and SODEVA, the number of heads of cattle and sheep fattened could double without saturating the markets nor causing prices to fall. In addition, animal fattening yields secure and fairly predictable revenues and does not require the acquisition of elaborate technical skills.

Yet, because the initial capital investment is fairly prohibitive (a three-year old bull ready for fattening costs approximately 70,000 CFA in the Sine Saloum), many farmers cannot enter this economically profitable activity. This project, by providing credit for purchasing the initial animals should be very effective in promoting cattle fattening by farmers. However, SODEVA's experience has shown that providing credit for purchasing the initial animals is not sufficient. Most farmers are not continuing this activity if SODEVA does not keep providing credit, which highlights the need for sensitization and training of farmers for saving and building up their own revolving fund.

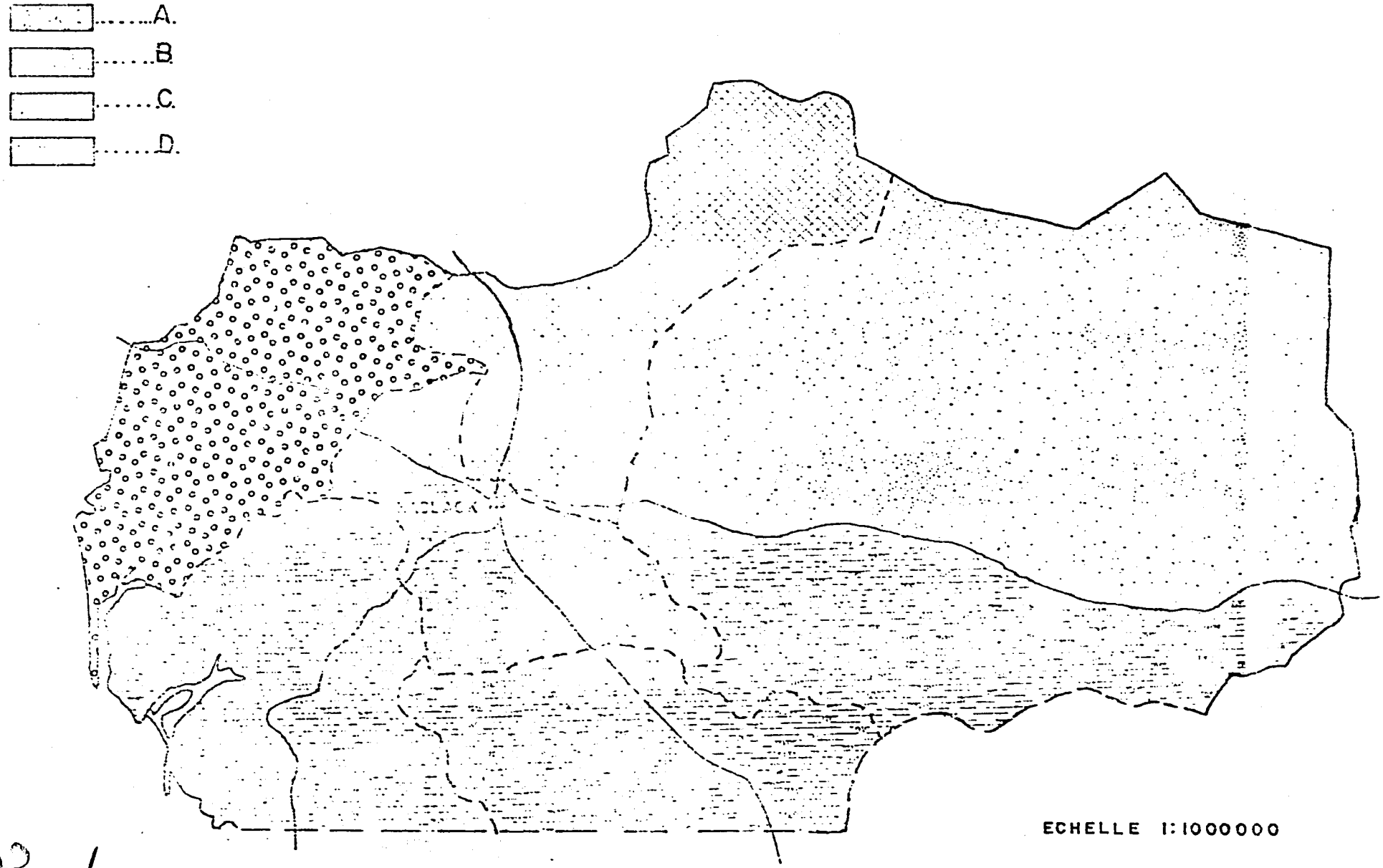
Not all of Sine Saloum is equally favored for this activity. Two main zones can be roughly identified, north and south of the Dakar-Tambacounda road. The main factor to be taken into account is the availability of adequate hay and agricultural by-products (see Figure 4). In the north (départements of Fatick, Kaolack, and Gossas), because of mediocre rainfalls and diminishing availability of grazing lands, hay production is inadequate to sustain the existing herds. Therefore the competition for agricultural by-products is severe, notwithstanding other uses of these same products, such as millet stalks for fuel or fence building. This situation is reflected, for example, in prices obtained for a peanut hay "sack" (16 kg), which vary from 100 CFA in the south after the harvest to 500 CFA in Fatick at the end of the dry season. Considering the high market value of peanut hay in the north, it may be difficult for farmers oftentimes pressed by monetary needs to forego an immediate sale for the longer-term, potentially higher revenue gained by storing it to fatten an animal. This constraint would be somewhat alleviated through the adoption of what has been termed "improved fallow", that is, fallow land sown with forage crops (in particular forage cowpeas). The practice, though far from being widespread, has been well received by farmers where SODEVA has introduced it.

FIGURE 4

KEY FOR CATTLE AND SHEEP FATTENING POTENTIAL

A	Hay and agriculture by-products scarce and expensive seriously restrain cattle fattening. Sheep fattening possible providing farmer's careful storing of existing agricultural by-products.
B	Some problem as above though less severe.
C	Good conditions for sheep fattening. Cattle fattening should not be undertaken without careful storing of existing by-products.
D	Hay and agricultural by-products fairly abundant. Priority should be given to cattle fattening though sheep fattening is of course always possible.

Figure 4 Cattle and Sheep fattening Potential by zones



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For the northern part of Sine Saloum, the fattening activities envisioned under this project should include in their implementation plan prior storing of agricultural by-products by farmers in adequate quantities. In addition, a component for the introduction of forage crops should be included.

The zone south of the Dakar-Tambacounda road is more conducive to these activities (higher rainfall, less human and animal population pressure on natural resources). Agricultural by-products are thus more readily available. The Service de l'Elevage recommends cattle fattening activities in the more favorable zone, the south, and sheep fattening in the north.

III. PORK FATTENING, POULTRY RAISING, AND BEEKEEPING

A. Pork Fattening

Pork fattening, in a country where 85 percent of the population is Moslem, has not been given much attention by government services. However, pork consumption is not negligeable considering the size of the European population. The GOS estimates the need for this item at 10,000 t/year, of which 7,500 tons will have to be imported, representing 69 percent of the yearly imported meats during the Sixth Plan. Thus there is a need to increase local pork production to alleviate imports.

In Sine Saloum, pork raising is practiced by a relatively small group, the Catholic Sérer in the département of Fatick. Improving and increasing this traditional and marginal production could be quite profitable, considering the high retail prices for this product. Aside from the main market, in Dakar, the hotels and main tourist centers would be ready buyers. The Catholic mission in Gossas for example has negotiated agreements with various hotels for the purchase of their small-scale pork production.

B. Poultry Raising

Two types of poultry production exist in Senegal: the traditional and the commercial. Traditional production, representing 75 percent of national consumption, supplies the towns and rural villages of the interior and Dakar to some extent. In order to meet consumer demand, the Sixth Plan ambitiously expects poultry flock sizes to increase from 8,000,000 in 1980 to 14,000,000 in 1985.

Improving and increasing traditional poultry production is highly desirable. Inputs are quite minimal, profits can be high and commercialization problems minimal as well. Production can be easily absorbed locally. In all the départements visited, poultry meat deficit was emphasized. Hence, poultry sub-projects can be envisioned everywhere in Sine Saloum, though proximity to a small urban center will always be preferable.

Problems associated with poultry raising are of a technical nature rather than a commercial one. Poultry flocks are regularly decimated by various epidemics. Close assistance from the Service de l'Elevage agents is required in order to ensure good sanitary conditions (vaccinations, etc.).

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Traditional species, if they are well adapted to local conditions and generally disease-resistant, are poor meat and egg producers. In order to upgrade meat production, cross breeding with imported hybrid roosters is necessary. Finally, poultry raising projects will necessitate a sensitization component concerning feeding. Traditionally, chickens are not fed regularly; most likely, they are left on their own scavenging around the compounds. This leads to slow weight gain and poor quality meat.

C. Beekeeping

Beekeeping, although a profitable activity, has remained by and large traditional for a number of reasons. The lack of technical agents trained in this domain, the problems in adopting modern equipment to local conditions and to local bees (*Apis Mellifua andansoni*)--the research being almost nonexistent--and the lack of beekeepers' equipment have all contributed to beekeeping remaining a marginal low-production activity.

In recent years, the GOS has become increasingly interested in promoting the development of this activity. As a matter of fact, the Sixth Plan has as its objective to increase production from 34.5 tons of honey and 3 tons of wax to 200 and 66 tons respectively. The World Bank, under the "Small Rural Projects" program is already financing beekeeping development in Casamance (Bignona).

In Sine Saloum, the Foundiougne *département* is particularly well-suited for beekeeping, a traditional activity there. Some village organizations have already submitted beekeeping development proposals that have not been financed. There is a center for beekeeping in Toubakouta under the Service de l'Elevage supplied with the necessary equipment for processing and improving bee products.

Marketing is done through traditional channels. Honey, after obtaining a sanitary certificate from the Service de l'Elevage is sold on the markets in the main urban centers. In addition, SERAS buys honey combs from the producers through the *apiculture* centers' agents.

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IV. FORESTRY

A. Importance of Forests and Forest Products

Fuelwood is an important component of household consumption as it is used for cooking and heating in both the rural and urban areas. Poles and lumber are also used for construction of houses, furniture, ox carts, etc. The leaves provide materials for thatching and weaving. The leaves and pods (especially acacia albida pods) constitute a crucial source of feed for animals at the end of the dry season, especially in regions like Sine Saloum, where grazing areas are diminishing. Forest areas are excellent places to graze animals. The trees also provide fruits and nuts for consumption and sale. Finally, the trees and shrubs play a vital role in protecting against wind and water erosion and in decreasing the trans-evaporation. Also, certain species, like the acacia albida, improve soil fertility.

B. Forest Resource Requirements

The average fuelwood equivalent consumption is estimated at $0.6m^3$ per person per year in rural areas and $0.9m^3$ per person per year in urban areas. The 1979 total fuelwood requirements were estimated at 3.7 million m^3 of roundwood equivalent. To produce this volume of fuelwood would require setting aside 5 million hectares of natural forest or sylvopastoral reserves for fuelwood production alone, a figure which significantly exceeds the existing 4 million hectares of such equivalent reserves. This highlights the need for additional fuelwood production.

Ninety percent of industrial and construction wood needs are covered through imports. Imports were estimated at about 15,000 m^3 in 1979, representing a doubling of import during the 1970's and are expected to keep increasing to more than 60,000 m^3 by 1990. Reforestation with appropriate species could reduce import dependence.

As a result of population growth, a rising demand for forest products, and an extension of farming and grazing areas, the natural forest cover has been reduced by 30 percent nation-wide over the last 30 years. Considering the projected demand between now and year 2000, the remaining areas of forest production would be completely exhausted. Declining forest cover has detrimental environmental/economic impacts (increasing desertification, top soil erosion, declining crop yields, loss of potential livestock fodder supplies) which adversely affect rural incomes.

With the declining availability of fuelwood, fuelwood gathering is becoming an increasingly time consuming task for rural women, hindering their participation in other economic activities. Fuelwood shortage in rural areas results in an increased use of substitutes such as millet stalks, crop residues and animal dung. The use of such products as fuel reduces their availability as fodder for livestock, stalks for construction and animal manure for fertilization subsequently adversely affecting crop production.

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C. Situation in Sine Saloum

Declining forest cover is a problem particularly acute in certain areas of the Sine Saloum, namely the départements of Fatick, north of Kaolack, and Gossas. Permanent cultivation implies that fields are burned every year; in the process, young sprouts of important species like the acacia albida are destroyed, thereby hindering their regeneration. The acacia albida in Sine Saloum are aging without being replaced by younger ones.

Yet, the acacia albida plays a crucial role in the eco-system equilibrium. It is estimated that the leaves and pods of forage trees like the acacia albida provide 15 to 20 percent of the food needs of the animals at the end of the dry season. One kilo of acacia albida pods provides as much protein as 0.5 kilo of peanut cake. Furthermore, the role of the acacia albida in soil fertility regeneration is well known. Trials have shown that crops grown under the acacia albida without using any organic or chemical fertilizer yield equal to the ones from heavily fertilized fields. Table 9 below compares yields under and away from acacia albida in unfertilized fields:

Table 9. Yields Under and Away from Acacia albida
(No Fertilizer Used; in Tons/ha.)

	Under acacia albida	Away From acacia albida
Peanuts	1.11	0.81
Millet	0.93	0.46

Source: Dancette and Poulain, "Influence de l'Acacia albida sur les facteurs pédoclimatiques et sur les rendements des cultures (1965-67)."

Finally, the relative humidity under the trees is higher than in the open and temperatures are lower. The resulting decrease in transevaporation can be as high as 35 percent under the acacia albida, thereby reducing the moisture needs of the plants. This factor can become quite important at the beginning of the rainy season when two to three week intervals between rains are not uncommon.

The situation is not as bleak in Kaffrine and in the south. With lower population densities (Kaffrine) and higher rainfall (Foundiougne, Nioro du Rip, South of Kaolack), forest products cover local needs and are also sold in the city of Kaolack and in the north. However, in order to supply these deficit areas, the offtake rate is higher than the regeneration capabilities of the forest resources and will lead to dangerous levels of depletion in the medium-term. Some of these effects can already be seen along the Kaolack-Nioro road.

1. Existing Forestry Projects in Sine Saloum

The activities described below are in addition to the regular activities of Service des Eaux et Forêts.

a. SODEVA Village Woodlots

SODEVA is promoting village woodlots (average of 1 ha.) planted in eucalyptus and neems. In 1982, 131 village woodlots were planted, as follows:

Fatick	9	Kaffrine	27
Foundiougne	34	Nioro	31
Kaolock	23	Gossas	7

In addition, 134,000 seedlings of various species (including fruit trees) were sold to individuals, representing 164 ha. of reforestation. Assisted by SODEVA agents, some farmers have engaged in seedling production for sale, and supply practically all SODEVA reforestation programs.

SODEVA's reforestation program is not without problems, however. In the north, where land is a scarce resource and is divided into very small units, it is difficult for villagers to agree on setting aside a piece of land large enough for a woodlot. That the seedlings had to be purchased (about 30 CFA per seedling) instead of being obtained free as provided by the Service des Eaux et Forêts, constituted a bone of contention. Nonetheless, SODEVA feels strongly about not giving seedlings away for two reasons. First, they found that villagers tend to take better care of the young trees if they paid for them. And second, according to them, the Service des Eaux et Forêts could not provide all the seedlings needed for their program anyway and thus they find it necessary to have their own nurseries.

b. PRECOBA (Projet de Reboisement Communautaire du Bassin Arachidien)

The goal of PRECOBA, a Finnish-financed project through FAO, is to achieve one village woodlot of 10 hectares per communauté rurale. It started as a pilot project in 1981 in the departement of Fatick and is now being extended to some parts of Kaolack (communautés rurales of Gandiaye and Dya). If financing permits, it will also be extended to Gossas.

So far, the following plantings have been undertaken:

Arrondissements	Area		% of Success
Diakhao	81.4		82
Fimela	23.4		89
Niakhar	11.1		64
Tattaguine	19.0		74
TOTAL	134.9	AVERAGE	82

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Obtaining the communauté rurale's permission to set aside 10 hectares in one single block has been the major problem encountered. Also, losses have occurred due to termite attacks and wandering animals. Instead of providing fencing, the PRECOBA finds it more efficient to train two villagers per communauté rurale and pay them (25,000 CFA per month for a year) to look after the woodlot. In addition, villagers are renumerated in kind for their initial work through WFP (World Food Program). PRECOBA has its own nurseries (one per communauté rurale).

Another component of the PRECOBA project is what is termed reboisements champètres, onfield reforestation, which concerns mainly the acacia albida. In 1982, 3,900 trees were regenerated, covering an area of 225 ha. in the communautés rurales of Diofor, Fimela, and Diouroup.

c. Cashew Nut Project (Foundiougne, area of Sokone)

This German-financed project, which began in 1980, aims at planting 2,000 ha. of cashew-nut trees and renovating existing plantations in collaboration with villagers. In order to add value to the production, a processing plant will be built in Sokone.

d. Reforestation of the Central Eastern Region

This large project, jointly financed by the World Bank, Caisse Centrale, Fonds d'Aide et de Coopération and FAO/UNDP, concerns Sine Saloum (Kaffrine département) for 79 percent and Senegal Oriental for 12 percent. The components are the following:

- 2,000 ha. of eucalyptus reforestation within the classified forests, located between Kaffrine and Koumpentoum;
- 3,000 ha. of village woodlots;
- Upgrading and developing 10,000 ha. in the natural forest of Koumpentoum (with firebreaks, tracks, etc.); and
- 2 research and training programs.

e. Tanns Reforestation Project

This study, concerning 5,000 ha. of tanns (salted land unfit for cultivation), in the département of Fatick, Foundiougne, and Kaolack, has been prepared by UNSO (United Nations Sahelian Office). Donors are currently being sought to fund a project from the study results.

D. Coordination with USAID Title III Extension Project

Under this project, USAID is either expanding on existing projects in the Peanut Basin or undertaking new studies. Some of the components that directly concern the forestry/land regeneration activities of the present project are the following.

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- Environmental Rehabilitation Study. Its objective is the design of an overall strategy for land regeneration in the Peanut Basin. The activities planned under the present project should be in line with the recommended strategy, once it is established.

- Nursery Extension. USAID plans to finance the reinforcement of Service des Eaux et Forêts nurseries. Seedlings for reforestation activities under this project can be obtained free from these nurseries.

- Extension of PRECOBA Activities. The possibilities of co-financing the existing PRECOBA project for its extension is being investigated.

E. Recommendations for Reforestation and Land Regeneration Activities by Homogeneous Zones

A number of factors are considered in order to define homogeneous zones for reforestation and land generation activities (see Figure 5):

- Density of population and cultivation which defines the land available for reforestation;

- The extent of environmental degradation; and

- Natural resources (rainfall and soils).

In addition, existing projects will be taken into account to define areas with lowest level of existing or planned activities, and where the project is therefore the most needed.

1. Zone A: Part of Fatick, Kaolack, and Gossas (See Figure 5)

As mentioned earlier, environmental degradation is the most severe in this zone. Forest product needs are considerable, considering the rate of deforestation, the ubiquitous use of animal traction requiring stump removal, the disappearing bush fallow and the high densities of human and animal population. Reforestation and land regeneration activities there should have the following objectives:

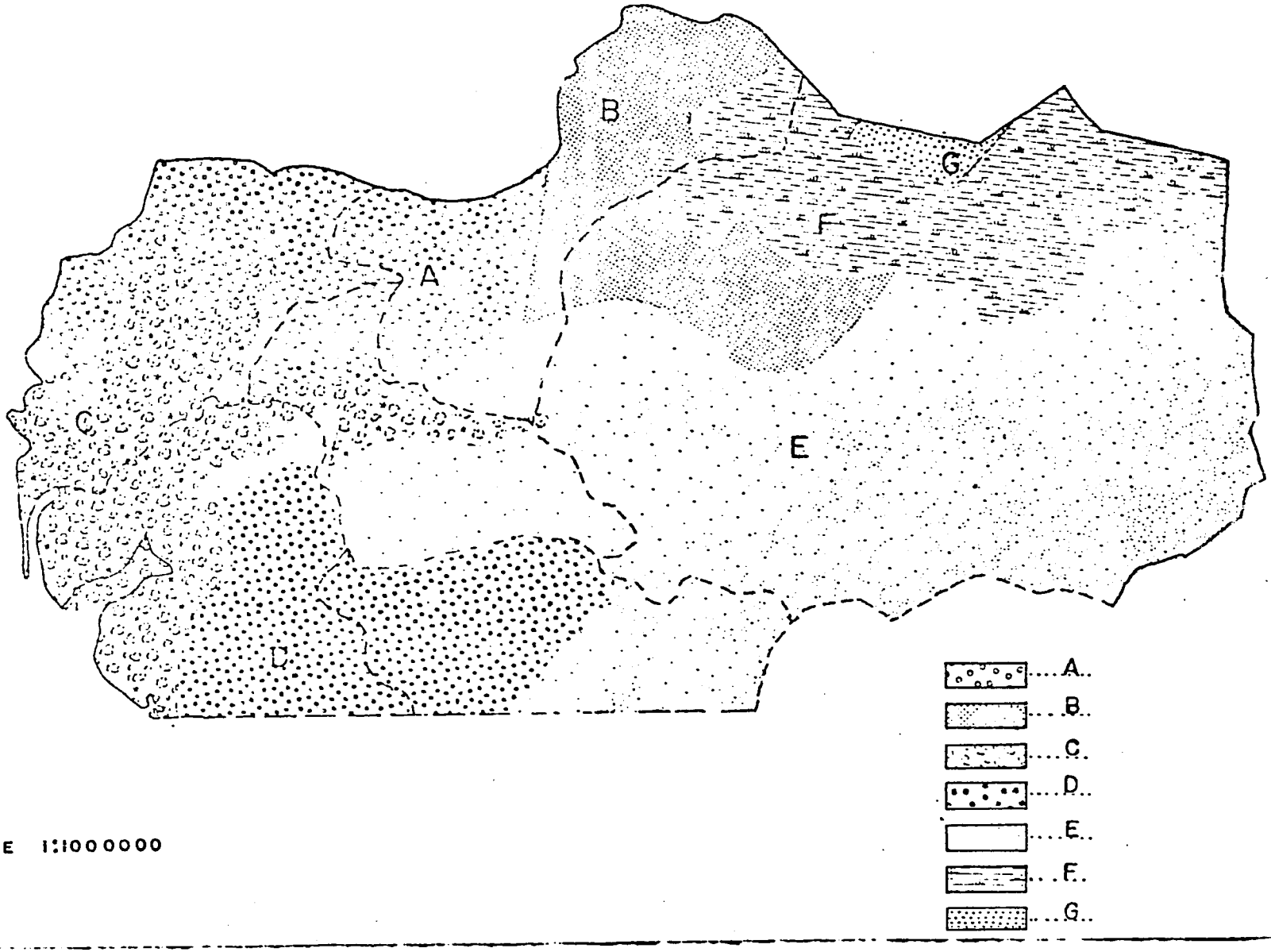
- Meeting local needs in fuelwood (village woodlots) planted in eucalyptus or various species of acacias.

- Protecting soils against wind and water erosion (windbreaks and the reintroduction of trees in fields).

- Regenerating soil fertility (plantation of *acacia albida* in cultivated fields).

- Supplementing animal feed with forage tree products (forage tree orchards planted in various species of acacias).

Figure 5 Homogenous Zones for Reforestration and Land Regeneration Activities



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Considering the scarcity of available land, moreover parcelled out into many small units, village woodlots will have to be small and scattered, which makes maintenance and guarding difficult. Because of the opportunity cost of setting aside land for village woodlots, villagers will have to be strongly motivated, and reforestation success guaranteed or else villagers risk being irreversibly discouraged. Yet, because of mediocre rainfall in this zone, forest production is low:

Eucalyptus	1 to 4 m^3/ha/year[6a]
Various acacias, Azadirachta	1 to 1.5 m^3/ha/year

To maximize survival rate, land has to be properly prepared, adequate amounts of safe pesticides must be used and a protection against animals (either fencing or guarding) is required.

As for fodder tree orchards, the results and recommendations from research in progress either at ISRA or at the CNRF (Centre National de la Recherche Forestière), will have to be carefully taken into account. The results obtained so far on various local acacia species are presented in Table 10.

Table 10. Dry Matter and Wood Production of Various Local Acacias
(In Bambey)

Species	Dry Matter in kg/ha/year	Wood in t/ha/year
A. linaroides	550	3.9
A. Senegal	16	3.6
A. holoreicea	731	4.4
A. seyal	57	1.6
A. radiona	36	2.1

Source: Ministère du Développement Rural, Secrétariat d'Etat aux Eaux et Forêts, Plan Directeur de Développement Forestier: Stratégie de Développement à Long Terme (1981), p. 153.

Some exotic species such as the Australian acacias or prosopis (South America) have given very promising results on experimentation plots. The Australian acacias present the added advantage of keeping their leaves during the dry season.

Given that the PRECOBA project is active in the départements of Fatick and Kaolack, it is recommended that reforestation activities be concentrated in the département of Gossas.

6a. Recent evaluation on the USAID Project at Bandia (similar ecological conditions) shows a growth of 1.5 M^3/ha/year.

2. Zone B: Part of Gossas and Kaffrine

The conditions are similar to the ones prevailing in Zone A but environmental degradation is less acute and local needs are less given the lower population density. Recommended reforestation and land regeneration activities are the same as for Zone A. The emphasis should be given again to the département of Gossas, given the reforestation program planned for Kaffrine under the World Bank/FAC/UNDP-FAO project.

3. Zone C: The Tanns and Bordering Edges (Part of Kaolack, Fatick, and Foundiougne)

This zone is particularly interesting for reforestation activities as the soils, because of their high salt content, are often unsuitable for crop production, though adequate for grazing areas. Furthermore, it borders the fuelwood deficit regions of Fatick and Kaolack.

Not all soils of this zone are equally favorable for reforestation. The experimental station of CNRF (Centre National de la Recherche Forestière) located at Keur Maktar has been testing the species adaptable to each of the four existing categories of soils:

- Deep Sandy Soils. Adequate growth for eucalyptus (5 to 6 m^3/ha/year) and for Australian acacias. These are also the best soils of the zone, and reforestation may compete with crop production in certain areas.

- Clay Soils with a Thin Sandy Cover (less than 1 m.). Natural vegetation of acacia seyal. Irregular growth for eucalyptus. Adequate growth for Melaleuca.

- Grass Tanns with Various Salt Concentrations. Adequate results at the beginning for Melaleuca but growth slows down considerably or stops altogether after 7 years. Fair results for Prosopis where the sandy cover is deeper than 50 cm.

- Salty Tanns (Tanns vives) without any vegetation cover. Extremely mediocre results for Melaleuca and Prosopis. No species seem to survive 10 meters away from the grass tanns.

The only reforestation activities to be considered in this zone are village woodlots. In order to determine what species should be grown in a particular location, given the varied results obtained from the four soil categories, a careful soil analysis will be required. When the UNSO project starts, the need for reforestation activities under the present project should be considerably less.

4. Zone D: Part of Foundiougne and Nioro

This zone benefits from particularly good climatic conditions, with rainfall averaging 700 to 800 mm/year. The deep sandy soils and rainfall levels make this zone particularly suitable for cashew-nut trees. Cashew-nuts should be considered as a crop; the trees require good soil fertility. The

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Service des Eaux et Forêts estimates that cashew-nut tree plantations should not represent more than 20 percent of cultivable land, or 40,000 ha., in this zone. The cashew-nut project will achieve 2,000 ha. of cashew-nut plantations. If the processing plant to be located in Sokone runs well, the present project can expand cashew-nut tree plantations to villages not included in the cashew-nut project.

As far as fuel and construction wood is concerned, local production meets the demand, though the Nioro-Kaolack axis will shortly be a deficit area. Reforestation activities (village woodlots) under the present project should therefore be concentrated along this axis.

5. Zone E: Part of Nioro, Kaffrine and Kaolack

This zone, with a low population density, still has important natural forests and local needs are met. It has been singled out by the Service des Eaux et Forêts as a fuelwood and charcoal production zone for exports to deficit areas of the Peanut Basin. Considering the importance of the World Bank/FAC/UNDP-FAO project in Kaffrine, activities under the present project may be limited to the Nioro and Kaolack parts of this zone. Activities may include:

- Village woodlots either for fuelwood or charcoal production. In the case of charcoal production, collaboration with the Small Business Advisory Unit will be required in order to improve the charcoal-making process and production.

- In-field planting of *acacia albida*.

6. Zone F and G: North of Kaffrine

The sylvo-pastoral reserves constitute most of the zone. Reforestation activities that could be envisioned under the project are planting of fodder trees (various *acacia* species, as described for Zone A).

V. FISHING

A. General Situation

Fishing is an expanding activity, based on particularly favorable conditions: an extended coastline on one of the most productive parts of the Atlantic ocean and a population of 55,000 qualified fishermen. In 1960, fishing contributed 1.6 percent to the GNP. Since then, its share has increased regularly to represent 6.8 percent in 1980. Its contribution to the export sector increased from 8.5 percent of total exports to about 20 percent during the three years, 1980-82. Fish ranks as the third most important export after peanuts and phosphates.

Fishing activities are divided into three sub-sectors: traditional, continental, and industrial fishing. The present project will specifically concern itself with improving the conditions of traditional fishing in order to increase commercialized production. Traditional fishing contributes an important share of total production, as indicated in Table 11.

Table 11. Share of Traditional Fishing Production
(recorded in 1,000 tons and in %)

	1979		1980		1981		1982	
	Tons	%	Tons	%	Tons	%	Tons	%
Traditional Fishing	189	68	197	55	149	62	145	58
Total	303	100	358	100	240	100	247	100

Source: Ministère du Plan et de la Cooperation, VIéme Plan Réajusté de Développement Economique et Social (1981-85).

Sine Saloum is the third most important regional producer for traditional fishing, but its share has declined over the last two years (see Table 12).

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Table 12. Traditional Fishing Production in Sine-Saloum
Out of Total Traditional Production
(in 1000 tons and percent)

	1979		1980		1981		1982	
	Tons	%	Tons	%	Tons	%	Tons	%
Sine Saloum	34	18	32	18	22	15	14	10
Total	189	100	197	100	149	100	145	100

Source: Note à l'Attention du Ministre du Plan et de la Coopération: la Pêche, 1983.

Tables 11 and 12 indicate a considerable decrease in production in 1981-82 from the 1979-80 levels. The closing down of the processing plant, SOPESINE, located in Djifer, due to mismanagement practices is no doubt, related to the decrease.

SOPESINE was producing mainly fishmeal and some oil, most of it for exports, and processing and refrigeration for higher quality fish. Since its closing, the government of Senegal has contracted for the services of two industrial boats stationned at Pointe de Sangomar. These boats provide pre-processing refrigeration, and transport to Dakar. However, only first quality fish is processed on the boats.

The Canadian government is interested in reopening the Djifer plant, but it will probably be a lengthy process and the result is currently unknown. There are a number of legal problems involved regarding the unpaid loans to the banks left by the previous management. Interestingly enough, the Sixth Plan does not mention SOPESINE.

Improving traditional fishing has been a GOS objective for the last decade. Since 1972, the Government policy in this domain has been to favor the regrouping of fishermen into associations that can be assisted to obtain modern or improved equipment (engines for the traditional boats, nets, etc.). Motorized boats numbered 4961 in 1981 against 4616 in 1980. The objective of the Sixth Four Year Plan is to reach 6500 motorized boats in 1985.

Improving traditional fishing offers considerable potential for the Senegalese economy:

- Increasing non-urban incomes thereby reducing rural-urban migration.
- Increasing food production for local consumption, which is in line with the objective of food self-sufficiency that the GOS is trying to achieve.
- Meeting the protein requirements for the population.

Presently, fish products provide 6 grams/person/day of protein covering approximately 26 percent of the nutritional protein requirements. Considering the priviledged natural conditions of Senegal for this economic activity, the fact that fish products provide only 6 grams/ person/day appears to be quite low. Transportation and refrigeration problems connected with the distribution of this highly perishable product are the main bottlenecks. Access to Sine Saloum fishing villages, mostly located in the islands off the coast of the département of Foundiougne is particularly difficult.

B. Traditional Fishing in Sine Saloum

Three départements are concerned: Foundiougne, Fatick, and Kaolack, though most of the fishing activites are located in Foundiougne as indicated in Table 13.

Table 13. Characteristics of Traditional Fishing in Sine Saloum by Département

	Foundiougne	Fatick	Kaolack
No. of Fishermen/ women Censused	6120	750	230
No. of Cooperatives	20	6*	2
1982 Recorded Production (in tons)	7110	3930	1920

* Out of which, two are in the process of being created.

Table 14 presents the equipment owned by fishermen as of 1982. Although there has been considerable assistance to fishermen, there are still 760 sail dug-out canoes. However, most of these canoes are too small to be motorized. In Foundiougne, for example, it is estimated that 78 percent of the canoes that can be motorized have already been motorized.

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Table 14. Fishing Equipment in Sine Saloum (by département)

	Foundiougne	Fatick	Kaolack	Total
Sail canoes	581	98	81	760
Motorized canoes	909	102	24	1035
Beach nets	177	38	31	246
Nets (Maillants and dormants)	812	302	64	1178
Casting nets	1024	354	45	1423
Lines	1318	81	41	1440
Reversible nets	31	6	0	37
"kili" (shrimp nets)	17	--	--	17
Palangres	109	00	1	110
Mollusk nets	693	--	--	693

Source: Direction Régionale de la Pêche, Kaolack

C. Problems and Constraints of Traditional Fishing in Sine Saloum

1. Commercialization

One of the major constraints to developing traditional fishing productio appears to be commercialization. As mentioned earlier, the Sine Saloum fishing villages are located away from the main traffic axes, and the only access to the main center, Foundiougne is a dirt road. As a result, it is estimated that only one-quarter of the fresh production reaches the markets. Marketed production is intended mainly for Kaolack, Dakar, and Fatick, and fish are rare in the smaller rural towns, even in villages only 10 kms. away from fishing centers. Table 15 and 16 present the destination of the fresh and traditionally processed production as recorded by the Service de la Pêche.

Table 15. Distribution of Sine Saloum Fresh Fish Production 1980-81 (in tons)

	1980	1981
Dakar	2642	2034
Kaolack	2139	2016
Fatick	551	1056
Foundiougne	229	149
Thiés	42	43
Diourbel	36	1
Other towns	213	0
Total	5852	5299

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Table 16. Distribution of Sine Saloum Traditionally Processed Fish Production 1980-81 (in tons))

	1980	1981
Local Sine Saloum markets	1302	1156
Dakar	425	436
Gambia	84	26
Diourbel	24	51
Fleuve Region	29	3
Thiès	18	12
Tambacounda	14	4
Total	1896	1688

Source: Ministère du Développement Rural, Service de la Pêche.

The GOS has been increasingly concerned with extending the distribution networks to other cities of the interior. There is ample room to increase production and commercialization without markets being saturated or prices falling. In Sine Saloum, fish products provide 5 grams/person/day of protein covering 24 percent of the protein requirements.[7] In contrast, in Cap-Vert where fish products are much more readily available on the markets, the figures are 15 grams/person/day and 71 percent respectively.

Extending distribution points inland is one of CAPAS' objectives under the Sixth Plan - CAPAS (Centre d'Assistance à la Pêche Artisanale Sénégalaise), a parastatal agency, receives 80 percent of its funds from the Canadian government. Since 1981, CAPAS built three processing and refrigeration centers (Cayar, Joal, Rufisque) and operates a fleet of seven refrigerated trucks. Last year, these centers were able to market fresh fish as far as Bakel. The centers are managed by the fishing cooperatives with the assistance of the agents of the Service de la Pêche.

Though initially CAPAS had intended to build twelve of these centers, including one in Sine Saloum, present financing will not extend beyond the three that are already built. The problem is that the three initial centers have been designed much beyond local production capacity. Joal, for example, has a capacity of 80 tons/day. The policy should have been to build more small centers well distributed along the coast.

7. VIème Plan Réajusté de Développement Economique et Social, sous secteur pêche, 1982

Given the fact that CAPAS does not intend to extend its commercialization program to Sine Saloum, at least in the near future, and that SOPESINE may or may not reopen, the question is whether it makes any sense to increase traditional fishing production if other commercialization outlets are not secured. Other commercial outlets are provided by the traditional marayeurs.[8] Their relationship with fishermen is quite similar to the one between farmers and cereal traders, acting as money lenders. Given a product which is highly perishable, the marayeurs often times are in a power position vis à vis the fishermen faced with either accepting the prices offered by the marayeurs or letting their catch spoil.

According to the Service de la Pêche agents, assistance to fishermen's organizations should therefore not only consist in helping them acquire the necessary equipment, but at the same time in organizing them and providing the means to undertake--at least partly--their own commercialization. The objective would obviously not be to replace the marayeurs but to provide the fishermen with an alternate competitive outlet.

However, taking on commercialization may not be as profitable for a fishermen's organization as it would seem to be, given the many problems involved. Second, the extent to which the marayeurs are exploiting the fishermen remains to be evaluated. CAPAS' experience, albeit recent, shows that commercialization by cooperatives can be profitable. 1982 net benefits for their Cayar center were substantial even after subtraction of equipment amortizations (but not including amortization on buildings).

In any case, commercialization problems will have to be carefully addressed by any PVO intending to assist fishermen's organizations. The viability of assisting them to undertake their own commercialization, if envisioned, will have to be studied thoroughly.

2. Equipment and Credit

Equipping a dugout canoe for deep sea fishing (i.e., with an engine) represents a significant capital outlay. The Service de la Pêche under the activities of CAPAS provides duty-free engines with 70 percent of the price in credit, repayable in monthly installments over 28 months. Credit recovery rates are approximately 85 percent in Sine Saloum and 60 to 65 percent nationwide. Recently though, the Service de la Pêche had to suspend temporarily all credit due to insufficient recovery rates and to the fact that Japanese firms supplying the engines now require full payment in cash prior to delivery.

Low recovery rates seem to result from the fact that CAPAS does not have any field agents specifically in charge of recovering the credit; the Service de la Pêche agents mainly provide technical assistance to cooperatives. In addition, literacy is low among fishermen and as a result record keeping on loans reimbursed or still outstanding is poor or altogether non-existent.

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8. Licensed buyer, transporter, and seller of fresh fish.

Dugout canoes and fishing nets are also quite costly (see Economic Analysis, Annex 12). Dugout canoes, of the size to enable deep sea fishing, require large tree trunks, available only from Casamance. Fishing nets need replacing every two or three years and fishermen's organizations need assistance to build up and manage a revolving fund for that purpose.

3. Maintenance and Fuel Supply

Fuel supply does not seem to be a problem; there are diesel pumps in Toubacouta, Missira, Ndangane and Djifer, and another one is to be installed in Foundiougne shortly. For engine maintenance, the Service de la Pêche, through CAPAS, installed two maintenance centers, one in Foundiougne with two mechanics and one in Djifer with one mechanic and two assistants. Spare parts are oftentimes not readily available, as CAPAS is using the cash obtained from the sale of spare parts to buy engines instead of replenishing the stocks.

More maintenance centers and more mechanics are needed. Other centers should be opening, according to the Service de la Pêche, in Kaolack, Sokone, and Ndangane (Fatick).

The marayeurs buy ice in Kaolack or Fatick. There is a cold storage room built by the Service de la Pêche in Foundiougne that so far has not been used.

4. Traditional Processing (Drying and Smoking)

As already mentioned, most of the catch is transformed from a fresh product. This task of transformation belongs to women. In Foundiougne, two women's cooperatives exist, in Missira and Diomewar. At Missira, drying and storing structures have already been built; at Diomewar, construction will start in 1984. It appears that these two women's cooperatives are quite well organized and their members quite skilled in traditional processing techniques. They need assistance to build a revolving fund to buy fish and to organize their own marketing.

D. Conclusion

Given the location of fishing villages, most fishing activities under the present project will take place in Foundiougne. Assistance to fishermen/women's organizations should include a commercialization component, either through securing the services of one or several marayeurs or through helping them acquire the means to commercialize part of their production themselves, if it is found to be viable. Activities should be closely linked with the ones of the Small Business Advisory Unit which can provide assistance to marayeurs so as to increase their commercialization capabilities, train mechanics where needed and supply them with the necessary tools and spare parts.

Table 17. SUMMARY OF ACTIVITIES AND MAIN CONSTRAINTS BY DEPARTEMENTS

Fatick

Activities[1]	Specific Actions	Specific Location	Main Constraints/Comments
1. Livestock	Sheep Fattening	Anywhere	- Availability of agricultural by-products is a problem. A forage crop component should be included in the activities. - Production should be timed with Tabaski.
	Poultry Raising (mainly for meat)	Preferable around small urban centers	- Intervention of Service de l'Elevage required for vaccination program. - Availability of cross-bred chickens. - Sensitization program needed for feeding.
	Pork fattening	Among Christians	- Technical assistance may be difficult to obtain. - Sale agreements need to be made with hotels and/or Dakar butchers.
2. Forestry/Land Regeneration	Village woodlots	Anywhere outside the tanns zone: Zone A (See forestry map)	- Slow growth of eucalyptus (1 to 4 m^3/ha/year). - Availability of land is a problem. - Existing PRECONA project may lessen the need for such activities.
	In-field acacia albida regeneration and plantation; windbreaks	Anywhere outside the tanns zone: Zone A	- Need for sensitization component.
	Forage tree plantations	Anywhere outside the tanns zone: Zone A	- Collaboration of research centers needed (ISRA, CNAF) - Especially needed where sheep fattening activities take place.
	Reforestation of the tanns (village woodlots)	Tanns zone: Zone C	- Collaboration of research centers needed (CNAF). - UNSO project may lessen the need for such activities.
3. Fishing	Increasing production and commercialization	Simal Palmarin Ndangane Sembou Faoye	- Commercialization constraints need to be resolved; collaboration with SBAU required. - Only few sub-projects given the small fishing population.
4. Vegetable Production		Mbellakadio Arrondissement	- The only arrondissement where vegetable production can be recommended due to physical constraints (availability of sweet water). Vegetable production possible in the arrondissement of Fimela but surplus production already exists. - Marketing outlets need to be secured. - Two crops/dry season.

1. Ranked by importance.

Kaolack

Activities	Specific Actions	Specific Location	Main Constraints/Comments
1. Livestock	Sheep fattening	Gandiaye arrondissement	- Same as sheep fattening in Fatick. - Collaboration with FAC project recommended.
	Cattle fattening	Ndiedieng and Ndoffane arrondissements	- Availability of agricultural by-products should be secured prior to starting up the activity.
	Poultry raising	Preferable around small urban centers.	- Same as for Fatick.
2. Reforestation/ Land Regeneration	Village woodlots for local needs.	Zone A: Gandiaye arrondissement	- Eucalyptus: 1-4 m^3/ha/year in the North. 5-6 m^3/ha/year in the South. - Existing PRECOBA project may lessen the need for village woodlots in Gandiaye arrondissement.
	In-field acacia albida regeneration and plantation; windbreaks	Zone A: Gandiaye arrondissement; to a certain extent, Zone E	
	Reforestation of tanns zone	Tanns Zone (Zone C)	- Same as for Fatick.
	Village woodlots for fuelwood and charcoal exports	Ndoffane arrondissement (Zone E)	- Collaboration with SBAU required to improve charcoal production.
	Forage tree plantations	Mainly needed in Gandiaye arrondissement (Zone A)	- Same as for Fatick.
3. Vegetable Production		Gandiaye arrondissement	- Production diversification needed at the same time melon production for export is expanded; Two crops/dry season. - Marketing outlets (Kaolack mainly and Fatick) need to be secured.
		Ndiedieng arrondissement	- Mainly for local markets, secondarily for Kaolack. - Production needs to be planned in function of local markets' absorptive capacity.
4. Fishing	Improving production and commercialization of coastal fishing	Bouthie Ndangane Dième	- Few fishing activities in Kaolack (only 2 fishing cooperatives . Problems and constraints similar to the ones in Fatick. Two crops/dry season.

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Gossas

Activities	Specific Actions	Specific Location	Main Constraints/Comments
1. Livestock	Sheep fattening	Anywhere	- Same as for Fatick.
	Poultry raising	Preferably around small urban centers	- Same as for Fatick.
2. Reforestation and Land Regeneration	Village woodlots	Anywhere, but mainly Zone A and B	- Same as for Fatick. - Reforestation activities much needed as no other projects exist so far in Gossas.
	In-field acacia albida regeneration and plantation; windbreaks	Anywhere, but mainly Zone A and B	- Same as for Fatick.
	Forage tree plantations	Anywhere, but mainly Zone A and B	- Same as for Fatick.
3. Vegetable		Ouadiour	- Use of recently drilled CARITAS borehole, supposedly yielding sweet water. - Marketing in Gossas and Diourbel and local markets.

Foundiougne

Activities	Specific Actions	Specific Location	Main Constraints/Comments
1. Fishing	Increasing production and commercialization of fish and shellfish (shrimp)	Two islands off the coast, Foundiougne and Toubacouta	- Same as in Fatick.
	Assistance to women's processing activities	Missira Dionewar	- Assistance for commercialization needed. - Appropriate technology.
2. Vegetable Production		Toubacouta arrondissement (Nema Valley; villages of Nema Nding, Sabouya, Nema Ba, Bani Saurou, Keur Seni Gueye	- Production for Kaolack, Banjul, Sokone, Toubacouta. - Commercialization needs to be carefully planned.
3. Livestock	Cattle fattening	Anywhere	- Availability of agricultural by-products should be secured prior to starting up the activity.
	Poultry raising	Preferably around small urban centers.	- Same as Fatick.
	Beekeeping	Toubacouta arrondissement	- Collaboration with the beekeeping assistance center of Toubacouta must be secured as well as marketing through SERAS.
4. Reforestation/ Land Regeneration	Cashew nut tree plantation	Zone D, on farming land	- If Sokone processing plant operating smoothly.
	Reforestation of tanns zone	Zone C, Tanns zone	- Same as for Fatick.

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Nioro du Rip

Activities	Specific Actions	Specific Location	Main Constraints/Comments
1. Livestock	Cattle fattening	Anywhere	- Availability of agricultural by-products should be secured prior to starting up the activity.
	Poultry raising	Preferably around small urban centers	- Same as for Fatick.
2. Vegetable Production		Wack-Ngouna arrondissement (Ndiengnene Modi Valley of Keur Mamadou Nene)	- Favorable physical conditions. Two crops/dry season. - Commercialization, the main problem (landlocked location) needs to be resolved prior to starting up the activity.
3. Reforestation/ Land Regeneration	Village woodlots	Mainly Kaolack-Nioro axis	- Adequate growth for eucalyptus (about $6m^3$/ha/year).
	Village woodlots for fuelwood and charcoal production for export to deficit areas	Zone E, Medina-Sabak arrondissement	- Collaboration with SBAU - required to improve charcoal production.
	Cashew nut tree plantation	Zone D, Paoskoto and Wack-Ngouna arrondissement, on farm land	- If Sokone processing plant operates smoothly.

Kaffrine

Activities	Specific Actions	Specific Location	Main Constraints/Comments
1. Livestock	Sheep fattening	North of Kaolack, Tambacounda road	- Availability of agricultural by-products should be secured prior to starting up the activity.
	Cattle fattening	South of Kaolack, Tambacounda road	- Same as above.
	Poultry raising	Preferably around small urban centers.	- Same as Fatick.
2. Vegetable Production		South of the city of Kaffrine (area of Ngodiba) Maleme Hodar borehole	- Production for local markets and commercialization in Kaffrine and Maleme Hodar. Production needs to be tightly correlated to market absorptive capacity. Production timing crucial.
3. Reforestation/ Land Regeneration	Village woodlots for fuelwood and charcoal production for export to deficit areas as well as local needs	Anywhere except the North (Zone E, see forestry map)	- Collaboration with SBAU required to improve charcoal production. - Activities needed may be minimum due to the existing World Bank/ FAC/FAO-UNDP projects.
	In-field acacia albida regeneration and planting	Zone B (see forestry map)	- Need for village sensitization component.
	Forage tree plantation	Zone B, F, G (see forestry map)	- Collaboration of research centers needed (ISRA-CNRF). - Especially needed where sheep fattening activities take place - Only if adhesion of herding populations (Peul) is ensured.

APPENDIX G

SOME CHARACTERISTICS OF VEGETABLE PRODUCTION IN SINE SALOUM IN 1980/1981.

(Location, area cultivated, number of producers, source of technical assistance and types of vegetables).

LIST OF ACRONYMS USED IN THE FOLLOWING TABLES

- C.E.R. : Centre d'Expansion Rurale
- C.P. : Corps de la Paix
- I.S.R.A. : Institut Sénégalais de Recherches Agricoles
- M.C. : Mission Catholique
- M.F.R. : Maison Familiale Rurale
- S.A. : Service de l'Agriculture
- P.H. : Promotion Humaine (now Ministère du Développement Social)

Note: The following data, especially in area cultivated, should be taken with caution. A recent in-depth survey (département of Kaolack) has shown that cultivated area were either over-estimated or corresponded to the total garden, not the actual planted area.

Source: Centre pour le Développement de l'Horticulture "Note concernant une prospection sur le Maraîchage au Sine Saloum", 1981.

List of Village Gardens in Sine Saloum (dry season 1980/81)

Arrondissement	Communauté rurale / Village	Area (ha.)	Number of Producers	Technical Assistance	Types of Vegetables
City of Kaolack	Neighborhoods:				
	-Ngane Alassane		17		Lettuce, cabbage, onions, kohlrabi, radish, leeks, celery, parsley, mint, hot pepper
	-Same				
	-Thiofack	50	44	S.A.	
	-Ndorong		40		
Gandiaye	Gandiaye				
	-Keur Alfa	6	118		
	-Khala Mbasse	4	61		
	-Keur Taiba	5	24		
	-Thiomby	1.5	18		
	-Keur Mary)	10	122		
	1 vallée				
	-Nene)				
	-Ndack/Mbambara Gandiaye	1	11		
	-Keur Waly Nga	6	49		
	-Keur Diogoye	4	32		
				C.E.R.	80% cantaloupe, 10% hot pepper, 10% diversified
	Dya				
	-Diokoul	10	64		
	-Diouloulyengle	6	88		
	-Mbelsope	3	47		
	-Ngothie	2	39		
	-Keur Tagouthie Ndao	4	28		
	Ndiebel				
	-Khour Aly	6	54		
	-Khour Biram Mbodj	4	32		
Ndoffane	Latmingue				
	Latmingue	1	46	M.F.R.+S.A.	Cabbage, lettuce, tomato, hot pepper, cantaloupe
Diedieng	Keur Soce				
	-Sama Toucouleur	1	50	S.A.	Cabbage, tomato, lettuce, onion
	Ndiaffate				
	-Bill Bambara	2	15	—	potato, tomato, lettuce, onion, tobacco
	Keur Diarra Peulh	1	5	—	hot pepper, tomato, okra, carrot
TOTAL -- (Département of Kaolack)-------24 villages		127.5	1.004		

Département	Arrondissement	Communauté rurale / Village	Area (ha.)	Number of Producers	Technical Assistance	Types of Vegetables
FATICK	Diakhao	Ndiob				
		-Ndiob	3	33		Tomato, cabbage, onion
		-Bakondieme	3	31	C.E.R.+ S.A.	Tomato, cabbage, onion
		-Bangadji	1	30		Tomato, cabbage, onion, cantalope, lettuce.
		Diakhao				
		-Ndoffane Mourit	0.2	10	C.E.R.+ S.A.	Tomato, lettuce, cabbage
		Mbellacadio				
		- Ndairy	3	63	S.A.	Hot pepper, eggplant
		-Thiaba	6	98	M.C.+ S.A.	Cassava, cabbage
		Diaoulé				
		-Galangue	2	50	M.F.R.	Tomato, cassava
	Niakhar	Naikhar				
		-Tella	0.5	23	C.E.R.	Tomato, cabbage
	Tattaguine	Tattaguine				
		- Diofane	1	10	C.E.R.+ S.A.	Cabbage, onion, tomato
	Fimela	Fimela				
		-Fimela	2	40		Cherry tomato, cabbage,
		-Yayem	2	50	C.E.R.	sweet potato, lettuce
		-Djilor	2	50		
		Diofior				
		-Diofior	1	40	CP + CER + SA	Onion, cabbage
		-Sorobougou	1.5	5	SODEVA	Onion, eggplant, hot pepper.
		Loul Sessène				
		-Beyard 1 vallée	15	114	C.E.R.+ S.A.	Cherry tomato, cabbage
		-Gnaraguerane				
		-Loul	0.2	36	CP + CER + SA	Hot pepper, eggplant
TOTAL	(Département of Fatick)	17 villages	43.4	683		

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Département	Arrondissement	Communauté rurale / Village	Area (ha.)	Number of Producers	Technical Assistance	Types of Vegetables
FOUNDIOUGNE	Toubacouta	Nioro Alsana Tall				
		-Ndiob 1 vallée	10	90		Diakhatou, onion
		-Senghor	5	60		Tomato, okra, eggplant
		-Keur Mama Lamine	8	110		Cherry tomato, diakhatou, onion, cabbage, sweet potato
		Saloum Diane				
		-Saloum Diane 1 vallee	5	28	S.A.	Cherry tomate, cabbage, onion, carrot,
		-Keur Andalach				
		-Ndiayecounda	20	150		Cantaloupe, cherry tomato watermelon, cabbage, lettuce, okra, hot pepper
		Samba Guèye				
		-Samba Nosso	8	90		Hot pepper, onion, cabbage
		-Keur Osseynou Dieng	4	35	S.A.	Onion, eggplant, hot pepper
		-Touba Barya	5	50		Cabbage, onion, hot pepper
		Toubacouta				
		-Santanba	15	93	S.A.	Cherry tomato, cabbage, onion
		-Nema	3.5	14	Projet Bas-Saloum	Eggplant, cabbage, potato, tomato, onion, cantaloupe, watermelon
	Djilor	Djilor				
		-Bandandar	0.25	50	Doctor	Tomato, lettuce, cabbage
		-Mbowene	0.25	1	Pilot farm project	Diakhatou, kohlrabi
	Niodior	pas de maraîchage				
TOTAL	(Département of Foundiougne)	13 villages	84	771		

Département	Arrondissement	Communauté rurale / Village	Area (ha.)	Number of Producers	Technical Assistance	Types of Vegetables
NIORO DU RIP	Paoscotto	Prokhane				
		-Prokhane ex. marabout jardins individuals	28 2	100 50	S.A.	Cantaloupe Lettuce, cabbage, hot pepper
	Wack Ngouna	Ndrame Escale				
		-Ndieguene Mody (+ villages voisins) 1 vallée	15	350	S.A.	Cantaloupe, tomato, hot pepper, cabbage. lemon grass, eggplant diakhatou, lettuce
		Wack Ngouna				
		-Koutango)1 vallée	6	90	S.A.	Sweet potato, hot pepper, diakhatou, cabbage, onion, lettuce, tomato, eggplant, okra
		-Keur Mamadou Nene)	10			
	Médina Sabbakh	Kaymor				
		-Djiguimar (vallée petit Baobolon)	2	55		Lettuce, cabbage, hot onion, tomato,
		Santhiou Djiguimar	0.5	70	C.E.R.	Cabbage, hot pepper, onion, lettuce, potato, watermelon
		-Kaymor		150		Cabbage, cherry tomato, lettuce, cassava, hot pepper
TOTAL	(Département of Nioro du Rip)	7 villages	67.5	865		

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Département	Arrondissement	Communauté rurale / Village	Area (ha.)	Number of Producers	Technical Assistance	Types of Vegetables
KAFFRINE	Birkelane	Ndognick				
		-Keur Ndery	0.25	7	SODEVA	
		Nabo				Lettuce, onion, cabbage, tomato, carrot, potato
		-Nabo	0.33	53	SODEVA + privé	
		-Ndimbere	0.2	4	CER + PC + PH	
	Malem Hodar	Malem Hodar				
		-Signa	0.25	50	SODEVA	Lettuce, cabbage, tomato, onion, hot pepper, turnip, okra, potato, carrot, eggplant, parsley
		-Malem Theinrigne	0.33	125	P.C.	
		-Ngodyba	0.33	20	M.F.R.	
	Koungheul	Naka Yopp				
		-Koumbidia (+ 13 surrounding villages)	5	200	Unité expér. de l'ISRA	Tomato, onion, cabbage, turnip, diakhatou, okra
		-Arafat	0.125	1	P.C.	Cabbage, lettuce, potato, carrot
	Nganda	Nganda				
		-Mina	0.33	135	P.C. + C.E.R.	Cabbage, onion, potato, tomato,
		-Keur Demba	0.66	1	SODEVA + CER	Hot pepper, cassava, tomato, (only rainy season)
		-Kathiotte	0.33	30	C.E.R.	
TOTAL (Département of Kaffrine)		24 villages	8.135	626		

Département	Arrondissement	Communauté rurale / Village	Area (ha.)	Number of Producers	Technical Assistance	Types of Vegetables
GOSSAS	Colobane (C.E.)	No gardening				
	Ouadiour (O.R.)	Ouadiour				
		-Tawa Loumbel Kelly	1	10	M.C.	Tomato, onion, cabbage, lettuce, hot pepper, eggplant (only rainy season)
		-Teourou Mbeye	1	10	(marabout)	
	Kahone (K.E.)	Kahone				
		-Khelcom	0.2	1	C.P.	Lettuce, cabbage, eggplant, raiish, carrot, parsley, onion, okra, cantaloupe
TOTAL	(Département of Gossas)	3 Villages	2.2	33		

APPENDIX H

LIST OF EXISTING BOREHOLES

in Sine Saloum).

FATICK

Fimela	1. Nobandane
Tataguine	2. Babocof

FOUNDIOUGNE

Djilor	3. Thiamene Sa Thiebou
	4. K. Babou Kani
Toubacouta	5. Padanene
	6. Ndiop Thiare
	7. K. Andalla Villane
	8. Bambadalla
	9. K. Momath Souna
	10. K. Momath Souna

KAFFRINE

11. Maka Yop
12. Arafath
13. Ribo Escale
14. Koum-Koum
15. Gainte Pathe
16. Koungueul
17. Douba Lampour

Maleme Hodar	18. Ndioum Ngain
	19. Darou Miname
	20. Maleme Hodar
	21. Niahene
Nganda	22. Nganda
Ndiedieng	23. K. Moussa Naye
	24. Ndiagne
	25. Ndiagne
	26. Niedieng
	27. Lamaram
Ndoffane	28. Ndiame
	29. Sikatroum
	30. Keur Baka
	31. Thiamene

NIOR DU RIP

Paoskoto	32. Niappa Diagne
	33. Nioro du Rip
	34. Nioro du Rip
	35. K. Diouga Drame
	36. Prokhane Wolof
	37. Prokhane Wolof
	38. Taïba Niassene
	39. Gapakh
	40. Medina Mounawar
Wack Ngouna	41. Keur Madiabel

42. Keur Mamour Coumba

43. Touba Mandera

43(b) Boki Puits
(Dept. de Kaffrine)

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BOREHOLES FOR FUTURE CONSTRUCTION

(CARITAS and Belgian Programs)

44. Sirmang
45. Toubacouta
46. Sokone
47. K. Lahine Fatim
48. Ndorong
49. Mbassis
50. Djilor
51. Keur Yoro
52. Djilas
53. Ngoye Mbadat
54. Sankhaye
55. Ndiop
56. Sakhmak
57. Ndock Sare
58. Ouadiour
59. Loumbel Kely
60. Thikhy
61. Ngadada
62. Dekay Tchingue
63. Ndiago
64. Sombe
65. Nguekhokh
66. Kahone
67. Tiavando
68. Tiaré
69. Felane
70. Djifère
71. Keur Bakary
72. Ndimb Korki
73. Ngodiba
74. Dagaye Gouye
75. Madina Temegne
76. Thiarene Garang
77. Medina Mbaba
78. Ngolothié
79. Gawane Djedah
80. Sadiaga
81. Paoskoto

ANNEX 12

ECONOMIC ANALYSIS

ANNEX 12 - 1

ECONOMIC ANALYSIS

I. INTRODUCTION

The economic analysis presented here deals with the costs and benefits to be expected from assisting small rural enterprises and village organizations. For the village organizations, the four economic activities which are assumed to represent the bulk of the village organization sub-projects (90 percent) are discussed. They are:

- vegetables and fruit production
- cattle and sheep fattening
- village woodlot
- fishing

The rationale for undertaking these activities in Sine-Saloum and their feasibility according to location are discussed in the Spatial Analysis (See **Annex** 11). The present analysis deals specifically with the micro-economic aspect and profitability of undertaking these activities from the point of view of both the beneficiaries and the Senegalese economy as a whole. The first is based on the calculation of the return to labor and the increase in monetary income; the second, on the project costs and benefits over twenty years and calculation of the internal rate of return. For each activity, a sensitivity analysis for less favorable situations is presented.

The analysis begins with a discussion of the hypothesis and assumptions that needed to be made in order to carry out the analysis. Throughout this section, the exchange rate taken is 325 CFA for 1 US dollar.

II. ASSUMPTIONS UPON WHICH THE ECONOMIC ANALYSIS IS BASED

A. Share of Each Activity

One of the basic principles of this project is that the village organizations will be the ones to decide which development activities they will carry out. Hence we do not know a priori how many gardening, livestock, etc. sub-projects will be implemented. However, in order to calculate an internal rate of return (IRR) for each activity, one has to assume the share of this activity in the overall project. This is needed in order to attribute to each activity its share of the project overhead costs (management unit costs,PVO assistance costs, etc...) as well as calculating the stream of costs and benefits.

For the needs of the present analysis, we will assume the following distribution of village development activities.

25% vegetable and fruit production
30% cattle or sheep fattening
25% village woodlots
10% fishing
10% other activities (poultry, bee-keeping, vegetable and fruit drying and processing, ban-ak-suuf, etc...)

We will further assume that the overhead costs to the management unit and the PVO's will not depend on the type of sub-project carried out. Therefore, the share of these costs attributed to an activity will only depend on the percentage of the village organizations choosing this particular activity, except for village woodlot sub-projects which require considerably less technical assistance.

B. Number of Sub-Projects and Schedule Implementation.

Another assumption needs to be made concerning the number of village organizations and small rural enterprises that will be assisted under the project. Considering the costs involved for each category of activity, it is estimated that the project can assist about 210 village organizations and 675 small enterprises over 10 years. This is only an estimate, for the exact costs for each sub-project will be known only when the PVO's present project proposals.

In addition, a number of assumptions have been made concerning the time schedule for project implementation. Because of the complexity of starting such a project, it is expected that few activities will be carried out in the first year. No new projects with village organizations will begin in year 6, since two years assistance on the average may be needed to carry out an activity successfully. For small enterprises, no new enterprise will be assisted after year 6. The assumption here is that project components will have been taken over by permanent institutions. The following is the distribution of projects by project year.

	Project Years:						No. of Sub-Projects or Small Enterprises Assisted
	1	2	3	4	5	6	Total
Village Organizations	6	30	40	70	70	0	216
Small Enterprises	20	60	135	230	230	0	675

C. Size of Sub-Projects

The size of sub-projects will depend on the size of the village organization considered. Average project size has been assumed for each sub-project (see cost/benefit analysis below) based on the average size of village organizations interviewed. However, one may expect that other villagers will choose to enter the organization in order to benefit from the project activities. As a result, project sizes may be larger and the rate of return higher because of economies of scale. Therefore, the project size corresponding to present village organization size is a conservative estimate.

D. Allocation of Common Sub-project Costs

Common sub-project costs (i.e., literacy material and training, etc.) are distributed between village organizations and small rural enterprises proportionately to USAID investments for them, that is not including credit. Supplies, equipment and credit management costs are divided by the number of individuals or groups served (i.e., 675 small rural enterprises and 216 village organizations) the rationale being that it costs as much to supply credit to an individual as to a group.

Further we equally divide the common sub-project costs attributable to village organizations by the number of sub-projects implemented, except for village woodlots. It is estimated that village woodlots require about 1/3 of the assistance of all the other sub-projects. The share of common sub-project costs has been thus estimated at $3,446 for reforestation activities and at $10,222 for all other activities.

E. Environmental Regeneration Activities

Apart from the village woodlots and the diffusion of the ban-ak-suuf stoves some environmental regeneration activities can be carried out as part of gardening sub-projects. These are:

- composting for gardening
- windbreaks around the gardens
- seedlings for village woolots

In addition, livestock sub-projects will also have an indirect impact on the environment by increasing the amount of manure available for soil fertilization. In the cost-benefit analysis, no attempt will be made to quantify these benefits.

F. Sensitivity Analysis

Sensitivity analysis is carried out with a production 10 or 20 percent lower than expected and with a 10 or 20 percent increase in costs.

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III. ECONOMIC ANALYSIS FOR VEGETABLE AND FRUIT PRODUCTION

A. Specific Assumptions

56 gardening sub-projects will be implemented representing a total of 140 ha. (25 percent of the total number of sub-projects according to the following schedule).

Project Years	1	2	3	4	5	6
# of gardening sub-projects	2	8	10	18	18	0

The average village organization has 20 members. For similar village level gardening activities, the area that can be cultivated by one individual with other members of family helping, is about 0.1 hectare. We will therefore assume an average irrigated perimeter of 2.5 ha., that is 2 ha. of irrigated plots, the remaining .5 ha. being for the infrastructure, fencing and windbreaks.

This project will not consider digging boreholes or wells for gardening although the Sine Saloum has a particularly difficult water problem. Following a decade of bad to mediocre rainfall years, the water table is drying out or becoming saline, and in many parts of the Sine Saloum, 200 to 400 meter boreholes need to be drilled.

The present 56 gardening projects envisioned will rely on various other donors (by Caritas, the World Bank, the Senegalese Ministry of Hydraulic, the Belgian Assistance) that will drill an estimated 400 wells and boreholes in the Sine Saloum in the next five years. The only provision made under this project will be $460 per activity for well deepening in cases of existing wells too shallow to yield the necessary water for gardening.

Windbreaks around the irrigated perimeter will be fruit trees, so as to provide additional income. In some cases, it is possible that the well will not yield enough water to maintain fruit trees, and windbreaks will be for fuelwood (eucalyptus for example).

Provision is made under this project for ox-drawn pumps. In some cases, especially in the case of boreholes, a diesel pump may already be in place. The project will further finance the necessary infrastructure for gardening, i.e. adequate fencing, tanks and pipes, a small warehouse to store gardening tools, seeds and fertilizers. Villagers will provide their labor for basic construction needs (i.e. clearing the land, digging trenches, building the fence, planting trees and building the warehouse). They will also be asked for an initial monetary contribution for the infrastructure costs.

An initial contribution of 25 percent of the infrastructure costs directly attributable to gardening has been taken into account. This initial contribution will be paid as follows:

- 5 percent of infrastructure costs paid in cash before the start-up of the project.

- 20 percent on credit, to be repaid over three years, with no reimbursement in the first year

These figures are obviously illustrative. PVO's, when presenting a proposal for village gardening, may have a different figure. However, these figures are in the order of magnitude to be expected considering present rural monetary incomes and the infrastructure costs involved. In some cases, the Communauté Rurale (CR) may also be able to give an initial monetary contribution thereby reducing the costs attributable to AID. In any case, this initial monetary contribution does not affect the analysis from the viewpoint of the economy as a whole nor the calculation of the IRR since it represents a transfer payment.

In addition to the infrastructure, the project will provide a stock of gardening tools with, again, an initial monetary contribution (20 percent) from the villagers as well as access to a revolving fund for 80% of the costs of agricultural inputs (seeds, fertilizers, pesticides). Credit for agricultural inputs is expected to be repaid after each commercialization. Credit recovery rate will be closely related to the relationships PVOs develop with village organizations. In the case of good relationships, a credit recovery of 100 percent is not unusual. However, a conservative credit recovery rate of 85 percent has been estimated in preparing the budget for this project. Credit loss, although a cost to USAID, does not affect the analysis from the point of view of the economy as a whole since it represents a transfer payment. The interest charged to borrowers will be the prevailing commercial interest rate, taken at 12 percent per year.

B. Analysis from the Point of View of the Beneficiaries

1. Operating Costs for Beneficiaries

These costs are presented in Table 1. An explanation of each item is presented in Appendix I of the economic analysis. Data sources are presented in Appendix M.

2. Expected Benefits

Expected gross benefits per ha. are presented in Table 2. A number of assumptions have been made in order to calculate expected income per beneficiary (Table 3). Data sources are presented in Appendix M

- The optimal yields will not be achieved during the first two years of the project. During the first year of the project, yields will be 60 per cent of their optimum, and 80 percent during the second year.

- Only one crop will be grown during the first year. During the second year 1.5 crops will be grown, that is half of the plot will be cultivated a second time. Finally, in year 3, the plots will be cultivated twice during the dry season. This is also an illustrative case, since in some areas of Sine Saloum when gardening activities are envisioned only one crop per dry season is possible.

Table 1: Operating Expenses from the Point of View of the Beneficiary. (in $ for 0.1 ha.)

Categories of Expenses	Year 1	Year 2	Year 3 and Following
Initial Contribution for Irrigation Infrastructure 1/	40.40	--	--
Initial Contribution for Tools and Equipment 2/	16.00	--	--
Payment for Irrigation Infrastructure after Marketing		90.5	101.30
Annual Contribution for Pump Cable and Minor Repairs 3/	20.00	20.00	20.00
Annual Contribution for Tool Replacement 4/	19.25	19.25	19.25
Agricultural Inputs 5/ (with 12% interest rate on 80% of the cost)	76.70	115.10	153.40
Infrastructure Maintenance 6/	34.00	34.00	34.00
Fruit Tree 7/	12.00	12.00	12.00
Total Costs per Beneficiary for 0.1 per ha.	218.40	290.90	340.00

NOTE: See Appendix I for footnotes.

Table 2: Expected Gross Benefits

Products	Yields t/ha	Farm-Gate Price ($/kg)	Gross Revenue $/ha)
Potatoes	20	0.25	5.000
Onions	25	0.25	6.250
Tomatoes	25	0.23	5.750
Cabbages	25	0.21	5.250
Green Beans[1]	6	0.35	2.100
Cantaloupe	20	0.35	7.000
Hot Red Peppers	20	0.25	5.000
Okra	20	0.38	7.600

Gross Value for 2 ha's of the above crops combination: $10.988

Gross Value per beneficiary (0.1 ha) : $ 549.4

NOTE: 1. It may not be possible to grow green beans in the Sine-Saloum. Green beans are quite susceptible to hot winds. In addition, it is a product for high-income consumers; therefore, the market may be quite limited in the Sine-Saloum. However, if green beans were replaced by any other item in the above combination, the gross revenue per ha. will be even higher. Therefore, including green beans in the combination leads to a conservative estimate of the gross revenue per ha.

Table 3: Expected Gross and Net Income per Beneficiary

(in $ for 0.1ha)

	Year 1	Year 2	Year 3 plus following
1. Gross value of 0.1 ha	549.4	549.4	549.4
2. Output	60%	80%	100%
3. Number of Crops/year	1	1.5	2
4. Potential revenue[a]	329.6	659.3	1,098.8
5. Home consumption	5%	8%	10%
6. Gross Monetary income[b]	313.10	606.6	988.9
7. Investments and Operating Expenses	218.40	290.90	340.00
8. Net Monetary income[c]	94.70	315.70	648.90

Notes

a. Potential revenue = (1)x(2)x(3)

b. Gross monetary income = (4)-(4)x(5)

c. Net monetary income = (6)-(7)

Table 4 shows the return to labor. One crop requires 90 labor days plus additional labor (provided by other members of the family) during critical periods representing 20 percent of the full time labor hence:

- Year 1 ---------- 1 crop ---------- 108 days
- Year 2 ---------- 1.5 crops --------- 162 days
- Year 3 ---------- 2 crops ---------- 216 days

Table 4 also presents the increase in household monetary income. Average household monetary income has been estimated at $850 per year in the Peanut Basin. Since gardening activities will take place during off-season, it is assumed that they will not displace other economic activities.

Table 4: Return to Labor and Increase in Monetary Income

	1	2	3
Number of Labor Days	108	162	216
Net Monetary Income per labor day (in $)	0.90	1.90	3.00
Increase in Household Income (in % of total Monetary Income)	10.0	40.0	80.0

quite significantly. In addition, due to present marketing constraints, farmers may not be able to obtain the farm-gate prices cited in Table 4.

A 20 percent less gross revenue is assumed here, in order to evaluate the extent to which vegetable production is still profitable to the farmers. A 20 percent less gross revenue would correspond either to a 20 percent lower yield, a 20 percent decrease in prices, or a combination of both (See Table 5).

Net monetary income, less home consumption, is $560 instead of $757 in year 3 and following (See Table 6). Net monetary income per labor day is $2.6 instead of $3.5 and increase in household monetary income is 66 instead of 89 percent (See Table 7). Thus. with 20 percent less production and farm-gate prices 20 percent lower, vegetable production is still very profitable.

Table 5: Gross Benefits under Less Favorable Conditions

Products	Yields T/ha	Farm-Gate Price	Gross Revenue $/ha 1/
Potatoes	16	0.20	4,000
Onions	20	0.20	5,000
Tomatoes	20	0.18	4,600
Cabbages	20	0.17	4,200
Green Beens	4.8	0.28	1,680
Cantaloupes	16	0.28	5,600
Hot Red Peppers	16	0.20	4,000
Okra	16	0.30	4,600

Notes: 1/ with either 20% less yields or 20% lower prices or a combination of both.

Gross value of 2 ha's of the above crop combination: $8,790

Gross value per beneficiary: $440

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Table 6: Gross and Net Income per Beneficiary under Less Favorable Conditions (in $ for 0.1 ha)

	Year 1	Year 2	Year 3 plus following
1. Gross value of 0.1 ha	440.0	440.0	440.0
2. Output	60%	80%	100%
3. Number of Crops/year	1	1.5	2
4. Potential revenue a)	264.0	528.0	880.0
5. Home consumption	5%	8%	10%
6. Gross Monetary income b)	250.8	486.0	792.0
7. Operating Expenses	218.4	290.90	340.0
8. Net Monetary income c)	32.40	195.1	452.0

Notes: a) Potential revenue = (1) x (2) x (3)

b) Gross monetary income = (4) - (4) x (5)

c) Net monetary income = (6) - (7)

Table 7 : Return to Labor and Increase in Monetary Income under Less Favorable Conditions

	Year 1	Year 2	Year 3
Number of labor days	108	162	216
Net Monetary income per labor day (in $)	0.3	1.2	2.09
Increase in household income (in % of total monetary income)	1	23.0	53.2

An analysis of the cash flow under less favorable conditions shows an Internal Rate of Return of 69% for the beneficiaries.

Table 8: Cash-Flow Analysis Under Less Favorable Conditions (in $ for 0.1 ha)

Years	Costs	Benefits	Cash-Flow
1	363.15	264.0	- 99.15
2	507.95	528.0	+ 20.05
3	629.35	880.0	+ 250.65

Internal Rate of Return: 69%

C. Economic Rate of Return and Sensitivity Analysis

1. Sub-Project Costs per Irrigated Perimeter (2.5 ha)

Project costs per irrigated perimeter are presented in Table 9. An explanation of the items is provided in Appendix I. Data sources are presented in Appendix M. The table shows the costs pertaining to the activity itself, i.e. investments and operating expenses; the costs incurred by the PVOs to assist the village organization; the costs of common sub-projects and project management attributable to the sub-project; the villagers' contribution, either as initial cash payments or on credit repayable over 3 years with a 12% interest rate; and finally, the sub-project costs to AID, which represents the difference between the sub-project costs and the villagers' contribution, either in cash or on credit.

- Investments

The project will provide for the deepening of the well, if need be, ox-drawn equipment (the cost of the ox-drawn equipment includes the pair of oxen), the infrastructure for irrigation (main tank, secondary tanks, pipes), adequate fence material and material for building a small warehouse. In addition, the project will provide an initial stock of gardening equipment and access to a revolving fund for agricultural inputs.

- Technical Assistance

Through the PVOs, the project will provide training to villagers in functional literacy, basic management and accounting for 90 days over 2 years. As far as technical assistance to villagers is concerned, the PVOs to the extent possible will work with either a CER or SODEVA agent who will provide training in vegetable and fruit production. Since these agents are civil servants, their salaries are already paid by the Government and do not constitute an incremental cost due to the project. However, there is a provision for a technical agent's salary, housing and transportation as it may not always be feasible for the PVOs to ensure the local civil servant's services and they may have to hire their own technical person. Hence, the costs taken here are representative of the worst case. It is hoped that it will be a rare case and that, in as much as possible, PVOs will be able to work with existing local personnel.

- Attribution of costs of common sub-projects and project management

The costs of common sub-projects and project management is $10,222 over 2 years, that is $5,111 per year.

2. Economic Analysis over 20 years

Table 10 presents the flow of costs and benefits over 20 years using unit costs presented in Tables 9 and 11. Agricultural tools have to be replaced every 4 years, the pump cable every 5 years. Labor is shadow-priced at 40 percent of the government minimum wage rate, that is $1.34/day.

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Benefits are the gross benefits before home consumed production (from Table 3). From year 6 on, benefits from fruit-trees are added. Gross income from fruit trees is expected to be $15.4 per fruit tree per year. Each perimeter will have 160 fruit trees.

No attempt was made to quantify benefits to the economy such as improved self-management capabilities of the village organizations or the decrease in rural-urban migration that the project may bring about.

Table 9: Sub-Project Costs

(for one irrigated perimeter in $)

	Year 1	Year 2
I. VEGETABLE GARDENING COSTS		
1. Investments		
Well deepening	460	
Ox-drawn pump	4,000	
Fencing[8]	9,230	
Main watertank	310	
Secondary watertanks	1,292	
Warehouse	615	
Windbreaks[9]	250	
Sub-total investments	16,157	
2. Operating Expenses		
Agricultural inputs[5]	1,464	2,196
Initial stock of tools[10]	1,538	
SUB-TOTAL VEGETABLE GARDENING COSTS	19,159	2,196
II. PVO ASSISTANCE TO VILLAGE ORGANIZATION COSTS		
1. Salaries (including benefits)[11]		
Training specialist	1,200	1,200
Horticulturist	1,000	1,000
Secretary	100	100
2. Housing and Office[12]	830	
3. Transportation[13]	170	
4. Operating Expenses		
Gasoline and maintenance[14]	230	230
Office supplies	200	200
5. PVO Management costs (30%)	1,119	819
SUB-TOTAL PVO ASSISTANCE	4,849	3,549

Table 9: Sub-Project Costs (Continued)

III. ATTRIBUTION OF COSTS OF COMMON SUB-PROJECTS AND PROJECT MANAGEME		
	5,111	5,111
TOTAL SUB-PROJECT COSTS	29,119	10,856
IV. TOTAL SUB-PROJECT COSTS WITH 5% CONTINGENCY	30,575	11,399
V. INITIAL VILLAGERS' CONTRIBUTION		
1. Investments[1]	808	
2. Tools	320	
3. Inputs	293	439
VI. CREDIT TO VILLAGERS		
1. Investments[1]	3,231	
2. Agricultural Inputs[5]	1,171	1,757
SUB-TOTAL (V & VI)	5,823	2,196
VII. TOTAL VILLAGERS CONTRIBUTION WITH 5% CONTINGENCY	6,114	2,305
VIII. SUB-PROJECT COSTS TO AID (IV - VII)	24,461	9,094

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TABLE 10 ECONOMIC ANALYSIS FOR VEGETABLE AND FRUIT PRODUCTION

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
NUMBER OF NEW PROJECT STARTS	2	8	10	18	18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
INCREMENTAL COSTS																				
INVESTMENTS	32,324	229,256	161,570	290,826	290,826	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
OPERATING EXPENSES																				
Agricultural Inputs	2,925	16,174	38,064	77,592	124,440	150,792	163,968	163,968	163,968	163,968	163,968	163,968	163,968	163,968	163,968	163,968	163,968	163,968	163,968	163,968
Infrastructure Maintenance		1,360	6,800	23,800	25,840	38,080	38,080	38,080	38,080	38,080	38,080	38,080	38,080	38,080	38,080	38,080	38,080	38,080	38,080	38,080
Fruit-Free Maint.	480	2,400	4,800	9,120	13,340	13,340	13,400	13,400	13,400	13,400	13,400	13,340	13,340	13,340	13,340	13,340	13,340	13,340	13,340	13,340
INVESTMENT REPLACEMENT																				
Tools	3,076	12,304	15,380	27,684	30,760	12,304	15,380	27,684	30,760	12,304	15,380	27,864	30,760	12,304	15,380	27,864	30,760	12,304	15,380	27,864
Pump Cable	—	—	—	—	—	4,000	16,000	20,000	36,000	36,000	4,000	16,000	20,000	36,000	36,000	4,000	16,000	20,000	36,000	36,000
LABOR	5,784	31,836	75,254	153,403	246,024	298,123	324,173	324,173	324,173	324,173	324,173	324,173	324,173	324,173	324,173	324,173	324,173	324,173	324,173	324,173
PVO ASSISTANCE VILLAGE ORGANIZATIONS	9,695	43,590	76,862	122,772	151,164	63,882	—	—	—	—	—	—	—	—	—	—	—	—	—	—
COMMUN. SUB-PROJECTS AND MAINT. COSTS	10,222	51,111	91,998	143,108	183,996	91,998	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TOTAL INCREMENTAL COSTS	74,527	290,262	470,748	838,105	1,166,390	672,519	570,941	587,245	606,321	587,645	558,941	583,425	590,321	587,865	590,941	571,425	586,321	571,865	590,941	603,425
INCREMENTAL COSTS WITH 5% CONTINGENCY	87,712	304,775	494,285	880,010	1,219,710	706,145	599,488	616,607	636,637	617,254	586,888	612,596	619,837	617,258	620,488	599,996	615,637	600,458	620,488	633,596
INCREMENTAL BENEFITS	13,124	79,108	215,360	470,274	795,524	1,077,364	1,255,296	1,279,936	1,324,286	1,368,640	1,368,640	1,368,640	1,368,640	1,368,640	1,368,640	1,368,640	1,368,640	1,368,640	1,368,640	1,368,640
NET-FLOW (II - I)	-74,588	-225,667	-278,925	-409,734	-424,186	371,279	655,808	663,329	687,651	751,382	781,752	756,044	748,803	751,382	748,152	768,644	753,003	768,182	748,152	735,044

Table 11 presents the cash-flow analysis over 20 years. The cash-flow is positive from year 6 on. The IRR is 31 percent.

Table 11 : Cash-Flow Analysis for Vegetable and Fruit Production (in $1000)

Years	Incremental Costs	Incremental Benefits	Cash-flow
1	67.7	13.2	- 54.5
2	304.8	79.1	- 225.7
3	494.3	215.4	- 278.9
4	880.0	470.3	- 409.7
5	1,119.7	795.5	- 324.2
6	706.1	1,077.4	+ 371.3
7	599.5	1,255.3	655.8
8	616.6	1,279.9	663.3
9	636.6	1,324.3	687.3
10	617.3	1,368.6	751.3
11	586.9	1,368.6	781.7
12	612.6	1,368.6	756.0
13	619.8	1,368.6	748.8
14	617.3	1,368.6	751.3
15	620.5	1,368.6	748.1
16	600.0	1,368.6	768.6
17	615.6	1,368.6	753.0
18	600.5	1,368.6	768.1
19	620.5	1,368.6	748.1
20	633.6	1,368.6	735.0

Economic Internal Rate of Return = 30.7 percent

3. Sensitivity Analysis

Three less favorable situations are considered for the sensitivity analysis:

- 20 percent less production than expected, even with adequate agricultural inputs.

- 20 percent increase in costs, with production remaining the same.

- 10 percent less production than expected, with 10 percent increase in costs.

Cash-flow analysis for these less favorable situations are presented in Tables 12 , 13 , and 14 . A summary table of the internal rates o return is presented below.

Internal Rates of Return Summary

	Base Case	20% Less Production	20% Increasing Costs	10% Less Production 10% Increase In Costs
IRR	31%	18%	20%	19%

IV. ECONOMIC ANALYSIS FOR LIVESTOCK PRODUCTION (Cattle or Sheep Fattening)

A. Specific Assumptions

Infrastructure building will be minimum and will consist in providing drinking and feeding tanks for the animals, as well as material to build a shelter.[1] The sub-project will provide credit to be repaid after commercialisation

For the analysis we are assuming that half of the livestock sub-projects will be cattle fattening, half will be sheep fattening. This is again an illustrative case. The total number of livestock sub-projects and the time scheduled for implementation is presented below:

Project Years	1	2	3	4	5	6	Total
N°.of Sub-projects starting	2	9	12	21	21	0	65

Each village organization will fatten:

First year: 10 head of cattle or 50 sheep
Second year: 20 head of cattle or 100 sheep
Third year: 30 head of cattle or 150 sheep
(and following)

B. Analysis from the Point of View of the Beneficiaries

1. Operating Costs for Cattle Fattening

Operating costs are presented in Table 15. Explanation for each item can be found in Appendix I. Data sources are presented in Appendix M.

1/ This is in the case where the village organization decides to regroup their animals to facilitate feeding and watering. In some cases, they may decide to keep the animals individually as it is done traditionally.

Table 12: Sensitivity Analysis with 20 Percent Less Production (in $1,000's) (Vegetable Production)

Year	Costs (rounded)	Benefits (rounded)	Cash-flow
1	67.73	10.55	- 57.18
2	304.78	63.29	- 241.49
3	494.29	172.29	- 322.00
4	880.01	376.22	- 503.79
5	1,119.71	636.42	- 483.29
6	706.15	861.89	155.74
7	599.49	1,004.24	404.75
8	616.61	1,023.95	407.34
9	636.64	1,094.91	458.27
10	617.26	1,094.91	477.65
11	586.89	1,094.91	508.02
12	612.60	1,094.91	482.31
13	619.84	1,094.91	475.07
14	617.26	1,094.91	477.65
15	620.49	1,094.91	474.42
16	600.00	1,094.91	494.91
17	615.64	1,094.91	479.27
18	600.46	1,094.91	494.45
19	620.49	1,094.91	474.42
20	633.60	1,094.91	461.31

Economic Internal Rate of Return = 18 percent

Table 13: Sensitivity Analysis with 20 Percent More Costs (in $1,000's) (Vegetable Production)

Year	Costs	Benefits	Cash-flow
1	81.2	13.2	- 68.0
2	365.8	79.1	- 286.7
3	593.2	215.4	- 377.8
4	1,056.0	470.3	- 585.7
5	1,343.6	795.5	- 548.1
6	847.3	1,077.4	230.1
7	719.4	1,255.3	535.9
8	740.0	1,279.9	539.9
9	763.9	1,324.3	560.4
10	740.8	1,368.6	627.8
11	704.3	1,368.6	664.3
12	735.1	1,368.6	633.5
13	743.8	1,368.6	624.8
14	740.8	1,368.6	627.8
15	744.6	1,368.6	624.0
16	720.0	1,368.6	648.6
17	738.7	1,368.6	629.9
18	720.6	1,368.6	648.0
19	744.6	1,368.6	624.0
20	760.3	1,368.6	608.3

Economic Internal Rate of Return = 20.3 percent

Table 14: Sensitivity Analysis with 10 Percent Less Production and 10 Percent More Costs (Vegetable Production)

(in $1,000's)

Year	Costs	Benefits	Cash-flow
1	74.5	11.9	- 62.6
2	335.3	71.2	- 264.1
3	543.7	193.9	- 349.8
4	968.0	423.3	- 544.7
5	1,231.7	716.0	- 515.7
6	776.7	969.7	193.0
7	659.5	1,129.8	470.3
8	678.3	1,151.9	473.6
9	700.3	1,191.9	491.6
10	679.0	1,231.7	552.7
11	645.6	1,231.7	586.1
12	673.9	1,231.7	557.8
13	681.8	1,231.7	549.9
14	679.0	1,231.7	552.7
15	682.6	1,231.7	549.1
16	660.0	1,231.7	571.7
17	677.2	1,231.7	554.5
18	660.6	1,231.7	571.1
19	682.6	1,231.7	549.1
20	697.0	1,231.7	534.7

Economic Internal Rate of Return: 19.3 percent

Table 15: Expenses for Cattle Fattening (per village organization, in $)

Category of expenses	Year 1	Year 2	Year 3 and following
Initial contribution to the infrastructure[1]	75	-	-
Credit repayment on infrastructure	168	188	
Shelter maintenance[2]	-	75.00	75
Purchase of animal[3] (including 12% interest rate on 80%)	2256	4513	6769
Hay[4]	443	886	1329
Peanut cakes or maize[5]	185	370	555
Medicine[6]	31	62	93
Risk factor[7]	22	44	66
Total costs	3180	6138	8887

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The number of labor days involved is minimal compared to the gardening activities. It is estimated that one person working half time can take care of 10 animals during the length of the fattening period, that is 60 man-days of labor per 10 head of cattle.

Table 16 : Income from Cattle Fattening (in $)

	Year 1	Year 2	Year 3 and following
Gross Income	3,540	7,080	10,620
Operating Expenses[1]	3,180	6,138	8,887
Net Income (per village organization)	360	942	1,733
Net Income (per beneficiary)[2]	18	47	86.7
Increase in Monetary income[3] (%)	2.1%	5.5%	10.2%
Net Income per labor day	6.0	7.9	9.6

Notes:
1. From Table 15
2. Assuming 20 participants per village organization
3. Monetary income has been estimated at $850 per household of 11 people.

2. Operating Costs for Sheep Fattening

Operating costs are presented in Table 17. Explanation for each item can be found in Appendix J.

Table 17. Expenses for Sheep Fattening

Category of Expenses	Year 1	Year 2	Year 3
	$	$	$
Initial Contribution to the project 1/	75	--	--
Credit repayment on infrastructure	168	188	
Shelter maintenance 2/		75	75
Purchase of animals 8/	2,410	4,820	7,230
Feed complement and medicine 9/	769	1,538	2,307
Risk factor 7/	23	46	69
Total Expenses	3,445	6,667	9,681

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a. Benefits from Sheep Fattening

Fattened sheep are expected to be sold at $107. The number of labor days involved is taken to be the same as for cattle fattening. Table 18 presents a description of the gross and net income.

Table 18: Income from Sheep Fattening

	Year 1	Year 2	Year 3 and following
Gross Income	5,380	10,700	16,050
Operating Expenses	3,445	6,667	9,681
Net Income (per village organization	1,935	4,033	6,369
Net Income (per beneficiary)	96.8	201.7	318.5
Increase in household income	11.4%	23.7%	37.5%
Net Income per labor day ($)	32.3	33.6	35.4

C. Economic Rate of Return and Sensitivity Analysis

1. Sub-Project Costs

Sub-project costs are presented in Table 19 Infrastructure is minimum. Technical assistance is similar to the one for gardening except for the livestock extension agent who will be needed for only 50 days over the two year period. All other common sub-projects and project management costs are the same. For each year, half of the sub-projects were assumed to be cattle fattening and half sheep fattening.

2. Economic Analysis over 20 years

The economic analysis over 20 years is presented in Table 20 The same shadow price for labor as for the vegetable production sub-project was assumed.

3. Cash-flow Analysis and IRR

Cash-flow analysis is presented in Table 21 The internal rate of return for the livestock sub-project is 20 percent.

4. Sensitivity Analysis

Two less favorable situations were considered:

- 10 percent less production
- 10 percent increase in costs.

Cash-flow analyses are presented in Tables 22 and 23.

The following table summarizes the results of IRR calculations:

	Base Case	10% Less Production	10% Increase in Costs
IRR	20%	10%	11%

Table 19: Livestock Sub-Project Costs
(per village organization in $)

		Year 1	Year 2
I.	INVESTMENTS		
	Shelter, feeding and watering tanks	1,500	
II.	OPERATING EXPENSES		
	Animal purchase	2,227	4,453
III.	PVO ASSISTANCE TO VILLAGE ORGANIZATION		
	1. Salaries (including benefits)		
	Training Specialist	1,200	1,200
	Livestock extension agent	625	625
	Secretary	100	100
	2. Housing and Office	830	
	3. Transportation	170	
	4. Operating Expenses		
	Gasoline and maintenance	230	230
	Office supplies	200	200
	5. Management Cost (30%)	1,007	707
	SUB-TOTAL PVO ASSISTANCE	4,362	3,062
IV.	ATTRIBUTION OF COSTS OF COMMON SUB-PROJECTS AND PROJECT MANAGEMENT	5,111	5,111
	TOTAL SUB-PROJECT COSTS	13,200	12,626
V.	TOTAL WITH 5% CONTINGENCY	13,860	13,257
VI.	INITIAL VILLAGERS' CONTRIBUTION		
	1. Investment[1]	75	--
	2. Animal Purchase[10]	445	891
VII.	CREDIT TO VILLAGERS		
	Investment	300	
	Animal Purchase[10]	1,782	3,562
	SUB-TOTAL (VI + VII)	2,602	4,453
VIII.	TOTAL VILLAGERS' CONTRIBUTION WITH 5% CONTINGENCY	2,732	4,676
IX.	SUB-PROJECT COSTS TO AID (V - VIII)	11,128	8,581

TABLE 20: ECONOMIC ANALYSIS FOR LIVESTOCK PRODUCTION

	1	2	3	4	5	6	7 and following
NUMBER OF SUB-PROJECT STARTS	2	9	12	21	21	--	--
I. LIVESTOCK PRODUCTION							
A. Investments	3,000	13,500	18,000	31,500	31,500	--	--
B. Operating Exp.							
Animal Purchase	4,453	28,945	80,154	173,667	293,898	387,411	434,168
Animal Mainten.	1,473	9,575	26,514	57,447	97,218	128,151	143,618
Shelter Mainten.		150	825	1,725	3,300	4,875	4,875
C. LABOR	161	1,045	2,894	6,271	10,613	13,990	15,678
II. PVO ASSISTANCE TO VILLAGE ORG.	8,724	45,382	79,902	128,346	155,904	64,302	--
III COMMON SUB-PROJECT AND MGMT. COSTS	10,222	56,221	107,331	117,553	214,662	107,331	--
TOTAL COSTS	28,033	154,818	315,620	516,509	807,095	706,060	598,339
TOTAL COSTS WITH 5% CONTINGENCY	29,435	162,559	331,401	542,334	847,450	741,363	628,256
GROSS BENEFITS	8,890	57,785	160,020	346,710	586,740	773,430	866,775
CASH-FLOW	-20,545	-104,774	-171,381	-195,624	-260,710	32,067	238,519

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Table 21: Cash-Flow Analysis for Livestock Production
(in $1,000)

Years	Incremental Costs	Incremental Benefits	Cash-Flow
1	29.4	8.9	- 20.5
2	162.6	57.8	-104.8
3	331.4	160.0	-171.4
4	542.3	346.7	-195.6
5	847.5	586.7	-260.8
6	741.4	773.4	32.0
7 and following	628.3	866.8	238.5

Economic Internal Rate of Return = 19.6 percent

Table 22: Sensitivity Analysis: 10 Percent Less Production

Years	Costs	Benefits	Cash-Flow
1	29.4	8.0	- 21.4
2	162.6	52.0	-110.6
3	331.4	144.0	-187.4
4	542.3	312.0	-230.3
5	847.5	528.0	-319.5
6	741.4	696.1	- 45.3
7 and following	628.3	780.1	151.8

Economic Internal Rate of Return = 10.0 percent

Table 23: Sensitivity Analysis: 10 Percent More Costs

Years	Costs	Benefits	Cash-Flow
1	32.3	8.9	- 23.4
2	178.9	57.8	-121.1
3	364.5	160.0	-204.5
4	596.5	346.7	-249.8
5	932.3	586.7	-345.6
6	815.5	773.4	- 42.1
7 and following	691.1	866.8	175.7

Economic Internal Rate of Return: 10.9 percent

V. ECONOMIC ANALYSIS FOR VILLAGE WOODLOTS

A. Specific Assumptions

An area of 5 ha.'s will be planted in eucalyptus trees per village organization. The project will provide material for building the fence, seedlings and pesticides. Villagers will provide their labor as well as an initial monetary contribution.

The number of village woodlots to be planted under this sub-project is 55, that is 275 ha, according to the following schedule:

Project Years	1	2	3	4	5	6	Total
Sub-Projects starting	1	8	10	18	18	0	55

B. Analysis from the Point of View of the Beneficiaries (5 ha)

1. Expenses (See Appendix K and Appendix M for data sources)

Initial monetary contribution:

- 10 percent of the cost of seedling and pesticides:	$1540	$154
- Forest tax to be paid for each cut:		$ 67
- Annual contribution for fence maintenance 1/		$ 58
- Villager's labor		

First year

clearing and preparing the land	25 man/days
digging holes	150 man/days
planting	150 man/days
sprinkling pesticides	50 man/days
fencing	90 man/days
weeding	30 man/days

Second and Third year

weeding	30 man/days
fence repair	30 man/days

Seventh and Eleventh year

fence repair	30 man/days

Total man/days: 585

1/ - A fence is needed at the planting time to keep animals away. It is needed again after each cut when the eucalyptus sprout again. The assumption is that the fence will be repaired twice (at the 7th year cut and the 11th year cut) for 25 percent of its initial cost.

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2. Gross Income (See data sources in Appendix M)

Wood is cut three times: at the 7th year, the 11th year and the 16th. Production is expected to be 6 m3/ha/year, that is 96 m3/ha/and 480 m3 for a woodlot of 5 ha. 80 percent is fuelwood and 20 percent building poles at respectively $21.5/m3 and $32.9/m3 (1982 prices).

Prices of fuelwood and building poles are expected to rise at 3 percent per year in real terms for the next 25 years considering forest product shortages. Table 24 shows the prices to be expected over the next 20 years in real terms.

Calculation of the present value of 3 cuts of a 5 ha woodlot planted in 1984 (using prices from Table 27 and discounted at 10%).

Present value of the 7th year cut	$1837
Present value of the 11th year cut	$1428
Present value of the 16th year cut	$ 978
Present value of the income from a 5 ha woodlot planted in 1984	$4243

Table 24: Evaluation of Price of Fuelwood and Construction Poles until Year 2004 in Real Terms.

(in dollars/m3)

	Fuelwood	Construction Poles
1982	21.5	32.9
1991	28.1	42.9
1992	28.9	44.2
1993	29.8	45.5
1994	30.7	46.9
1995	31.6	48.3
1996	32.5	49.8
1997	33.5	51.3
1998	34.5	52.8
1999	35.5	54.4
2000	36.6	56.0
2001	37.7	57.7
2002	38.3	59.4
2003	40.0	61.2
2004	41.2	63.0

Note: 1991 will be the year of the first cut if the project starts in 1984.

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Without Project

We will assume that without the project, the land to be used for plantation, though marginal, could have been used for crops, either millet or peanut. The land would be used on a rotation basis: millet/peanut/fallow with minimum fertilizer inputs. Production is assumed to correspond to the average Sine Saloum yield/ha, that is 600 kg of millet or peanut/ha at respectively 45 CFA/kg of millet (average traditional price) and 70 CFA/kg for peanut. Table 25 presents the expenses and revenues from 5 ha's of peanut and millet cultivation. (See Appendix M for data sources).

Table 25: Expenses and Revenue from 5 ha. of Peanuts and Millet Cultivation (in dollars)

	Year 1	Year 2	Year 3
	Millet	Peanuts	Fallow
Expenses			
Agricultural Inputs			
Seeds 1/	3.5	113	
Fertilizer 2/	67.	67	
REVENUE 3/	415	646	
NET REVENUE	344.5	466	

Notes:

1. Seeds are: 5 kg/ha for millet valued at CFA 45/kg; 100 kg/ha for peanuts valued at CFA 73.5/kg (government costs for storing peanut seeds).
2. It is estimated that on the average, 38kg/ha of fertilizer is used at CFA 115 (unsubsidized price).
3. Yields are estimated at 600kg/ha of millet or peanuts in Sine Saloum. Peanuts are sold at CFA 70/kg; millet price on the traditional market is CFA 45/kg.

Foregone revenue for 5 ha planted in millet	$344.5
Foregone revenue for 5 ha planted in peanut	$466.0
Average foregone revenue per year over 3 years	$270.0

Net present value of 16 years of peanut and millet production on 5 ha with one fallow year every 3 years discounted at 10% per year: $2363

3. Net Income from Village Woodlot

Net incremental benefit for a 5 ha village woodlot (discounted over 16 years): $597 over 16 years that is $37 per year.

Return to labor: $10/man/day

Obviously, village woodlots do not represent an attractive activity for purely economic reasons. However, wood supply is becoming such a problem in some parts of Sine Saloum that it is expected that some village organizations will choose to undertake such an activity over other activities which would be more profitable economically. Indeed SODEVA has begun a program of village woodlots in which villagers are very interested.

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C. Economic Rate of Return

1. Sub-Project Costs (per 5 ha of village woodlot) (see Table 26 and Appendix K).

Investments consist mainly of the material to build the fence. Seedlings and pesticide represent a small investment.

Technical assistance is less than for the other sub-projects. The forestry specialist from the service des Eaux et Forêts will be needed for a total of 15 days and the training specialist for 45 days.

No credit will be provided under this project. Therefore, the share of common sub-projects and project management costs is lower than for the other sub-projects.

2. Economic Analysis

The economic analysis presented in Table 27 is carried over 20 years to take into account the full benefits of all village woodlots (3 cuts, the last one occuring 16 years after planting). Prices are increasing at 3 percent per year in real terms (see Table 24). Costs used are from Table 26. Common sub-project and management costs are $3,446.

In the economic analysis, taxes, to be paid to the forestry service, are not taken into account since they represent a transfer payment.

Labor is shadow priced at 40 percent of the minimum government wage rate (as for the other sub-projects), assuming that work on the village woodlot will be done in the off-season.

For this type of activity it is necessary to consider without project situation, that is the opportunity cost of the land. The land used for the village woodlot would probably have been cultivated in millet and peanut. However, it is assumed here that in the absence of a village woodlot project, the yields that would be obtained would be declining over the years due to the use of substitutes for fuel which is detrimental to soil fertility regeneration and to increased soil erosion. For the present analysis we assumed that yields will go down steadily at the rate of between 1.5 and 2 percent per year, which leads to a decrease in net foregone revenue of about 2 percent per year.

Table 26: Village Woodlot Sub-Project Costs
(per village organization in US dollar)

	Year 1	Year 2
I. INVESTMENTS		
Fencing 1/	1846	
Seedling 2/	1230	
Pesticides[3]	308	
SUB-TOTAL INVESTMENTS	3384	
II. PVO ASSISTANCE TO VILLAGE ORGANIZATION		
1. Salaries(including benefits)		
Training specialist	900	300
Forestry specialist	281	94
Secretary	75	25
2. Housing and Office	415	
3. Transportation	85	
4. Operating expenses		
Gasoline and Maintenance	172	58
Office Supplies	150	50
5. Management Costs (30%)	623	158
SUB-TOTAL PVO ASSISTANCE	2701	685
III. ATTRIBUTION OF COSTS OF COMMON SUB-PROJECTS AND PROJECT MANAGEMENT	2529	917
TOTAL SUB-PROJECT COSTS	8614	1602
IV. TOTAL SUB-PROJECT COSTS WITH 5% CONTINGENCY	9045	1682
V. VILLAGERS INITIAL CONTRIBUTION (Including 5% Contingency)	162	--
VI. SUB-PROJECT COSTS TO AID (IV - V)	8883	1682

Note : Footnotes in Appendix K.

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TABLE 27 : ECONOMIC ANALYSIS FOR VILLAGE WOODLOTS

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
NUMBER OF SUB-PROJECTS STARTS	1	8	10	18	18	—														
WITH PROJECT COSTS														—	—	—	—	—	—	—
I. FORESTRY PROD.																				
a. Investments	3,384	27,072	33,840	60,912	60,912	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
b. Infrast. Maint.	—	—	—	—	—	—	762	3,692	4,615	8,307	8,769	3,692	4,615	8,307	8,307	—	—	—	—	—
c. Labor	663	5,387	7,357	13,387	14,191	2,894	1,487	322	402	724	764	322	402	724	724	—	—	—	—	—
II. PVO ASSISTANCE TO VILLAGE ORG.	2,701	22,293	32,490	55,468	60,948	12,330	—	—	—	—	—	—	—	—	—	—	—	—	—	—
III. COMMON SUB-PROJ. & MGMT. COSTS	2,529	21,149	32,626	54,692	62,028	16,506	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TOTAL COSTS	9,277	75,901	106,313	184,459	198,079	31,730	1,949	4,014	5,017	9,031	9,533	4,014	5,017	9,031	9,031	—	—	—	—	—
IV. TOTAL COSTS WITH 5% CONTINGENCY	9,741	79,696	111,629	193,682	207,983	33,317	2,046	4,215	5,268	9,483	10,010	4,215	5,268	9,483	9,483	—	—	—	—	—
V. TOTAL COSTS WITH PROJ. BENEFITS	—	—	—	—	—	—	4,970	40,909	52,704	97,747	106,217	46,029	59,296	109,901	113,126	6,477	53,376	68,032	127,423	[illegible]
VI. NET FORECONE REVENUE	270	2,381	4,925	9,391	13,662	13,365	13,068	12,771	12,474	12,177	11,880	11,583	11,286	10,989	10,692	10,206	8,446	6,415	3,122	—
CASH-FLOW (V - VI - IV)	-10,011	-82,077	-116,554	-203,073	-221,645	-46,682	-10,144	23,923	34,962	76,087	84,327	30,231	42,742	89,429	92,951	-3,729	44,930	61,617	124,301	[illegible]

An examination of the cash-flow analysis over 20 years (Table 28) shows that the rate of return to the village woodlot sub-project is only 2 percent. This poor IRR is misleading; there are a number of benefits accruing to reforestation projects that are difficult to quantify and were not taken into account in this analysis. These include all the positive impacts on the environment (soil erosion control and soil regeneration; manure and millet stocks, which otherwise would be used as fuel, can be used as fertilizer, and livestock feed).

Table 28: Cash Flow Analysis for Village Woodlots
(in $1,000)

Years	Incremental Costs	Incremental Benefits	Net Foregone Revenue	Cash-Flow
1	9.7	--	0.3	- 10.0
2	79.7	--	2.4	- 82.1
3	111.6	--	4.9	-116.5
4	193.7	--	9.4	-203.1
5	208.0	--	13.7	-221.7
6	33.3	--	13.4	- 46.7
7	2.0	5.0	13.1	- 10.1
8	4.2	40.9	12.8	23.9
9	5.3	52.7	12.5	35.0
10	9.5	97.7	12.2	76.1
11	10.0	106.2	11.9	84.3
12	4.2	46.0	11.6	30.2
13	5.3	59.3	11.3	42.7
14	9.5	109.9	11.0	89.4
15	9.5	113.1	10.7	93.0
16	--	6.5	10.2	- 3.7
17	--	53.4	8.4	44.9
18	--	68.0	6.4	61.6
19	--	127.4	3.1	124.3
20	--	131.2	--	131.2

Economic Internal Rate of Return = 1.7 percent

VI. ECONOMIC ANALYSIS FOR FISHING

A. Specific Assumptions

The sub-project will assist fishermen organizations to improve traditional fishing through motorized canoes. At present time, sea-fishing is no longer practiced without motorized canoes. Only those fishermen who are able to acquire the necessary equipment are doing sea-fishing. The sub-project will help fishermen organizations to increase the number of their motorized canoes.

22 fishermen organizations will be assisted under the sub-project, according to the following schedule:

Project Years	1	2	3	4	5	6	Total
% of sub-project starting	1	3	4	7	7	0	22

For each fishermen organization, the sub-project will provide six dug-out canoes and 8 engines (2 as replacement) as well as the necessary equipment (nets, etc....).

CAPAS is presently providing engines to fishermen's associations with a 30% downpayment, the rest being on credit repayable in twenty-four monthly installments over a twenty-eight month period (twenty-eight months and not twenty-four as no repayments are being asked for during the two-month slow period each year). For the needs of the present analysis, we will assume similar conditions for all equipment provided. For operating expenses, there will be a 50% credit downpayment, 50% credit repayable at the end of each month. Interest rate charged is the same as for the other sub-projects, that is 12%.

The sub-project will further provide extension services. Two kinds of extension services are envisioned: one for functional literacy, basic accounting and management and marketing for 90 days over 2 years. The second will be for mechanical training, to teach chosen members of the organization how to do basic repairs and maintenance on the engines. In addition fishermen will continue to benefit from services from the Service de la Pêche agents.

B. Analysis from the Point of View of the Beneficiaries

1. Operating Expenses (See Appendix M for data sources).

Table 29 presents the operating expenses and initial investment. Footnotes to the Table are in Appendix L.

Table 29 Expenses from the View Point of the Fishermen Association

	Year 1	Year 2	Year 3
Investments (equipment)			
Initial contribution 6/	8976		
Credit 12/	11729	13137	
Operating Expenses			
Gas-oil 7/	8118	8118	8118
Engine maintenance 8/	1231	2077	2923
Dug-out canoe maintenance 9/	1200	1200	1200
Ice 10/	13848	13848	13848
Sub-total Operating Expenses 11/	24397	25243	26089
Credit cost on operating Expenses	122	126	--
Replacement			
Dug-out canoe	1054	1054	1054
Engines	1565	1565	1565
Nets	1874	1874	1874
Net equipment	3918	3918	3918
Sub-total Replacement	8411	8411	8411
Total:	53635	46917	34500

Note: Footnotes in Appendix L.

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2. Gross and Net Benefits (See Appendix M for data sources).

The average daily catch is conservatively estimated at 250 kg per dug-out canoe in Sine Saloum. One can count on approximately 200 fishing days per year. Therefore, the average yearly catch is 50 tons per dug-out canoe. Price per kg depends on the fish variety but an average price of 100 CFA/kg can be assumed.

It is difficult to calculate income per family. Usually, men from the same extended family will fish together. A 12 m dug-out canoe can hold 10 fishermen. We considered here an average of 10 to 12 extended families per association, representing 100 to 120 fishermen. Assuming that these extended families will share the use of the equipment provided by the sub-project equally, we can calculate a net increase in income per year per fisherman and a net increase in income per labor day per fisherman. (See Table 30).

Table 30: Gross and Net Benefit
(in $)

	Year 1	Year 2	Year 3
Gross Benefits	92,307	92,307	92,307
Investment and Operating Exp.	53,635	46,917	34,500
Net Benefits	38,672	45,390	57,807
Net Increases in Income per Year per Fisherman	352	413	526
Net Increase in Income per Labor Day per Fisherman	1.8	2.1	2.7

C. Economic Rate of Return and Sensitivity Analysis

1. Sub-Project Costs

These are presented in Table 31.

A training specialist will be needed for 90 days over the two year life of the sub-project and a mechanic extension agent for 50 days during the same time.

2. Economic Analysis

Table 32 shows the stream of benefits and costs over twenty years. The equipment is renewed as follows:

- dug-out canoes: 7 years
- engine : 3 years
- nets : 3 years
- net equipment : 6 years

Labor is shadow-priced at the same rate as for the other sub-projects that is $1.34/day.

3. Calculation of the IRR and Sensitivity Analysis

Table 33 presents the cash-flow analysis. The internal rate of return is quite high even with very conservative production estimates (51%).

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Sensitivity analysis was made for two less favorable cases than the base case.

- 10 percent less production
- 20 percent increase in costs.

Tables 34 and 35 show the cash-flows for these two cases.

Sensitivity Analysis Summary:

	Base Case	10% Less Production	20% Increase in Costs
IRR	51%	40%	33%

Table 31: Fishing Sub-Project Costs (per fishermen organization)

	Year 1	Year 2
I. FISH PRODUCTION		
1. Investments		
Dug-out Canoes[1/] (6)	7,380	
Engines[2/]	4,695	
Nets[3/]	5,622	
Net Equipment[4/]	11,754	
Initial Stock of Spare Parts[5/]	470	
	29,921	
2. Operating Expenses		
Gas-oil[7/]	8,118	8,118
Engine maintenance[8/]	1,231	2,077
Dug-out Canoe Maintenance[9/]	1,200	1,200
Ice [10/]	13,848	13,848
Sub-total Operating Expenses[11/]	24,397	25,243
SUB-TOTAL	54,318	25,243
II. ASSISTANCE TO FISHERMEN ORGANIZATION		
1. Salaries (including benefits)		
Training Specialist	1,200	1,200
Mechanics	625	625
Secretary	100	100
2. Housing and Office	830	
3. Transportation	170	
4. Operating Expenses		
Gasolene and Maintenance	230	230
Office Supplies	200	200
5. PVO Management Costs (30%)	1,007	707
SUB-TOTAL PVO ASSISTANCE	4,362	3,062

(Continued)

Note: footnotes in Appendix L.

Table 31: Fishing Sub-Project Costs (per fishermen organization) (Continued)

		Year 1	Year 2
III.	ATTRIBUTION OF COSTS OF COMMON SUB-PROJECTS AND PROJECT MANAGEMENT	5,111	5,111
	TOTAL SUB-PROJECT COSTS	63,791	33,416
IV.	TOTAL SUB-PROJECT COSTS WITH 5% CONTINGENCY	66,981	35,087
V.	INITIAL FISHERMEN CASH CONTRIBUTION		
	Investment (30%)	8,976	
	Operating expenses	12,198	12,621
VI.	CREDIT		
	Investments	20,945	
	Operating expenses	12,198	12,621
	Sub-Total (V & VI)	54,317	25,242
VII.	FISHERMEN CONTRIBUTION WITH 5% CONTINGENCY	57,032	26,505
VIII.	SUB-PROJECT COST TO AID (IV - VII)	9,949	8,592

TABLE 32 : ECONOMIC ANALYSIS FOR FISHING

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
NUMBER OF SUB-PROJECT STARTS	1	3	4	7	7	—														
INCREMENTAL COSTS																				
I. INVESTMENTS	29,921	89,763	119,684	209,447	209,447	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
II. OPERATING EXP.																				
a. Engine Maint.	1,231	3,770	14,078	26,925	40,618	49,078	47,386	40,618	49,078	47,386	40,618	49,078	47,386	40,618	49,078	47,386	47,618	49,078	47,386	40,618
b. All Others 1/	23,166	92,664	185,328	347,490	509,652	509,652	509,652	509,652	509,652	509,652	509,652	509,652	509,652	509,652	509,652	509,652	509,652	509,652	509,652	509,652
III. REPLACEMENT																				
a. Dug-out Canoe	—	—	—	—	—	—	—	1,230	3,690	4,920	8,610	8,610	—	—	1,230	3,690	4,920	8,610	8,610	—
b. Engines	—	—	—	4,695	14,085	18,780	37,560	46,950	18,762	37,560	46,950	18,780	37,560	46,950	18,780	37,560	46,950	18,780	37,560	46,950
c. Nets	—	—	—	5,622	16,866	22,488	44,976	56,220	22,488	44,976	56,220	22,488	44,976	56,220	22,488	44,976	56,220	22,488	44,976	56,220
d. Net Equipment	—	—	—	—	—	—	11,754	35,262	47,016	82,278	82,278	—	11,754	35,262	47,016	82,278	82,278	—	11,754	35,262
IV. LABOR	16,080	64,320	128,640	241,200	353,760	353,760	353,760	353,760	353,760	353,760	353,760	353,760	353,760	353,760	353,760	353,760	353,760	353,760	353,760	353,760
V. ASSISTANCE TO FISHERMEN ORG.	4,362	16,148	26,634	42,782	52,968	21,434	—	—	—	—	—	—	—	—	—	—	—	—	—	—
VI. COMMON SUB-PROJ. AND MGMT. COSTS	5,111	20,444	35,777	56,221	71,554	35,777	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TOTAL COSTS	79,871	289,109	510,141	934,382	1,267,950	1,010,969	1,005,088	1,043,692	1,004,464	1,080,332	1,098,088	962,368	1,005,088	1,042,462	1,002,004	1,079,302	1,094,398	962,368	1,013,698	1,042,462
TOTAL COSTS WITH 5% CONTINGENCY	83,865	303,564	535,648	981,101	1,331,348	1,061,517	1,055,342	1,095,877	1,054,687	1,134,559	1,152,992	1,010,486	1,055,342	1,094,585	1,052,104	1,133,267	1,149,118	1,010,486	1,064,383	1,094,585
INCREMENTAL BENEFITS	—	92,308	349,232	738,464	1,384,620	2,030,776	2,030,776	2,030,776	2,030,776	2,030,776	2,030,776	2,030,776	2,030,776	2,030,776	2,030,776	2,030,776	2,030,776	2,030,776	2,030,776	2,030,776

NOTES: 1/ i.e., gas, oil, dug-out canoe maintenance, ice.

Table 33: Cash-Flow Analysis for Fishing
(in $1,000)

Years	Incremental Costs	Incremental Benefits	Cash-flow
1	83.9	---	- 83.9
2	303.6	92.3	- 211.3
3	535.6	369.2	- 166.4
4	981.1	738.5	- 242.6
5	1,331.3	1,384.6	53.3
6	1,061.5	2,030.8	969.3
7	1,055.3	2,030.8	975.5
8	1,095.9	2,030.8	934.9
9	1,054.7	2,030.8	976.1
10	1,134.6	2,030.8	896.2
11	1,153.0	2,030.8	877.8
12	1,010.5	2,030.8	1,020.3
13	1,055.3	2,030.8	975.5
14	1,094.6	2,030.8	936.2
15	1,052.1	2,030.8	978.7
16	1,133.3	2,030.8	897.5
17	1,149.1	2,030.8	881.7
18	1,010.5	2,030.8	1,020.3
19	1,064.4	2,030.8	966.4
20	1,094.6	2.030.8	936.2

Economic Internal Rate of Return = 51.3 percent

Table 34: Sensitivity Analysis with 10 Percent Loss Production
(in $1,000)

Years	Costs	Benefits	Cash-Flow
1	83.9	--	- 83.9
2	303.6	83.1	-220.5
3	535.6	332.3	-203.3
4	981.1	664.7	-316.4
5	1,331.3	1,246.1	- 85.2
6	1,061.5	1,827.7	766.2
7	1,055.3	1,827.7	772.4
8	1,095.9	1,827.7	731.8
9	1,054.7	1,827.7	773.0
10	1,134.6	1,827.7	693.1
11	1,153.0	1,827.7	674.7
12	1,010.5	1,827.7	817.2
13	1,055.3	1,827.7	772.4
14	1,094.6	1,827.7	733.1
15	1,052.1	1,827.7	775.6
16	1,133.3	1,827.7	694.4
17	1,149.1	1,827.7	678.6
18	1,010.5	1,827.7	817.2
19	1,064.4	1,827.7	763.3
20	1,094.6	1,827.7	733.1

Economic Internal Rate of Return = 40.2 percent

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Table 35: Sensitivity Analysis with 20 Percent Increase in Costs
(in $1,000)

Years	Costs	Benefits	Cash-flow
1	100.7	--	-100.7
2	364.3	92.3	-272.0
3	642.7	369.2	-273.5
4	1,177.3	738.5	-438.8
5	1,597.6	1,384.6	-213.0
6	1,273.8	2,030.8	757.0
7	1,266.4	2,030.8	764.4
8	1,315.1	2,030.8	715.7
9	1,265.6	2,030.8	765.2
10	1,361.5	2,030.8	669.3
11	1,383.6	2,030.8	647.2
12	1,212.6	2,030.8	818.2
13	1,266.4	2,030.8	764.4
14	1,313.5	2,030.8	717.3
15	1,262.5	2,030.8	768.3
16	1,360.0	2,030.8	670.8
17	1,378.9	2,030.8	651.9
18	1,212.6	2,030.8	818.2
19	1,277.3	2,030.8	753.5
20	1,313.5	2,030.8	717.3

Economic Internal Rate of Return = 32.8 percent

VII. SMALL RURAL ENTERPRISES

A. Specific Assumptions

The sub-project will assist a total of 675 enterprises as follows:

Category of Enterprise	Number of Enterprises starting in each year					
	Year 1	Year 2	Year 3	Year 4	Year 5	Total
1. Artisan	9	32	47	80	80	248
2. Small Enterprise	3	8	15	25	25	76
3. Small Scale Food Processor	4	12	43	75	75	209
4. Construction Contractor	2	4	15	25	25	71
5. Small Scale Manufacturer	2	4	15	25	25	71
Total	20	60	135	230	230	675

- Artisans can double their output with better tools, technical help, and better access to materials.

- Service enterprises already do a comparatively large volume of business per hour of work because they have more capital invested. Business advisory services should result in a 10 percent increase in ouput.

- Food processors could process 50 percent more if they are taught to maintain their machinery and mills so they are not shut down for repairs half the time.

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- Construction contractors are informal groups earning low wages (approximately $500/year each). Grouped into contracting units they will be able to perform complete contracts, including purchase of materials, and thereby triple their present income which is low pay for labor only.

- With better tools, improved technologies, access to better materials, and some attention to business management, marketing, and accounting, small manufacturers and fabricators should be able to make and sell 50 percent more than they do now.

- When an enterprise has received project assistance and increased its productivity over a period of approximately one year, the assistance will be gradually reduced in order to encourage the entrepreneur to learn how to undertake self-generated development activities on his own.

B. Analysis from the Point of View of the Beneficiaries

Table 36 presents the increased production, increased profitability and employment to be expected from assistance to each category of enterprise.

C. Economic Rate of Return and Sensitivity Analysis

1. Sub-project Assistance to Enterprise Costs (See Appendix M for data sources).

The project will provide assistance to each small enterprise through its advisory service during three years. During the first year of assistance, the small enterprise will receive 48 visits from an extension agent, 24 the second year and 12 the third. Cost of small business advisory service is therefore prorated accordingly (See Table 37).

The share of common sub-project and project management costs to be attributed to small enterprises has been calculated on the basis of the amount of investment to the small business advisory service as compared to the amount of investment to the village organizations. Then, for each item, the sum attributable to the small enterprise section has been divided equally among all enterprises (675) be it an artisan, a small scale manufacturer, etc. The only item for which the attribution has been different is for the supply store and credit management costs which was divided equally among 891 individuals or groups (675 small enterprises and 216 village organizations); the rationale being that it costs as much to provide credit to one individual as to a group acting as an individual. The costs per small enterprise assisted are presented in Table 37.

2. Economic Analysis (See Appendix M for data sources).

Table 38 presents the gross incremental benefits and increase in hired labor as a result of the assistance for each category of enterprise. The cost of additional hired labor is taken at $3.35/day, the government minimum wage rate. This is a higher opportunity cost than for the other sub-projects. It is assumed that the workers that will be hired have higher skills than unskilled villagers and could get employment at a higher wage rate, at least the government minimum wage rate. The number of working days per year assumed is 305.

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Table 36: Increased Production, Increased Profitability and Employment per Category of Enterprise per Year

Category of Enterprise

	Average Artisan	Average Small Enterprise	Average Small Scale Food Processor	Average Construction Contractor	Average Small Scale Manufacturer
Value of Output (in $)					
Present	1200	30000	7000	2500	10800
after assistance	2400	33000	10500	10000	16200
increase	1200	3000	3500	7500	5400
percent increase	100	10	50	300	50
Profitability (in $)					
present	480	3000	2000	2500	3800
after assistance	855	4300	4550	8750	4700
increase	375	1300	2550	6250	1900
percent increase	78	43	128	250	50
Project Lending (in $)					
size of loan	200	3000	1500	1500	3600
term	2 yr	2 yr	1 yr	2 yr	2 yr
recovery after 1 year	112	1680	840	840	2016
balance still due	125	1881	941	941	2258
Person Employed					
present	3	1	1	5	3
after assistance	3	3	2	15	6
increase	0	2	1	10	3
increase in apprentices	2	1	1	--	3

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Table 37 : Average Costs for Assisting a Single Enterprise
(Three year assistance, in $)

	Year 1	Year 2	Year 3	Total
I. DIRECT ASSISTANCE TO S.E. Advisory Service	1033	517	258	1808
II. SHARE OF COMMON SUB-PROJECT MANAGEMENT COSTS	551	541	541	1633
TOTAL SUB-PROJECT COSTS	1584	1058	799	3441
CONTINGENCY (5%)	79	53	40	172
TOTAL	1663	1111	839	3613

Table 38: Gross Incremental Benefits, Increase in Hired Labor and Opportunity Cost per Category of Enterprise

Category of Enterprise	Gross Incremental Benefits (in $)	Increase in Hired Labor	Opportunity Cost of Labor (in $ per year
1. Artisan	1200	---	---
2. Small Service Enterprise	3000	2	2045
3. Small Scale Food Processor	3500	1	1023
4. Construction Contractor	7500	10	10229
5. Small Scale Manufacturer	5400	3	3069

The stream of incremental benefits and costs over twenty years is presented in Table 39. Figures from Table 37 and 38 have been used.

The project will have the following impact:

- 675 enterprises will be assisted to produce $2.2 million worth additional goods and services per year (an increase of 44 percent over the $5 million these enterprises would produce without assistance).
- Profitability will be increased for the 675 enterprises from $1.2 to 2.4 million per year (an increase of 100 percent).
- The 675 enterprises to be assisted will increase their aggregate employment by adding on their payrolls 1270 additional full-time employees. Moreover, 990 unemployed, or underemployed, young persons, will learn skills as apprentices in the enterprises.

3. Cash-flow Analysis and IRR

Table 40 presents the cash-flow analysis over 20 years. The IRR is 23 percent.

For the sensitivity analysis, two less favorable situations were considered:

- 20 percent less production,
- 20 percent increase in costs.

Cash-flow analyses are presented in Tables 41 and 42.
The following table summarizes the results of the IRR calculations.

	Base Case	20% Less Production	20% Increase in Costs
IRR	23%	70%	10%

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TABLE 39.: ECONOMIC ANALYSIS FOR SMALL RURAL ENTERPRISES

	1	2	3	4	5	6	7 and following
NUMBER OF ENTERPRISES ASSISTED	20	60	135	230	230	--	--
INCREMENTAL COSTS							
I. HIRED LABOR	36,783	118,523	392,352	852,140	1,311,927	1,311,927	1,311,927
II DIRECT ASSISTANCE COSTS	20,660	72,320	175,635	322,865	391,330	178,250	---
III COMMON SUB-PROJECT AND MGMT COSTS	11,020	43,880	117,665	232,225	324,195	248,860	---
TOTAL COSTS	68,463	234,723	685,652	1,407,230	2,027,452	1,739,037	1,311,927
IV TOTAL COSTS WITH 5% CONTINGENCY	71,886	246,459	719,935	1,477,592	2,128,825	1,825,989	1,377,523
V. INCREMENTAL BENEFITS	—	59,600	215,600	661,000	1,417,000	2,173,000	2,173,000

Table 40: Cash-Flow Analysis for Small Rural Enterprises
(in $1,000)

Years	Costs	Benefits	Cash-flow
1	71.0	---	- 71.9
2	246.5	59.6	-186.9
3	719.9	215.6	-504.3
4	1,477.6	661.0	-816.6
5	2,128.8	1,417.0	-711.8
6	1,826.0	2,173.0	347.0
7 and following	1,377.5	2,173.0	795.5

Economic Internal Rate of Return = 22.7 percent

Table 41: Sensitivity Analysis with 20 Percent More Costs
(in $1,000)

Years	Costs	Benefits	Cash-flow
1	86.3	---	- 86.3
2	295.8	59.6	- 236.2
3	863.9	215.6	- 648.3
4	1,773.1	661.0	-1,112.1
5	2,554.6	1,417.0	-1,137.6
6	2,191.2	2,173.0	- 18.2
7 and following	1,653.0	2,173.0	520.0

Economic Internal Rate of Return = 9.6 percent

Table 42: Sensitivity Analysis with 20 Percent Less Production
(in $1,000)

Years	Costs	Benefits	Cash-flow
1	71.9	---	- 71.9
2	246.5	47.7	-198.8
3	719.9	172.5	-547.4
4	1,477.6	528.8	-948.8
5	2,128.8	1,133.6	-995.2
6	1,826.0	1,738.4	- 87.6
7 and following	1,377.5	1,738.4	360.9

Economic Internal Rate of Return = 6.6 percent

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VIII. OVERALL INTERNAL RATE OF RETURN

Table 43 regroups the IRR for each activity and presents the overall IRR. It has been calculated giving each IRR a weight according to the amount of AID investments for each activity.

Table 43: Internal Rate of Return for Various Activities and Overall IRR

Activities	IRR	Amount of AID Investment ($1000)
Vegetable production	31%	1,879
Cattle fattening	20%	1,281
Village woodlot	2%	592
Fishing	51%	408
Small rural enterprise	23%	2,439
Overall IRR	25%	

IX. RECURRENT COSTS

Recurrent costs to continue project activities are expected to be minimum for the GOS. Training in functional literacy, basic accounting and management provided by the PVOs is needed only for the life of each sub-project (two years). Technical assistance will continue to be provided by the SODEVA or CER agent who will have been involved in the sub-project since its beginning. This does not constitute an additional cost for the GOS since the agents are regularly employed by the GOS either as civil servants (CER) or as contractuals (SODEVA).

As for credit needs, the GOS is presently implementing a rural credit scheme (Caisse Nationale de Crédit Agricole, see section on credit) which will provide the necessary credit for the village organization to continue the activities started under the present project. In addition, credit needs should be minimum as one of the objectives of the project is to promote activities that will be self-generated, by providing initial training to village organizations so that they can build up their own revolving fund for operating expenses.

APPENDIX I. VEGETABLE AND FRUIT PRODUCTION

1. Initial monetary contribution from the beneficiaries

This contribution will represent 25 percent of the cost of infrastructure: which is $16,157 (See Table 9). i.e., $4040.

Initial contribution of $4040 divided among 20 families, that is $202 per family. 20% ($40.4) of this initial contribution will be paid in cash at the beginning of the project. The remaining will be paid in two installments: $90.50 the second year and $101.30 the third year with a 12% interest rate.

2. Initial monetary contribution for tools

Cost of agricultural equipment: 25 000 CFA or $77.00 per beneficiary. The initial monetary contribution is 20 percent of the cost, that is $16 per beneficiary.

3. Annual contribution for pump cable and minor repairs

Pump cable will need replacement every 5 years. Its cost represents about half of the ox-drawn equipment, that is 650 000 CFA or $2000. Other repairs are minor.

Annual contribution will be $400.00 or $20.0 per beneficiary.

4. Annual contribution for replacing agricultural tools and equipment

Agricultural equipment worth $77 will be replaced each fourth year. This annual contribution will be $19.25 each.

5. Agricultural inputs

Seeds. Average cost per ha. on the basis of a combination of potatoes, onions, tomatoes, cabbages, green beans, cantaloupe, pimentoes and okra: $323. Cost per beneficiary $32.3

Fertilizer. Average cost per ha: $332
Cost per beneficiary $33.2

Fungicides and pesticides: $77/ha. Cost per beneficiary: $7.7

Total cost of agricultural inputs: $73.2 for one crop. It is expected that there will be only one crop the first year; one and a half crop the second year

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(i.e., each beneficiary will cultivate his/her plot once, and half of it the second time). From the third year on, there will be two crops grown per year on the same plot.

Hence, the cost of agricultural inputs is $73.2 the first year, $109.8 the second year, $146.4 the following years. Agricultural inputs can be purchased on credit for 80% of the costs to be repaid at the time of marketing with a 12% interest rate.

6. Infrastructure maintenance

Repairs on the infrastructure (tanks, pipes, warehouse) are estimated at 5 percent of their costs, that is $680 per year or $34 per beneficiary.

7. Fruit tree maintenance

Fertilizer and pesticides are estimated at $1.5 per tree per year. Each beneficiary will have 8 trees, that is $12 per beneficiary.

8. Cost of fencing is 5000 CFA/m x 600m = CFA 3000 000 or $9230

9. Wind Breaks: Fruit trees at CFA 500 per seedling. 160 fruits trees = CFA 80 000 or $250.

10. 25 000 CFA worth of tools will be provided per beneficiary, that is CFA 500 000= $1538.

11. Technical assistance cost has been calculated on the basis of $600/month. Secretary's salary is $400/month.

12. PVO's will provide housing facilities for its two extension workers in the geographical area where they are working. Cost of building a modest house with latrine is estimated at $3500. Furniture at $1500. The two extension workers are expected to assist on the average six sub-projects. Cost per sub-projects: $833.

13. Two mobylettes per geographical area (6 sub-projects) will be provided. Life expectancy is 4 years.
    Cost of one mobylette: $1000
    Cost of mobylettes per sub-project: $170

14. Gasoline and maintenance is $700 per mobylette/year or $1400 per geographical area, that is $233 per sub-project.

APPENDIX J. LIVESTOCK PRODUCTION

1. Infrastructure cost: $1500. 75% of it as a front. Villagers' contribution is 25%, that is $375,5% of the initial contribution paid in cash. The rest on credit to be reimbursed over two years with a 12% interest rate.
2. Infrastructure maintenance: 5 percent of the cost of infrastructure building.
3. Purchase of the animals: CFA 70 000 per head of cattle, that is CFA 70 000 for 10 animals or $2153
4. Purchase (or use of home produced) hay or peanut "fannes" for the length of the feeding: 12 kg per day for 120 days at $0.03/kg x 10 =$443
5. Purchase of peanut cakes or maïze 1kg/day for 120 days x10= $185
6. Medicines $3.10 per animal x 10= $31
7. Risk factor: Death of the animal in 1 percent of the cases. Risk evaluated at 1 percent of the price of the animals.
8. Cost of a sheep: CFA 15000 = $46
9. Feed complement and medicine is evaluated at CFA 5000 per animals that is CFA 250 000 for 50 = $769
10. An initial cash contribution of 20 percent of the cost of the animals will be asked for before credit is provided. That is in year 1, $430 for cattle fattening and $460 for sheep fattening. The second year, $862 and $920 respectively. Averaging these figures, the initial cash contribution is $445 the first year, $891 the second year.

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APPENDIX K. VILLAGE WOODLOT PRODUCTION

1. Fencing for woodlots is CFA 500/m

   For a 5 ha woodlot, fence costs CFA 24 000 000 or $7385

2. Seedlings: CFA 100/tree; 4800 trees represent CFA 400 000 or $1230

3. Pesticides: CFA 25/tree; pesticides for 4000 trees = CFA 100000 or $308.

APPENDIX L. FISHING PRODUCTION FOOTNOTES

1. A 12 m dug-out canoe costs approximately CFA 400 000 in Sine Saloum, or $1230.

2. Two kinds of engines are needed:

   8CV for CFA 155 000 = $477

   25CV for CFA 250 000 = $770

   Engines at these prices are duty free from CAPAS.

   For a fleet of 6 dug-out canoes, 8 engines are needed (2 for replacement), 5 8CV engines and 3 25 CV ones.

3. Different kinds of nets are needed for different types of fish.

   For two dug-out canoes:

- 7 Fishnets 80 No. 1110	CFA 355 000 =	$1092
- 8 Fishnets 75 No. 1615	CFA 254 000 =	$ 782
Total:	CFA 609 000	$1874

4. Net equipment for two dug-out canoes:

- Nylon Fishing Line	8 mm x 1000 m	CFA 80 000 = $246
	6 mm x 1000 m	CFA 60 000 = $185
- Weight (500 kg)		CFA 250 000 = $769
- Floaters (7500)		CFA 713 000 = $2194
- Reels N° 1110 (100)		CFA 85 000 = $262
N° 1615 (100)		CFA 85 000 = $262

5. Initial stock of spare parts for 10% of the cost of the engines.

6. Two dug-out canoes - $2460

7. Gas-oil consumption is 15 l/day for an 8CV engine, 30 l/day for a 25CV engine at CFA 80/liter. On the average, there are 200 fishing days/year in Sine Saloum.

Operating expense per 8CV engine per year	CFA 240 000 = $738
Operating expense per 25CV engine per year	CFA 480 000 = $1476

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8. Engine maintenance in CFA

	Year 1	Year 2	Year 3
8CV engine	50 000	75 000	100 000
25CV engine	50 000	100 000	150 000

Engines are replaced at the end of the third year.

9. Dug-out canoe maintenance - (repainting, etc....)
CFA 65 000/year or $200.

10. A kg of ice is needed per kg of fish transported for adequate conservation.

Average production: 250 kg/day/dug-out canoe for 200 fishing days.
Price of ice : CFA 15/kg

Cost of ice per dug-out canoe per year

250 x 200 x 15 = CFA 750 000 or $2308

11. Life expectancy:

		Annual payments
Dug-out canoes	: 7 years	$1054
Engine	: 3 years	$1565
Nets	: 3 years	$1874
Net equipment	: 6 years	$ 653

12. The project provides 70 percent of the investment costs in credit. Reimbursements are made in 24 installments over a 28 month period. An interest rate of 12% is charged.

APPENDIX M

SOURCES FOR COSTS AND BENEFIT ESTIMATES OF ILLUSTRATIVE SUB-PROJECTS

The data used for illustrative subproject costs and benefits came from several sources:

1. PID team interviews with village organizations and small entrepreneurs.
2. Senegalese government organizations involved in the areas concerned.
3. Data from the World Bank project entitled Small Rural Projects (Petits Projets Ruraux).
4. PVO's carrying out activities similar to the ones being planned.

Estimates from one source were cross-checked against estimates from other sources to arrive at reasonable figures.

The discussion below indicates the sources used for estimates for each category of subprojects.

Vegetable and Fruit Production

In addition to interviews with members of village organizations, estimates came from the following sources:

- Vegetable plots of 1 hectare per person - from World Bank project and CARITAS experience.
- Infrastructure needs and costs from CARITAS experience in such projects.
- Yield estimates and prices from World Bank project cross-checked with data developed by the Center of Horticultural Development of the Senegalese Institute of Agricultural Research (ISRA).
- Labor per crop from World Bank project cross-checked with data from PVO's (CARITAS and ENDA) and government services.
- Input costs for tools, equipment, and agricultural inputs from the World Bank project.

Livestock Fattening

In addition to interviews with members of village organizations, estimates for operating costs, selling price, weight gains, and other data came from SODESP, the government agency concerned with livestock, and from CARITAS experience in such projects.

Village Woodlots

In addition to interviews, data came from the following sources:

SODEVA, the government development agency in the Groundnut Basin (including Sine Saloum) and Service des Eaux et Forêts (Rural Development Ministry) for expenses

SODEVA, the World Bank forestry expert now in Senegal, and Service des Eaux et Forêts for weight gain and gross income

SODEVA for agricultural costs and outputs.

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Fishing

In addition to interviews with members of artisanal fishing groups, data came from the following sources:

CAPAS, Center for Assistance to Senegalese Artisanal Fishing, and Ministry of Human Resources (Promotion Humaine), which has assisted groups in fishing activities.

Although fishermen gave 500 kg/day as a catch estimate, the more conservative figure of 250 kg/day suggested by Promotion Humaine was used.

Similarly, the more conservative price per kilogram given by fishermen of 100 CFA/kg ($.33/kg) was used rather than 150 CFA/kg ($.50/kg) as suggested by Promotion Humaine.

Small-Scale Enterprises

Few government figures exist on small-scale entrepreneurs. Data for the economic analysis on small-scale enterprises came from interviews with existing entrepreneurs and from comparative experience in northern Nigeria, Kenya, Liberia, and Upper Volta.

Figures on the current status of artisans, small service enterprises, food processors, construction contractors, and small manufacturers came from interviews with entrepreneurs, observations, estimates, and judgments on the observations.

Estimates on increased income and productivity came basically from interviews and direct observations:

- For artisans, from interviews and SODEVA results in helping blacksmiths improve their technology and productivity.
- For small-scale service enterprises, from interviews with such entrepreneurs.
- For small-scale food processors, from interviews and deductions (Millers said that their machines are down about 50 percent of the time; therefore, by reducing that downtime to 25 percent, their output could increase by 50 percent.)
- For construction contractors, from interviews, especially with an association of contractors in the Kaffrine department of Sine Saloum.
- For small-scale manufacturers, from interviews with various individuals.

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ANNEX 13

SOCIAL SOUNDNESS ANALYSIS

ANNEX 13

SOCIAL SOUNDNESS ANALYSIS

I. SOCIO-ECONOMIC CHARACTERISTICS OF THE REGION*

The region of Sine Saloum covers an area of 24,000 square kilometers and comprises 12 percent of the landmass of Senegal. It falls within the heart of Senegal's "peanut basin", which also includes the regions of Louga, Diourbel, and Thies. In 1982, the population of Sine Saloum was estimated at 1,200,000 (about 20 percent of the country's total population of approximately 6,000,000) distributed among six departments: Gossas, Nioro du Rip, Foundiougne, Kaolack, Fatick, and Kaffrine. Population density ranges from 10 persons per square kilometer in Kaffrine to 120 persons per square kilometer in certain areas of Fatick.

Sine Saloum produces 41 percent of Senegal's peanut crop, which accounts for almost 60 percent of the country's exchange earnings. It is a magnet for male migrant agricultural labor.

The two dominant ethnic groups in the Sine Saloum region are the Wolof and the Serer who account for 34 percent and 43 percent of the population respectively. The Wolof, once a warrior group, traditionally observed a strict heirarchy of castes which to this day influences social and political life. Unlike the Serer, the Wolof have not traditionally been cattle herders, but have cultivated millet, peanuts, and vegetables. The majority of Wolofs subscribe to Islam; and many belong to the nationalistic Moslem brotherhood known as the Mourides, who exert a powerful influence over Senegalese politics. Mouride communities are headed by religious leaders called Marabouts who may be influential in catalyzing villager's support for communal activities.

The Serer, also a stratified society, have continued their practice of cattle herding even though they also cultivate peanuts. Unlike the Wolof, the Serer are largely non-Muslims, and many remain animist today. They tend to be less likely to migrate out of the region.

The traditional production unit among both the Wolof and the Serer is the extended family. The family generally includes the elder, his wives, his sons and daughters, and their families. All live in a series of huts within a fenced compound. Extended families farm a communal plot, but it is not unusual for sons and daughters to farm an individual plot as well. In fact, over the years the extended family plot has diminished in size and importance as individual plots have grown, and these latter currently constitute the main unit of production. During peak periods of the agricultural cycle, particularly at harvest time, large

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1/ This section draws on the analysis prepared by Abby Bloom for the Sine Saloum Rural Health II PID.

numbers of migrant wage-laborers are employed to supplement the inadequate manpower available within the extended family.

The birth rate for the country as a whole is approximately 48/1000, an extremely high rate even for sub-Saharan Africa. In spite of an infant mortality rate of 118/1000, Sine Saloum's annual population growth rate (approximately 4.0 percent) exceeds the national average (approximately 2.8 percent) as a result of in-migration to meet the demand for labor in the region.

The adult literacy rate for Senegal is 27.8 percent; Sine Saloum's literacy rate is unknown, but probably comparable. Although many villages have Islamic "schools", few have public primary schools; secondary schools are also rare in Sine Saloum. (See Table 1 for additional socio-demographic characteristics.)

Table 1: Socio-demographic Characteristis: Senegal and Sine Saloum

	Senegal	Sine Saloum
Population (1982 est.)	6,000,000	1,200,000
Land Area (Km.^{2})	197,000	23,620
Population Density (persons/Km.^{2})	30.5	51
Distribution of Ethnic Groups (1961)		
Wolof	36.0%	34.0%
Fulani	18.0%	8.0%
Serer	17.0%	43.0%
Toucouleur	9.0%	6.0%
Diola	9.0%	5.0%
Mandingo	7.0%	3.0%
Other	4.0%	1.0%
GNP per capita (dollars, 1978)	340	?
Adult Literacy Rate	27.8%	?
Access to Safe Water	37.0	

Source: Sénégal: Les effets des facteurs démographiques sur le développement social et économique. Washington, DC RAPID (The Futures Group, no date)

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The principal economic activity in Sine Saloum is agriculture, although animal husbandry (cows, goats, sheep and chickens) is commonly practiced either as a primary or secondary source of income. The major crops grown in the region are peanuts and millet. Although both crops are sold, peanuts are considered primarily as a cash crop (introduced by the French in the 19th century), while millet (supplemented by corn, rice, cowpeas, and cotton) has traditionally been a staple of the diet in the area. Agriculture in Sine Saloum is almost exclusively rainfed, and the productivity of the sandy soils has decreased markedly in modern times as a result of overcultivation exacerbated by rapid population growth. (See Spatial Analysis, Annex 11).

The socio-cultural context of Sine Saloum is dominated by its location in the Peanut Basin; the presence of two major ethnic groups, the Wolof and the Serer which coexist peacefully; and the role of Islam in the form of Mouridism.

II. RELATIONSHIPS TO PROJECT FOCUS

Agricultural economy in Sine Saloum is characterized by the quasi-monoculture of peanuts cultivated only during the rainy season as a cash crop. The only staple food cultivated during the rainy season is millet for auto-consumption, and this cultivation is increasing. Potentialities exist for other activities, such as vegetable production, which this project can support and thus lessen food shortages in the region.

Traditionally the dry season between November and July has been a low activity period, when young and adults leave for towns in search of jobs.

To remedy this situation, traditional village organizations look for collective income-generating activities in the dry season. The government is in favor of this movement, and the reform of the cooperative system in giving legal authority to "groupements de producteurs" to receive credit is evidence of this support.

Village organizations, the target population of the project, tend to organize themselves as producer groups and so are prepared to carry out productive collective activities for which they need the assistance the project intends to provide.

On the other hand, the end of the "programme agricole" under which tools and equipment were provided on credit to farmers creates a favorable situation for small-scale entrepreneurs if they are made able to respond to market demand. Artisans are from the lower castes in the traditional hierarchy of the society. Although the caste system has been legally abolished, artisans the design team found in villages belong to those castes. They will be considered as part of the target group of the SSE component of the project, the rest of the target group being SSEs in towns and cities of the region. Modernization of their work should not create any sociological problem as their success will be regarded as the success of the village they belong to.

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III. FACTORS AFFECTING PROJECT SUCCESS

A. Social Organization

Each village in the Sine Saloum has at least one village organization and most of the time two or three: one village organization for men, one for women, and one for young people. This sexual/age division corresponds to the traditional sex/age division of labor in the villages where men are responsible for cash crops and women for food crops. Both Serer and Wolof societies have a very strong sense of this hierarchy, and the leaders appointed as such in the modern type of organization are often traditional leaders.

On the other hand, particularly in the Serer society, the power of the king was strictly limited and controlled by a representative group of elected peasants. Therefore, some traditions of democracy existed which remain in the modern village organizations where main decisions are taken collectively.

The traditional social organization of both the Serer and Wolof societies comprises artisans belonging to the lower castes. They are blacksmiths, leather-workers, and carpenters. Therefore, their traditional activities are directly responsible to the farmer's needs. The project is not intended to create new entrepreneurs but only to assist the existing ones so they will be in a better position to respond to an increased and more diversified demand of goods and services from the farmers.

The extended family structure does not appear to be a constraint to the project. It was the traditional production unit in both Wolof and Serer communities. The family elder and his wives and sons and daughters and their families all lived together in the same compound and farmed a common plot. Individual nuclear families could ask the family elder for a plot to farm for themselves and generally did so.

These individual plots have grown at the expense of the extended family plot, and now the plot of the individual nuclear family tends to become the main unit of production. Collective farming is done through village organizations of men, women, and young people which cut across both nuclear and extended families.

Land tenure was similar for both Wolof and Serer and left many farm families without enough land to cultivate. The National Estate Law of 1963 tended to end this practice by granting permanent land rights to those who cultivated the land. On the other hand, the newly established Rural Councils have been empowered to settle land disputes and grant rights to land.

Mouridism, a branch of the Muslim religion, is very strong in the region. Design team investigations in Sine Saloum villages and experience with the AID-financed rural health project in Sine Saloum lead to the conclusion that Mouride villages are generally well organized and oriented towards collective production activities.

B. Climate for Change

Rapid population growth is creating a climate for changes in the agricultural habits; agriculture in the region is exclusively rainfed and the productivity of the sandy soils has decreased creating a situation favorable for diversified agriculture.

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New government policies tend to leave more room for self organization of the farmers at the village level. The cooperative system reform gives authority to producer groups organized at the village level. They will be eligible for credit from private lending resources. In the coming years the government is likely to suppress subsidies to fertilizers and other necessary inputs for agriculture. Therefore villagers are realizing that they have to organize themselves in order to build certain capacities. Equipment and infrastructure which were traditionally furnished by the government are now the responsibility of communauté rurales who have to seek ways to raise funds.

In its fieldwork, the design team found that traditional leaders of village groups tend to be replaced by "modern" leaders in consideration of their capacities. In several villages visited, it was seen that the village leader was often a literate person who knew how to deal with local authorities and with modern institutions: the post office, banks, etc.

Several government organizations aim at improving the role of traditional artisans and introducing them into the development process. They now perceive themselves more as small-scale entrepreneurs than as artisans, and they are developing products which respond to the modern rural needs, such as millet mills, a product for which the demand is high. On the other hand, they need training which will make them able to repair machinery that is imported.

Because of SODEVA and other organizations' actions, farmers and artisans are aware of their needs for development. Fishermen groups were also able to define their needs for assistance in commercializing their products in a very precise way.

C. Availability of Labor

Demand for labor is high between June and October/November, the rainy season when millet and peanuts are cultivated. During that period children as young as eight years old are included in the agricultural labor force.

The project intends to develop activities mainly during the off-season and to reinforce activities which are still considered as a second source of income, i.e., animal husbandry. Therefore, there should be no shortage of labor for the project. Vegetable gardening, which probably requires the most labor, is not feasible everywhere in the region and for ecological reasons will be done on a small scale. Reforestation will be limited to five to ten hectare fields because land is quite scarce, especially in northern Sine Saloum.

On the other hand, the rural health project by improving health and nutrition status will tend to increase the supply of labor by reducing time lost to illness.

Because sons of artisans become artisans, shortage of labor is less of a problem for artisans except for those whose sons leave home in search of a job. Often artisans who go to town for jobs are doing so because there is no work for them in the village. The Serer are quite reluctant to migrate and would prefer to remain in their villages if they could work and provide for their families.

D. Motivation of Beneficiaries

Beneficiaries of the project belong to two categories:

- Villagers who are members of village organizations;
- Artisans and small-scale entrepreneurs.

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In every village visited, there was at least one village organization and at least one collective activity carried out generally to raise money for buying collective equipment or services: a mill for women, a rural maternity, a school, or dispensary. In several villages, women's groups financed on their own the training of a midwife. Wells in villages have often been constructed by the villagers themselves or if by a donor, with a financial contribution from the villagers. SODEVA agents reported that three youth groups had developed tree nurseries, and that they had no problem selling the plants to village groups.

Finally, discussions with several village organizations showed that they already identified their needs and started income-generating activities. CER agents and sous-préfets showed development project proposals which they had designed with the villagers themselves and which needed financing. In discussing the proposed project, people understood the project and expressed their willingness as well as their capacity to repay credit if provided to them.

Artisans appreciated that someone had some interest in their situation, as, they benefit from almost no assistance from the government. They are aware that they need training in management and bookkeeping, and they are willing to accept credit and make repayments if repayments are adapted to their capacities. Enabling them to remain in their region by helping them develop a solid market for their products is their sincere wish. Nevertheless, a risk exists of some moving to larger cities after receiving assistance under the project.

IV. MINIMUM PARTICIPATION PROFILES

A. For Village Group Members

According to CER agents, sous-préfets and préfets, villagers are used to participating in the design of village projects. When the project paper design team was in the field, it noticed that local people knew what participation in a project design meant and they collaborated in the design work. They often insisted that their views and considerations should be taken into account in the project design.

PVOs will be requested to involve village group members in the design of the sub-project proposals, particularly regarding the credit component. As inputs will be provided under group credit, village group members will insist that every member commit him/herself to the repayment of the loans.

During fieldwork, the design team investigated the degree of democracy in village groups as well as the degree of participation. A system of fines was often seen for those members who do not participate in group activities. In some villages, members were scheduled to work on collective fields at defined times so everybody knew what he/she had to do and when.

There are some constraints for the participation of the women in the design of the sub-projects and for their participation in the activities. Social habits prevent women from expressing themselves publicly. This is particularly the case in mixed groups (women and men). Even when the team tried to approach women's groups, they sometimes just asked the team to contact the village chief. PVOs will have to be conscious of this situation and work out appropriate ways of dealing with women's groups.

The obstacle to women's participation in project activities is that they are overloaded by their traditional tasks: collecting wood and drawing water, caring of children, and so on. In the design of sub-projects, PVOs should include equipment to alleviate women's work. They should be careful, too, that certain activities like literacy classes be properly scheduled so women can attend them.

PVOs and Management Unit staff will be responsible for explaining to village group members that they will have to make financial contributions in the implementation of sub-projects. The AID-financed rural health project is already asking for the population's financial contribution. Villagers pay for the medicines; they support health workers; and they are responsible for the construction of health huts. But this financial contribution has been defined for all primary health care programs in the country and has been imposed by the Senegalese government as a step to self-management. Other assistance structures, like SODEVA and Groupe Opérationnel Permanent d'Etude et de Concertation (GOPEC) are training populations in that sense so they realize that a minimum of financial contribution is necessary in a project. But some donors and agencies working in the region give inputs to villagers. There is apparently little concertation among donors and assistance structures for requiring similar financial contributions from local people.

B. For Artisans

Artisans in the Sine Saloum region have almost never been assisted. Under the project the assistance which will be provided to them will be mostly on an individual basis. Therefore the design of the assistance they need will be defined by the small business extension adviser working with each artisan. In the project design, a number of artisans have been interviewed individually, and the proposed assistance comes from information obtained from them. Assistance to them will occur with their direct participation.

Training will be provided without charge but equipment and inputs will be provided to them on credit. The credit component of the project takes into account other donors' past errors. The design team found much equipment which has been given free to artisans was unused as the artisans did not know how to use it. Artisans interviewed did not, as a rule, request gifts but stated that reasonable credit, training in management, and access to a stable market would be the best assistance with which they could be provided.

C. For PVOs

PVOs working in Senegal have been chosen to implement the village organizations assistance component, and PVOs have been involved in the project's design at several stages. At the PID design stage, every PVO in Senegal was interviewed by the PID design team. The project was explained to them and their views taken into consideration in drafting of the PID.

For the PP design a PVO conference was organized to which every PVO active in Senegal was invited. As the project was presented, the main issues for design and implementation of the project were defined jointly by the PVOs and the mission staff and working groups formed to discuss these issues and made recommendations.

Design of sub-projects in the implementation phase will be PVO's and the village groups' main responsibilities. In addition to collaboration with the beneficiaries, PVOs should collaborate with administrative, governmental, and elected structures in the region.

PVOs will receive grants for projects but will also have to provide some resources on their own.

D. How Participation Profiles Will be Matched

The minimum participation capacities of the various agents of the project (village organizations, entrepreneurs, PVOs) will be taken into consideration by the selecting structures. For beneficiaries to provide a minimum of their own resources to project activities is one of the most important criteria defined in the project paper.

The National Project Policy Committee will be checking those criteria and their proposals. The Management Unit when approving sub-projects will check on the minimum participation profile of the PVO and to the extent possible of the village organizations.

Checking of the participation profile of village organizations is the primary responsibility of the PVOs but they should not be too strict on that aspect. On the contrary, they should assist village organizations to develop that capacity.

The criteria for assisting artisans states clearly that the personal participation of the artisan is essential. Absentee artisans will not be assisted.

V. PROJECT CONSTRAINTS

A. Interested Groups Outside the Project

Sine Saloum region is largely influenced by Mouridism. Mouride religious leaders are very influential socially and economically. Traditionally, Mouride people used to devote part of their time to work on the Marabout's fields and to give to him part of their revenues. This practice is not going to disappear soon and might represent a constraint in the implementation of the project. Marabouts have a very strong power on their disciples or "talibés" who in return rely on them in case of difficulties.

Therefore, marabouts might wish to speak on behalf of the populations and to be the first beneficiaries of the project. PVOs should be aware of this issue and progress slowly and carefully in Mouride zones. In any case they will have to make sure that religious leaders are informed and give their agreement to the development of the project activities. On the other side, they should implement the project in such a way that project target populations remain the first beneficiaries of their assistance.

Local governmental structures have already expressed that they feel they should control project activities. As they are regularly in contact with the populations, they might block the development of a project if they feel that they have been excluded from its design and implementation. PVOs should seek their collaboration and define activities as precisely as possible. CER agents have already expressed their willingness to collaborate with PVOs. With SODEVA agents the situation might more be sensitive, as they may perceive the project as duplicating their efforts in the region.

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It is essential, too, that elected structures be involved in the process. Communauté rurale representatives are the key persons for contributing land for reforestation projects.

Concerning artisans, responsibilities are so far not clearly defined between the Ministry of Social Development and the Ministry of Industrial Development and Artisanat which is responsible for the Chambre de Mëtiers or artisan associations. The SBAU should deal carefully with those structures to assure the success of the project.

B. Economic Variables Outside Project Control

The main source of cash revenues for the farmers is their peanut crop which is rainfed. Therefore any bad rainy season will affect drastically the farmer's means. The last ten years have been generally years of drought or insufficient rains although the last two years (1981-82 and 1982-83) have been better years. The project could be affected in several ways by poor rains.

- Insufficient rain would mean insufficient revenues for farmers which will prevent them from providing the financial contribution requested for the infrastructure for village sub-projects.

- Poor rain could mean too that farmers would not be able to repay the loans they would have taken out for inputs.

- Poor rain could mean also that they would not be able to purchase equipment from the small-scale entrepreneurs assisted by the project, thus not increasing SSEs' markets.

Salinity of existing water in several zones of the region (described in the spatial analysis) will limit the development of certain income-generating activities like vegetable gardening. Further, in certain zones it is too hot all year for vegetable production.

Another constraint outside of project control is the difference of population density in the region. Two departments out of six in the region are overpopulated. The departments of Kaffrine and Fatick account for 40 percent of the region's population. Therefore, land is scarce and farmers are not inclined to allocate lands for reforestation. In the Fatick deparment, certain areas called "tanns" are unsuitable for cultivation because the salinity of the soil is so high.

VI. SOCIAL CONSEQUENCES AND BENEFIT INCIDENCE

A. Primary and Secondary Beneficiaries

The project will provide assistance to two different socio-economic groups in the Sine Saloum region:

- Farmers who are members of village groups, and
- Small-scale entrepreneurs.

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In its first phase, the project will be a pilot project and farmers assisted will be those organized into village organizations who already have a minimum of means and capacities. Because of natural limitations of the region described in the spatial analysis, the project will not be implemented in certain areas. Target populations of the project will be assisted to become autonomous in their development. Their quality of life will be improved as:

- They will have more revenues from income-generating activities;

- They will benefit from better nutrition status because they will grow more food products;

- Women will be freed from certain tasks as the project will provide them with ban-ak-suuf stoves, village woodlots and equipment for grinding millet for example; and

- Villagers will be more integrated into the modern life as they will be trained in literacy and numeracy.

Family members of assisted members will benefit from this general improvement of village group members. Secondary beneficiaries will include children and the non-productive population of the region. Secondary beneficiaries, too, will be local extension agents who will benefit from work with PVOs and therefore will have more means to perform their responsibilities.

Small-scale entrepreneurs will be provided with training and credit. This means they will be made more competitive. As their business will be more profitable they will increase their revenues which should allow them to improve their lives and to buy food, medicine, and better housing. Secondary beneficiaries will be their family members.

Other secondary beneficiaries exist too who cannot be characterized precisely but who will be new employees of SSEs. This greater employment will reduce to some extent unemployment and rural-urban migration.

B. Targeting of Special Groups

For historical and sociological reasons, women have been excluded from the general development process. They benefited very little from the traditional extension structures. This project will target women since they represent a very important resource for the development of the region. Women are now organizing themselves into productive groups. They are responsible for most gardening activities, fish processing activities, and in the USAID-financed rural health project have revealed themselves as very capable and motivated participants. Special programs and activities will be designed under this project to make sure that they fully participate in and benefit from it.

C. Secondary Benefit Incidence

The project will create a number of secondary benefits for the Sine Saloum region.

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The Management Unit will be hiring and training Senegalese professionals as counterparts and a number of Senegalese in other staff positions. PVOs, too, will be hiring more people to implement sub-projects. Therefore, the project will be participating to a small degree in directly reducing unemployment in the region.

The different beneficiaries of the project--i.e., the farmers and the small-scale entrepreneurs--will be producing more goods (food products, equipment) and services at better prices than they will be produced locally. At the same time, both farmers and artisans will have more revenues to buy each other's production. Consequently, general nutritional status of the population will improve and should result in better health status for children and adults. The labor force of the region will improve its productivity.

D. Possible Spread Effects

The sociological structure of the region and the administrative organization into Communauté Rurales have created strong links among villages. Spread effect will be possible as a non-assisted village will try to organize itself like the assisted one in the hope of benefiting from assistance in the future.

As activities under this project become known in the region, non-assisted villages may try to adopt the improvements provided by the PVOs when they realize their effectiveness. Experience in other projects confirms that this is a general phenomenon in the rural areas. "Ban-ak-suuf" stoves have spread throughout the country. In the Sine Saloum region, several villages have built health huts and organized health committees without any assistance from the rural health project.

Another result of the project, if successful, will be that more donors will be interested in helping villagers and small-scale entrepreneurs. And if PVOs prove themselves as a valid assistance mechanism, other donors will be more willing to consider financing them. If the project succeeds, it may be valid for replication in other regions or in other countries.

VII. UNRESOLVED ISSUES AND CONCLUSION

The socio-economic situation of the Sine Saloum region is responsive overall to such a project. The approach corresponds to the needs of decentralization, village groups, and of small entrepreneurs.

But it is a style of project implementation which has never been tried by the USAID Mission or by the GOS. Therefore, the process will start slowly.

Several issues are still pending:

- Will the Government give PVOs enough latitude in their actions?
- How effective and efficient will be collaboration between governmental structures and PVOs?
- How many PVOs will be interested to work under the project?
- How can the PVOs different styles of implementation be harmonized?

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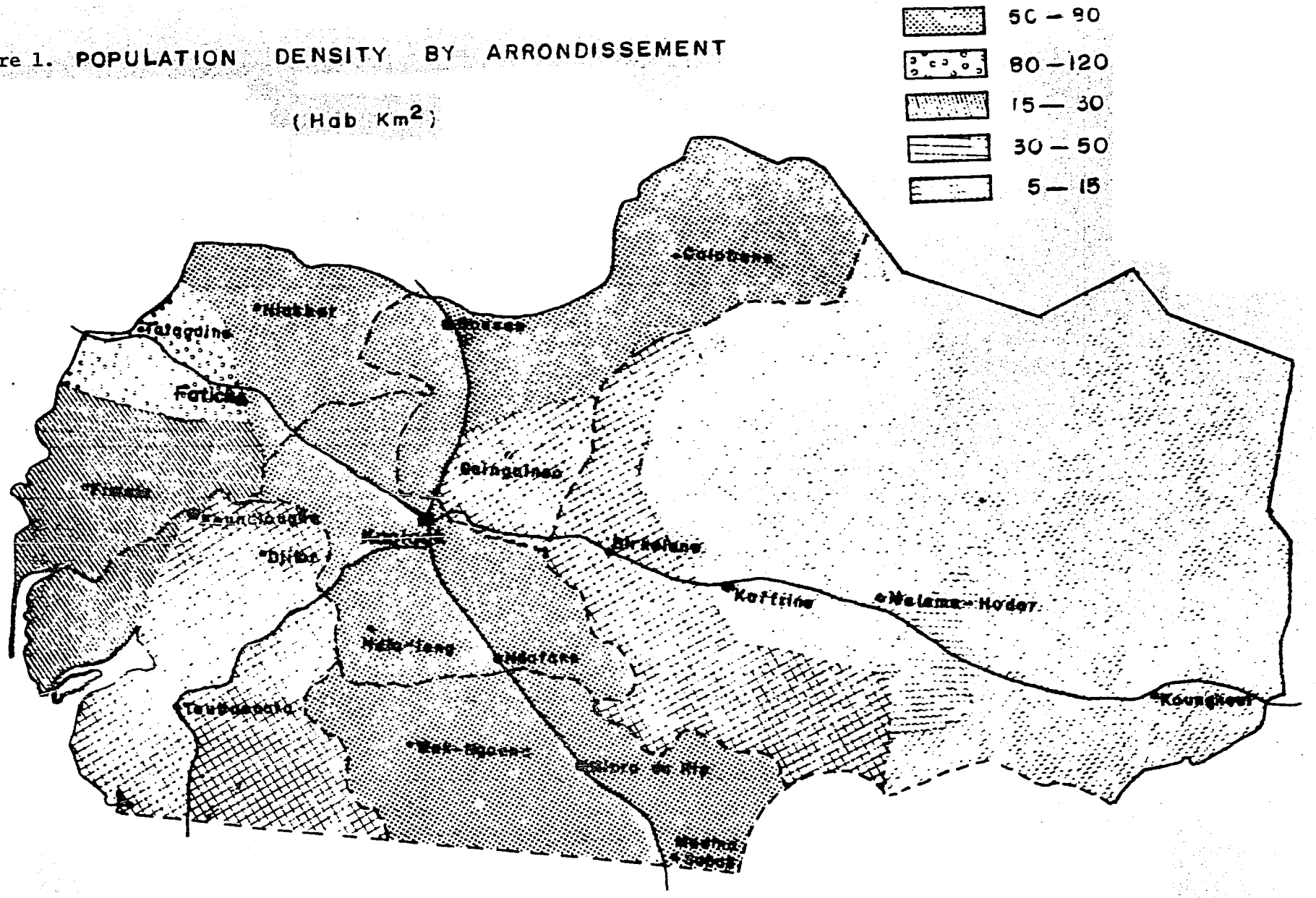
All those issues should be examined carefully by the Management Unit, the project managers, the Mission staff, and the GOS so that beneficiaries will be efficiently assisted.

Figure 1. POPULATION DENSITY BY ARRONDISSEMENT

(Hab Km^2)



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ANNEX 14

ADMINISTRATIVE ANALYSIS

ANNEX 14

ADMINISTRATIVE ANALYSIS

I. INTRODUCTION

The project is designed to allow for decision-making and implementation action at a level as close to the field activities as possible. Management activities are centered in Kaolack within the Management Unit. This allows USAID to maintain project direction through its contractors without seriously increasing the staff time required to monitor PVO and SSE activities. The Management Unit which has responsibility for the outreach functions to PVOs also serves an oversight function in managing the Small Business Advisory group working with the SSEs. The common functions of the project: literacy training, credit disbursement and supervision, and materials procurement are also housed in the Management Unit (See Figure 1).

A. National Project Policy Committee

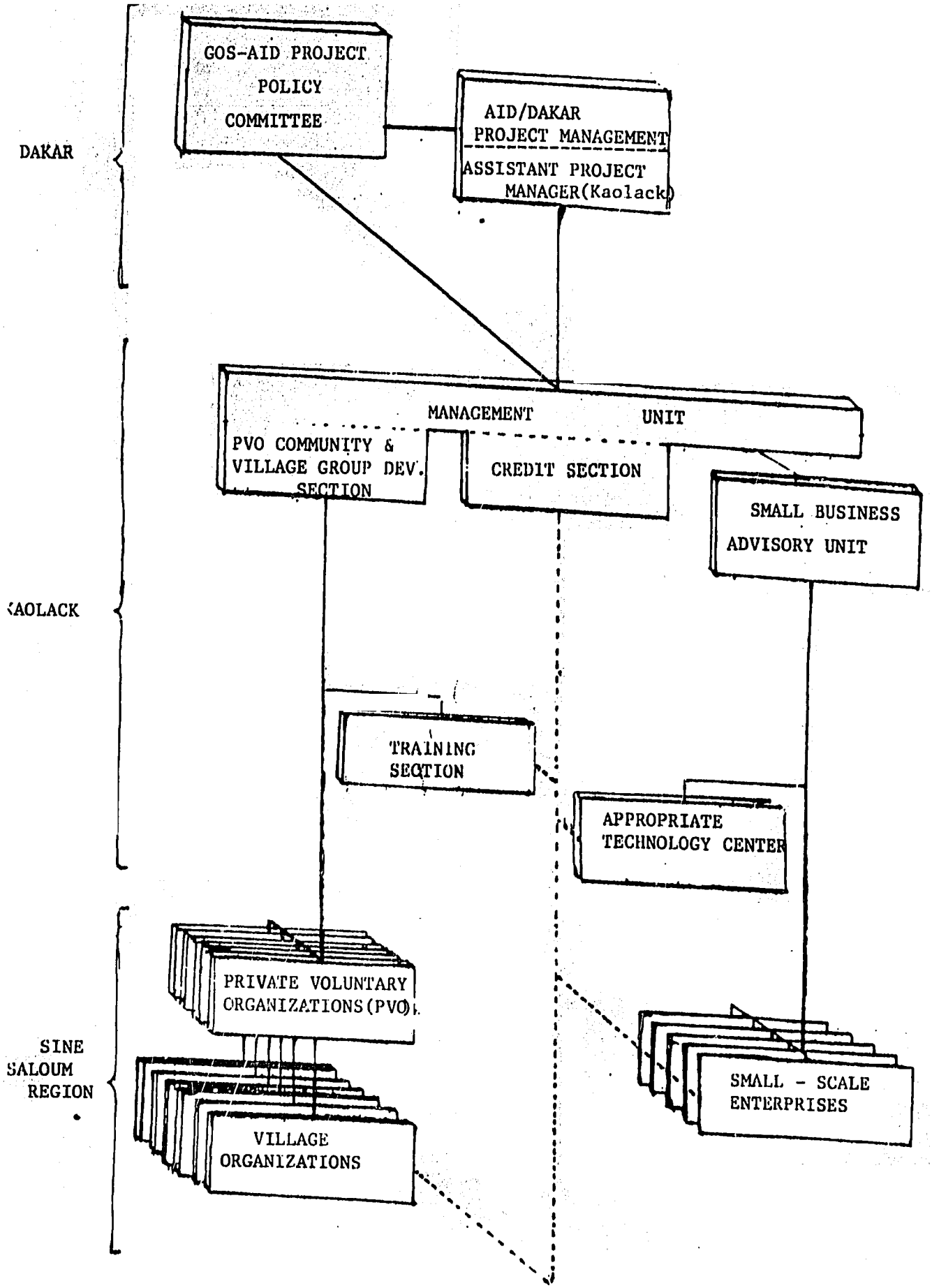
The National Project Policy Committee (hereafter referred to as the Policy Committee) has two principal roles in the project.

First, before implementation begins, the Policy Committee will review the criteria the Management Unit will use in selecting PVOs for funding; the criteria the PVOs will use in selecting village organizations and in planning project activities; and the criteria the Small Business Advisory Unit will use in selecting entrepreneurs for assistance. Since the Policy Committee will include representatives from technical ministries concerned with these types of activities, the Committee's review of the various sets of criteria to be used in the project is essential for project success. As the project unfolds further reviews and revisions may be needed as policy evolves.

Second, the Policy Committee will participate in project monitoring and evaluation. The Management Unit will forward to the Policy Committee quarterly monitoring reports. The Mission Project Manager will provide Six-Month Reports to the Committee and Committee members will participate in Periodic Project Reviews held in Kaolack every six months as well as in the annual reviews of the project. Members of the Policy Committee will also participate in periodic external evaluations of the project.

The Ministry of Social Development's Direction of Community Development will act as the Secretariat of the National Policy Committee and thus will provide the staff support the Committee needs to perform its work.

Figure 1. PROJECT ADMINISTRATION & ORGANIZATION STRUCTURE



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The Management Unit will report to the Policy Committee on aspects of GOS policies and regulations affecting village groups and project activities of SSEs. The Policy Committee will be responsible for determining actions needed to resolve these problems and will recommend such actions to the concerned Ministry or other government structure.

In the first six months of project implementation, the Project Committee will establish a method of operation and decision-making apparatus which is flexible and responds to project policy and monitoring needs.

B. AID

The project is designed so that the major burden of management and implementation will fall on the Management Unit. However, the Mission has certain management responsibilities for the project. These responsibilities will be fulfilled by Direct Hire and Deputy Project Managers in the Mission's Agricultural Development Office who will be assisted by an Assistant Project Manager based in Kaolack. These project managers will handle the numerous start-up tasks which will precede the installation of the Management Unit in Kaolack. For certain tasks and liaison involving the PVO community, the Mission's PVO coordinator in the Project Development Office will work with the project managers.

1. The AID Project Managers. Primary responsibility for providing AID policy and implementation guidance for the project will rest with the project manager and a contract Deputy Project Manager assigned to the Agricultural Development Office of USAID/Senegal. The Direct Hire Project Manager will have part-time responsibility for the project and will delegate appropriate tasks to the contract Deputy Project Manager, OE funded. The project managers will supervise an Assistant Project Manager based in Kaolack and will act as the USAID representatives on the National Project Policy Committee. They will resolve policy questions with AID/Washington concerning the project. Such questions will likely continue to arise because of the experimental nature of this project.

Specific functions of the Project Manager include the following:

- Have primary responsibility for providing AID policy and implementation guidance for the project; resolve policy questions with AID/Washington.
- Act as USAID representative on the National Project Policy Committee.
- Develop the process and documentation for grants to PVOs in conjunction with PVO Coordinator.
- Review and sign project documents prepared by the Assistant Project Manager; sign PVO grant agreements with Management Unit.
- Review monitoring and financial reports submitted by the Management Unit and the Assistant Project Manager.
- Prepare six-month reports as basis for Six-month Periodic Project Reviews.

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- Organize (with help of Assistant Project Manager) annual project reviews involving National Project Policy Committee, USAID, Management Unit, Small Business Advisory Unit, regional and local authorities, and PVO representatives.

- Develop scopes of work for outside project evaluations and manage these evaluations.

- Initiate action by the National Project Policy Committee to resolve problems concerning the policy or regulatory climate for village organization and small entrepreneur development.

2. Assistant Project Manager. The Assistant Project Manager, based in Kaolack, will report to the Mission Project Manager in Dakar. His/her principal responsibility is to assure effective communication and coordination between the Management Unit and the Mission, as well as the National Project Policy Committee.

Further, the Assistant Project Manager will monitor the performance of the Management Unit in implementing the various activities of the project. This monitoring responsibility will require a significant amount of fieldwork so that the Assistant Project Manager can report to the Project Manager on quality of the relationships between:

- The Management Unit and PVOs;

- The PVOs and village organizations;

- The Management Unit and GOS officials, such as the Governor, and between the Management Unit and GOS technical services in the field;

- The PVOs and local authorities and technical services;

- The Small Business Advisory Unit and entrepreneurs; and

- The Chambres de Métiers.

The Assistant Project Manager will also ensure that two project systems are established and functioning well: the financial reporting and management system and the overall monitoring system.

Other responsibilities of the Assistant Project Manager include:

- Insuring effective working relationships between the Management Unit and Mission support offices such as the Supply Management Office and the Controller's Office.

- Preparing PILs, PIOs, and other project documentation and correspondence for the Project Manager's signature.

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- Insuring that the Mission and the Policy Committee receive information on the effects of GOS policy and regulations on village organization and small entrepreneur development.

In the first six to nine months following project obligations, the Assistant Project Manager will spend substantial time on various important start-up tasks: the PVO Conference; development of literacy materials; registration of local PVOs (with USAID PVO coordinator); orientation trips for the Governor and préfets and project orientation of regional officials and technical services; initiating Peace Corps recruitment of selected volunteers for project positions; final design of monitoring and evalution system; and handling contract selection procedures.

3. PVO Coordinator. The Mission's PVO Coordinator will work with the Project Managers on the project components involving PVOs and assistance to village organizations. For the first year of the project, the number of project start-up tasks (mentioned above under the responsibilities of the Assistant Project Manager) will mean that the PVO Coordinator will be working approximately half-time on matters concerning the project.

He/she will interpret AID policy toward PVOs; identify areas where the Mission must seek clarification from Washington; help in developing a workable grant-making process; direct the PVO conference held to prepare PVOs to participate in the project; handle (with the help of the Assistant Project Manager) the registration of local PVOs; and provide continuous liaison with those members of the PVO community who wish to participate in the project.

C. Management Unit

Primary project implementation responsibility will rest with the Management Unit located in Kaolack. This unit will be run by a contractor selected from non-profit organizations or commercial firms which will bid competitively. The Management Unit (MU) will report to USAID/Dakar through the Assistant Project Manager who will be posted in Kaolack. It will have the primary reporting, disbursing, and supervisory function for the project as a whole. Complete project management and financial accountability records will be kept by the MU. The Small Business Advisory Unit, while a separate contract, will report to USAID through the MU.

The major tasks to be performed by the Management Unit include: grant-making to PVOs; staff development training for PVOs in program development, monitoring, and evaluation; overall project coordination; supervision of procurement for all units; supervision of credit and loan disbursement/repayment; and development of literacy training components for PVOs and SSEs.

The major outreach function for PVO capacity-building and project identification and development will be the responsibility of the MU. While the MU Chief of Party has overall management responsibility for producing project outputs, the PVO specialist will have responsibility for defining progress goals with PVOs as they work with village organizations. The PVO specialist will work with the training team to develop programs meeting PVO organizational development needs. The counterparts of the PVO specialist will be the program directors from the PVOs with which he/she is working. The USAID PVO coordinator will be responsible for assisting the PVO specialist in identifying PVOs for workshop participation in training activities.

The training specialists will be employed by the Management Unit to develop and implement training programs for PVOs, VOs, and SSEs. An expatriate training specialist will be hired for two years to work with the Senegalese training specialist who will work for the life of the project. At the end of two years, the Senegalese specialist will have assumed full responsibility for training functions in the Management Unit.

A credit specialist will work in the MU for four years to supervise training activities in credit management, maintenance of complete credit records and surveillance of credit repayment. A primary task will be monitoring the evaluation of CNCAS and identifying ways in which it can replace the project credit component at the end of six years.

In addition, the MU will be staffed by appropriate support personnel necessary to manage the office and perform project objectives. These include: a logistics/procurement specialist, an accountant, a secretary, a records clerk, and building custodial personnel.

Short-term technical assistance will be provided from both the U.S. and locally to assist in PVO training, financial management systems design, technical materials development and special business skills.

The materials supply capability for the MU and SBA functions will be managed by the logistics/procurement specialist using local commercial sources to procure materials needed for VO projects and SSEs.

D. Small Business Advisory Unit

The project's SSE development component will consist of a Small Business Advisory (SBA) Unit with:

- An SBA Unit Manager, who is a business management advisor and training officer, and will be expatriate; and

- Four Business Management Extension Advisors, intensively project-trained to deliver training, consultation, and other forms of assistance to SSEs.

The expatriate SBA Chief will be required for the life of the project. In addition, the SBA Unit will include a secretary and a driver who will work under the supervision of the SBA Unit Manager.

1. SBA Unit Interaction with Other Project Components

The SBA Unit will report to, and be under the supervision of, the project Management Unit so that its activities can be coordinated with those of other project components in such a way as to achieve the overall project goals of increased agricultural productivity and progress toward food self-sufficiency. The Unit's interactions with the project Management Unit will involve credit, procurement, training and evaluation.

POSITION DESCRIPTIONS

PRIMARY PROJECT PERSONNEL

POSITION: Deputy Project Manager (Contract)

REPORTS TO: Direct Hire Project Manager

FUNCTIONS:

- Acts as USAID representative on National Project Policy Committee.
- Develops the process and documentation for grants to PVOs with Mission PVO coordinator.
- Reviews monitoring and financial reports submitted by the Management Unit and the Assistant Project Manager.
- Prepares Six-month Reports as basis for Six-month Periodic Project Reviews.
- Organizes (with help of Assistant Project Manager) annual project reviews involving National Project Policy Committee, USAID, Management Unit, Small Business Advisory Unit, regional and local authorities, and PVO representatives.
- Develops scope of work for outside project evaluations and manages these evaluations.
- Recommends action by the National Project Policy Committee to resolve problems concerning the policy or regulatory climate for village organization and small entrepreneur development.

RESPONSIBLE FOR STAFF MEMBERS: Assistant Project Manager

EMPLOYED BY: USAID

POSITION DESCRIPTIONS

PRIMARY PROJECT PERSONNEL

POSITION: Project Manager (Direct Hire)

REPORTS TO: Chief, ADO

FUNCTIONS:

- Has primary responsibility for providing AID policy and implementation guidance for the project; resolves policy questions with AID/Washington.
- Acts as USAID representative on National Project Policy Committee.
- Reviews and signs project documents prepared by the Assistant Project Manager; signs PVO grant agreements with Management Unit.
- Reviews monitoring and financial reports submitted by the Management Unit and the Assistant Project Manager.
- Supervises the organization of annual project reviews involving National Project Policy Committee, USAID, Management Unit, Small Business Advisory Unit, regional and local authorities, and PVO representatives.
- Reviews and approves scope of work for outside project evaluations prepared by the Deputy Project Manager.
- Initiates action by the National Project Policy Committee to resolve problems concerning the policy or regulatory climate for village organization and small entrepreneur development.

RESPONSIBLE FOR STAFF MEMBERS: Deputy Project Manager; Assistant Project Manager

EMPLOYED BY: USAID

POSITION: Assistant Project Manager, Kaolack

REPORTS TO: Project Manager, ADO

FUNCTIONS:

- Responsible for various start-up tasks in first six to nine months of project: PVO conference, development of literacy/numeracy materials; registration of local PVOs (with USAID PVO coordinator); orientation trips for the Governor and préfets and project orientation of regional officials and technical services; initiating Peace Corps recruitment of selected volunteers for project positions; final design of monitoring and evaluations system; handling contract selection procedures.

- Monitoring the performance of the project Management Unit in implementing the various activities of the project (includes field visits).

- Ensuring that systems of financial accounting and management and overall project monitoring are functioning properly.

- Maintaining liaison between the Management Unit and USAID and between the Management Unit and the National Project Policy Committee; insures working relationships between the Management Unit and the USAID Supply Management Office, Controller's Office, and the Management Office.

- Prepares PILs, PIOs, and other paper work for the Project Manager.

- Ensures that information on effects of GOS policies and regulations on beneficiaries flows to Project Manager and Policy Committee.

RESPONSIBLE FOR STAFF MEMBERS: None

EMPLOYED BY: USAID/Senegal

POSITION: Chief of Party, Management Unit

REPORTS TO: USAID/Dakar through Assistant Project Manager

FUNCTIONS:

- Overall supervision of all Management Unit activities.
- Reporting to USAID on project progress.
- Coordination of PVO sector and SBA activities, training and credit.
- Responsibility for all accountability requirements in sub-projects.
- Supervises administrative functions of SBA Unit and ensures their reporting link to USAID.
- Liaison with regional and local authorities to keep them apprised of project progress.

RESPONSIBLE FOR STAFF MEMBERS: SBA Unit Chief, all MU employees

EMPLOYED BY: MU Contractor

POSITION: PVO Specialist

REPORTS TO: Chief of Party, MU

FUNCTIONS:

- Responsible for liaison with all PVOs.
- Coordinates workshop and training activities with training specialist.
- Coordinates credit activities of PVOs/VOs with credit specialist.
- Monitors progress of VO sub-projects for MU.
- Assures the PVOs receive adequate guidance to administer grants.

RESPONSIBLE FOR STAFF MEMBERS: Local hire project assistants working on PVO activities.

EMPLOYED BY: MU Contractor

POSITION: Credit Specialist (U.S.)

REPORTS TO: MU, Chief of Party

FUNCTIONS:

- Keeps records of all credit transactions in project.
- Works with training specialist to set up numeracy and other training needed to assist villagers and entrepreneurs in managing credit.
- Responsible for management of the credit accounts for project: 1 for fund, 1 for U.S. government interest.
- Responsible for soliciting repayment and keeping groups and SSEs informed on the status of their credit.
- Trains replacement specialist.

RESPONSIBLE FOR STAFF MEMBERS: Credit Specialist (Senegalese)
Credit Record Clerk

EMPLOYED BY: MU Contractor

POSITION: Credit Specialist (Senegalese)

REPORTS TO: MU

FUNCTIONS:

- Keeps records of all credit transactions in project.
- Works with training specialist to set up numeracy and other training needed to assist villagers and entrepreneurs in managing credit.
- Responsible for management of the credit accounts for project: 1 for fund, 1 for U.S. government interest.
- Responsible for soliciting repayment and keeping groups and SSEs informed on the status of their credit.

RESPONSIBLE FOR STAFF MEMBERS: Credit Record Clerk

EMPLOYED BY: MU Contractor

POSITION: Training Specialist (U.S.)

REPORTS TO: MU, Chief of Party

FUNCTIONS:

- Coordinates project training activities.
- Identifies training resources.
- Identifies sub-project training component needs.
- Monitors project training activities.
- Prepares reports of project training activities.
- Develops literacy and numeracy materials for PVOs, VOs, and SSEs.
- Coordinates with local training institutions.
- Trains replacement specialist.

RESPONSIBLE FOR STAFF MEMBERS: Training Specialist (Senegalese)

EMPLOYED BY: MU Contractor

POSITION: Training Specialist (Senegalese)

REPORTS TO: MU

FUNCTIONS:

- Coordinates project training activities.
- Identifies training resources.
- Identifies sub-project training component needs.
- Monitors project training activities.
- Prepares reports for project training activities.
- Develops literacy and numeracy materials for PVOs, VOs, and SSEs.
- Coordinates with local training institutions.

RESPONSIBLE FOR STAFF MEMBERS: None

EMPLOYED BY: MU Contractor

POSITION: Logistic/Procurement Specialist (U.S. or Senegalese)

REPORTS TO: MU, Chief of Party

FUNCTIONS:

- Responsible for all MU and SBA procurement.
- Assists PVOs in procuring inputs for VOs.
- Supervises motorpool.

RESPONSIBLE FOR STAFF MEMBERS: None

EMPLOYED BY: MU Contractor

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POSITION: Accountant (Senegalese)

REPORTS TO: Chief of Party, MU

FUNCTIONS:

- Keeps all project accounts for MU and SBA.
- Supervises financial management technical input for training.
- Works with USAID/RCON to assure that all project accountability standards are met.

RESPONSIBLE FOR STAFF MEMBERS: Records Clerk

EMPLOYED BY: MU Contractor

POSITION: Chief of Party, Small Business Advisory Unit

REPORTS TO: Chief of Party, Management Unit

FUNCTIONS:

- Establishes and manages SBA Unit.
- Recruits and hires Senegalese staff.
- Trains staff.
- Supervises project implementation.
- Maintains close liaison with administration and relevant Ministries, RDAs, and other institutions.
- Constantly revises strategy, and methodology to improve achievement.
- Monitors and reports progress.

RESPONSIBLE FOR STAFF MEMBERS: Business Management Extension Advisors

EMPLOYED BY: Small Business Advisory Unit Contractor

POSITION: Business Management Extension Advisors

REPORTS TO: SBA Unit Chief

FUNCTIONS:

- Provides business management consultancy to selected SSEs.
- Conducts business management training seminars for groups of SSEs.
- Collects base-line data on SSEs.
- Develops business improvement plans with proprietors of designated SSEs.
- Brings other resources to SSEs as needed.
- Reports progress.
- Serves on SBA Management Committee.
- Works with SBA Financial Management Advisor and Management Unit Credit Specialist developing SSE bank applications.

RESPONSIBLE FOR STAFF MEMBERS: None

EMPLOYED BY: SBAU Contractor

ANNEX 15

PEACE CORPS INVOLVEMENT

ANNEX 15

PEACE CORPS INVOLVEMENT

I. INTRODUCTION

Peace Corps/Senegal currently has 14 Peace Corps Volunteers (PCVs) in the Sine Saloum: eight Community Development, one Forestry, two Appropriate Technology (stoves), and three Health Education. By October 1983, two additional foresters will be placed in Sine Saloum, after which the number of PCVs is expected to be stable during the Life of Project.

Through numerous design team discussions and meetings with PC staff, a mutual agreement has been reached regarding the optimum use of PCVs on this project. Because of their adaptability, enthusiasm, and familiarity with both western and local managerial and technical styles, PCVs can fill a number of specific roles in the project. The following sections will outline the roles identified for PCVs in the Small Business Advisory Unit; in Forestry and Appropriate Technology; and in village organization development; as well as make recommendations for recruiting for these particular positions.

A. Small Business Advisory Positions

The project has identified two positions which could well be filled by a PCV connected with the SBA Unit. These are:

- Trainer of Trainers, whose role would be to supervise and coordinate the Senegalese trainers working with local entrepreneurs. This position would require someone with pedagogical skills, willing to organize and work as a catalyst rather than predominantly in a front-line activity.

- Banking and Accounting Systems Expert, a person with intermediate, but practical,business skills and experience to develop a system of accounting and management of SSE credit in conjunction with specialists in the Management Unit.

While ultimately it is desirable to fill these positions with new PCVs specifically recruited for their technical abilities and for longer-term continuity, it is recommended for the first year of the project that third-year PCVs be used. Firstly, PC is hesitant to recruit for new positions until the project is actually in place, to avoid volunteers entering Senegal with no established support mechanisms. Secondly, third-year volunteers will have many initial advantages in assisting a new project, such as language, cultural familiarity, and less need of direct project support in order to perform needed functions. If enough third-year PCVs cannot be identified in Senegal, neighboring countries (such as Upper Volta and The Gambia) can be queried for interest. Senegal PCVs are ready for new assignment in June 1984, working well within the project time frame. New volunteers could then be recruited for Spring 1985 and be allowed a certain period of overlap with the departing PCVs. For third-year PCVs identified with appropriate skills for project needs but weak in training or accounting, it is recommended that intensive training be provided locally in conjunction with project or AID accounting courses.

Past experience has shown that often PCVs recruited with appropriate technical skills are weak in French, making it difficult for them to perform

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their job at the outset. It is, therefore, recommended that if technically qualified candidates are identified without minimal language skills, they be placed in an intensive short-term French course, preferably before arriving in Senegal (e.g., FSI, Middlebury College, Experiment in International Living, Brattleboro, Vermont).

B. Peace Corps Stove and Forestry PCVs

1. Stoves

Peace Corps staff considers that the two volunteers (one urban and one regional) presently in the Sine Saloum working on ban-ak-suuf are adequate to cover the region. Since stove-building is patterned on a dissemination model, whereby the newly-trained become the new trainers, the technique can be quickly spread. PC does not envision recruiting additional PCVs for stove-building but is willing to train PCVs and villagers or masons identified by the project as interested in the model. The Community Development PCVs are also trained in stove-building skills. If an appropriate portable urban stove is developed, the SBA Unit could assist entrepreneurs in producing the new model for distribution and sale.

2. Forestry

Presently, two PCVs are working with PRECOBA in the Fatick area. If adequate interest is shown by communities to increase forestry activities in the Sine Saloum, PC is willing to place two more PCVs with the project. Again, it is recommended that a third-year PCV be used initially to test regional interest and if found feasible, that new volunteers be recruited. Minimal additional support is required for forestry activities except for transportation (motor bikes) and fuel. Although forestry is their expertise, forestry PCVs have training in gardening and stoves as well as woodlots, and this could be used to support multi-faceted village activities. As with stoves, these PCVs are able to cover several villages within an area. (See Spatial Analysis, Annex 11.)

C. Community Development (Animation Rurale)

Rather than assigning CD volunteers directly to the project, it is envisioned that a cooperation can be established between them and the project. Particularly, second-year PCVs are able to work with several neighboring villages and have developed a repertoire of technical skills. Community Development volunteers work well with village organizations and in gathering information for project activities, be it technical or for funding. PCVs, in their present positions, can identify villages with project needs and ask the Management Unit to initiate contact with a PVO to begin the application procedures. Furthermore, the PCV can follow-up on village projects that require extra supervision. Conversely, if the Management Unit or a PVO identifies villages which need additional support, a request can be made to PC to assist. In order to work in multiple villages, the only requirement for PCVs is transportation support, such as motorbikes.

D. Recruitment Procedures

From the discussions during the project design, PC is willing to begin recruiting procedures for the above-mentioned positions. Initially this will involve identifying interested third-year PCVs. During the Fall of 1984, recruitment procedures will begin for new condidates. The project will be required to confirm its needs and submit detailed job descriptions to PC. Ministries will need to be identified who are willing to request these PCVs (for the SBA Unit and possibly Forestry) and then be willing to assign them to the project. Peace Corps staff will make all initial contacts with the government for requesting PCVs for Senegal and for keeping the project informed in order to coordinate specific project activity.

ANNEX 16

INITIAL ENVIRONMENTAL EXAMINATION

RISK/BENEFIT ANALYSIS FOR PESTICIDE USE

ANNEX 16

INITIAL ENVIRONMENTAL EXAMINATION (I.E.E.): RISK/BENEFIT ANALYSIS FOR PESTICIDE USE

I. INTRODUCTION

As per Appendix D, Paragraph IIB, in the PID, "Recommendations for Further Project Design,"the risk/benefit analyses are presented here for the vegetable gardening component and the village woodlot component of the PVO Community and Enterprise Development Project. The reader is reminded that a negative determination has already been recommended in the PID (Appendix D); this annex contains the deferred I.E.E.s called for under "Recommendations for Environmental Action (II A, B)" in the PID I.E.E.

Regulation 16 requires that all pesticides to be financed by USAID be reviewed in light of their U.S. Environmental Protection Agency regulatory status, and that preference be given to pesticides which are currently registered with USEPA for the same or similar use without restriction. Such a review is termed a risk/benefit analysis. For any pesticide selected for project use, which has a restricted status or for which a notice of Rebuttable Presumption Against Registration has been issued, an environmental assessment concerning the specific use must be prepared. As a matter of policy, USAID actively discourages the use of pesticides which fall into the restricted category because of hazard to humans and the environment.

Actual pesticides that will be used in this project have not yet been chosen. Consequently, a list of possible insecticides (Table 1) that would be acceptable was developed based upon the research and recommendations of the FAO-funded Centre pour le Développement de l'Horticulture (CDH) and the USEPA pesticide regulatory status. This list of pesticides is being presented for approval for use under the conditions of the guidelines presented. The chemicals chosen are based on recommendations of CDH, which has had an excellent reputation as a professional research establishment during the past ten years in Senegal. In addition to the approved list of pesticides, a procedure is being recommended whereby any chemical not already on the approved list may be considered for introduction after undergoing review and approval by the USAID/Senegal Environmental Officer and/or S&T/AGR Washington. This procedure is also in effect for the pesticides used in the village woodlot program. An effort has been made to simplify the review procedure while still maintaining the spirit and conditions appropriate to Regulation 216.3(b) (I) (i) of the Environmental Procedures.

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Table 1: Pesticides and Fungicides Recommended for Use in the PVO Community and Enterprise Development Program

Pesticide	Acute Oral LD_{50} mg/kg 1/	EPA Registration Status
Acephate	866	R[2]
Carbaryl	3750	R
Cypermethrive	4123	R
Diazinon	300	R
Deltamethrine	128	NR[3]
Dicofol	684	R
Dimethoate	225	R
Fenualerate	451	R
Malathion	1375	R
Trichlorophon	450	R
Bacillus Thuringiensis	nontoxic	R
Pirimicarbe	147	R
Fenitrothion	800	R
Propoxur	90	R
Dieldrin Dust	46	R
Fungicide		
Benomyl	9590	R
Bupirimate		
Captafol	6200	R
Chlorothalonil	10000	R
Copper	1000	R
Manebe	6750	R
Zinc-metirame	6206	R
Sulphur non-toxic	R	
Triadimefon	1500	R
Triforive	16000	R
Zinebe	5200	R
Seed Treatment		
Thiram	780	R

1/ LD_{50} Lethal Dose whereby 50 percent of a population of test animals is killed within 48 hours.

Pesticides can be classified into 4 categories based on their LD_{50}:

Category I Highly Toxic Less than 50
Category II Moderately Toxic 50-500
Category III Little Toxic 500 - 2000
Category IV Non-toxic Greater than 2000

2/ Registered

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3/ Deltamethrine is a synthetic pyrethroid insecticide of low mammalian toxicity that is closely related to a number of USEPA registered materials. The producer of DECIS (trademark ICI international) has chosen not to seek USEPA registration because it already has a large international market and does not envision any major return on investment in a promotional campaign for U.S. sales. While there are no currently approved tolerances in USEPA or FAO/WHO, eventual tolerances on affected food crops are thought to be establishable based on the existance of tolerances for closely related pesticides (cypermethrine). DECIS is then technically not approvable under USAID guidelines, but its use in this project is compatible with the intent of Regulation 16.

4/ Registered for use only on Village Woodlot plantations for termite control, and only under the conditions described in this text.

Following are the procedure and guidelines to add pesticides specified under this document:

- A PVO representative must prepare a request detailing:

  - o The desired compound;
  - o The specific pest problem to be addressed and the extent of the problem in farmers' fields;
  - o Why this problem cannot be addressed by biological control, mechanical control, resistant varieties, or any of the accepted pesticides;
  - o The cost and availability of the proposed pesticide; and
  - o Pest population levels for which treatment will be recommended, i.e., treatment threshold.

- The project manager or Mission environmental officer, upon receipt of this request, must use the information from the PVO request, plus currently published literature on pesticides, to answer the questions set forth in Regulation 16 concerning the risk/benefit analysis. This document, termed an amended IEE, will be presented to the AID/Washington Africa Bureau Environmental Officer for review and approval, along with the Bureau of Science and Technology's Agricultural Office.

II. THE VEGETABLE GARDENING COMPONENT

As stated in the PID, the off-season growing of exotic vegetables requires that pesticides will be used to control a variety of insect and disease problems.

Vegetable production currently faces two conflicting situations: increasingly complex biological management problems; and a wide and accessible array of chemicals on the open market being purchased by under-educated growers. The PVO program will have to address these problems in order to fully succeed in the development of commercial gardening ventures in the Sine Saloum. The purpose of this Annex is to provide some guidelines and suggestions along these lines.

Farmer training and extension programs as well as pesticide monitoring and technical assistance inputs are raised as issues within the context of the risk/benefit analysis. Several suggestions are made for each issue. While the actual project activities can only be identified after implementation has begun, the issues addressed in this document can nonetheless be applied.

Insects and diseases are recognized by farmers as serious constraints to vegetable production. As vegetables are a high cash value crop, farmers historically have been willing to purchase pesticides; currently, vegetable production accounts for a significant percentage of overall pesticide use in Senegal.

Unfortunately, one important fact that is not yet widely recognized by Senegalese vegetable producers is that in many cases, overuse of a chemical, or use of the wrong chemical, can and does lead to much greater problems than originally encountered. This is due to the phenomena of genetic resistance of the target organisms coupled with the disruption of the beneficial insect complex. A recent case-in-point is where a leaf-miner fly was introduced into Senegal (Liriomyza trifolii) probably from Europe on cut flowers. L. trifolii attacks the leaves of many types of vegetables all over the world. Because of its history as a widespread pest, this insect has arrived in Senegal already resistant to the most commonly employed pesticides. By chance, L. trifolii happened to bring with it two beneficial micro-parasitic wasps which were established along with the fly, and which parasitize the fly larvae in the leaves. The presence of the established wasp parasites offers the possibility of significantly reduced damage caused by the fly, but unfortunately not below the economic damage threshold. The effectiveness, albeit not 100% of the wasps, and the genetic resistance of L. trifolii to insecticides was dramatically demonstrated at CDH when a variety of insecticide trials were conducted on the fly. The results showed that all treatment plots were completely devastated by the fly; however, the non-treated control plots were only partially damaged. This evidence shows that the fly is impervious to chemical control, yet the wasp parasites are easily killed. It was only in the non-treated control plots that some natural biological control took place because the wasps were not disrupted by chemical treatments. Currently, additional natural parasites are being introduced by CDH a part of a classical biological control introduction scheme.

Perhaps the most difficult aspect of this situation is the implications for the Senegalese farmer who will have to be educated not to use any chemical against this pest. Furthermore, if and when the bio-control program should be successful and L. trifolii populations are reduced to insignificant levels, the threat of a possible resurgence will remain due to the possible use of chemical insecticides against some other pest. This case is what is commonly termed a "secondary outbreak" situation.

The case of L. trifolii is not an isolated case; other examples exist. In the past six months a pest of sweet potatoes has been introduced (Bedelia sp.), also a cosmotropical pest already resistant to insecticides. The same pest was introduced during the past decade into Hawaii, where it was found that the only successful control was biological control with a wasp of the genus Apantales.

Senegal, and Dakar in particular, is a "doorway" to West Africa, and as such, plant materials and potential insect and disease problems will be periodically arriving in the country. It is currently estimated that 340 species of insects exist today that are resistant to modern pesticides. As plant quarantine does not exist in Senegal at either the airport, port or borders, agriculture, especially diverse export cash crops such as vegetables, must expect to receive periodically introduced diseases and pests, many or most of which will not be amenable to control by available existing pesticides.

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Small-scale vegetable production lends itself well to proper Integrated Pest Management systems.[1] The problems mentioned above all have solutions worked out elsewhere in the world. It is just a matter of properly employing the already existing information through good technical assistance, proper equipment and supplies, and efficient farmer outreach.

A. Environmental Examination: Risk/Benefit Analysis

Paragraph 216.3(b)(I)(i) of Environmental Procedures establishes the procedures used here for evaluating the risks and benefits of pesticides for vegetable gardening. The following twelve points are addressed in accordance with the procedures.

1. The USEPA Registration Status of the Requested Pesticides

Table 1 lists the pesticides being recommended for approval. The list is based on research findings of the FAO-financed Vegetable Research Center (CDH). All pesticides with one exception are registered for same or similar use by the USEPA. The exception is justified in a later paragraph.

Table 1 is not meant to be a working document for the PVOs. For details of application rates, target organisms, precautions, etc., the PVOs are referred to CDH publications: "Rapport des Essais Insecticides Synthèse des Résultats 1976-1981," "La Protection Les Principales Espèces Maraichères du Sénégal" (Août 1981), and "Sécurité et Efficacité dans l'Utilisation des Pesticides Pour la Production araichère." These are documents that every PVO involved with vegetable production should have available for reference.

2. The Basis for Selection of the Pesticides

The pesticides listed in Table 1 were chosen based upon the research and recommendations of CDH, an ISRA research station at Cambérène. With one exception all the pesticides are registered for same or similar use by the USEPA.

1/ Integrated pest management (IPM) is the reduction of pest population or groups of such populations to a level at which they constitute no significant restraint to a crop or other resource, through an understanding of their ecology and the use of a variety of methods and techniques. IPM seeks maximum use of naturally occurring pest controls, including the weather, disease agents, predators and parasites, use of crop varieties possessing pest resistant characteristics and cultural or environmental management techniques. Such farming practices as crop rotation, planting and harvesting schedules, and destruction of post-harvest pest residues, are emphasized as primary management components. Artificial control measures, notably chemical pesticides, are employed as secondary management components and are used only as required to reduce and maintain pests at tolerable levels based on entire criteria developed to identify when and where control is truly justified. The ultimate objective of IPM is to control pests in an economically efficient and environmentally sound manner.

3. The Extent to Which the Proposed Pesticide Use is Part of an Integrated Pest Management (IPM) Program

To the extent that the recommendations of this document are followed, the vegetable gardening component of the PVO program will itself constitute an IPM program. Contact and technical assistance through CDH, the Regional Food Crop Protection Program (RFCP), and the Consortium for Integrated Crop Protection (CICP) will provide information on most aspects of IPM in vegetables.

CDH provides new and locally adapted varieties of vegetables through their extensive plant breeding program that will have importance in control of pests and disease through varietal resistance. CDH will also provide the most current information on newly arrived problems and solutions in all aspects of vegetable production, including IPM.

RFCP will be an additional source of information on IPM techniques, including the safe use and handling of pesticides. The training center, KM 15 Rt. de Rufisque, is available for use in the training program upon written request and depending on scheduling demands. RFCP may be putting together a vegetable IPM "package" in the near future in conjunction with CDH and the Institute des Science et l'Environment (ISE).

CICP, under contract with USAID for the support of IPM in developing countries, is an excellent source of expertise on IPM problems in general, as they draw upon a vast body of experience in U.S. universities and foreign research institutions. They can be contacted through S&T/Agr or directly by writing: The Consortium for International Crop Protection, 2288 Fulton Street, Suite 310, Berkeley, CA 94703.

4. The Proposed Method(s) of Application Including Availability of Appropriate Application and Safety Equipment

Several possible methods of meeting the problem of pesticide application and equipment availability are presented here. Each proposal has its own strengths and weaknesses, which are discussed.

a. Proposal A

The proposed method of application would be by the individual farmer or VOS, who would purchase simple and inexpensive hand-pump sprayers and chemicals from a small-scale enterprise, possibly monitored by the SBAU. As part of the purchase package the farmer would receive recommendations on treatment practices, storage, and safety procedures. The motive for purchasing from the SSE supply store would be that approved chemicals and equipment would be available, along with information packages adapted for non-literate farmer use. Decentralization of the SSEs would be envisioned. Although farmers could purchase chemicals from other suppliers, credit would not be available for non-approved pesticides.

Farmer education on the benefits and dangers of pesticide use, along with possible alternatives to pesticides will need to be approached also from existing extension personnel. The Agricultural Chef de Secteurs along with the CER agents will need to be extensively trained in crop pest management and

IPM. TA for this training could again come from RFCP, CDH, CARITAS, and U.S. institutions such as CICP. On-site training programs for PVO personnel may be necessary. Short-term TA consultancy should be budgeted for IPM training.

Finally, the important aspects of pesticide formulation, equipment handling and maintenance, storage, and safety, could be developed into the curriculum of the functional literacy/numeracy component of the PVO project.

b. Proposal B.

The proposed method of application would be by trained agents working for a small enterprise set up and monitored by the SBA Unit.

The small enterprise would be made up of several supervisors who will receive training in insect and disease identification, pesticide formulation, dosage rates, equipment usage, storage and safety of pesticides, threshold determination, alternatives to insecticides, and first-aid. Preferably the small enterprise supervisors would already have some educational background in agriculture, and would at least be literate. The supervisors with the assistance and monitoring of the SBAU would train a cadre of field personnel who would conduct monitoring and treatment in farmer fields.

The benefit to the farmer would be that treatments were: 1) More efficient--controlling the problem better with less chemical use; 2) Safer--the proper choice and usage of chemicals and other means will ensure a much higher degree of safety for everyone concerned, both producer and consumer; and 3) Less labor--the farmer will be free from the labor of application.

The economic benefit to the small enterprise will have to be analyzed in detail. It might be possible to establish linkages between the small enterprise and one of the big agrochemical importers; the importer would provide the chemicals at a less than retail rate to the small enterprise in return for the increased marketing of their products. The small enterprise profit would come from the difference between the company price and the price charged to the farmer for both chemicals and equipment. The chemical price should not be any higher than that which the farmer can get on the open market, lower if possible. Treatment charges could be at the level of the village organization and calculated on number of hectares treated.

The great environmental advantage of the small-scale enterprise approach is that the number of individuals handling and applying chemicals is reduced tremendously, while average applicator expertise and training is increased. Furthermore, the proper chemicals will be assured of use for specific pest problems.

5. Any Acute and/or Long-Term Toxicological Hazards, Either Human or Environmental, Associated with the Proposed Use, and Measures Available to Minimize Such Hazards.

All pesticides are potentially dangerous to humans and the environment and should be treated with great care, regardless of their relative toxicity

All of the pesticides chosen are of relatively low mammalian toxicity, therefore low acute hazard, except for Propoxur (LO_{50}= 90). However, Propoxur's available formulation in Senegal is a 1% dust which is considered safe. Furthermore, all the compounds in Table 1 are of relatively short duration in the environment, from 24 hours to several weeks, which helps to assure that long-term build-up in the environment, and biomagnification, does not take place.[2] Finally, the provisions for minimizing such hazards that do exist are dealt with under Points 4 and 11: Proposed methods of application, and provisions for training users.

6. The Effectiveness of the Requested Pesticides for the Proposed Use

The pesticides were chosen based upon recommendation by CDH. The list was further limited to pesticides registered for the same or similar use by the USEPA (with exceptions discussed on Table 4, Footnote 3. The pesticides will be applied according to instructions on their manufacturer's labels, with these directions having been translated into the most effective possible terms for training of non-literate farmers. Therefore, it is assumed that their use will adequately control pests except where pesticide-resistant strains are present in the population. Two such resistant strains already exist in Senegal: *Liriomyza trifolii* and *Bedelia sp*. In these cases, the only alternative is biological control through introduced beneficial insect predators/parasites or development of host plant resistance. Both these alternatives are being worked on at CDH. The PVO with its technical assistance will be responsible for monitoring the effectiveness and economic feasibility of various chemicals on specific pest problems.

2/ Biomagnification is the movement through the food chain of persistant chemicals, particularly accumulated in animal fats. Usually associated with this movement is an increased concentration of the chemical. Example: pesticide sprayed on grass; concentrated in foraging cattle; concentrated further in humans drinking cows milk; concentrated further in breast-fed children.

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7. Compatibility of the Proposed Pesticides with Target and Non-Target Ecosystems.

See Table 1 and Point 5 above.

8. The Conditions Under Which the Pesticide is to be Used, including Climate, Flora, Fauna, Geography, Hydrology, and Soils.

See Project Area Description and Spatial Analysis, Annex 11.

9. The Availability and Effectiveness of Other Pesticides or Non-Chemical Control Methods.

Availability: In Senegal a Pesticide Registration Committee met in 1981 to adopt legislation on the use of pesticides both by government agencies and private importers. Table 2 is a list of pesticides registered for use in Senegal. Unfortunately, no real control exists over private commercial imports, subsequently many more types of chemicals can be found on the open market.

Effectiveness: It is thought that the range of pesticides/miticides/fungicides proposed for use in this paper would be a sufficient arsenal of safe and effective compounds (see Point 6 above). However, if later experience and research come to show that other chemicals, not on this list, are needed, a mechanism for their proposed review and possible approval is presented at the beginning of this annex.

Non-chemical control research is discussed in Point 6 above. It should be mentioned that a need exists for further work in Biological Control in Senegal. It would be profitable for ST/AGR, and U.S. universities to consider the possibility of a Cooperative Research Support Program (CRSP) for biocontrol in vegetables.

Table 2: Pesticides Registered for Use in Senegal, 1981

ORGANO-PHOSPHATE GROUP

Acephate
Azinphos (Ethyl, Methyl)
Bromophos
Chlorvinphos
Chlorpyriphos (Ethyl, Methyl)
Diazinon
Dichlorvos
Dimethoate
Fenthion
Fenitrothion
Fonophos (experimental)
Lodofenphos
Malathion
Mevinphos
Monocrotophos
Naled
Phosphamidon
Phoxime
Temephos
Tetrachlorvinphos
Trichlorfon (Diptorex)
Vamidothion*

ORGANO-CHLORIDE GROUP

HCH*
Lindane*
DDT*
Aldrin(1)*
Heptachlore*
Chlordane*
Dieldrin(1)*

CARBAMATES

Carbofuran
Dioxacarbe*
Methiocarbe
Methomyl
Priimicarbe
Propoxur

PYRETHROIDS

Decamethrin*(2) (Deltamethrin)
Fenvalerate

* Not registered for use or cancelled in the U.S.
(1) Aldrin and Dieldrin are registered for use in termite control in the U.S.
(2) See discussion on synthetic Pyrethroids in Table I, footnote 3.

10. The Requesting Country's Ability to Regulate or Control the Distribution, Use, Storage, and Disposal of the Requested Pesticides

Senegal has two parallel channels of pesticide distribution. The first is the government system, consisting of a generally ineffective Crop Protection Service made up of a handful of permanent employees and around 45 seasonal laborers that man the mobile spray team equipment each year. Most of these seasonal employees have had virtually no training on the subject. The Crop Protection Service generally purchases around 1,000-1,500 tons of dust insecticide per year, and several thousand liters of liquid. Up until last year, the dust was all BHC, an organo-chloride no longer registered for use in most of the world. This year, however, the CPS purchased 1,000 tons of BHC and 500 tons of Propoxur 1% dust. Additionally, several thousand liters of liquid Fenitrothion and Endosulfan (Thimul 35) are purchased each year. The system of distribution is from the CPS through the DGPA, i.e., to the regional inspectorates (8) and then to the sector chief level (28). At this point, since most sector chiefs have no means of transportation, it is up to the farmer to make the pilgrimage to visit the sector chief and acquire the needed pesticides. At all levels pesticides are more often than not improperly stored. They are distributed with equipment to farmers with no instructions for use in terms of safety, dosage, calibration or disposal of residues and containers.

The other side of the parallel system is the open market. The open market reaches more people with the opportunity of pesticide purchase, but unfortunately with the widest array of any chemical desired, including such compounds as Methyl-Parathion, Temik, DDT, Heptachlor, and various combinations of these or "cocktails." These chemicals end up in the more intensive cash crops such as cotton and vegetables. If the technical advising in the government channel is sparse, in the private channel it is non-existant. Farmers in the Niayes, an intensive commercial vegetable growing area, have been observed using a seed-treatment dust, comprised of Heptachlor 35% and Lindane 10%, to sprinkle over their cabbage and tomatoes within a week of harvest. Furthermore, the wells from which irrigation water is taken are spread throughout the fields; simple holes in the ground with no lip, where run-off from the insecticide-laden fields is sure to carry the chemicals into the ground-water system. Finally, although this cabbage is being heavily laden with highly toxic, long-term insecticides, the insect problem (Plutella xysticola) is not being controlled (the insect is resistant to this choice of chemicals). The proper choice of chemical is a bacterial insecticide (Bacillus thuriengensis) which is highly effective against the problem and carries no environmental consequences for either man or the environment. Unfortunately, this product is not currently available in Senegal.

The fact that pesticides are not currently being properly controlled and used in Senegal by either the public or private sectors indicates the need for projects such as the PVO Community and Enterprise Development Project. Given the possibility of experienced technical assistance, input of proper insecticides, and effective outreach to the small farmer, this project will act at the grassroots to help change the behavior of the farmer towards pesticide application. One point in favor of this behavioral change is the fact that the intelligent and safe use of properly chosen pesticides is also the most economically efficient use.

11. Provisions Made For the Training of Users and Applicators.

• Refer to Point 4 above for a discussion on the two proposals for methods of application.

Under the method whereby the farmer would be directly responsible for his/her insecticide treatment, training will be very important and will need to be reinforced from as many directions as possible. The first avenue of information will be from the SSE store where materials are to be purchased. A serious effort must be made by the PVO to develop and introduce an information package to the farmer along with the chemicals and equipment. Technical assistance will be required, possibly from PFCP, ENDA, and ENEA, to help develop an appropriate package. The package must include information aimed at a non-literate audience, on how to mix, use, and store pesticides and equipment; how to clean and care for equipment; how to dispose of residues; and which chemicals are to be used for the various insect/disease problems. An effort must be made to simplify to the maximum the necessary information. (A color code may be standardized project-wide for the principal chemicals, and standard measuring implements may be suggested or even provided by the SSE.)

This project must not make the mistake of allowing farmers to provide their own small storage containers for pesticides, because invariably this results in highly toxic chemicals being stored in Coca Cola bottles and poisoning of small children ensues. Therefore, some effort must be made to market these chemicals in convenient package sizes in non-reusable containers, if possible. At the very least, if the above is not feasible, a list of acceptable containers must be agreed upon and adhered to so that farmers can know what types of containers are acceptable (motor oil jugs for example).

Another very good avenue of information to the farmer will be the functional literacy/numeracy program. Workbooks and discussions should use all manner of agriculturally related information, including the subjects of pesticide use, storage, and dangers; alternatives to insecticides for specific problems; plus general discussions on the importance of properly executed crop protection activities as part of overall good management.

A third avenue of information to the farmer can involve the Regional Food Crop Protection Project. A request should be made to the COS to have the Departement de Protection des Vegetaux, in conjunction with RFCP and CDH, address the training of local agricultural agents including chef secteurs and CER personnel. The training should be specifically oriented to the problems these vegetable farmers are going to encounter, as well as more general concern with proper use and storage of chemical pesticides. The use of rural radio programs should be explored. (This falls under the heading of RFCP III duties.)

Finally, individual farmers might be sent to the CARITAS training center for specific courses on crop protection as well as other courses on vegetable production.

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12. The Evaluation of the Use and Effectiveness of the Pesticides.

The success of the PVO Community and Enterprise Development Project involves to a large extent the economic feasibility of the proposed small projects, such as vegetable production. As pesticides will be a costly input into the cost/benefit function, it is essential that the effectiveness of the respective chemical treatments be examined throughout the course of the project. Development of treatment thresholds and their use by farmers will assist in assuring a more effective use of chemicals. One of the roles of technical assistance will be to work out the field conditions under which pesticide use will be effective; this will include crop loss assessment trials possibly in cooperation with CDH.

III. IEE VILLAGE WOODLOT RISK/BENEFIT ANALYSIS FOR PESTICIDE USE.

As described in Annex D of the PID, pesticides are needed, particularly in the first year of the woodlot plantation, to protect the young seedlings from termite and grasshopper attack. Two pesticides are suggested, both of which have been approved for the same uses in the Senegal Fuelwood Production Project (685-0219): Dieldrin dust for termite control and Fenitrothion dust for grasshopper control. In addition, it is suggested that Propoxur 1% dust be approved for use against grasshoppers as it is a safe and effective chemical for this purpose and because Propoxur dust is rapidly replacing HCH as the most available product in Senegal at the farmer level. (This is in part due to the new policy of the Government of Senegal to switch from environmentally dangerous compounds to more safe and acceptable compounds, and in part due to the change in price structure of HCH as the world market demand decreases due to environmental concerns).

A. Environmental Examination

Paragraph 216-3(b) (I) (i) of Environmental Procedures establishes the procedures used here for evaluating the risks and benefits of pesticides. The following twelve points are addressed in accordance with the procedures:

1. The USEPA Registration Status of the Requested Pesticides

Dieldrin. According to the USEPA list of "Suspended and Cancelled Pesticides", Second Revision October 1979, Dieldrin is cancelled in the U.S. for all uses except those in the following list:

- Subsurface ground insertion for termite control,
- Dipping of non-food roots and tops,
- Moth proofing by manufacturing processes in a closed system.

The use of Dieldrin in the village woodlot support program would be acceptable in terms of USEPA Registration Status due to clause "subsurface ground insertion...". However, care must be exercised to assure that the product is only used for the purpose of termite control in woodlots.

Fenitrothion. Registered for use in the U.S. on a variety of food, forest, and pasture crops.

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Propoxur. Registered in the U.S. for structural pest control, agricultural and commercial premises, public health and other uses.

2. The Basis for Selection of the Pesticides

Details of the recommended pesticides are presented in Table 1. These chemicals are not restricted to the particular uses described. The chemicals are considered safe when used with moderate precautions, are available in Senegal, and are effective for their described usage.

3. The Extent to Which the Proposed Pesticide Use is Part of an Integrated Pest Management (IPM) Program

The use of these pesticides in relation to an Integrated Pest Management program is not an appropriate concern, for the following reasons:

- Their use will be mostly limited to the first-year growth in a non-food crop plantation;
- Limited amounts of chemicals for non-food crops will be employed;
- It is not foreseen that any significant environmental contamination will take place;
- Currently no IPM methodology exists to be used in the place of these chemicals.

4. The Proposed Method(s) of Application, Including Availability of Appropriate Application and Safety Equipment

It will be the responsibility of the particular PVOs involved in Village Woodlot programs to assure the initial training of all villagers who will be involved with insecticide use in village woodlot programs.

Dieldrin. As this chemical is restricted for essentially all other uses but subsurface termite control, and as its uses are limited to the seedling planting stage, it is recommended that Dieldrin be considered for limited use only. Purchase and storage should be under the direct supervision of PVO personnel. Sale and distribution to farmers will be controlled by proper record keeping to assure that the woodlot in question is indeed in the first-year stage or otherwise in need of termite control, and that unnecessary quantities are not sold or distributed.

Fenitrothion and Propoxur Dusts. As these compounds will have more widespread use than Dieldrin, are less dangerous, and will be generally available on the open market as well as from parastatals and other government agencies, no requirement for direct control of stocks and distribution is needed, other than what is already described for the SSE.

Equipment. Application equipment will be available for purchase, with the same commercial arrangements as for the vegetable gardening equipment and supplies.

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5. Any Acute and/or Long-term Toxicological Hazards, Either Human or Environmental, Associated with the Proposed Use, and Measures Available to Minimize Such Hazards.

All pesticides are potentially hazardous to humans and the environment and should be treated with great care, regardless of their relative toxicity.

- Dieldrin: As described above is restricted for all but several limited functions. This is not only because it is highly toxic, but more importantly because of its long duration in the environment before breaking down. For this reason, respective PVOs will control its central storage and handling and strictly monitor the sale and distribution as described in Point 4 above.

- Propoxur and Fenitrothion: Both are recommended and available without restriction according to USEPA regulations. Each is relatively acutely non-toxic to warm-blooded animals, and neither pose the danger of build-up in the environment.

6. The Effectiveness of the Requested Pesticides for the Proposed Use.

The three pesticides were chosen based upon USEPA registration for same or similar use. The pesticides will be applied according to instructions on their manufacturer's labels. Therefore, it is assumed that their use will adequately control pests unless pesticide-resistant strains are present in the populations. No such resistant strains have been reported thus far for termites or grasshoppers. "Effectiveness" must take into account the number of treatments required and the cost to the farmer.

7. Compatability of the Proposed Pesticides with Target and Non-target Ecosystems.

Point 5 above.

8. The Conditons Under Which the Pesticide is to be Used, Including Climate, Flora, Fauna, Geography, Hydrology, and Soils.

See Project Area Description and Spatial Analysis, Annex 11.

9. The Availability and Effectiveness of Other Pesticides or Non-Chemical Control Methods.

Availability: See Point 9 in Vegetable Gardening Risk Benefit Analysis above.

Also, as mentioned in Point 3 above, non-chemical control methods do not currently exist for the two specific problems of termites and grasshoppers.

Effectiveness: The chemicals chosen for approval in Table 1 were chosen based upon their effectiveness, as well as safety, availability, and cost. More suitable alternatives are not currently known. If, however, a better alternative is later proposed, a procedure for its introduction is built into the project paper guidelines (see pg. 16-4 of this Annex).

10. The Requesting Country's Ability to Regulate or Control the Distribution, Use, Storage, and Disposal of the Requested Pesticides.

See Point 10 in the Vegetable Gardening Risk/Benefit Analysis.

11. Provisions Made for the Training of Users and Applicators.

See Point 11 in the Vegetable Gardening Risk/Benefit Analysis.

12. The Evaluation of the Use and Effectiveness of the Pesticides.

Due to the the controlled nature of the use of Dieldrin on termites, it will be necessary that the PVO be solely responsible for monitoring the use and effectiveness of the termite treatments. However, farmers could be taught to take over such monitoring of dusts against grasshoppers. It would be assumed that one of the functions of the periodic project-wide evaluations would be to look at the effectiveness of chemical control efforts and their environmental effects.

ANNEX 17

PROCUREMENT PLAN

ANNEX 17

PROCUREMENT PLAN

This project will procure technical services and commodities including vehicles. Procurement waivers are requested for vehicle procurement under the provisions of AID Handbook 1B, Chapter 5, and for an increase in the shelf-item limits under the provisions of AID Handbook 1B, Chapter 18.

Technical Services

The Mission will contract for technical services to establish the Management Unit and the Small Business Advisory Unit. The organization establishing the Management will shoulder most of the implementation responsibility for all project activities and will supervise the organization which establishes the Small Business Advisory Unit. The Mission will procure services for the Management Unit and the Small Business Advisory Unit under competitive procedures, and will encourage both profit-making and non-profit organizations to bid. The first step will be the issuance of Pre-Qualification Questionnaires. When the most qualified organizations have been short-listed, the Mission will issue Requests for Proposals and select contractors.

The organizations selected to establish the Management and Small Business Advisory Units will provide long-term as well as short-term technical assistance and will hire local staff for the two units. The Management Unit will also procure limited services, such as for the development of literacy and numeracy training materials and for limited technical or other training of PVO staff.

Procurement of Commodities

The Management Unit will handle procurement of office supplies and equipment for both itself and the Small Business Advisory Unit (SBAU) with assistance from the Mission's Supply Management Office (SMO) for vehicles and certain other larger items. The PVOs receiving sub-grants under the village organization component will handle their own procurement. Few, if any, of these sub-grants will exceed $250,000. Therefore, except for grants to PVOs, over $250,000 less formal procurement rules will apply as described in AID Handbook 13, Chapter 4, Appendix C-15. For grants to PVOs over $250,000, the procurement procedures stated in AID Handbook 13, Chapter 4, Appendix C-16 will apply.

The Small Business Advisory Unit will handle procurement necessary for small entrepreneurs which it assists in coordination with the credit specialist in the Management Unit.

Commodities to be Purchased

The main commodities to be procured under the project are the following:

- Office equipment, furnishings, and supplies for the Management Unit and the Small Business Advisory Unit. This includes a micro-computer with related hardware for the use of both the MU and the SBAU.

- Household furnishings for the long-term experts.

- Vehicles for the MU and the SBAU. Motorbikes for field agents and additional vehicles may be required at a later date.

- A variety of agricultural equipment and supplies purchased in limited quantities at any one time by PVOs for 200+ village projects.

- A variety of tools, equipment, and materials purchased for 650+ artisans and small-scale entrepreneurs.

Waivers

Source origin waivers from Code 000 to Code 935 plus waivers of Section 636(i) of the Foreign Assistance Act are requested for the following:

- To authorize the purchase of vehicles not of U.S. source/origin (see waiver request attached);

- To approve a source/origin waiver from Code 000 to Code 899:
  (1) Increase shelf-item procurement unit value to $20,000 per unit;
  (2) To increase the total amount available for shelf-item procurement to 15% of the local currency costs of the project;
  (3) To authorize procurement whose source and origin is Senegal, or services whose nationality is Senegalese (Host Country Procurement)

ACTION MEMORANDUM TO THE DIRECTOR USAID/Senegal

FROM: G. William Anderson, PDO

SUBJECT: PVO Community and Enterprise Development Project (685-0260) Source/Origin Waiver for Vehicles

I. PROBLEM: The PVO Project will require the procurement of 7 pickup and passenger vehicles. You are requested to authorize such procurement by granting:

1) A source/origin waiver from Geographic Code 000 (U.S. only) to Geographic Code 935 (Special Free World); and

2) A waiver of the provisions of Section 636(i) of the FAA.

II. FACTS

A.	Cooperating Country:	- Senegal
B.	Project:	- PVO Community and Enterprise Development (685-0260)
C.	Nature of Funding:	- Grant
D.	Source of Funding:	- Sahel Development Program
E.	Description of Goods:	- 5 station wagon/passenger vehicles equal to Renault 12s and 2 pickup trucks equal to Peugeot 404s
F.	Approximat	- $50,000
G.	Probable S	- Senegal
H.	Probable O	- France/Japan

III. DISCUSSION

A. Source/Origin Waiver

In accordance with AID Handbook 1B, procurement of commodities from Code 941 sources and of Code 935 origins under a grant-financed project requires a waiver. Under Handbook 1B, Chapter 5B 4a (2), a waiver may be granted if "the commodity is not available from countries included in the authorized Geographic Code." The authority to make such a determination and grant a waiver has been delegated to you by AID Delegation of Authority No. 140 (revised).

PVO Project personnel will use these vehicles to visit village producer groups and small-scale entrepreneurs as the Project assists in enabling the rural population of the Sine Saloum region to take charge of their own development. Furthermore, the Government of Senegal will be monitoring PVOs during the Project to assure that they are adequately performing their functions vis à vis village producer groups. In order for the two units of the Project to carry out their crucial support activities to small-scale entrepreneurs and village producer groups, reliable and appropriate transportation most be available. Experience under another project in the Region (Sine Saloum Rural Health) has shown

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that vehicle maintenance is the key to assuring dependable transportation. Kaolack, the regional capital, is the only large city and even there mechanic capability and spare parts are limited. While mechanics are inadequately trained to maintain U.S.-manufactured vehicles nor are spare parts available, they are familiar with European models, in particular Renault and Peugeot. There is also an availability of spare parts for these vehicles.

Vehicle size also appears to play an important role. Again experience in the Sine Saloum Health Project has shown that small compact-size vehicles, such as Renault 4 vans, cannot withstand the rough terrain on non-paved road surfaces. Larger vehicles, such as U.S. manufactured Jeeps, have also been considered. Albeit a more rugged vehicle, its fuel consumption places a greater burden on project funds and eventually puts an even greater recurrent cost burden on the GOS. (Peugeot estimates fuel consumption at 26.7 miles per gallon versus Cherokee Jeeps at 10 miles per gallon.)

Thus, it has been determined that the requested vehicles under this waiver are required to maintain project activity. They are the most reliable, cost effective, and viable options considering the project site, conditions, and needs.

B. Waiver of Section 636(i)

In addition to the general source/origin limitations on the procurement of commodities, Section 636(i) of the FAA prohibits the procurement of vehicles of non-U.S. manufacture. However, the provisions of Section 636(i) may be waived when special circumstances permit it. Under Handbook 1B, Chapter 4C 2d (1)(a), special circumstances are deemed to exist if there is an "inability of US manufacturers to provide a particular type of needed vehicle." The authority to find such circumstances and grant a waiver has also been delegated to you by AID Delegation of Authority No... 140 (revised).

Since, as discussed in the source/origin context, US manufacturers are unable to provide vehicles of the type needed for the PVO Community and Enterprise Development Project, the special circumstances criterion set forth above is satisfied.

IV. Recommendation

For the above reasons, it is recommended that you:

1. Approve a source/origin waiver from AID Geographic Code 000 to Code 935 for 7 pickup and passenger vehicles;

2. Conclude that special circumstances exist which merit a waiver of the provisions of Section 636(i) of the Foreign Assistance Act of 1961, as amended; and

3. Certify that exclusion of procurement from Free World countries other than the cooperating country and countries included in Code 941 would seriously impede the attainment of U.S. foreign policy objectives and the objectives of the foreign assistance program.

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ACTION MEMORANDUM TO THE DIRECTOR USAID/SENEGAL

FROM: G. William Anderson, PDO

SUBJECT: Request for Source/origin Waiver to Increase Shelf-item Procurement Authority and to Authorize Senegalese Source, Origin, and Nationality of Commodities and Sources.

I. PROBLEM:

Your approval is required for the authorization to increase shelf-item procurement unit value from $5,000 to $20,000 and the total amount available for shelf-item procurement from 10 percent to 15 percent of local currency costs of the project, and to authorize procurement of commodities whose source and origin is Senegal or services whose nationality is Senegal (Host Country Procurement). In addition, because CARITAS is expected to be a major recipient of funding and technical support under the project, and as CARITAS is now funded in significant part by Austria, it may be necessary to purchase commodities whose source and origin is Code 899. Your approval is required to authorize such procurement.

II. FACTS

A.	Cooperating Country:	- Senegal
B.	Nature of Funding:	- Grant
C.	Source of Funding:	- Sahel Development Program
D.	Project:	- PVO Community and Enterprise Development
E.	Number of Project:	- 685-0260
E.	Description of Goods and Services:	- Equipment and materials for 650 small-scale entrepreneurs = $750,000; including lathes ($10,000 each), arc and gas welders ($10,000), drill presses ($4,000), bandsaws ($8,000), metal milling/shaper ($8,000) - Office equipment and supplies = $150,000 including a micro-computer and related hardware ($15,000) - Services for short-term and training and development of literacy materials = $250,000
G.	Probable Source:	Senegal
H.	Probable Origin:	AID Geographic Code 899 (Free World)

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III. DISCUSSION

Under this project local and international PVOs will assist over 200 village organizations to carry out a variety of small-scale production activities utilizing a variety of equipment and materials. This equipment and materials will be purchased in small quantities. For example, village vegetable production and woodlot projects will require fencing, cement for watering tanks, pipe, pump cables, and various agricultural inputs in small quantities. Fertilizers will be purchased locally with local currencies. Pesticides will only be purchased from the list recommended and approved by AID/Washington. Fishing groups will purchase small outboard engines for their dug-out canoes, fishnets, fishing line, and other supplies. Village groups will purchase these materials and supplies on credit with the assistance of the PVOs helping them.

The project will also provide assistance to over 650 small-scale entrepreneurs (SSEs) for purchase of a variety of tools, equipment, and materials to upgrade their shops and to expand their production. For some entrepreneurs, this will involve items of fairly expensive equipment.

Because of the wide variety and large number (over 800) of small-scale production activities under this project, procurement will be in small amounts. Further, although the general outlines of the activities to be financed are known and guidelines prepared, the exact type of equipment, materials, and supplies for all the village groups and individual entrepreneurs to be assisted over the six-year life of the project cannot be known in advance. The nature of many of the activities by village groups and SSEs will evolve and change over time as some projects and products succeed and others do not. Therefore, procurement under the project must be as flexible as possible to allow beneficiaries to adjust to the lessons of experience under the project. The basic principle of the project is to establish a flexible, quick-reacting mechanism of funding development activities designed by rural producers through non-governmental organizations. Unless the procurement arrangements of the project as similarly flexible permitting immediate purchase of locally available goods and equipment, most of the project's subactivities will be significantly, if not fatally, complicated.

Because one of the principal aims of this project is to expand the role of the private sector in Sine Saloum, it is important for the village groups and SSEs to purchase the materials from regional suppliers who will remain active after US involvement is finished. US materials and equipment would be difficult to maintain because suppliers would not ordinarily stock US-manufactured tools and equipment. Maintenance and spare parts availability would therefore be almost non-existent.

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The office equipment and supplies are required to assure the functioning of the project. The importation of US-manufactured office equipment would hinder the project, since many of the US-manufactured office machines cannot be maintained or serviced by local representatives because of the difference in components. This would be especially true of the micro-computer and associated hardware which would be purchased for central record-keeping and information storage.

IV. Recommendations

In view of the above discussion, it is recommended:

a) That the unit price limit for shelf-item procurement be increased to $20,000 per unit;

b) That the total amount available for shelf-item procurement be increased to 15 percent of the local currency costs of the project; and

c) That you certify that exclusion of procurement from the Free World countries, other than the cooperating countries and countries included in Code 941, would seriously impede attainment of U.S. Foreign Policy Objectives of the Foreign Assistance Program. (See AID HB 1B, Para. 5B4b.)

ANNEX 18

GRANT PROJECT AGREEMENT

GRANT PROJECT AGREEMENT

Between the United States of America, acting through the Agency for International Development (A.I.D.)

AND

The Government of Senegal

(Grantee)

1. Project Title	2. AID Project Number
Community & Enterprise Development	685-0260

The above-named parties hereby mutually agree to carry out the Project described in this Agreement in accordance with (1) the terms of this Agreement, including any annexes attached hereto, and (2) any general agreement between the two governments regarding economic or technical cooperation.

3. Amount of AID Grant	4. Grantee Contribution to the Project	5. Project Assistance Completion Date
$9,000.000	$ --	September 30, 1989

6. This Agreement consists of this title page and
   a) the following 2 pages
   b) Annex I General Project Description
   c) Annex II Standard Provisions
   d) Annex III Standard Provisions
   e) AID's Regulation No. 1

7. For the Grantee	8. For the Agency for International Development
Typed Name Mamoudou Touré	Typed Name David Shear
Signature :	Signature:
Title: Minister of Economy & Finance	
Date	

PROJECT AGREEMENT

PROJECT DESCRIPTION

1. Project Title PVO Community & Enterprise Development	2. AID Project Number 685-0260

3. This Project consists of:

Assistance to (1) enable village organizations to carry out agricultural production, food processing and preservation, and soil and energy conservation projects on their own and (2) assist rural entrepreneurs and enterprises to support agriculture and manage and sustain their own growth.

Annex I, attached, amplifies the above definition of the Project. Within the limits of the above definition of the Project, elements of the amplified description stated in Annex I may be changed by written agreement of the authorized representatives of the Parties named in block 4 below and in block 8 (USAID Mission Director) of the cover page.

4. Special Provisions

Conditions Precedent to Disbursement

Prior to the first disbursement under the Grant, or to the issuance by AID of documentation pursuant to which disbursement will be made, the Grantee will, except as the Parties may otherwise agree in writing, furnish to AID (1) a letter from the Minister of Plan naming the Govermment of Senegal representatives to the National Project Policy Committee (described in Annex I), and (2) a statement of the name, together with a specimen signature of the person holding or acting in the office of the Grantee who for all purposes of the Agreement will represent the Grantee including making changes in the amplified project description if such changes are not inconsistent with the project description set out above. The Grantee can designate additional representatives for all purposes other than exercising the power to change the amplified project description.

Special Covenants Concerning Project Implementation and Achievement of Project Objectives

1. Project Evaluation

The Parties agree to establish an evaluation program as part of the Project.

Except as the Parties otherwise agree in writing, the program will include, during the implementation of the Project and at one or more points thereafter:

(a) An on-going evaluation of progress toward attainment of the objectives of the projects;

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(Block 4 cont'd)

(b) Identification and evaluation of problem areas or constraints which may inhibit such attainment;

(c) Assessment of how such information may be used to help overcome such problems;

(d) Evaluation, to the degree feasible, of the overall development impact of the Project.

2. Loan Reflows

The Government agrees to use reflows from loans made to village organizations and entrepreneurs for the purpose of rural credit.

3. Registration of Private Voluntary Organizations (PVOs)

In registering PVOs, the Government agrees to establish reasonable procedures and to act in a reasonable time to register PVOs.

4. Policy and Regulatory Environment

The Government agrees that one of the priorities of the National Project Committee will be to address the problems for village organization and small-scale enterprise development arising from governmental policies and regulations. The Government agrees to make all reasonable efforts to act on the recommendations of the National Project Policy Committee to improve the policy, legal, and regulatory climate for the development of village groups and small-scale entrepreneurs.

5. Credit Collection

The Government agrees to all reasonable actions to support and pursue credit collection under the Project.

ANNEX I

I. GENERAL PROJECT DESCRIPTION

A. Background

The idea for the Community and Enterprise Development Project emerged from the 1980 AID/GOS Joint Assessment of the USAID/Senegal program. This Joint Assessment concluded (1) that the beneficiaries of AID-financed activities ought to be involved more directly in the design and execution of Projects affecting them and (2) that USAID should identify alternative types of assistance to rural producers. The Project aims at enabling rural producers to take charge of their own development. It therefore supports directly the GOS policy of decentralization.

B. Project Purpose and Goal

The purposes of the Project are the following:

. to enable village organizations to carry out agricultural production, food processing and preservation, and soil and energy conservation projects on their own, and

. to assist rural entrepreneurs and enterprises that support agriculture to manage and sustain their own growth.

Fulfillment of these purposes will contribute to the goal of this project, which is to encourage decontrol and commercialization of rural production in the region of Sine Saloum.

At the end of the project, the following conditions should indicate accomplishment of the project purpose:

. Village organizations assisted can identify project needs, manage inputs, and select technical assistance from local sources.

. PVOs are carrying out collaborative development projects with other village organization not financed by USAID using project models and skills acquired under the Project.

. A large proportion of the small-scale enterprises assisted will move into the formal credit and banking system.

. Goods and services produced by small-scale enterprises will be used by the rural population to increase agricultural production in noticeable quantities.

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C. Project Outp

The Project will produce the following outputs:

. Small-scale projects implemented by village organizations in the priority areas defined by the Project.

. Local and international PVO's active in Senegal with improved skills in project development, management, implementation, and evaluation through assistance by the Project's Management Unit.

. Credit used in village projects and repaid.

. Increased production of agriculture-related goods and services by Small-scale Enterprises (SSE).

. SSE's assisted by the Project performing business management functions independently.

. Credit used by SSE and repaid.

D. Major Elements of Project Structure

The major elements of the Project structure are the following:

A National Project Policy Committee will review and approve the overall policy of the Project; the criteria of selection of PVOs to receive funding, of village groups, of village projects, and of entrepreneurs to be assisted, and the criteria for monitoring and evaluating project activities. The Policy Committee will be composed of representatives from USAID and concerned GOS ministries: the Ministry of Plan (who will preside), the Ministries of Economy and Finance, Social Development, Industrial Development and Artisanat, Rural Development, and the Secretariat of State for Decentralization. Each ministry and USAID shall name a primary representative and a second in case the primary representative is unavailable. The Policy Committee will approve PVO proposals for village organization assistance and the program of assistance for small-scale entrepreneurs. All Committee members will be invited to all committee meetings. For PVO proposals, an Executive Committee able to act for the full national Project Policy Committee will consist of the representatives of USAID, the Ministry of Plan, the Ministry of Rural Development, and the Ministry of Social Development. For matters involving assistance to artisans and small entrepreneurs, the Executive Committee able to act will include in addition to the membership named above the representative of the Ministry of Industrial Development and Artisanat. Decisions will be by majority vote of members present. No votes may be cast by members not present at the time of the vote. The Committee shall be convened by the Ministry of Plan to meet on pending business. The Committee shall meet as needed but at least once each quarter to review quarterly project reports and to act on proposed activities.

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The Policy Committee will receive quarterly financial and monitoring reports prepared by the Management Unit. Members of the Policy Committee will participate in periodic Project Reviews and in in-depth evaluations of the Project. The Direction of Community Development in the Ministry of Social Development will act as the Secretariat for the Policy Committee.

A contract Management Unit based in Kaolack will manage project activities, review PVO proposals to assist village organizations, and monitor assistance to small-scale entrepreneurs (SSE's) provided by a Small Business Advisory Unit.

A Credit Section, part of the Management Unit, will administer a revolving credit fund for loans to village organizations and small-scale enterprises. This credit component will be taken over by the Caisse Nationale du Credit Agricole du Sénégal (CNCAS) after a positive recommendation of the credit and savings study under the Sahel Development Fund PAAD (685-0249) and after certification by USAID of the CNCAS' accounting system and practices. This certification will be based on a study of the operating experience of the CNCAS. The CNCAS will manage this credit component as a separate program with a separate account and will apply all credit reflows from loans under the project to further lending for project activities except for the last year of the project. In the last year of the project, a certain amount of the credit reflows as specified in the budget will be allocated to project costs. The Management Unit and PVO's will assist in credit activities as appropriate. Interest rates for credit will begin at 12% with upward revisions possible to the maximum commercial rate allowed under West African Monetary Union regulations, depending upon rates of credit repayment. Credit terms and conditions will conform to those of the CNCAS.

The Project will provide training to village organizations and SSE's in literacy and numeracy and in technical areas needed to carry out projects.

PVOs will receive grants from the Management Unit to assist village organizations with village projects. The Management Unit will also provide some assistance to PVOs to strengthen capacities where needed.

PVOs will work within the established structures of Groupements de Producteurs or Sections Villageoises.

Pilot Phase: Project activities will begin in limited numbers in a limited area to develop sound packages of assistance and to resolve basic problems before expanding project activities throughout the region.

Design of Village Projects: PVOs and village groups will consult with Rural Councils, Sous-Préfets, and other elected bodies, administrative authorities, and technical services (CER and SODEVA agents) in designing projects and will present their proposals to local authorities. Local elected and administrative authorities and technical services will provide comments on PVO proposals which will be forwarded to the Governor and the Management Unit through the usual channels.

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Regular contacts between the project and SODEVA will assure the overall technical validity of PVO proposals and their degree of conformity with GOS regional development objectives in the Sine Saloum.

Monitoring and Evaluation: Based on the criteria approved by the National Project Committee, the Management Unit will establish a continuous monitoring system providing periodic reports to USAID and to the National Project Committee. Government officials from national and regional levels will participate in Project Reviews every six months as well as in more in-depth external evaluations utilizing outside experts. The first external evaluation at the end of year two will review the workings of design and approval procedures and recommend necessary adjustments.

The Direction of Community Development of the Ministry of Social Development will complement the monitoring system of the project. Based on their field visits, Ministry representatives will advise the National Project Policy Committee and the Management Unit (1) on the degree to which project activities depart from policies and criteria established by the Policy Committee, (2) on cases in which project activities depart from the regional development plan of Sine Saloum, and (3) lessons which project experience suggests for other development activities in Sine Saloum or elsewhere in Senegal.

E. Project Inputs

The principal Project inputs include:

- Long-term and short-term technical assistance;
- Grants to PVOs to assist village organizations;
- Assistance to SSEs to increase production;
- Credit to village organizations and SSEs;
- GOS participation in approving activities in setting Project policies and selection criteria, and in participating in Project Monitoring and evaluation.

II. RESPONSIBILITIES OF THE PARTIES

A. AID Responsibilities

Year One: AID will arrange for procurement of technical services, vehicles, and major commodities under the Project in accordance with U.S. government regulations and in consultation with the GOS. A list of commodities is as follows:

- Passenger vehicles and light trucks of European manufacture;
- Office equipment and supplies for Management and Small Business Unit functioning;

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- AID will arrange for in-kind assistance to the Direction of Community Development of the Ministry of Social Development to enable it to fulfill its responsibilities for monitoring the project and for acting as Secretariat for the Policy Committee.

Year Two: AID will monitor Project progress through regular consultation and reporting between AID's project managers and the Management Unit and through Six-Month Project Reviews. AID will contract for and participate in the external project evaluations programmed for the second and fifth year of the Project.

B. Government of Senegal Responsibilities

The Government of Senegal will name members (and seconds) of the National Project Policy Committee who will review Project policy, selection criteria, and the monitoring and evaluation system as well as approve PVO proposals and the program for enterprise assistance. Members of the Policy Committee will also participate in Six-Month Project Reviews and in external project evaluations. The Ministry of Social Development will provide the Secretariat for the Policy Committee and will carry out monitoring responsibilities for the GOS.

The Government of Senegal, upon the request of USAID to the appropriate ministry, will allow Project personnel to use without charge the facilities of existing training centers in Sine Saloum at mutually convenient times.

The Government agrees to make all reasonable efforts to act on recommendations from the Policy Committee to improve the policy, legal, and regulatory climate for the development of village groups and small-scale entrepreneurs.

C. Technical Assistance Contractor Responsabilities

We expect that the contractors will provide long-term technical advisors and short-term technical assistance for specific needs. The contractors will handle all logistic arrangements for short and long-term personnel and prepare short-term scopes of work for AID approval. The contractors will hire Senegalese employees for the Management Unit and the Small Business Advisory Unit insofar as is possible and will prepare Senegalese counterparts to take over from expatriate advisors in the Management Unit and in the Small Business Advisory Unit. The contractors will participate in Project Reviews and in major Project evaluations, if desired by AID and the GOS. However, AID and the GOS will supply evaluation personnel.

III. ILLUSTRATIVE FINANCIAL PLAN

The Financial Plan outlined in Table I is illustrative only. It sets out the budget as the Parties now intend it to be, but as the project unfolds, it will undoubtedly be necessary to modify the budget to meet changing needs. The parties will make such changes, if needed, on the basis of mutual agreement as ratified by Project Implementation Letters. Future AID funding is subject to the availability of funds to AID for this purpose and to the mutual agreement of the parties, at the time, to proceed.

IV. FINANCING METHODS

Project funding will be disbursed in accordance with the regulations of the Governments of Senegal and the United States and the requirements of full accountability.

Specific procedures to be followed will be agreed upon by AID and the GOS and described in the first Project Implementation Letter.

V. SPECIAL CONSIDERATIONS. None

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TABLE I. SUMMARY BUDGET TABLE BY CATEGORY OF EXPENDITURE
($ 000's)

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	TOTAL
I. Personnel							
A. Long-Term							
U.S.	625	625	500	500	250	125	2625.0
Local Hire	114.5	114.5	136.5	138.5	138.5	73.5	716.0
B. Short-Term TA							
U.S.	33	66	33	33	33		198.0
Local	8	8	6	6	4	4	36.0
	(780.5)	(831.5)	(675.5)	(677.5)	(425.5)	(202.5)	(3575.5)
II. Training & Travel	126	73	83	48	40	28	398.0
III. Village Organiza-Assistance	55	295	439	738	818	183	2528.0
IV. Credit Fund	75	219	326	455	258	(644)	1333.0
V. Commodities	75	–	38	90	10	–	213.0
VI. Equipment	90	5	5	5	5	5	115.0
VII Operating Costs	151	161	171	121	90	146.5	840.5
VIII. Evaluation		100			100		200.0
IX. TOTAL I - VIII	1352.5	1666.5	1737.5	2134.5	1746.5	565	9202.5
X. Contingency	70	70	70	70	82.5	79	441.5
GRAND TOTAL	1422.5	1736.5	1807.5	2204.5	1829.0	(644)*	9000.0**

* This $644,000 in project costs in Year 6 will be financed by the excess credit reflows in Year 6.

** Assistance under the project will total $9,000,000. The $644,000 in project costs shown in Year 6 will be financed by the excess credit reflows in Year 6.