PD RA7 626

AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT DATA SHEET

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

DOCUMENT CODE: 3

2. COUNTRY/ENTITY: SENEGAL

3. PROJECT NUMBER: 685-0242

OFFICIAL PROJECT DOCUMENT

4. BUREAU/OFFICE: USAID

5. PROJECT TITLE (maximum 40 characters): SENEGAL RURAL HEALTH II PROJECT

6. PROJECT ASSISTANCE COMPLETION DATE (PACD): MM 04 DD 01 YY 89

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

A. Initial FY 84 B. Quarter 3 C. Final FY

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

A. FUNDING SOURCE	FIRST FY 84 B. FX	C. L/C	D. Total	LIFE OF PROJECT E. FX	F. L/C	G. Total
AID Appropriated Total				3407	4628	7999
(Grant)	(2523)	(2813)	(5336)	(3407)	(4628)	(7999
(Loan)	( )	( )	( )	( )	( )	(
Other U.S. 1.						
Other U.S. 2.						
Host Country		182	182		1025	
Other Donor(s)						
TOTALS		2995	5518	3407	5653	9060

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) FY 84	500	510						7999	
(2)									
(3)									
(4)									
TOTALS								7999	

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each): 520 | 530 | 550 | 560

11. SECONDARY PURPOSE CO: 530

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

A. Code	542	551				
B. Amount						

13. PROJECT PURPOSE (maximum 480 characters)

To develop a village-based primary health care delivery system which can reduce the incidence of infectious diseases among the rural population and deliver maternal and child health interventions, including family planning services.

14. SCHEDULED EVALUATIONS

Interim MM 02 YY 86 | MM YY | Final MM 04 YY 88

15. SOURCE/ORIGIN OF GOODS AND SERVICES

[X] 000 [ ] 941 [ ] Local [X] Other (Specify) 685

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

17. APPROVED BY

Signature: Carole Tyson

Title: Acting Director

Date Signed: MM DD YY

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

AID 1330-4 (3-79)

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Best Available Document

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PROJECT AUTHORIZATION

Name of Country Senegal
Name of Project Senegal Rural Health II Project
Number of Project 685-0242

1. Pursuant to Section 121 of the Foreign Assistance Act of 1961, as amended, I hereby authorize the Senegal Rural Health II Project, for Senegal involving planned obligations not to exceed $8,000,000 in grant funds over a five 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 five (5) years from the date of initial obligation.

2. The project consists of assistance to develop a village-based primary health care delivery system which can reduce the incidence of infectious diseases among the rural population and deliver maternal and child health interventions, including family planning services.

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. Conditions Precedent

1) Prior to any disbursement, or the issuance of any commitment documents under the Project Agreement, the Government of Senegal shall furnish AID a letter agreeing to the evaluation criteria proposed in Section VI part 4 of the Project Paper and the implied need to redesign or terminate the project should the evaluation be unfavorable.

2) The Ministry of Health will assign two CESSI graduates to staff the Sine-Saloum Regional Training Center and written concurrence to include a l. a item in the national budget to support the Regional Training Center in Kaolack..

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c. Covenants

The Government of Senegal shall covenant the following:

1. To assign one health post nurse and one sanitation agent to the health posts to be constructed by USAID in the department of Kaffrine.

2. To assign a nutrition coordinator to the Region Medicale in Kaolack.

3. To assign a statistician to the Region Medicale in Kaolack.

4. To maintain the position at the national level of the USAID Health Program Coordinator.

5. To finance the personnel, support, and maintenance costs of the Regional Training Center.

6. To allow each CM to provide gasoline from their allotment to the health posts for supervision of village health needs by mobylette.

7. Through its regional and departmental authorities to negotiate with the Rural Communities for the periodic investment of the amortization and maintenance of the health post mobylettes.

8. The MOH will encourage the rural communities to provide for the maintenance and repair of the health posts.

d. Waivers

1) Source origin and sole source procurement waivers for vehicles and pharmaceutical products have been approved by AA/AFR as of January 9, 1984.

2) Based on the justification in Annex M of the PP, I hereby approve a source/origin waiver from AID Geographic Code 000 (US only) to Geographic Code 935 (special free World) to allow the procurement of medical vaccination equipment for use in Senegal training a total value not to exceed $ 60,000.

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Clearances

		Office Symbol	Date	Initials
A.	Joel Schlesinger	PDO		
B.	Sam Rea	PRM		
C.	Janet Gillis	RCON		
D.	Mike White	HPNO		
E.	John Balis	ADO		
F.	Judi Shane	SMO		
G.	Floyd Spears	MO		
H.	James Rogan	RLA/REDSO/WCA	1/6/84	(Draft)

4. Approval

Carole Tyson
Acting Director
USAID/Senegal

_____ Signature
_____ Date

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ACTION MEMORANDUM FOR THE DIRECTOR OF USAID/SENEGAL

TO Carole Tyson, Acting Director
FROM G. William Anderson, PDO
SUBJECT Authorization of the Senegal Rural Health Project (685-0242)

I. PROBLEM

Your approval is required to execute a grant of eight Million Dollars (8,000,000) from Section 121 of the Foreign Assistance Act of 1961, as amended, (Sahel Development Program) to the Government of Senegal (GOS) for the Senegal Rural Health Project II (685-0242). It is planned that a total of five Million three hundred and thirty-six thousand dollars ($5,336,000) will be obligated in FY 1984.

II. DISCUSSION

A. Project Description

The Senegal Rural Health II Project will provide assistance to develop a village based primary health care delivery system which can reduce the incidence of infectious diseases among the rural population and deliver maternal and child health interventions, including family planning services.

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.

C. Project Implementation:

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

1) Prior to any disbursement, or the issuance of any commitment documents under the Project Agreement, the Government of Senegal shall furnish AID a letter agreeing to the evaluation criteria proposed in Section VI part 4 of the Project Paper and the implied need to redesign or terminate the project should the evaluation be unfavorable.

2) Written confirmation of the assignment of two CESSI graduates to staff the Sine Saloum Regional Training Center and MOH concurrence to include a line item in the national budget to support the Regional Training Center in Kaolack.

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The Government of Senegal shall agree to the following covenants:

1. To assign one health post nurse and one sanitation agent to the health posts to be constructed by USAID in the department of Kaffrine.

2. To assign a nutrition coordinator to the Region Medicale in Kaolack.

3. To assign a statistician to the Region Medicale in Kaolack.

4. To maintain the position at the national level of the USAID Health Program Coordinator.

5. To finance the personnel, support, and maintenance costs of the Regional Training Center.

6. To allow each CM to provide gasoline from their allotment to the health posts for supervision of village health needs by mobylette.

7. Through its regional and departmental authorities to negotiate with the Rural Communities for the periodic investment of the amortization and maintenance of the health post mobylettes.

8. The MOH will encourage the rural communities to provide for the maintenance and repair of the health posts.

The GOS implementing body is the Ministry of Health.

Standard AID procurement procedures will be followed. The AA/AFR has approved waivers for the procurement of vehicles and pharmaceutical products. The authorization includes a waiver to allow the non-US procurement of medical vaccination equipment for use in Senegal.

A U.S. school of public health will be chosen under standard AID competitive selection procedures to manage long-term and short-term participant training. Funds will be added to existing central bureau contracts for short-term technical assistance. Long-term technical assistance will be provided under personal services contracts with four individuals.

D. Committee Action and Congressional Apprisement:

A Project Review was held on January ____ 1984. The Project Committee recommended that the Director authorize the project.

An Advice of Program Change was submitted to Congress on _____1984. The waiting period expired without objection on _____1984.

III. RECOMMENDATION:

That you sign the Project Authorization and thereby authorize the Senegal Rural Health II Project (685-0242) with a planned FY 1984 obligation of $5,613,000.

SENEGAL RURAL HEALTH II

PP TEAM MEMBERS

I. GOS

Mme. Aida Lo Faye
Project Coordinator
Senegal Rural Health Project

Dr. Jean Michel Ndiaye
Coordinator for USAID Projects
Ministry of Health

Commandant Omar Ndiaye
Directeur des Affaires Administratives
et Financières
Ministry of Health

M. Sereigne Diene
DANAS
Ministry of Health

M. El Hadj Malick Diamé
Bureau of Statistics
Ministry of Health

Dr. Mandiaye Loume
Regional Medical Officer
Region of Sine Saloum

M. Sangoné Mboup
Training Coordinator
Senegal Rural Health Project

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II. USAID

Ms. Patricia Daly
PP Team Leader
Independent Consultant
USAID Project Manager

Mr. Jim Herrington
Health Planner
Independent Consultant

Mr. Gary Engelberg
Training Specialist
Independent Consultant

Mme. Janine Aubry
Administration Specialist
Independent Consultant

Dr. Michael White
Health Officer
USAID/Senegal

Dr. Patrick Kelly
Management Information Specialist
Independent Consultant

Dr. Ron Waldman
Center for Disease Control
Abidjan, Ivory Coast

III. PROJECT REVIEW COMMITTEE

Carole Tyson, ADIR
G. William Anderson, PDO
Sam Rea, PRM
Joel Schlesinger, PDO
Mary Diop, HPNO
Moussa Ndiaye, HPNO

Christine Lyons, S
Larry Harms, ADO
Anna Bathily, PDO
Barnabas Mosley, ENG
Ousmane Ndao, PDO

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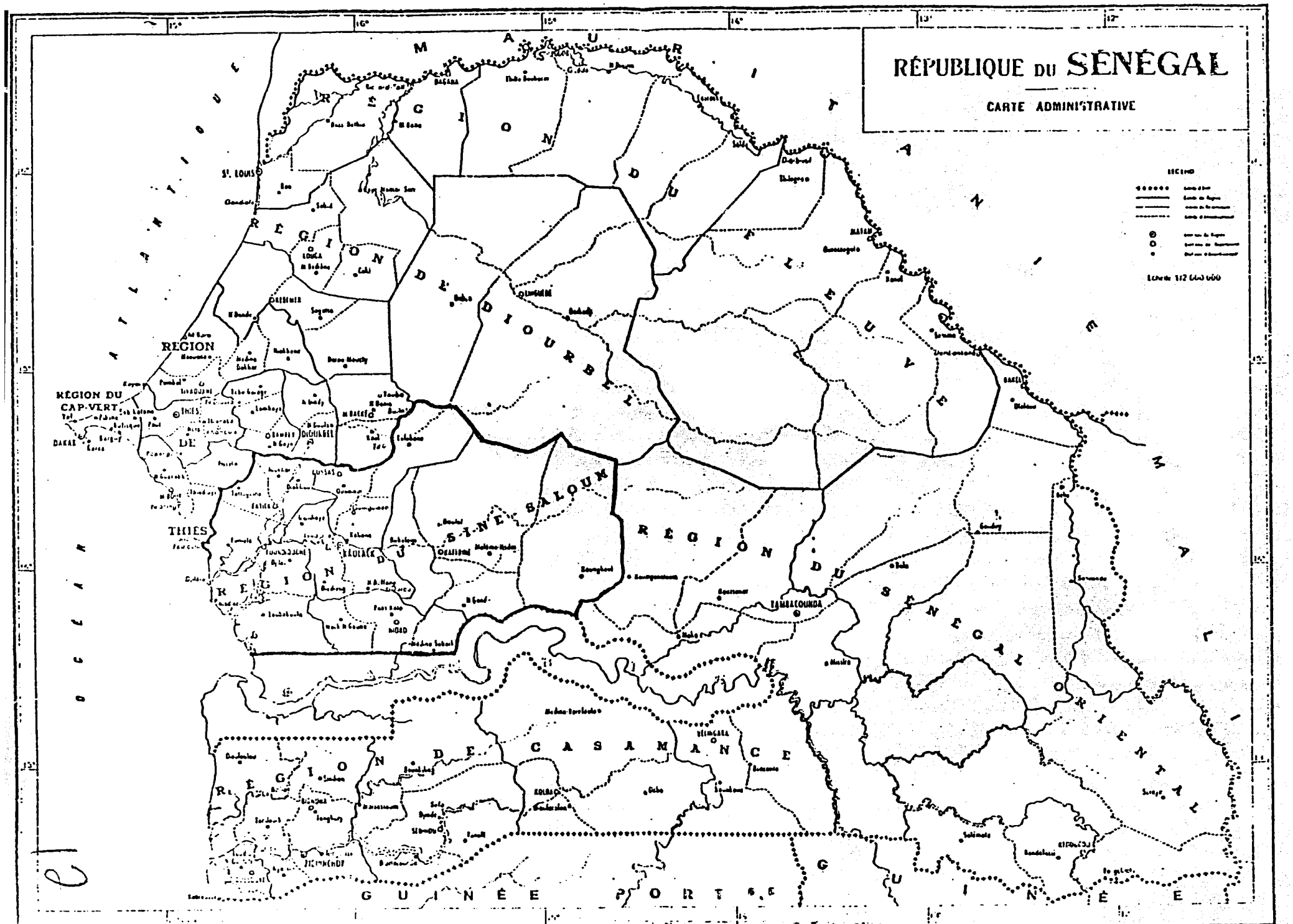
RÉPUBLIQUE DU SÉNÉGAL
CARTE ADMINISTRATIVE
LÉGENDE
Échelle 1/2 000 000
OCÉAN ATLANTIQUE
MAURITANIE
MALI
GUINÉE
GUINÉE PORTUGAISE
RÉGION DU FLEUVE
RÉGION DU DIOURBEL
RÉGION DU SÉNÉGAL ORIENTAL
RÉGION DE CASAMANCE
RÉGION DU CAP-VERT
RÉGION DE THIES
SINE SALOUM
ST. LOUIS
DAKAR
THIES
TAMBACOUNDA
KOLDA
ZIGUINCHOR

ABBREVIATIONS AND ACRONYMS

AID	Agency for International Development
APH	Association pour la Promotion de l'Hôpital (Hospital Health Committee)
APSC	Association pour la Promotion de la Santé Communautaire (Post Health Committees)
APSD	Association Pour la Promotion de la Santé Départementale (Health Center Committees)
ASBEF	Association Sénégalaise pour le Bien Etre Familial (Senegal Family Planning Association)
ASC	Agent de Santé Communautaire (CHW)
CCCD	Combatting Communicable Childhood Diseases
CDC	Center for Disease Control
CDD	Comité de Développement Départmental (Departmental Development Committee)
CDSS	Country Development Strategy Statement
CEESAO	Centre d'Etudes Economiques et Sociales d'Afrique de l'Ouest (Center for Sociological Studies in West Africa)
CESSI	Centre d'Enseignement Supérieur en Soins Infirmiers (Center for Advanced Nursing Education)
CFA	Communauté Financière Africaine (French-African Currency)
CHW	Community Health Worker
CLD	Comité Local de Développement (Local Development Committee)
CRS	Catholic Relief Services
DAGE	Direction d'Administration Générale et de l'Equipement (Division of General Administration and Equipment)
DANAS	Division de l'Alimentation et de la Nutrition Appliquée au Sénégal (National Food and Applied Nutrition Service)
DDC	Diarrheal Disease Control
DHPS	Direction de l'Hygiène et de la Protection Sanitaire (Division of Hygiene and Primary Health Care Protection)

DRPF	Direction de la Recherche, de la Planification et de la Formation (Division of Research, Planning and Training)
DSI	Disease-Specific Interventions
ENEA	Ecole Nationale d'Economie Appliquée (National School for Applied Economics)
EPI	Expanded Program in Immunization
FAC	Fond d'Aide et de Coopération (French Fund for Grants and Assistance)
GDP	Gross Domestic Product
GNP	Gross National Product
GOS	Government of Senegal
HC	Health Center
HP	Health Post
HPNO	Health, Population and Nutrition Office
IMF	International Monetary Fund
IMR	Infant Mortality Rate
KAP	Knowledge, Attitude, and Practices Test
MCH	Maternal and Child Health
MCH/FP	Maternal and Child Health/Family Planning
MOH	Ministry of Health
OCCGE	Organisation Pour la Coopération et la Coordination de la Lutte Contre les Grandes Endemies (Organization for the Cooperation and Coordination Against Communicable Diseases)
ORANA	Organisation de Recherche sur l'Alimentation et la Nutrition
ORS	Oral Rehydration Solution
ORT	Oral Rehydration Therapy
PEV	Programme Elargi de Vaccinations (EPI)
PHC	Primary Health Care

PMI	Protection Maternelle et Infantile (MCH)
PNA	Pharmacie Nationale d'Approvisionnement (National Drug Supply Department)
PPNS	Programme pour la Protection Nutritionnelle et Sanitaire (National Health and Nutrition Protection Program)
PSP	Programmation Sanitaire par Pays (Primary Health Care Plan)
RC	Rural Community
RMO	Regional Medical Officer
SFH II	Senegal Family Health Project II (685-0248)
SFS	Senegal Fertility Study
SGE	Service des Grandes Endémies (Infectious Disease Control Service)
SHDS	Strengthening Health Delivery Systems
SIPOA	Société Industrielle Pharmaceutique de l'Ouest Africain (Industrial Pharmaceutical Company of West Africa)
SLAP	Service de Lutte Anti-Parasitaire (Anti-malarial Service)
SRH II	Senegal Rural Health Project II
TAI	Technicien d'Assainissement Itinerant (Sanitation Technician)
TB	Tuberculosis
TBA	Traditional Birth Attendant
UNICEF	United Nations Infant and Children's Emergency Fund
WHO	World Health Organization

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I. SUMMARY AND RECOMMENDATION

A. Financial Plan

The Senegal Rural Health II Project is an eight million dollar ($8,000,000) project funded for five years. It is planned that a total of five million three hundred thirty-six thousand dollars ($5,336,000) will be obligated in FY 1984. The GOS contribution over the life of the project will be no less than one million dollars ($1,000,000), including in-kind services.

B. Term of Project

The life of project is five years beginning in FY 84 to FY 89.

C. Project Purpose

The purpose of the Senegal Rural Health II Project is to develop a self-sufficient village-based PHC delivery system which can effect a reduction in the incidence of infectious diseases among the rural populations and serve as a delivery system for maternal and child health interventions, including family planning services.

D. Description of Project

The project will provide basic health service for the entire rural population in the six departments of the Sine-Saloum Region. Children under 36 months of age and pregnant and lactating women are a target population. By placing special emphasis on this group, the project can address the leading causes of morbidity and mortality in the region and thereby augment both the present and future labor force. Through a network of 728 village health huts the project will ultimately assist more than 700,000 people or over 50% of the population in the region of Sine-Saloum.

The principal components of the PHC system include:

- A nutritiional monitoring and surveillance system at the village level
- A diarrheal disease control (DDC) program
- An immunization program covering children under 3 years of age
- A malaria control program consisting of chloroprophylaxis and chlorotherapy programs
- A tuberculosis control program
- A pharmaceutical distribution and procurement system operating from the regional capital to the outlying villages
- An in-service training and continuing education program for MOH staff and CHW's

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- A system of supervision affordable to the GOS
- Institutionalization of an epidemiologic surveillance system for monitoring and evaluating project activities
- An institutional support to schools of nursing and medicine
- Institutionalization of the means for communities to support the recurrent costs of health hut supervision

E. Background of Project

The Government of Senegal and USAID/Dakar originally signed a four-year project grant agreement in August 1977 for Phase I of the Senegal Rural Health Project. After a mid-term evaluation in 1980 revealed major problems, the project was redesigned and extended for seventeen months. The aim of the redesign was to slow the pace of implementation so that the GOS could more effectively organize and train villagers and develop a health infrastructure appropriate to the government's resources. A final evaluation in 1982 conducted jointly by USAID and the GOS demonstrated that the government had made remarkable progress in developing an exemplary model of primary health care in the region of Sine-Saloum. Both parties endorsed the continuation of a Phase II Senegal Rural Health Project.

The continuation of a Phase II including the expansion into Kaffrine and Fatick are considered crucial by both the GOS and the AID Mission for three reasons:

- Preventive Health Interventions. Since the original design of the project, the intent has been to introduce preventive health measures against primary health problems of malaria, infections, childhood diseases, and malnutrition. These activities have been deferred until the infrastructure was prepared to support them. The MOH is now prepared to deliver these services.

  These technical interventions will allow the project to reduce the mortality rates among the working population and children and establish a network of maternal and child health services for the Region of the Sine-Saloum. Only through these activities can the project goal be reached.

- Need to Demonstrate a Viable Self-financing System. An operational Primary Health Care (PHC) system in Senegal must be cost effective and not over-burden the limited resources of the country. A principal element of Phase II is the emphasis of developing alternative community financing schemes for PHC. A thorough analysis of the economic resources has indicated that the population has the resources to make these services self-sustaining. Past experience indicates that the villagers are willing to do so. Phase II will allow the project the time needed to demonstrate that a self-sustaining, self-financing village level PHC system is viable in the Region of the Sine-Saloum and that the rural communities are willing and able to support this system.

- o Region-wide Scope. With the acquiesence of AID/W, USAID, after the mid-term evaluation, deferred expansion of project activities into the Department of Kaffrine until village level services were viable in the existing four departments. Only when project activities are extended over the entire region can we test the ability of the supervisory team to execute PHC activities on a region-wide basis and, hence, determine the replicability of this project to other regions.

The Government of Senegal is extremely cognizant of the fact that AID deferred expansion into the Department of Kaffrine. They view the expansion of the project to Kaffrine and Fatick as crucial during Phase II for two very important reasons:

- o Magnitude of the population of Fatick and Kaffrine.

  Fatick and Kaffrine have a total population of 194,547 and 276,717 respectively accounting for over 40% of the population of the Region of the Sine-Saloum. If the project fails to address the health care needs of over 40% of the region's population, then it has fallen far short of developing a regional model of primary health care.

- o Economic importance of Fatick and Kaffrine

  Sine-Saloum produces 41% of Senegal's major agricultural crops. Fatick and Kaffrine contribute 46% of this production.

The potential of Fatick and Kaffrine in the area of agricultural production is almost more than the total of the remaining four departments. The economic costs of lowered agricultural production because of labor absenteeism due to illness in two key departments of the groundnut basin is significant. If the theory of increased agricultural production due to better health is correct then this project can have an even greater impact on Senegal by extending PHC services to Fatick and Kaffrine.

F. Support to Women and Small Businesses

The project directly supports women through its primary health care activities. The Mother's Committee is a principal element in the delivery of maternal and child health services. These committees will be trained in nutrition education, growth monitoring and the prevention of diarrheal disease through home-prepared oral rehydration therapy.

G. Waivers

Source origin and sole source procurement waivers for vehicles, motorbikes, and pharmaceutical products have been approved by AA/AFR as of January 9, 1984. A source/origin waiver from AID geographic code 000 (US only) to geographic code 935 (special free world) to allow procurement of medical vaccination equipment is approved under the authorization of this project paper.

H. Major Condition Precedents and Covenants

1. Conditions Precedent

1) Prior to any disbursement, or the issuance of any commitment documents under the Project Agreement, the Government of Senegal shall furnish AID a letter agreeing to the evaluation criteria proposed in Section VI part 4 of the Project Paper and the implied need to redesign or terminate the project should the evaluation be unfavorable.

2) The Ministry of Health will assign two CESSI graduates to staff the Sine-Saloum Regional Training Center and written concurrence to include a line item in the national budget to support The Regional Training Center in Kaolack.

2. Covenants

The Government of Senegal shall covenant the following:

1) To assign one health post nurse and one sanitation agent to the health posts to be constructed by USAID in the department of Kaffrine.

2) To assign a nutrition coordinator to the Région Medicale in Kaolack.

3) To assign a statistician to the Région Medicale in Kaolack.

4) To maintain the position at the national level of the USAID Health Program Coordinator.

5) To finance the personnel, support, and maintenance costs of the Regional Training Center.

6) To allow each CM to provide gasoline from their allotment to the health posts for supervision of village health needs by mobylette.

7) Through its regional and departmental authorities to negotiate with the Rural Communities for the periodic investment of the amortization and maintenance of the health post mobylettes.

8) The MOH will encourage the rural communities to provide for the maintenance and repair of the health posts.

I. Project Team Members

1. GOS

Mme. Aida Lo Faye, Project Coordinator
Dr. Mandiaye Loume, Regional Medical Officer, Sine-Saloum
Dr. Jean Michel Ndiaye, MOH Coordinator for USAID Health Projects, MOH

M. Sangoné Nboup, Training Coordinator
Col. Omar Ndiaye, Financial and Administrative Affairs, MOH
M. Sereigne Diene, DANAS, MOH
M. El Hadj Malick Diamé, Bureau of Statistics, MOH

2. USAID

Ms. Patricia Daly, USAID Project Manager, Senegal Rural Health Project
Dr. Mike White, Health, Population and Nutrition Office Chief, USAID
Mr. Jim Herrington, Health Planner, Independent Consultant
Mr. Gary Engelberg, Training Specialist, Independent Consultant
Dr. Patrick Kelly, Management Information Specialist, Independent Consultant
Dr. Ron Waldman, Center for Disease Control, Combatting Communicable Childhood Diseases, Abidjan, Ivory Coast
Ms. Janine Aubry, Administration Coordinator, Independent Consultant

II. BACKGROUND

Primary Health Care (PHC) programs throughout Africa have encountered difficulties including poor service delivery and drug supply management systems, inadequate supervision, limited in-service training for community health workers (CHW's) and inadequate community participation and financing. The Senegal Rural Health Project has been no exception. However, partly because of the exceptional commitment of the Ministry of Health (MOH) to achieving "Health for All by the Year 2000," many of these difficulties have been overcome. Indeed, Senegal is a laboratory for primary health care activities. Public health experts in Senegal have the unique opportunity to work in an environment where the government is receptive and encourages a policy dialogue on the progress and problems related to primary health care service delivery and financing.

It would be difficult to find a country more responsive to AID's four priority emphases in the area of primary health care. The project has so actively involved Senegalese health professionals in leadership roles that it has led to significant GOS policy changes. In addition, it has assisted with the reorganization and strengthening of MOH health institutions from the national to the grassroots level, emphasized the transfer of simple and cost effective preventive health technologies, and involved private sector in the delivery of these services. In this document, we describe the remarkable gains made under Senegal I and point out how these gains and activities planned for the future meet Senegal's development objectives.

1. Discussion of Phase I

The Government of Senegal and USAID/Dakar originally signed a four-year project grant agreement in August 1977. This grant of $3.3 million had two purposes: (1) to establish a network of village health huts staffed and supported by community level personnel and (2) to improve and strengthen the support infrastructure of the GOS for providing support services to village health systems.

The project planned to establish self-supporting health huts in 600 villages in the region, including all six departments of the Sine-Saloum.

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Each village health hut was staffed by three CHW's: a first-aid worker, a traditional birth attendant (TBA), and a sanitation worker. Villagers were expected to build the hut, pay for services and medicines, and support the unit through communal labor and contributions. Project activities were planned on a phased basis beginning with construction and training and followed by village level promotion and operations. During its early critical years, the project proved that it is possible to deliver basic health services to the rural population in Sine-Saloum; however, it also became a case in point for demonstrating the many pitfalls to implementing a PHC program.

2. Mid-Term Evaluations and Policy Changes

2.1. AID Project Impact Evaluation. In April 1980, a USAID impact evaluation of the project revealed several major problems, including the following:

- The project was too ambitious in size; too much time was spent on initial training activities at the expense of village organization activities and supervision.
- The project's management on the part of USAID and the GOS was poor.
- The financing scheme for procurement of medicines was poorly conceived.
- The type and mix of CHW's (first aid worker, sanitation worker, or traditional birth attendant) required to staff a village health hut was poorly conceived and, consequently, villages were asked to finance too many individuals.

2.2. Redesign of Phase I. Shortly after the impact evaluation a project redesign was conducted jointly by USAID and the GOS. The redesign reprogrammed $1.6 million in undisbursed funds and extended the project for an additional year. The aim of the redesign was to slow the pace of implementation so that the GOS could more effectively organize and train villagers and develop a health infrastructure appropriate to the government's resources. The major initiatives undertaken in the redesign were as follows:

- Reduce the number of health huts from 600 to 400 and concentrate supervision in 60 selected health huts.
- Improve management structure and designate a national USAID program coordinator.
- Increase community participation at the Health Post and institute a drug pricing policy at the Health Hut based on cost of the drugs plus transport charges.
- Purchase mobylettes for supervision.
- The Center for Disease Control (CDC) conducted a multipurpose survey to define disease specific mortality, nutritional status, and KAP (Knowledge, Aptitude, and Practice) relative to birth spacing.

Impact Evaluation Findings and Resulting Actions under Redesigned Project

Impact Evaluation Findings	Actions Pursuant to the Redesigned Project
1. Too ambitious in size	1. Expansion of activities into new project zone was deferred allowing the MOH to refine their approach to implementing village-based PHC activities.
2. Poor management from both USAID and GOS.	2. National MOH Program Coordinator named for USAID-Health Projects and management training of project staff instituted.
3. Drug financing scheme poorly conceived.	3. Community participation at Health Posts and cost of drugs at Health Hut equals purchase price plus transport costs.
4. Inappropriate means of transportation for health post personnel.	4. Purchase of mobylettes for nurses and TAI's.
5. No baseline survey.	5. Multipurpose baseline survey conducted.
6. Village health hut team was financial drain on village.	6. CHW's reduced from three to two and trained as polyvalent workers. The sanitation worker was eliminated.

2.3. Final Project Evaluations. In 1982, about two years after the redesigned project was launched, both AID/W and the GOS conducted indepth end-of-project evaluations. Both evaluations demonstrate the remarkable progress the project staff and the MOH had made in transforming this project which was on the brink of collapse into an exemplary model of primary health care. Both evaluations wholeheartedly endorsed the continuation of a Phase II of the Senegal Rural Health Project. Specific findings of the evaluations include the following::

- Over 90% of the villagers use the health hut. This increased use of village health huts has contributed to a significant decline in the demand for more expensive basic care at the health post but at no loss in the quality of services.

- Villages demonstrated a willingness and ability to manage the collection of funds and the procurement and distribution of stock, and over 58% of the health huts are not decapitalizing at all while others are approaching stability.

- Administrative reforms at the rural community promoted the reponsibility of villagers for financing and managing their own health services.

- Essential medicines were more readily available to villagers at a reasonable cost.

- A record-keeping system was institutionalized at the health hut for utilization data, drug sales, and village vital statistics.

- Training programs were extended to 756 CHW's, 378 village health committees, and more than 100 MOH and Promotion Humaine staff; village participation and interest of trainees were high.

- The use of mobylettes rather than horses by health post personnel resulted in a more successful means of supervision of village health huts. At least 63% of the nurses visit CHWs in the village twice a month.

2.4. Policy Changes and Institutional Development. The Government of Senegal should be applauded for its substantial progress in the area of primary health care. Ten years ago Senegal had only a skeletal PHC program. It was only in 1975 that Senegal initiated an experiment in community participation in PHC through the Belgium-financed Pikine Health Project. In 1980, following a positive evaluation of this experience and a study of the problems encountered in the Senegal Rural Health Project, the GOS extended community participation in PHC nationwide.

The community participation in PHC, commonly known as "cogestion" in Senegal, is a system managed (autogestion) and financed (participation) by user fees paid by the private sector of Senegal. (The term "private sector" denotes the individual community members. There is absolutely no MOH involvement in the management of these funds.) The system extends to all hospitals, health centers, and health posts unlike many countries where the urban elite do not have to pay for services in the larger urban facilities. Consumers now pay a user fee for services (hospitals 100 CFA adult, 50 CFA child; health posts, 50 CFA adult, 25 CFA child). Receipts are managed by a committee of interested consumers and used to support PHC activities of the health facility. (The MOH has suggested that 60% of the receipts be used to purchase medicines, 30% for personnel, and 10% for operating expenditures.) The tangible impact of community participation is impressive:

- During the first year of the program (1980-81) nationwide receipts totaled 303,814,667 CFA ($1,000,000).

- During the year 1981-82, receipts in the Region of Sine-Saloum alone totaled more than 27,275,000 CFA ($90,917).

- Community participation has resulted in the construction of 115 Rural Maternities and 49 Health Posts.

A second policy initiative supporting PHC is the allocation of 8% of the rural community budget for the health-related activities. Revenues of the Rural Community budgets are collected from the local tax per adult over age 15 (1000 CFA per adult). The impact of these funds are equally impressive:

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- Rural Communities in the Region of Sine-Saloum have contributed an estimated 245,327,000 CFA ($817,756) from 1981 to 1983 for renovation, repair, equiping, and construction of health posts and rural maternities.

- Since 1980 Rural Community funds have constructed 318 rural maternities and 73 health posts.

Hand-in-hand with those major policy initiatives have come structural and system changes. The most apparent evidence of institution-building are the various health committees nationwide:

- 782 village health committees
- 400 post health committees (APSC)
- 38 health center committees (APSD)
- 4 hospital health committees (APH)

Working through their committees, the population now has a greater capacity to organize and manage health care activities. In addition, as a consequence of project activities, the Region of the Sine-Saloum is in the forefront in institutionalizing a training capability in PHC, village-level supervision of CHW's, a PHC reporting and monitoring system, and a regionally-based medicine procurement and distribution system.

The Senegalese dedication to developing a workable and affordable PHC system has been demonstrated by the tremendous strides taken over the last decade. The MOH and the AID Mission have scrutinized the findings of the recent evaluation and are keenly aware that outstanding issues remain. Even during the past several months, however, MOH and AID have taken active measures to resolve some of these recurrent costs. Some important initiatives taken to resolve the problem include: the elimination of all incentive payments to MOH personnel for supervision, the suggestion to reduce by 50% (from 2 to 1) in the number of mobylettes to be used for supervision at each Health Post, and the request by the Minister of Health to the Minister of Interior to liberalize the policy guidelines to allow 8% of the rural community budget to be spent on health care activities including support of transportation costs for village health huts.

III. PROJECT RATIONALE AND DESCRIPTION

1. Project Rationale

The original intent of the Senegal Rural Health I project was to improve the levels of health among the rural population and to establish a prototype health care delivery system appropriate to the social and economic conditions of the rural population of Senegal. The project has come a long way, but as yet has not reached its objectives. The progress and problems of the project have been discussed earlier and are expanded upon in the project evaluation reports.

The fact that the project has not obtained its objectives in a specified time period should not be seen as a discouragment for several reasons. First, as yet, there is no blueprint for a cost effective PHC program in

Sahelian Africa. For this reason, AID and the GOS have learned from project errors and instituted appropriate changes. The project has fully profited from the strategy of evaluation, review, and redesign. Secondly, a five or six year time-frame is unrealistic for an activity designed to elicit community participation and modify village behavior in terms of health care. Nonetheless, in this short period of time, the project has developed an infrastructure involving the MOH, regional administrative structures, and village participation with the capacity to deliver PHC services.

Three outstanding issues must be addressed before Senegal will have a truly, affordable, effective PHC model.

In brief, these include:

a. Introduction of preventive health interventions.

b. Need to demonstrate a viable self-financing system to support the supervision of PHC activities.

c. The need to demonstrate that the MOH can manage a region-wide PHC program with its current staff.

1.1. Preventive Health Interventions. From its original design, the project's intent has been to introduce preventive health measures against primary health problems of malaria, infections, childhood diseases, and malnutrition. These activities were deferred until the infrastructure was prepared to support them. The MOH is now prepared to deliver these services.

These technical interventions will allow the project to reduce morbidity and mortality rates among the working population and children and establish a network of maternal and child health services for the Region of the Sine-Saloum. Only through these activities can the project goal be accomplished.

1.2. Need to Demonstrate a Viable Self-Financing System. The cornerstone of an operational PHC system in Senegal is that it be cost effective and not overburden the limited resources of the country. A principal element of Phase II is the emphasis on developing alternative community financing schemes for supervision of PHC activities. A thorough analysis of the economic resources indicates that the population possesses the resources to make these services self-sustaining and past experience indicates that the villagers are willing to do so. Phase II will allow the project the time that is needed to demonstrate that a self-sustaining, self-financing village level PHC system is viable in the Region of the Sine-Saloum.

1.3. Region-Wide Scope. The initial design of the project proposed an overly ambitious program in a short time period in six departments of the Region of the Sine-Saloum. The redesign slowed the pace of the project and, with the acquiescence of AID/W, deferred expansion of project activities into the Department of Kaffrine until village level services were viable in the existing four departments.

The redesign addressed these problem areas. It is now proposed that the project expand as originally planned into the departments of Kaffrine and Fatick. Only when project activities cover the entire region can we test the ability of the regional supervisory team to execute PHC activities on a region-wide basis and, hence, determine the replicability of this project to other regions.

2. Relationship with Senegal's Health Strategy

The GOS wholeheartedly endorses the slogan of the 1978 conference at Alma-Ata - "Health for All by the Year 2000". Immediately after Senegal's recent Presidential elections the Prime Minister stated that health was the base of the priorities of his government's program for rural development. Senegal understands the sizeable task and the human and material resources required to attain the ambitious goal of delivering health services to all its population. In 1982, Senegal reviewed its health goals and available resources and developed its own detailed strategy for primary health care. The health strategy is defined in its Programmation Sanitaire par Pays (PSP) of July 1982.

The principal elements of Senegal's health strategy are reflected both in the PSP and the Sixth Development Plan. The major objectives are as follows:

- To develop a primary health care infrastructure involving the creation of a fully integrated and functional system of preventive and curative health care and an epidemiological surveillance system.

- To provide all villages with male and female community health workers under the supervision of health post and health center personnel by the year 2000.

- To improve the geographic distribution of the health infrastructures to favor the most needy population and to improve the quality and quantity of the medical and para-medical profession.

- To encourage the rural population to be responsible for their own health care through the creation of village organizations to manage health huts. For the Senegalese this will require a more informed and better trained population willing to actively participate in public health activities. This policy necessitates the active collaboration of the government, public and private organizations and the entire population.

- To institutionalize a public health extension team at the health centers and health posts.

Senegal's plan for primary health care as outlined in the PSP takes into consideration both the human and economic constraints of the country. Fully supporting the concept of primary health care, Senegal has chosen to focus its limited resources on basic health care services rather than on the creation of a high-technology urban-based medical care system. The GOS recognizes that it does not have the means to solve all the health problems of the population and is very conscious of its economic limits in terms of bearing the recurrent

costs of a primary health care system. For this reason, the GOS has firmly stated that in order for the country's PHC system to be self-sufficient, the village level health services system must be planned, managed, and financed by the villagers themselves. The Senegal Rural Health II Project supports this overall GOS health strategy through its emphasis on the development of a system employing a mix of community (private) and governmental (public) financing.

3. Relationship with Overall Senegal Mission Strategy

The FY 1983 CDSS established the goal of the U.S. Assistance program in Senegal as the achievement of food self-sufficiency by the close of this century. This goal is to be achieved through two principal means: first, increased food production through maximum participation of the population and the use of appropriate farming technologies; and secondly, an improved system of health and family planning service in order to increase the productivity of the farming population, as well as to reduce the overwhelming population growth. The direct effect of disease and malnutrition on the productivity of Senegalese farmers and the long-term effect of population growth on per capita food availability in Senegal demonstrate the need for PHC interventions. A village-based health care system, as designed in the Senegal Rural Health II Project, offers the best approach for introducing preventive and curative health care for rural villagers.

The links between health and agricultural production could not be more evident than they are in Sine-Saloum.

a. Rainy season (June-October) creates optimal conditions for transmission of malaria, other parasitic diseases, and diarrheas. Missed work days are highest and individual productivity lowest.

b. Nutritional status is poorest during the "hungry season" (La Soudure), June-October, prior to harvest when food stores are nearly depleted and no cash is available. Productivity impaired.

c. Agricultural activities begin in May and intensify in July-October. Labor demand highest. All family members plus wage laborers required.

The heavy rains that begin in June create ideal conditions for the transmission of a variety of intercurrent infections, including blood and intestinal parasites. When combined with prevalent mineral, vitamin, and protein deficiencies, these parasitic diseases lower the level of human energy output and thus diminish an individual's productivity. Moreover, a person with a heavy parasite load needs a greater caloric intake than a healthy individual in order to function at a comparable level. Parasites produce fevers which speed up metabolism and therefore require more energy, deplete stores of specific nutrients, particularly proteins, produce diarrhea, which in turn reduces the absorption of nutrients.

Malaria among younger children remains a leading cause of death in Senegal. Malaria-related morbidity - illness resulting in more absenteeism, lowered worker output and therefore lesser availability of labor at critical periods - is the most salient feature of the disease for the economy of

Sine-Saloum. No data are available on the average days lost or diminishment of productivity due to malaria in Sine-Saloum or elsewhere in Senegal. However, evidence from south African countries indicates that malaria control programs can reduce worker absenteeism up to 30%.

The confluence of all these factors - the seasonality of rains, malnutrition, disease, and agricultural labor demands in a region of prime economic importance to Senegal has a deleterious effect on the country's agricultural economy.

Food self-sufficiency implies a balance between agricultural production and population growth. Senegal's rapidly increasing growth rate is unlikely to abate in the near future. This increasing population will make increasing demands on food production and foreign exchange. As population pressure increases, the demand for productive land will also increase. In Sine-Saloum, population and land pressures over past decades have already produced farming practices inimical to high yields. Continued depletion of the soil through over-cropping and over-grazing will further exacerbate the food-population imbalance.

One of the long-term objectives of the Senegal Health Project is to reduce infant and young child mortality, thereby removing the incentive for "insurance births" and creating a demand for child spacing. The PHC system established by the project will further provide channels for the introduction of family planning information and services. The responsibility for these activities, however, will be the primary responsibility of the personnel of the Senegal Family Health Phase II Project.

In short, by addressing both elements in the food production- population growth equation, the Senegal Rural Project Phase II will make a significant contribution towards AID's prime development goal in Senegal, food self-sufficiency.

IV. PROJECT GOAL AND PURPOSE

1. The Health Situation in General

The region of Sine-Saloum comprises 12% of the land mass of Senegal and falls within the heart of Senegal's "Peanut Basin". In 1982, the population of Sine-Saloum was estimated at 1,200,000 (about 20% 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. The Sine-Saloum is Senegal's most important agricultural region in a country where approximately 70% of the population derives its livelihood from agriculture. Agriculture in Senegal is a labor-intensive activity, yet the human resource potential of Senegal's agriculture sector cannot be realized because of the prevalence of infectious diseases.

Malaria transmission, and hence morbidity and mortality due to malaria, peak in the rainy season because there is more surface water available in which the mosquito vectors breed. Although malaria is an important killer of young children in Senegal, adults develop enough natural immunity that they rarely die from the disease. They are, however, incapacitated for a number of days when stricken with an acute malarial episode. Should this illness

coincide with one of Senegal's infrequent rains, preventing the farmer or mothers from planting their seeds or cultivating their plants at an appropriate time, they risk losing their crop. This loss is an economic disaster in the Sine-Saloum Region, which produces 41.2% of Senegal's agricultural crop. Peanuts are the only significant source of foreign exchange for the GOS from the agricultural sector. USAID/Senegal, although lacking data to quantify the magnitude of the problem, is convinced that lost work time during the growing season - the majority of which is due to malaria - is a significant constraint to agricultural production.

Diarrheal disease morbidity is markedly higher during the rainy season, presumably due to greater surface collection of water and therefore greater fecal contamination of the water supply. The rainy season is also the hot season in Senegal. This increased ambient temperature may increase the rate of proliferation of fecal coliforms that normally contaminate food that is saved from one meal to the next. Coliform proliferation in gruels used as food for young children has been carefully studied by the Medical Research Council in The Gambia and is thought to be an important contributing factor to the frequency and lethality of diarrhea in young children.

Unfortunately, malaria and diarrheal diseases are superimposed on an already weak host. The rainy season is that period of the year most remote from the previous harvest, when family grain stores are the lowest (if not finished), and people consume the fewest calories. Studies in the regions of The Gambia bordering on the Sine-Saloum show that people often only consume 1500 calories per day - less than one-half of their daily requirements--during this period, which is known in French as "la soudure" or the "hungry season."--the lean period before the next harvest. Hence, people are most malnourished, precisely when they are most at risk from infectious disease and when their agricultural work load is the heaviest.

2. Project Goal and Purpose

The goal of this project embraces the overall Mission goal of achieving food self-sufficiency by 2000 A.D. The project goal is: (1) to increase the productivity of agricultural workers and, (2) to reduce the rate of population growth such that agricultural production can more easily meet the demand for food.

The purpose of the Senegal Rural Health Project is:

> To develop a self-sufficient village-based PHC delivery system which can effect a reduction in the incidence of infectious diseases among the rural populations and serve as a delivery system for maternal and child health interventions, including family planning services.

It is important to improve the health status of both the labor force and children under 36 months of age. In addition to the time lost during their own illnesses, productive adults, both mothers and fathers must be out of the labor force during critical growing periods to care for their sick and dying children. Development of an MCH infrastructure appropriate for family planning services has an indirect effect on agricultural production. Adequate MCH services aiming at reducing infant and child morbidity ultimately result

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in women having fewer "insurance births" and creates a demand for child spacing. Fewer pregnancies will reduce the number of women weakened by childbearing and lactation who are not productive members of the agricultural workforce. Over time the consequent decrease in population growth will result in a reduced demand on food production allowing Senegal to move closer to its objective of food self-sufficiency.

This project will provide basic health services for the entire rural population in the six departments of the Sine-Saloum. Children under 36 months of age and pregnant and lactating women are a target population. By placing special emphasis on this group, the project can address the leading causes of morbidity and mortality in the region and thereby augment both the present and future labor force.

The Senegal Rural Health Phase II is an $8 million project funded for 5 years. It will ultimately assist more than 700,000 people or over 50% of the population in the region of the Sine-Saloum. (This includes the entire population of the region except those in the principal cities and towns.) Community Health Workers will be based in 728 villages; each CHW serving other surrounding villages.

Department	Number of Health Huts	Population Covered By Health Huts
Kaolack	90	107,433
Nioro	110	111,511
Gossas	115	125,034
Foundiougne	63	64,946
Fatick	150	124,580
Kaffrine	200	178,876
TOTAL	728	712,377

The principal components of this PHC system include:

- A nutritional monitoring and surveillance system at the village level.
- A diarrheal disease control (DDC) program.
- An immunization program covering children under 3 years of age.
- A malaria control program consisting of chloroprophylaxis and chlorotherapy programs.
- A tuberculosis control program.

- A pharmaceutical distribution and procurement system operating from the regional capital to the outlying villages.

- An in-service training and continuing education program for MOH staff and CHW's.

- A system of supervision affordable to the GOS.

- Institutionalization of an epidemiologic surveillance system for monitoring and evaluating project activities.

- Institutional support to schools of nursing and medicine.

- Institutionization of the means for communities to support the recurrent cost.

3. Project Outline

The strategy for the Senegal Rural Health II Project is to institutionalize a primary health care system in Senegal appropriate to the health needs of the rural population and affordable to both the government and the rural population. The first phase of the Senegal Rural Health Project made remarkable advances in developing an infrastructure through which to deliver basic rural health services. The second phase must now accomplish the following two objectives:

- Fully introduce and integrate preventive health measures including immunizations, malaria and tuberculosis control, oral rehydration, and nutritional surveillance and monitoring.

- Assure that all project interventions are built into the MOH infrastructure and that the costs of maintaining these systems are affordable given the country's resources.

USAID must reinforce the project with technical assistance, in-service and participant training, and commodities in order to introduce effective technical interventions and to develop long-term strategies with the MOH aimed at continuing these services with a minimal additional burden to the government. This strategy requires policy change by the government and a transfer of skills by the project staff to the MOH. If, as expected, the GOS is able to demonstrate progress in effecting these changes, management responsibility will be transferred during the last two years of the project to the regional MOH authorities. The project is also designed to reduce the dependency of the GOS on AID for financing of operational costs by gradually phasing out costs supports for project staff, in-service training, supplies and equipment and gasoline.

3.1. Geographic Scope. Currently, a PHC infrastructure is in place in the Departments of Nioro, Kaolack, Foundiougne and Gossas; a limited PHC infrastructure exists in the Department of Fatick, where a project had been financed by Holland; and in Kaffrine, the largest of the six departments, only minimal fixed-center health facilities exist. In order to complete the model of a regional PHC infrastructure for Senegal, the project will introduce PHC

activities into the remaining departments of Kaffrine and Fatick. Lessons learned from the previous project will be taken into consideration in the expansion of both the physical area of the project and its technical interventions, which take place in phases.

The extension of the project into Fatick and Kaffrine will be phased over a period of five years. Initial activities in Kaffrine will include the construction and renovation of health facilities. Once health post personnel, including both nurses and sanitation agents, are in place they will begin the long and critical phase of informing and organizing villagers and training village health committees and CHW's. Technical interventions will be introduced only after a project assessment indicates that both health posts and villages have demonstrated their ability to supervise, manage and support a village health hut. In the Department of Fatick, where CHW's and health committees have already been trained through the Dutch-financed project, and where health facilities have already been financed by USAID, the nursing supervisors will be able to immediately begin offering village refresher training activities aimed at standardizing PHC activities throughout the Region. Here again, technical interventions will be introduced only after villages have demonstrated their commitment to support a village-based PHC system.

Building on the existing PHC infrastructure, technical interventions will first be introduced into the Departments of Nioro, Kaolack, Foundiougne, and Gossas. These technical interventions will be limited to a small test zone during the first year of the project. The pilot zone for the technical interventions will consist of four rural communities in each of the four departments, and two village health huts in each of the selected rural communities. In brief, preventive health measures will be introduced into sixteen health posts and only thirty-two village health huts in the initial year of the project.

At the completion of the twenty-four months, the preventive health activities in the pilot zone will be evaluated. Only if these activities are found to be operational will they be introduced into the remaining rural communities. To assure the MOH personnel adequate time to train CHW's, the remaining villages will be phased in over a two-year period. This generalization will take place in all six departments, but only in half of the villages the third year; the remaining half will be completed during the fourth year of the project.

An evaluation at the end of year four will assess the ability of the GOS to institutionalize the technical interventions. Sufficient evidence should be available at this time to enable the MOH and USAID to decide whether their PHC interventions are feasible and financially viable. Results of this evaluation will provide feedback to the project staff on the major issues that need to be addressed during the remaining two years of the project.

Of particular importance will be the progress made by the villagers and the rural communities in financing and supporting village-based health care services. If this progress is significant and if the government introduces policy changes that serve to encourage the financial viability of rural-based PHC activities, USAID will consider providing assistance to the GOS to initiate similar PHC activities in the lower Casamance or the Region of the Fleuve, where AID already has on-going project activities.

3.2. Technical Interventions. The aim of the Senegal Rural Health Project has always been to introduce simple preventive health measures. Until recently, however, when the management and financial components of the village health committees became operational and the GOS had implemented immunization and diarrheal disease control activities in the fixed centers, it had not been possible. Now that the infrastructure is in place, the project can effectively focus on preventive health efforts. The six areas of technical intervention under consideration in this context include: (1) malaria prevention, (2) immunizations, (3) diarrheal disease control, (4) prevention of malnutrition, (5) child spacing, and (6) tuberculosis control activities.

3.2.1. Malaria Prevention. Malaria is clearly a priority disease in the Sine-Saloum Region, not only for its morbidity and mortality (which is suspected, probably correctly, to be concentrated in the younger age groups), but also, it is hypothesized, in terms of agricultural production due to its effects on the economically productive segments of the population. The official strategy of the Government of Senegal is to provide chloroquine chemoprophylaxis to individuals during the "hivernage". Although this is an acceptable strategy, it is expensive and difficult to implement, especially when record-keeping is less than satisfactory.

The objective of the malaria control activity is to decrease lost work time due to malaria by 50 percent and death in children due to malaria by 60 percent . To do this, two strategies will be tested during the first year of the project. First, is the present strategy of chloroquine chemoprophylaxis during hiverage. The second strategy, presumptive chemotherapy, is endorsed by WHO, OCCGE, USAID and Center for Disease Control (CDC).

This strategy is to treat all cases of fever as if they were malaria, with a single dose of oral chloroquine at a dose of 10mg/kg. This strategy may turn out to be cheaper and more effective than the current one, but must be tested. As with diarrhea, fever occurs at the village level and death among children from malaria can ensue rapidly, which again means that treatment should be given in the village. The CHW can certainly be taught to recognize fever and administer the appropriate dosage. Should the patient not improve, he/she will be referred to the health post, since there would be a strong likelihood that malaria is not the cause of the fever.

In sum, the two strategies are as follows:

1. provide weekly chloroquine chemoprophylaxis to the entire population, with children and pregnant women as priority groups during the growing and harvesting season.

2. provide presumptive therapy of all fever cases with a single dose of 10mg/kg of oral chloroquine to children less than five and pregant women. Treat adults as before.

3.2.2. Expanded Program in Immunizations (EPI). Senegal's EPI program has been operational since 1978, when the first national plan was formulated. The first training course for project managers was held in 1981 and activities began in the Sine-Saloum region in 1982. To date, most of the effort has been concentratd in the Cap-Vert region and in other circumscribed

areas such as Pikine and Thiès, where projects directed by foreign donors have been instituted. Vaccination coverage surveys from Kolda and Thies have shown that high levels of protection can be achieved, but the possibility of maintaining these high levels without external support has yet to be demonstrated.

EPI falls under the direction of the Service des Grandes Endemies. Vaccinations are carried out primarily by mobile teams based at the regional level and, in urban areas, at PMIs and, occasionally, in fixed health centers, especially in the Dakar area. Plans call for progressive decentralization. Although further decentralization is deemed desirable by the EPI authorities, the exact modalities of this are still uncertain. In summary, the Senegalese EPI foresees operating according to the "advanced strategy" but it is not clear as to what level of decentralization can be realistically achieved. The project has an excellent opportunity to test alternative strategies and to establish a model upon which national strategy might eventually be based.

The objective of this component is to immunize 70 percent of all newborn children against the target diseases by age 10 months and to reduce measles and neo-natal tetanus mortality by 40 percent. Newborn children will be vaccinated aginst measles, diptheria, pertussis, tetanus, TB, polio and yellow fever. Pregnant women will be vaccinated against tetanus in order to prevent neo-natal tetanus in their offspring.

The obvious strategy for accomplishing this goal is to vaccinate the maximum number of individuals in this age group. Much less obvious is how to go about doing this. An essential point to bear in mind at all times is that the SRH II project will have accomplished nothing if it does not operate at least within the guidelines set by the national authorities. The project does not want to create a parallel structure to the MOH. Rather, the project vaccination activities should be fully integrated with the national program so to ensure their continuity once the project has terminated. Along with this goes the notion of operating within the limits imposed by financial and personnel constraints under which the GOS is operating.

Of the various strategies for implementing EPI activities, the national authorities have wisely chosen to abandon both the mobile-team approach and the fixed-center approach. The first does not achieve the goal of conferring protection to the target population (although it may vaccinate many children, the intervals between rounds of vaccination often result in children being "protected" after the period of greatest risk has passed). The second requires large sums money for the purchase and maintenance of cold chain equipment and large numbers of trained personnel at even the most peripheral level of the health system.

The optimal combination has not yet been found in Senegal. Plans are to expand the cold chain to the Centres Medicaux, but to continue to operate mobile teams from a regional base. These mobile teams would provide vaccinations at both the health post and village levels. This would result in significant numbers of the rural population being offered vaccination services at relatively infrequent intervals. Other possibilities exist and the structure of the SRH II project offers the opportunity to simultaneously implement more than one of these alternatives, to carefully evaluate them after one or more years of operation, and to then further expand activities using that method which has been demonstrated to be the most effective. Brief descriptions of some of these alternatives follow:

1. Health Posts as Periodic Fixed Centers

Once the Centres Medicaux are made operational as autonomous fixed centers with complete cold chains and vaccine storage capacity, it might be possible to have a health post worker organize monthly (or even weekly) sessions at his post. To do this he would have to travel to the CM the day before the planned session with a cold box or vaccine carriers. Vaccines can be kept in a good cold box for a few days to a week, and significant proportions of the rural population could be informed at the beginning of each month (during supervisory visits to the villages, for example) as to when vaccinations would be offered at the posts. Since health post officials convene periodically at the CM upon which they depend, vaccine distribution could be combined with these visits. This strategy would reduce the burden of the mobile teams, which would now be responsible only for vaccinating at the most peripheral level, the villages, and might allow them to reduce the interval between their rounds to two months or less. It remains to be seen whether this strategy is operationally viable.

2. As Above, with Health Posts Officials Vaccinating at Village Level

Under the Senegalese and SRH II project plans for providing primary health care to the rural populations, health post officials are to function as supervisors of village-level CHWs. To carry out their supervisory responsibilities they are supposed to make relatively frequent on-site inspection tours of the village health huts at the village level. It might be possible to include periodic vaccination sessions as part of their supervisory functions. This has the a priori disadvantages of diluting the purpose of these visits and of requiring more frequent trips in both directions (to the CM for vaccines and to the villages for vaccinating), but would also further reduce the work of the mobile teams, which could then perhaps take on some of the supervisory functions of both the EPI and overall PHC programs.

3. Maintaining the Status Quo

This would mean assuring that each Centre Medical is made into an effectively functioning fixed center capable of offering routine vaccination, of maintaining a viable cold chain, of keeping reliable records of its activities, and of adhering to the overall national strategy. The mobile team would continue to be responsible for vaccinating the larger segment of the rural population which does not usually avail itself to the services of the CM facilities. Supervision would be carried out for the regional level.

The resources and structures of SRH II does not allow for overly ambitious activities but careful evaluation of several of these options will allow the MOH to determine the most effective way of achieveing EPI goals not only within the project area but nationally as well. To do this the project will initiate activities in four CM's, sixteen health posts and thirty-two villages during the first eighteen months. Eight of the health posts and their villages will serve as fixed vaccination centers (strategy 1). These posts will have a refrigerator at the post and will also conduct vaccinations at the village level and eight others will be designated as fixed centers (strategy 2) nurses vaccinate at the village level. These two will also be compared to the status quo option. These activities will be evaluated at the end of twenty-four months using evaluation criteria carefully developed in advance.

3.2.3. Control of Diarrheal Diseases. The decision to establish a national CDD program was taken in 1980 and a project committee and national coordinator were named the following year. Senegal's problems in effectively implementing this program are similar to those encountered in all other countries and consist of, among others, difficulty convincing the medical community of the usefulness of ORT, overcoming the notion that ORT is discount medicine intended only for the poor as an alternative to better, but more expensive, treatment available to the wealthy, competing with the classical treatment consisting of intravenous rehydration, sulfa drugs and antibiotics, and competing with traditional healers and their cornucopia of medications, some of which may be effective while others are not. In addition to these, other, more practical, constraints include the lack of knowledge regarding the best means of distributing ORT solutions, educating the target population, training health personnel, and monitoring and evaluating the progress of the program. Again, the SRH project offers opportunities to help the GOS address and resolve some of these problems.

Observations and discussions with the health community and project officials indicate that ORT activities have not yet begun in the project area. Agan, before intervention begins, it is strongly recommended that training be given to mid-level and peripheral health workers. This course could be an abbreviated version of the WHO course, or styled after the CCCD course which includes CDD as one of several components of PHC. Such training should be organized, as mentioned before, as early during the implementation phase of the project as possible.

ORT Solutions

A variety of alternative rehydration solutions are either available or have been suggested. These include (1) the "standard" WHO/UNICEF Oralyte preparation which needs to be imported pre-packaged (or formulated in-country and distributed); (2) village-based preparations consisting usually of only salt and sugar, prepared by a variety of methods ranging from the "pinch-and-scoop" technique to the use of imported or locally-available measuring devices such as spoons, bottles, and bottle caps; and (3) traditional fluids such as rice-water, carrot-water, guava-based concoctions, "pain de singe", and so on. There is currently great interest in the use of starch instead of sugar in ORS. The ORANA, an antenna of OCCGE based in Senegal is currently conducting tests of such a product which they produce. It would seem that the SRH project area could serve as an ideal territory on which they could continue their tests. This idea seems even more logical, since the ORANA is being assisted in its efforts by Organization de la Recherch et Technique Outre-Mer (ORSTOM) of Dakar, which has been conducting health-related activities in the Fatick area of Sine-Saloum for over twenty years and is currently conducting a survey to determine baseline incidence and mortality from diarrheal diseases.

Proper surveillance of diarrheal disease incidence and its consequences is notoriously difficult. Under-reporting is common and crude mortality, not to mention cause-specific or age-specific mortality, is difficult to quantify in rural Africa. The SRH project should train all health personnel in the collection of health data, specifically mortality (the reduction of which is the only declared outcome variable on which the CDD

project will be evaluated). Even more important, village-based death registers, to be kept by the ASCs, would be instrumental in allowing any results of an ORT component of the project to be monitored and evaluated. Finally, as with EPI, active surveillance should complement any routine reporting system. The ORSTOM survey near Fatick and the BNR-CDC survey in the region could serve as useful baseline data upon which to base measurements of change induced by several years of active health intervention.

Strategies for Intervention

As mentioned above, the CDD program differs significantly from EPI in that its primary goal is to reduce mortality, not incidence. As such, the only appropriate time for intervention with ORT occurs after the child is already ill. Since most mortality from diarrhea probably results from the acute forms of this disease, the time available for effective intervention is extremely short. Accordingly, the ideal place for the intervention to occur would be at the place where the child becomes ill, namely in the home. Neither fixed-center nor mobile team approaches are likely to achieve maximal impact. However, within the context of the PHC structure of the SRH, the CHW could play the key role in assuring prompt treatment on-site. Of course, all fixed facilities should be prepared to treat with ORT (and to instruct mothers in its use), but it is recommended that the project ORT component consist of training and equipping CHWs to treat all cases of diarrhea with no or mild dehydration, and to be able to recognize, initiate oral rehydration therapy and refer all cases with more advanced degrees of dehydration (as well as anyone with bloody stools or diarrhea accompanied by high fever). CHWs should also be instructed to record not only the number of cases treated, but their outcome as well. In addition, a major health education campaign should be undertaken to sensitize the population to the effectiveness of ORT, so as to avoid accusations of negligence due to denial of injections or antibiotics.

As in the EPI component different strategies for ORT will be examined during the first eighteen months of Phase II. The test zone will cover sixteen health posts and thirty-two villages. Four strategies which may be examined are: (1) the UNICEF oralyte preprepared package, (2) the liquid home-prepared salt and sugar solution, (3) the ORANA rice-water solution, and (4) traditional concoctions such as pain-de-singe. Ultimately the ones chosen to be tested will depend on the further discussions of the research team.

LEVEL	STRATEGY			
	Alternative 1	Alternative 2	Alternative 3	Alternative 4
I. Village				STATUS QUO
1. Home	2. Liquid ORT	2. Liquid ORT	4. Traditional	
2. Health Hut	2. Liquid ORT Packet	3. ORANA ORT Packet	3. UNICEF ORT	
II. Health Post	1. UNICEF ORT Packet	3. ORANA ORT Packet	1. UNICEF ORT Packet	
III. Health Center	1. UNICEF ORT Packet	3. ORANA ORT Sachet	1. UNICEF ORT Packet	

Parameters for evaluation of ORT activites will include:

- case-fatality ratios
- acceptability and compliance
- cost
- proportion of cases of diarrhea seen at the fixed centers
- Knowledge, aptitude and practice

3.2.4. Prevention of Malnutrition. The village level nutrition activity will have two components: (1) growth monitoring and (2) nutrition education. Children identified as being moderately malnourished, i.e., below 80% of their desired weight, or who are beginning to lose weight will be singled out for special attention. If the problem is acute, the child will be referred to the health post, where he will be enrolled in the National Health and Nutrition Protection Program (PPNS) and provided the necessary high calorie ration. If the problem is less acute, the mother will be counseled at the village level through cooking demonstrations in the use of an improved feeding program which will include: (1) smaller more frequent feedings; (2) inclusion of peanuts and cowpeas in the diet to add calories and protein, and avoidance of feeding the child gruels which have been prepared for a previous meal in order to prevent diarrhea.

Pregnant and lactating women will be the target of a special educational effort to be coordinated by the female CHW. These women will be encouraged to fortify their diets with increasing amounts of peanut oil and cowpeas in order to prevent the birth of under-weight babies or further decline of their nutritional status while lactating.

3.2.5. Child Spacing. Most authorities at the MOH agree that contraceptives should be available to those couples who wish to space their families. For this reason, there is general support for the USAID-financed Senegal Family Health Project (685-0217). This project will assure the provision of a full range of contraceptive services at the level of some of the larger health centers in the Sine-Saloum region by July 1985.

If the MOH has demonstrated its capacity to deliver the above mentioned technical interventions to the village level by the end of year three (CY 1986) of the project, the family planning services will be extended to the level of the health post.

This extension, however, will be the primary responsibility of the personnel of the Senegal Family Health Phase II (SFH II) Project and not of the personnel of the Senegal Rural Health Phase II project. Such a division of responsibility will insure that those personnel most experienced in the problems of introducing family planning services into new communities will effect this extension of services in the most efficient, acceptable manner possible. However, at the moment it is deemed propitious by the MOH, the SRH II Project personnel will work hand in hand with SFH II personnel to extend family planning services to the village level.

3.2.6. Tuberculosis Control. Tuberculosis is an important cause of early mortality and severe debility in mid-life. It results in a loss of productivity on the part of village workers. Treatment for tuberculosis has two major constraints: first, it is expensive, and, second, regular long-term treatment with antituberculosis drugs is difficult to implement and monitor in outlying areas.

The MOH and USAID have agreed to consider undertaking a tuberculosis control component in the project, if and when, it is shown that other technical interventions are operational. Consequently, during the first three years TB activities will be primarily studies or action research to assess the degree to which TB is a significant cause of morbidity among the adult labor force. During the later years of the project, if found desirable, a full-scale antituberculosis campaign will be undertaken. All project-related TB activities will be so closely integrated with the national TB program as possible.

3.3. Management Information System

The progress that has been achieved during the first phase of the Sine-Saloum PHC project has required much dedication and hard work. Now at the beginning of Phase II, much more work will be necessary to improve that which exists, introduce new preventive measures and extend the activities to the entire region. Some of the tools which have been proposed to faciliate these important tasks are an improved information system, the introduction of computer technology and applied research.

3.3.1. Data Collection and Analysis. We all agree that implementation of a PHC strategy is more easily done where there is good management than where there is not, and that such a process depends on viable information. We have learned from Phase I that data collection alone is not sufficient, but that data must be valid, analyzed and available to decision makers, be they at the village or the national level.

How can this be done? The system proposed is one that is simple enough to be feasible yet sophisticated and flexible enough to respond to a wide variety of information needs for management, epidemiological surveillance, evaluation and international comparisons.

The data are collected from 3 village notebooks (births, deaths, health hut consultations), various examples of which have been presented, along with prototypes of 2 forms that could be used within the MOH reporting system. Variables are coded and the definition of indicators that can be calculated from them are explicitly given, both by words and mathematical formulae, to facilitate analysis at each level. Finally, the interpretation of the various indicators is discussed.

The proposed indicators are as follows:

1. Percentage of low birth weight babies
2. Infant mortality rate
3. Percentage of infant mortality rate due to exogenous factors
4. Under 5 proportionate mortality rate
5. Proportion of active health huts
6. Average number of consultations per health hut
7. Average receipts per hut
8. Average expenses per hut
9. Average cash on hand per hut
10. Average payment per consultation
11. Proportion of cases represented by fever
12. Proportion of cases represented by severe cough
13. Proportion of cases represented by diarrhea

3.3.2. Microcomputers. The microcomputer is a remarkable tool that is coming, albeit belatedly, to French Africa in general and to primary health case projects in particular. The only way to learn how to use one is to sit down at the keyboard. Thus, it is recommended that to start, one be placed in Kaolack as an applied research topic, to be possibly followed by another at a later date in the MOH and USAID in Dakar.

Many decisions will have to be made concerning uses, training needs, hardware and software purchases, power systems and maintenance. It is for these reasons that it is recommended that at least one of the technical assistants based in Kaolack bring these skills to the project.

3.4. Applied Research. Research is a systematic approach to problem solving that while sometimes requiring the presence of outside experts, should also be done by members of the project team. What exactly is applied research?

One very useful classification system has divided the questions research asks into 4 categories: efficacy, effectiveness, availability and efficiency. For example, we have the following questions about Chloroquine that we would like answered.

1. Efficacy: Does it still work under laboratory conditions against malaria, or is parasite resistance developing in West Africa?

2. Effectiveness: Is the efficacious drug taken at the time of year and in amounts which are adequate for protection?

3. Availability: Is the effective treatment being given to those who are most vulnerable? (pregnant women and children)

4. Efficiency: Is the effective and available treatment being delivered in a way that gets maximum benefit from scarce resources?

Planning and implementing good research projects will require training and attention to detail in the choice of priorities, test sites, measurement instruments and analysis.

The Senegal Rural Health Project II provides a unique opportunity to explore and test different approaches to delivering primary health care services. Nearly every aspect of this project involves continued improvement of the field applications of management and technical activities in an effort to determine those which are best suited to rural Senegal.

There will be two modalities used to conduct applied research activities. First, USAID and the MOH will develop the research designs, terms of reference for the research, and contract the work to an individual and/or institution. Secondly, to encourage nursing or medical students to conduct research on primary health care for their theses USAID will finance selected studies. The students would be selected on the basis of the merit of their proposals (or, topics of research could be proposed by the project staff) by a committee consisting of USAID project officials, Ministry of Health authorities, and university faculty. The idea would be to encourage competition and excellence in this field. A tradition could be established which might be emulated by other health projects in the future. The Applied Research component will be coordinated with the research program identified by the Division of Recherche, Planification and Formation (DRPF).

Whatever projects are undertaken will be carefully planned, with detailed protocols, and will have an individual clearly designated as being responsible for conducting them from beginning to end. This individual should either be trained in all aspects of epidemiological research, or should be frequently advised. It should be a sine qua non of any project undertaken by SRH that the results should be as widely disseminated as possible, preferably via publication in a reputable health-related journal with appropriate distribution.

To assure that the research activities are appropriate, well-organized, and coordinated it is imperative that an individual in the regional medical staff be assigned responsibility for the coordination of all applied research activities. The most likely candidate for this important responsibility is the Regional Training Center Director assisted by the Project Edipemiologist.

Issues which have been identified for applied research are as follows:

1. Malaria Prevention

- Comparison of chemoprophylaxis and presumptive single-dose therapy on mortality in children due to malaria
- Study the impact of malaria prophylaxis in pregnant women on miscarriage, birth weight and maternal mortality
- Surveillance for chloroquine resistance

2. Expanded Program on Immunization

- At what level are refrigerators, with their implied recurrent costs, necessary? What type of refrigerator is the best for Senegal?
- Are rural communities capable of purchasing and maintaining refrigerators for health structures?
- How much will people pay for vaccines?
- What is the effectiveness of vaccinating sick children? This would involve looking at adverse reactions, serological response, vaccine efficacy, and other perameters
- A comparison of different methods of vaccine delivery to determine which allows maximal coverage at appropriate ages

3. Diarrheal Disease Control

- Comparisons of different oral rehydration solutions
  - Compare ORANA and UNICEF packets
  - Compare packets vs. salt and sugar solutions
  - Compare packets vs. traditional solutions
- Comparison of different methods of health education
- What rate, if any, should anti-microbiel drugs play in the treatment of diarrhea in children
- Test ways of reducing water and food contamination in the household
- Develop new surveillance methods to allow more accurate measurements of the effect of ORT programs
- Evaluate the effect of ORT programs not only in acute mortality, but also on nutritional station, growth, and long-term mortality
- Study traditional methods for controlling diarrhea

4. Growth Monitoring and Nutrition Counseling

- Comparison of measurement of upper arm circumference, weight for age, and weight for height charts for nutritional monitoring
- Evaluate the value of birth notebooks to see how useful they are as a basis for child censuses and how feasible weighing is at the village
- What is the most appropriate locally available cereal-legume mix which can be introduced to improve weaning practices?
- Can a standardized weight for age chart be made for Senegal?
- Are there reasons for malnutrition other than lack of food? What is the effect of prolonging birth intervals through family planning?

5. Tuberculosis

- Are village level surveillance systems feasible?
- Can village health workers effectively deliver long-term treatment?
- At what levels of intervention should different treatment protocols be used?

6. Management Information System

- What is the most appropriate village-based reporting system for primary health care activities? What reporting forms are the most appropriate?
- Can a micro-computer be effectively used to analyze PHC activities in the region?

Exhibit I. APPLIED RESEARCH IMPLEMENTATION SCHEDULE

TOPIC	YEAR 1				2				3				4				5			
QUARTER	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
I. Malaria Prevention																				
A. comparison of chemoprophylaxis and presumptive treatment on mortality in children																				
B. surveillance for chloroquine resistence																				
II. EPI																				
A. study ability/willingness of CR to purchase/maintain refrigerators for health structures																				
B. comparison of different methods of vaccine delivery to determine which allows maximal coverage of appropriate ages																				
III. Diarrheal Disease Control																				
A. comparison of different ORT solutions																				
IV. Growth Monitoring and Nutrition Counseling																				
A. comparison of measurement of upper arm circumference, weight for age, and weight for height charts for nutritional monitoring																				
V. Management Information System																				
A. what reporting forms are most appropriate for village-based activities?																				
VI. PHC and Community Participation																				
A. what are the causes of morbidity and mortality associated with pregnancy																				
B. study of lost work time due to illness during the agricultural season																				
C. are villages willing and able to support a CHW																				
D. are rural communities willing and able to purchase and maintain mobylettes for village-based support of PHC activities																				
E. is village-level tuberculosis treatment possible																				
F. what are the expressed health needs of the population																				

7. Sociological Discussions of Primary Health Care and Community Participation

- What are the causes of morbidity and mortality associated with pregnancy?
- Study of lost work time due to illness during the agricultural season
- Are villages capable of supporting a CHW? Are there alternative means of reimbursing the CHW?
- Are rural communities able and willing to purchase and maintain mobylettes for village-based support of PHC activities?
- How can the project best collaborate with other services such as Social Development, Service d'Hygiene, and Literacy?
- What alternatives are there to training health workers at the health posts?
- How can traditional healers/medicines be integrated into PHC activities?
- What are the expressed health needs of the population?
- What is the level of community participation in the project?

There are many important and interesting possible research topics. The above are but a few of many. Not all of these can be conducted. Applied research requires considerable effort and skill in planning, implementation, analysis, interpretation and communication of the results. The project and MOH will carefully priortize these topics and determine a schedule to conduct this research. This schedule will be constantly revised and monitored. Exhibit I contains a preliminary schedule for the execution of applied research topics identified as priority. The terms of reference for these principal research activities will be prepared during the first six months of project implementation.

3.5. Training

The centerpiece of Phase II will be an ambitious, multi-dimensional training component. Training will reach thousands of people from the village to the national level:

- Health personnel and related technical agents;
- Members of community organizations responsible for the management and support of the primary health care system;
- Government administrative employees;
- Staff of health and health related training institutions.

Drawing upon the proven training models of the first phase of the project, and applying and incorporating the lessons learned, Phase II training will provide project and project-related personnel with the necessary information and skills to consolidate and improve upon the impressive achievements of the project since its redesign. An important objective will be soliciting understanding and support for PHC at all levels of the MOH.

The principle objectives of the training component are:

- To improve the quality of training and supervision of project personnel in the area of community organization, preventive health care, management information systems and analysis, pedagogy, vehicle maintenance, and health education,

- To decentralize training and supervision of project personnel,

- To introduce, test, and support new preventive medicine components in all six departments to be covered by the project,

- To strengthen the local community structures responsible for the management and support of the primary health care system, and

- To improve the primary health care training capacity of Senegalese institutions that train health and health-related personnel.

3.5.1. Kaolack Training Center. As with other similar programs, Phase I of the Senegal Rural Health Project required extensive training in technical and health education skills to ensure the attainment of its objectives. The scope of this training and the human and material resources it required, indicated the need for a primary health care training center in Kaolack. An administrative building was assigned to the project for this purpose. This temporary center, which was also used by CESSI students during their field work in the Sine-Saloum and by other services for meetings and conferences, was better than no center at all, but proved inadequate for the existing training needs.

Phase II of the Senegal Rural Health Project, which includes expansion to the departments of Fatick and Kaffrine and the introduction of new technical components in all six departments, will generate greater training needs than Phase I. This project need coincides with a growing demand for this type of training throughout Senegal and its neighboring countries, as efforts to achieve "an acceptable level of health throughout the world in the foreseeable future" increase in scope and intensity. The SRH II training strategy will, therefore, include the renovation and extension of the Kaolack training center.

In its first years, the Center will:

- Receive and train project and project-related regional, departmental and post level personnel

- Support project-related community and village level training in the field

The Center will also begin to:

- Receive students from Senegal's health training institutions and help to provide them with improved field training

- Provide a site for the organization of national and international primary health care seminars with easy access to the field

o Provide a convenient base for primary health care researchers

As the project progresses over its planned five years, project-related activities will diminish in favor of the broader, nationally oriented training activities.

In brief, the Kaolack PHC Training Center will serve the following needs:

I. Project related training activities:

- orientation courses
- training of trainers
- training for the expansion of the project to departments of Fatick and Kaffrine
- training for the preventive health technical interventions
- strengthening community structures responsible for primary health care management and support

II. Upgrading the skills of health personnel

III. Collaboration with health training institutions

IV. Center for Applied Research

V. Site for national and international primary health care seminars

VI. Training site for the Center National Pour le Developpement Sanitaire (CNDA)

The renovated training center will include facilities designed to accomodate the training activities described above. These facilities will include:

Classrooms - The center will have four classrooms and a library that can be used as a classroom should the need arise. The second floor will house the main classroom/conference room with a capacity of 40-50 for large group presentations, and direct communication with the audio-visual room which will allow 16 mm film projection, slide and sound shows, video taping and monitoring, and overhead projector use. A medium-sized classroom on the ground floor will have a capacity of 25-30 and will also have access to audio-visual support. Two smaller classrooms for small group work with a capacity of 10-15 students will also be included on the ground floor. The library will double as a small classroom/conference room when necessary, with a capacity of 20.

Library - A primary health care library will be included on the ground floor of the training center. The library will serve all participants, but more particularly field researchers, students of health institutions, seminar participants, and the trainers themselves. One of the trainers or an additional staff member who will double as librarian/visual aids assistant will be responsible for the functioning of the library and will receive the training necessary to fulfill this role. The library will have a conference table made up of small trapezoidal tables that can be separated into various configurations for small group work, staff meetings, exams, conferences or individual study. When available, library space can also be used for materials preparation.

VK

Audio-Visual Room - A small room attached to the large second floor classroom will be set up to store audio-visual materials and to serve as a control room for monitors on the first and second floors of the center. The room will have direct access to the secretary's office and will be air conditioned to maintain audio-visual equipment in working order.

Offices - The second floor will contain three offices: a Director's office, a trainers' office and a secretariat.

Duplicating Room - Between the trainers' and secretary's office will be a small duplicating room that will contain a large photocopy machine as well as mimeograph and electonic stencil equipment. Those using the duplicating room will have access to a large collating table in the adjoining secretary's office and can use the ground floor library for large collating or materials preparation projects.

It is also proposed that the center include a "centre d'accueil" that would provide room and board for center participants and a residencé for the Center Director. However, the final decision on the construction of the structure will be decided at a later date. This structure will be constructed only if USAID is convinced that the operating costs of the facility can be asssured. To do this, two options are possible: (1) the MOH finances the operating expenditures and personnel from its budget, or (2) the center is partially financed by user fees from food and housing facilities. If it is found that neither of these solutions are feasible then USAID will consider renting temporary lodging during the life of the project for participants using the center.

Training center staff should include:

1 Center Director/Trainer
1 Administrative Director/Accountant
2 CESSI graduates (permanent training staff; also trained in audio-visual)
1 Librarian/Audio-Visual Assistant (could be one of 2 CESSI trainers)
1 Secretary
1 Custodian
1 Driver
2 Watchmen
Cooks, Laundresses - to be hired on as-needed basis

All of these positions will be financed by the Ministry of Health and must be in place by the end of year 1 of the project. During the early years of the project, the Center Director will be supported and trained by his counterpart, the USAID Coordinator for Training. To the extent that USAID funds are used to finance Training Center activities they will be managed by the USAID project accountant. As the Ministry of Health financing of the center activities increases they will engage a Regional MOH Administrative Director/Accountant. The Project will provide housing to the trainees at the Regional Training Center but it will be the responsibility of the school to provide per diem and transportation for their student.

During training periods, appropriate outside experts will be invited to teach at the Center as part time teachers or "vacataires." They will be recruited from the numerous health training institutions in Senegal as well as the international agencies represented in Dakar (WHO, UNICEF, UNESCO) and American institutions collaborating with the project.

It will be up to the Ministry of Health to decide on the most appropriate eventual administrative status of the center. It has been proposed that the center become the field training branch of the proposed CNDS. Other proposals include the idea of a purely regional center under the Center Director and the Regional Medecin Chef, which could be programmed to be used by the CNDS and other institutions involved in primary health care training. Whatever the decision concerning the administrative status of the center may be, it will be essential to:

- include sufficiently careful programming of the center to ensure that the immediate training needs of the Sine-Saloum project remain the priority during the first years of operation, and that these needs are met;

- ensure efficient center management during the life of the project that will free project personnel to train primary health care supervisors and administer the project;

- ensure the on-going functioning of the center after the project by a gradual transfer of financial responsibility for the center form AID to the governement during the life of the project and the encouragement of some degree of auto-financing or users fees for the food and housing facilities to reduce recurrent costs and blocages due to budgetary problems;

- to ensure this USAID will require that by the end of year 1 the GOS guarantees adequate staffing of the center. By the end of year 2 a long-term financial plan for the center will be prepared and the MOH will include a line item in its budget to support the Kaolack Regional Training Center.

3.5.2. Participant Training. Short-term training for project and project related personnel in Senegal, elsewhere in Africa or in the United States, and long-term third-country and U.S. Training will be an important component of Phase II of the Senegal Rural Health Project training strategy. The quality training received under these short and long-term training grants will:

1. improve the skills of project and project-related personnel in areas essential to the attainment of project goals

2. improve the primary health care training capacity of institutions that provide trained personnel for health programs

3. sensitize people in decision making positions to the issues involved in primary health care — as a means of accelerating and supporting necessary changes in legislation

4. offer useful training rewards for good performance and encouragement for the future

PARTICIPANT TRAINING NEEDS

The areas that will receive particular attention under the Phase II participant training program will include:

Biostatistics
Community Development
Drug Distribution Systems
- Setting up and managing Drug Repackaging Techniques

Epidemiology
Health Education
Management of Primary Health Care Systems
- Planning
- Information systems
Micro Computer Use and Maintenance
- Word processing
- Data gathering and analysis

Technical Components (specific, practical training)
Diarrhea control
- oral rehydration
Malaria control and prevention
Nutrition counseling and surveillance
Vaccination programs
- setting up and managing programs
- installation, maintenance, and repair of cold chain

Techniques in operations research

Training of Trainers
- Audio Visual Planning, Managing and Evaluating training programs
- Teaching Techniques
Library Science/Documentation
Materials prepartion

Overall USAID/Senegal will finance ten long-term training candidates for either masters or doctorates in public health and over seventy-five months of short-term training. Candidates for training will include national and regional Ministry of Health officials, departmental authorities, health post nurses, and villagers. Before the end of year 1 the MOH will submit to USAID a list of proposed candidates for long-term training. The following chart presents a list of the type of participants and their program needs.

I. NATIONAL LEVEL

PARTICIPANT(S)	DESCRIPTION OF TRAINING
Ministry of Health personnel and Staffs of National training institutions	Attendance at various PHC Seminars in Africa and U.S. 4 per year X 5 years
DHPS: Ministry of Health	1 Doctorate in Public Health USA - 2 years - non-continuous 1 Short-term course - USA Management - 8-10 weeks
Personnel DHPS Office of Primary Health Care	1 Masters in Public Health Long-term - USA 3 short-term programs Africa - USA - PHC Management
Personnel - Office of Statistics	1 long-term course in biostatistics and epidemiology - Belgium or USA (Year 3) 2 short-term programs in micro-computer use (Year 1 and 2)
Director of Endemic Diseases	1 long-term course - USA or Africa - Planning and Management of Expanded Vaccination Programs 3 short-term courses - Africa - USA or observation visits
Coordinator of National Office of Diarrheal Disease Control	1 long-term course - USA 2 short-term courses - Africa - USA or observation visits

PARTICIPANT(S)	DESCRIPTION OF TRAINING
DRPF: Ministry of Health (Division of Research, Planning and Training)	1 Masters in Public Health long-term - Belgium or USA - 1 year
Personnel	1 short-term course - Training of Trainers - Africa or USA - 6 weeks 1 short-term course - Nutrition Training - Africa or USA - 6 weeks
National Health Training Schools - Staff	
Ecole des Agents Sanitaires - St. Louis	2 short-term courses in the Study and Planning of Public Health Programs USA - Africa - 4 weeks
Ecole des Sages Femmes - Dakar	2 short-term programs in Africa: Public Health for Nurses and Midwives - 10 weeks
Ecole des Infirmiers - Dakar	2 short-term programs in Africa: Health Education - 6 weeks
Centre National d'Economie Familiale - Ecole des Monitrices - Thiès	1 short-term program in Africa: Specialization in Nutrition in Nutrition in health education and primary health care
Ministry of Health Personnel or Staffs of Specialized Divisions or Institutions involved in setting up technical components (SLAP, DANAS, ORANA, etc.)	3 short-term courses/year in Senegal on operations research techniques - 3 per year X 5 years

II. REGIONAL LEVEL

Ministry of Health and Project Personnel	Attendance at Various PHC Seminars in Africa and USA - 8 per year X 5 years
Regional Doctor	1 Doctorate in Public Health - USA - 2 years - non-continuous 1 Observation visit to USA - Primary Health and Epidemiological Centers 3 short-term programs in Africa: PHC management and policy (Years 1,2,3)
Regional Doctor for Endemic Diseases	1 short-term program in Africa - Epidemiology (communicable diseases) (year 1) or observation visit 2 short-term programs in Africa: Planning and Management of Vaccination programs - Diarrheal disease and Malaria control (Years 2,3)
Regional Pharmacy - Director and Assistant	2 short-term programs or observation visits in Africa: management of medical supply systems and repackaging techniques 1 long-term program - USA
Regional Project Staff	
	2 long-term program - USA: Masters in Public Health (non-continuous) 5 short-term - USA: Observation visits and programs in PHC management 3 short-term programs in Senegal: audio-visual

PARTICIPANT(S)	DESCRIPTION OF TRAINING
Kaolack Training Center Staff	3 short-term programs in Senegal: audio-visual 2 short-term programs in Senegal and Africa: Library science and documentation 3 short-term programs in Africa: Training of Trainers and/or USA/ Senegal
Regional Doctors	1 short-term program USA: Study and Planning of Public Health Programs
Regional Supervisor: Vaccination programs	1 short-term program in Africa: cold chain maintenance, surveillance of vaccines, observation visits (Year 1)
Regional Supervisor: Cases de Santé	2 short-term programs in Africa: Training of Trainers, vaccination programs (Years 1,2)
Regional Supervisor: Maternities	2 short-term programs in Africa: vaccination programs; nutrition (Years 1,2)
Regional personnel involved in setting up technical components	5 short-term courses/year in Senegal on operations research techniques 5 per year X 5 years
III. DEPARTMENTAL AND POST LEVELS	
Departmental and Post Agents (CM Doctors, Midwives, Health and P.H. Departmental Supervisors, Post Nurses, etc.)	12 short-term programs per year in Senegal, Africa and USA: Community Development: Health Education: Training; Technical Components 12 per year X 5 years

IV. VILLAGE LEVEL

PARTICIPANT(S)	DESCRIPTION OF TRAINING
French speaking villagers chosen from active members of village health committees or APSCs	12 short-term programs in Africa on the dynamization of community groups (Years - 5) 12 per year X 5 years

3.5.3. Project-Level Training. The Senegal Rural Health Project is an on-going operation with history, materiels, and a structure already in place. Phase II will result in an expansion of the geographic zone as well as an increase in the technical interventions. To do this, will require a larger and more complex training program, particularly during the first twenty-four months of the project. The exact nature of the content of this training, and the schedule and spacing of those activities remain to be decided. However, the principal training activities during the first two years include:

- Training of the Expansion of the Project to Fatick and Kaffrine
- Training for the Introduction of Technical Components

A third training component which is applicable mostly to the original from departments is:

- Training for the consolidation of achievements

Annex E, the Training Plan for Phase II, identifies in detail the various training options which might be adopted for Phase II. However, all of these options depend on certain conditions being met. In brief, these are:

1) the renovation of the Sine-Saloum Training Center and the construction of a "centre d'accueil" to lodge and feed trainees;

2) the creation of a reinforced Regional Training Team;

3) the improvement and development of training materiels; and

4) the decentralization of the training function.

Since not all of these conditions can be met immediately USAID and the MOH must decide on the most practical and expeditious means of meeting these conditions.

Representatives from USAID and the MOH have already discussed the different options available to meet the training needs during the first two years of the project. The training strategy proposed includes the preparation and training of the regional supervisory team, a project review with administrative officials, and the preparation of training materials. This is to be followed by the introduction of the project into the departments of Kaffrine and Fatick. Once this is complete the regional trainees will conduct the training for the technical interventions to be introduced into the test zone and, ultimately, throughout the entire region.

3.6. Prarmaceutical Supply and Distribution System. Both the project evaluation of July 1982 and the World Bank Staff Appraisal Report for the Senegal Rural Health Project found inefficiencies in public sector drug procurement and distribution of medicines. To strengthen this system, the World Bank has recently negotiated a project to improve and strengthen the National Pharmacy's (PNA) management and delivery capability. The MOH has already undertaken the initial audit of PNA, and handled subsequent settlement of accounts. Assurances have also been given to the World Bank and USAID that within FY 1983, the budget allocation for drugs will be separately recorded by each facility. For its part, USAID has recently agreed to assist with modest renovations for the regional PNA facility in Kaolack under Phase I of the project.

The emphasis of the second phase of the Senegal Rural Health Project is to strengthen the drug distribution and resupply network at th regional level. This can be done through strengthening the management information system (MIS) for drug distribution and assuring the integration of the regional MOH distribution system into the existing village-based distribution system. The MIS system will provide constant feedback to assure that expenses for the cost of the medicines and the cost of distributing these medicines be covered by the revenues from the sale of drugs.

In order to complete the project in the departments of Fatick and Kaffrine, USAID will have to purchase an initial supply of basic medicines to establish a revolving fund for these new village health huts. However, since villages will be asked to demonstrate their support of a village health hut by investment in an initial stock of medicines the amount of the purchase by the project of medicines will be substantially reduced.

A regional immunization program will require a cold chain from the regional EPI center to the health post and, ultimately, the village. The appropriate means of delivering these vaccines, i.e., refrigerators or small vaccine carriers, are yet to be determined. However, Senegal has already come to an agreement with UNICEF and France on the long-term supply of vaccines to the country. USAID proposes to supplement this supply of vaccine for the Region of the Sine-Saloum during the life of the project. This is done to assure the maximum coverage of the target population.

V. COST ESTIMATE AND FINANCIAL PLAN

The total cost of the project is $8,000,000 to be disbursed over six fiscal years beginning in the third quarter of FY 1984. Of this, $3,407,000 are foreign exchange costs and $4,628,000 are in local currency. Table I shows a breakdown of detailed project costs by category of expenditure. Table II presents project financing by AID of local currency (F CFA) and of foreign exchange (dollars) and GOS financing.

TABLE I
SENEGAL RURAL HEALTH II (685-0242)
($000)
DETAILED PROJECT COSTS TO USAID

ACTIVITY	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
I. TRAINING						
A. Long-Term	0	100	100	100	60	360
B. Short-Term (20 person months)	150	150	100	75	75	550
C. In-Country	150	200	200	100	75	725
D. Support to University Candidates in Public Health for Applied Research	10	10	10	10	10	50
SUB-TOTAL	310	460	410	285	220	1.685
II. VEHICLES						
A. 15 cars ($10,000 ea.)	75	0	75	0	0	150
B. Vehicle Maintenance	50	50	40	30	20	190
C. Mobylettes (34)	34					34
D. Gasoline (250 litres/ 12 month x 15 cars	50	50	50	25	20	195
SUB-TOTAL	209	100	165	55	40	569
III. CONSTRUCTION						
A. Kaffrine						
1. 8 Posts to Construct	221	0	0	0	0	221
2. 11 Posts to Renovate	92	0	0	0	0	92
3. Renovation of Health Center in Kaffrine	15	0	0	0	0	15
4. Departemental pharmacies (40 depots x $250)	10	0	0	0	0	10
5. Regional Training Center	85	0	0	0	0	85
SUB-TOTAL	423	0	0	0	0	423

TABLE I (continued)

ACTIVITY	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
IV. MATERIALS AND SUPPLIES						
A. Regional Training Center						
1. Audio-visual equipment	50	0	0	0	0	50
2. Supplies and furniture	30	10	5	5	5	55
B. Medical Equipment						
A. EPI Equipment	100	150	50	15	0	315
B. Nutrition Suveillance	25	25	10	10	0	70
C. Oral Rehydration Activities	20	30	10	10	10	80
D. Malaria Control Activities	5	10	5	5	5	30
E. Management Information System						
1. Mini-computers and equipment	30	5	5	5	5	50
2. Forms/Materials	10	3	3	3	3	22
3. Drug Distribution Materials	2	2	2	2	2	10
SUB-TOTAL	302	240	95	60	35	732
V. MEDICINES						
A. Basic Medicine	100	0	0	0	0	100
B. Vaccines	10	10	10	5	0	35
SUB-TOTAL	110	10	10	5	0	135
VI. PROJECT OFFICE						
A. Local Salaries	10	10	10	10	10	50
B. Operations	10	10	10	10	10	50
SUB-TOTAL	20	20	20	20	20	100

TABLE I (continued)

ACTIVITY	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
VII. APPLIED RESEARCH						
A. Study presumptive Chemotherapy and Chemoprophylaxis	25	15	10	5	5	60
B. Surveillance of Chloroquine Resistance	15	4	4	4	4	31
C. Ability of C.R. to maintain refrigerators	5	5	0	0	0	10
D. Comparison of Different Methods of Vaccine Delivery	20	10	0	0	0	30
E. Comparison of Different ORT Solutions	30	30	15	0	0	75
F. Comparison of Upper Arm Circumference, Weight for Age and Weight for Height for Nutritional Monitoring	25	15	10	0	0	50
G. Testing of an Appropriate MIS System	15	10	0	0	0	25
H. Causes of Morbidity and Mortality with Pregnancy	0	0	15	15	5	35
I. Study of Lost Work Time Due to Illness during the Agriculture Season	15	5	5	5	5	35
J. Are Villagers Able to Support a PHC	8	5	0	0	0	13
K. Are R.C.s Able Purchase and Maintain Mobylettes	15	15	5	0	0	35
L. Others	50	50	50	30	15	195
SUB-TOTAL	223	164	114	59	34	594
VIII. TECHNICAL ASSISTANCE						
A. Long-Term						
1. Project Coordinator	20	20	20	20	20	100
2. Training Coordinator	15	15	15	15	15	75
3. Management Specialist	150	150	150	150	0	600
4. Epidemiologist	150	150	150	0	0	450
B. Short-Term						
1. U.S.	40	40	30	20	10	140
2. Local	40	35	25	20	5	125
SUB-TOTAL	415	410	390	225	50	1490
IX. EVALUATION	0	50	0	0	50	100
SUB-TOTAL	0	50	0	0	50	100
GRAND TOTAL	2012	1454	1204	709	449	5828

TABLE I
SENEGAL RURAL HEALTH II (685-0242)
($000)
SUMMARY BUDGET TABLE

ACTIVITY	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	TOTAL
I. Training	310	460	410	285	220	1685
II. Vehicles	209	100	165	55	40	569
III. Construction	423	0	0	0	0	423
IV. Materials and Supplies	302	240	95	60	35	732
V. Medicine	110	10	10	5	0	135
VI. Project Office	20	20	20	20	20	100
VII. Applied Research	223	164	114	59	34	594
VIII. Technical Assistance	415	410	390	225	50	1490
IX. Evaluation	0	50	0	0	50	100
TOTAL	2012	1454	1204	709	449	5828
INFLATION (8%)	0	116	205	184	162	667
CONTINGENCY (10%)	201	305	397	326	274	1504
GRAND TOTAL	2213	1876	1806	1219	885	7999

TABLE IIA
PROJECT FINANCING
(YEAR 1)
(TOTAL IN $000's)

ACTIVITIES	AID COSTS U.S. $	LOCAL CURRENCY	TOTAL
I. Training	150	160	310
II. Vehicles	0	209	209
III. Construction	0	423	423
IV. Materials and Supplies	150	152	302
V. Medicine	10	100	110
VI. Project Office	0	20	20
VII. Applied Research	75	148	223
VIII. Technical Assistance	340	75	415
IX. Evaluation	0	0	0
TOTAL	725	1287	2012
INFLATION (8%)	0	0	0
CONTINGENCY (10%)	50	151	201
GRAND TOTAL	775	1438	2213

TABLE IIB
PROJECT FINANCING
(TOTAL IN $000's)

ACTIVITIES	AID COSTS U.S. $	LOCAL CURRENCY	TOTAL
I. Training	910	775	1685
II. Vehicles	69	500	569
III. Construction	0	423	423
IV. Materials and Supplies	350	382	732
V. Medicine	35	100	135
VI. Project Office	0	100	100
VII. Applied Research	200	394	594
VIII. Technical Assistance	1150	340	1490
IX. Evaluation	70	30	100
TOTAL	2784	3044	5828
INFLATION (8%)	323	344	667
CONTINGENCY (10%)	300	1240	1540
GRAND TOTAL	3407	4628	7999

VI. IMPLEMENTATION PLAN

1. Responsibility for Implementation

The Ministry of Health will be responsible for implementation for all project activities. The Senegalese Project Director is the Sine-Saloum Regional Medical Officer (RMO). The USAID Project Coordinator and other technical assistants serve as line advisors to the RMO and his staff of Regional Supervisors. The USAID Project Manager and Assistant Project Manager are responsible for the financial management of the project, coordination of training, technical assistance, and commodity procurement. This project management structure is more fully explained in the Section VII.1. on project management and the institutional analysis in Annex D.

2. Work Plan

The success of the project depends on the ability of MOH personnel to train and supervise health post personnel and village level workers and committee members. Past experience indicates that if the logistical means are available, the MOH can perform these functions in a timely and efficient manner.

Project implementation can be divided into two phases:

Phase I (months 1 to 24) pilot test and evaluation for the Technical Interventions

Phase II (months 24-60) Expansion Region-Wide

Substantial planning has been done already for the first two years of the project. Because of the experience and data available from Phase II, the schedule of the activities can be estimated with some degree of accuracy and detail. What follows are two implementation plans listing the activities and the individual responsible for the activities. Exhibit II. is a detailed workplan for month one to twenty-four. Exhibit III is an implementation plan for the life of the project.

3. Procurement Plan

This project will procure technical services and commodities. Procurement waivers for vehicle and medicines can be found in Annex M. Exhibit IV is a detailed schedule of procurement over the life of the project.

4. Contracting for Technical and Training Service

USAID and the Ministry of Health have agreed on the need for both long and short-term training for MOH officials and for appropriate and clearly defined long and short-term technical assistance. In the Project Identification Document (PID) it was proposed to procure all training and technical assistance services from a single university contract. Recent discussions between USAID and the MOH have led us to reconsider this strategy in favor of a more piecemeal approach. The reasons for this change are:

EXHIBIT II

IMPLEMENTATION PLAN
SRH II (685-0242)
(MONTH 1 TO 24)

ACTIVITY	RESPONSIBILITY	April 84 1	2	3	4	5	6	7	8	9	Jan. 85 10	11	12	13	14	15	16	17	18	19	20	21	22	23	March 86 24
I. TRAINING																									
1. Kaffrine + Fatick																									
A. Training of Regional Project Team	RM, PC	X																							
B. Meeting of CDD + CLD to intro project	RM, PC	X																							
C. Training of Trainers (CM + Posts)	RM, PC, PT	X	X																						
D. Community Org. (animation)	RM, DS			—	—	—	—	—	—	—	—	—	—												
E. Training of Village Health Committees	RM, DS										X	X													
F. Training of CHWs	RM, DS											X	X	X											
G. Supervision and Training Visits	RM, DS													X	X	X	X	X	X						
2. Pilot Test for Technical Interventions (KLK, NIORO, GOSSAS, FOUNDIOUGNE)																									
A. Section of test zone	RM, PC	X																							
B. Preparation of Training materiels	RM, PT	—	—	—																					
C. Training of project staff reg. supervisors	RM, PT, PC			X																					
D. Training of trainers	RM, DS, PT				X	X																			

RM - Region Medicale
PC - Project Coordinator
PT - Project Trainer
DS - Dévelopement Social

ACTIVITY	RESPONSIBILITY	April 84 1	2	3	4	5	6	7	8	9	Jan. 85 10	11	12	13	14	15	16	17	18	19	20	21	22	23	March 86 24
E. Training of CHWs + VH Committee	RM							X																	
F. Follow up and refresher training of CHWs	RM																								
3. Training to Strengthen Community Structures																									
A. Training of APS/R and CM delegates	RM, PT	X																							
B. Training of APS/D	RM, PT			X			X			X			X			X			X						
C. Training of APSC	RM					X			X			X			X			X							
D. Supervision of VH Committees of CHWs in all of project region	RM																								
4. Training for collaboration with GOS administrative structures																									
A. Regional administrative authorities	RM, PT		X													X									
B. Dept'al administrative authorities	RM, PT				X						X						X								
C. Arrondissement Admin. authorities	RM, PT				X						X						X								
5. In-Country Technical Training																									
A. Vehicles maintenance project drivers and departmental supervisors	PC, USAID PM														X	X	X								

USAID PM - Project Manager

ACTIVITY	RESPONSIBILITY	April 84 1	2	3	4	5	6	7	8	9	Jan. 85 10	11	12	13	14	15	16	17	18	19	20	21	22	23	March 86 24
B. Mobylette maintenance	PC								X																
C. Orientation for new personnel	RM							X												X					
D. Monthly supervison meetings for CHW	RM	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6. Long-Term Training																									
A. Prepare 5 year training plan	USAID PM,PT	X																							
B. Develop TOR's for institutional contract	USAID PM	X																							
C. Trainees Sent to U.S.	APM														—	—	—	—	—	—	—	—	—	—	—
II. COMMODITIES																									
1. Procurement of EPI. equipment for test zone	APM, SMO	—	—	—	—	—	—																		
2. Procurement order and delivery of regional pharmacy furniture	APM, SMO	X																							
3. Procurement of equipment for regional pharmacy	APM, SMO						—	—	—	—	—	—	—	—	—										
4. Procurement of mobylettes	APM, SMO	—	—	—	—																				
5. Procurement of medicines and vaccines	APM, SMO			—	—	—	—																		
6. Procurement of nutrition monitoring equipment	APM, SMO	—	—	—	—	—	—	—	—	—															
7. Procurement of vehicles	APM, SMO		—	—	—																				
8. Technical EPI equipment for entire region	APM, SMO										—	—	—	—	—	—	—	—	—						
9. Procurement of micro-computer and supplies	APM, SMO	—	—	—	—	—	—	—	—	—															
10. Procurement of calculators	APM, SMO	—	—	—																					

APM - Assistant Project Manager
SMO - Supply Management Officer

ACTIVITY	RESPONSIBILITY	April 84									Jan. 85														March 86
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21.	22	23	24
11. Procurement of equipment for the health posts and centres de santé	APM, SMO	—	—	—	—	—	—	—	—	—															
12. Procurement of CHW equipment	PC	—	—	—	—	—	—	—	—	—															
13. Procurement of equipment for the Regional Training Center	USAID PM, APM, SMO	—	—	—	—	—	—	—	—	—															
III. CONSTRUCTION																									
1. Renovation/construction of Regional Training Center	PC, RM	—	—	—	—	—																			
2. Renovation/construction of Kaffrine fixed health facilities	PC, RM	—	—	—	—	—	—	—	—	—	—	—	—												
3. Construction of departmental depots	PC, RM																								
IV. TECHNICAL ASSISTANCE																									
1. Long-Term																									
A. USAID Project Coordinator	PM	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B. USAID Training Expert	PM	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
C. Epidemiologist	PM				—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
D. Management Specialist/ Health Planner	PM				—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2. Short-Term																									
A. Develop Nutrition Education Component	PM, PC			X	X	X																			
B. Develop MIS System	PM, PC			X	X																				
C. Training Consultant	PM, PC	X				X					X														
V. EVALUATION	PM, PC																								

EXHIBIT III

SENEGAL RURAL HEALTH II (685-0242)

IMPLEMENTATION PLAN (Year 1-5)

ACTIVITY	RESPONSIBILITY	YEAR 1 QUARTER 1 (Apr.)	YEAR 1 QUARTER 2	YEAR 1 QUARTER 3	YEAR 1 QUARTER 4 (Mar.)	YEAR 2 QUARTER 1	YEAR 2 QUARTER 2	YEAR 2 QUARTER 3	YEAR 2 QUARTER 4	YEAR 3 QUARTER 1	YEAR 3 QUARTER 2	YEAR 3 QUARTER 3	YEAR 3 QUARTER 4	YEAR 4 QUARTER 1	YEAR 4 QUARTER 2	YEAR 4 QUARTER 3	YEAR 4 QUARTER 4	YEAR 5 QUARTER 1	YEAR 5 QUARTER 2	YEAR 5 QUARTER 3	YEAR 5 QUARTER 4
I. TRAINING																					
1. Kaffrine + Fatick																					
A. Training of Regional Project Team	RM, PC		X																		
B. Meeting of CDD + CLD to intro project	RM, PC	X																			
C. Training of Trainers (CM + Posts)	RM, PC, PT	X	X																		
D. Community Org. (animation)	RM, DS																				
E. Training of Village Health Committees	RM, DS				X	X															
F. Training of CHWs	RM, DS					X	X														
G. Supervision and Training Visits	RM, DS																				
2. Pilot Test for Technical Interventions (KLK, NIORO, GOSSAS, FOUNDIOUGNE)																					
A. Selection of test zone	RM, PC	X																			
B. Preparation of Training materiels	RM, PT																				
C. Training of project staff reg. supervisors	RM, PT, PC		X																		
D. Training of trainers	RM, PH, PT		X	X																	
E. Training of CHWs + VH Committee	RM				X																
F. Follow up and refresher training of CHWs	RM																				

ACTIVITY	RESPONSIBILITY	YEAR 1 QUARTER 1 (Apr.)	YEAR 1 QUARTER 2	YEAR 1 QUARTER 3	YEAR 1 QUARTER 4 (Mar.)	YEAR 2 QUARTER 1	YEAR 2 QUARTER 2	YEAR 2 QUARTER 3	YEAR 2 QUARTER 4	YEAR 3 QUARTER 1	YEAR 3 QUARTER 2	YEAR 3 QUARTER 3	YEAR 3 QUARTER 4	YEAR 4 QUARTER 1	YEAR 4 QUARTER 2	YEAR 4 QUARTER 3	YEAR 4 QUARTER 4	YEAR 5 QUARTER 1	YEAR 5 QUARTER 2	YEAR 5 QUARTER 3	YEAR 5 QUARTER 4
3. Training to Strengthen Community Structures																					
A. Training of APS/R and CM delegates	RM, PT	X																			
B. Training of APS/D	RM, PT	X																			
C. Training of APSC	RM			X																	
D. Supervision of VH Committees and CHWs in all of project regions	RM	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4. Training for collaboration with GOS administrative structures																					
A. Regional administrative authorities	RM, PT		X								X										
B. Dept'al administrative authorities	RM, PT			X								X									
C. Arrondissement Admin. authorities	RM, PT				X								X								
5. In-Country Technical Training																					
A. Vehicles maintenance project drivers and departmental supervisors	PC, USAID PM														—	—	—				
B. Mobylette maintenance	PC							X													
C. Orientation for new personnel	RM							X													
D. Monthly supervison meetings for CHW	RM	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6. Long-Term Training	USAID PM																				
A. Prepare 5 year training plan	USAID PM, PT	X	X																		
B. Develop TOR's for institutional contract	USAID PM	X																			

ACTIVITY	RESPONSIBILITY	YEAR 1 QUARTER 1 (Apr.)	2	3	4 (Mar.)	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
C. Trainees sent to U.S.																					
II. COMMODITIES																					
1. Procurement of EPI. equipment for test zone	APM, SMO																				
2. Procurement and delivery of regional pharmacy furniture	APM, SMO	X																			
3. Procurement of equipment for regional pharmacy	APM, SMO																				
4. Procurement of mobylettes	APM, SMO																				
5. Procurement of medicines and vaccines	APM, SMO																				
6. Procurement of nutrition monitoring equipment	APM, SMO																				
7. Procurement of vehicles	APM, SMO																				
8. Technical equipment for entire region	APM, SMO																				
9. Procurement of micro-computer and supplies	APM, SMO																				
10. Procurement of calculators	APM, SMO																				
11. Procurement of equipment for the health posts and centres de santé	APM, SMO																				
12. Procurement of CHW equipment	PC																				
13. Procurement of equipment for the Regional Training Center	APM, SMO																				
III. CONSTRUCTION																					
1. Renovation/construction of Regional Training Center	PC, RM																				

ACTIVITY	RESPONSIBILITY	YEAR 1 QUARTER 1 (Apr.)	2	3	4 (Mar.)	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
2. Renovation/construction of Kaffrine fixed health facilities	PC, RM	—	—	—	—																
3. Construction of departmental depots	PC, RM				X																
IV. TECHNICAL ASSISTANCE																					
1. Long-Term																					
A. USAID Project Coordinator	PM	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B. USAID Training Expert	PM	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
C. Epidemiologist	PM			—	—	—	—	—	—	—	—	—	—	—	—	—	—				
D. Management Specialist/ Health Planner	PM				—	—	—	—	—	—	—	—	—								
2. Short-Term																					
A. Develop Nutrition Education Component	PM, PC			—	—																
B. Develop MIS System	PM, PC			—	—																
C. Training Consultant	PM, PC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
V. EVALUATION	PM, PC								X										X	X	

EXHIBIT IV
SENEGAL RURAL HEALTH II (685-0242)
COMMODITY PROCUREMENT PLAN

ITEM	RESPONSIBILITY	YEAR 1 QUARTER 1 (Apr.)	YEAR 1 QUARTER 2	YEAR 1 QUARTER 3	YEAR 1 QUARTER 4 (Mar.)	YEAR 2 QUARTER 1	YEAR 2 QUARTER 2	YEAR 2 QUARTER 3	YEAR 2 QUARTER 4	YEAR 3 QUARTER 1	YEAR 3 QUARTER 2	YEAR 3 QUARTER 3	YEAR 3 QUARTER 4	YEAR 4 QUARTER 1	YEAR 4 QUARTER 2	YEAR 4 QUARTER 3	YEAR 4 QUARTER 4	YEAR 5 QUARTER 1	YEAR 5 QUARTER 2	YEAR 5 QUARTER 3	YEAR 5 QUARTER 4
1. PROCUREMENT OF EPI EQUIPMENT FOR TEST ZONE																					
A. Prepare Requisition Form	APM	(complete)																			
B. Send Order to AID/W for UNICEF	SMO	(complete)																			
C. Request for Exoneration	SMO	X																			
D. Delivery by UNICEF																					
2. OFFICE SUPPLIES FOR REGIONAL PHARMACIST																					
A. Prepare requisition form for Office Supplies	RM,	X																			
B. Issuance of Order in-country	SMO	X																			
C. Delivery		X																			
D. Prepare Requisition for Medical Equipment for Pharmacy (U.S.)	APM,				X																
E. Issuance of Order	SMO				X																
F. Request for Exoneration	SMO					X															
G. Delivery of Goods	SMO					X															
3. MOBYLETTES																					
A. Prepare Requisition Form	APM	X																			
B. Request for Bids	SMO	X																			
C. Request for Exoneration	SMO		X																		
D. Delivery	SMO		X																		
4. MEDICINES AND VACCINES (WAIVER FROM AID/W)																					
A. Prepare Requisition Form	APM, RM	X						X													
B. Request for Bids	SMO	X						X													
C. Request for Exoneration	SMO		X						X												
D. Delivery			X						X												

ITEM	RESPONSIBILITY	YEAR 1 QUARTER 1 (Apr.)	2	3	4 (Mar.)	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
5. NUTRITION MONITORING EQUIPMENT																					
A. Prepare Requisition Form	APM, RM		X																		
B. Order off-shore Equipment	SMO			X																	
C. Purchase Local Equipment	PC			X																	
D. Request Exoneration	SMO				X																
E. Delivery (local)	PC				X																
(off-shore)	SMO																				
6. VEHICLES																					
1. Prepare Requisition Form	APM, PC	X							X												
2. Request Bids	SMO	X							X												
3. Request Exoneration	SMO		X							X											
4. Delivery	SMO			X							X										
7. MICRO-COMPUTERS AND RELATED EQUIPMENT																					
1. Prepare Requisition Form	APM, PM	X																			
2. Request Bills	SMO	X																			
3. Request Exoneration	SMO		X																		
4. Delivery	SMO																				
8. SUPPLIES AND EQUIPMENT FOR HEALTH POSTS																					
1. Prepare Requisition Form	PC, APM	X																			
2. Request Bids for Local and Off-Shore Purchases	SMO		X																		
3. Request Exoneration	SMO			X																	
4. Delivery	SMO																				
9. EPI EQUIPMENT FOR ENTIRE REGION																					
A. Prepare Requisition Form	APM, RM								X												
B. Prepare Waiver	SMO								X												
C. Issuance of Order to AID/W for UNICEF	SMO								X												
D. Request Exoneration	SMO									X											
E. Delivery	SMO									X											

ITEM	RESPONSIBILITY	YEAR 1 QUARTER 1 (Apr.)	2	3	4 (Mar.)	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
10. CALCULATORS FOR MOH PERSONNEL																					
A. Prepare Requisition Form	APM	X																			
B. Request Bills	SMO	X																			
C. Request Exoneration	SMO	X																			
D. Delivery	SMO	X																			
11. EQUIPMENT AND SUPPLIES FOR KAFFRINE HEALTH FACILITIES																					
A. Prepare Requisition Form	APM, RM	X																			
B. Issuance of Order Off-Shore	SMO		X																		
C. Request Exoneration	SMO			X																	
D. Delivery	SMO																				
12. SUPPLIES FOR VILLAGE HEALTH WORKERS IN KAFFRINE AND FATICK																					
A. Prepare Requisition Form	PC	X																			
B. Request Bids	PC	X																			
C. Request Exoneration	PC		X																		
D. Delivery	PC		X																		
13. EQUIPMENT FOR THE REGIONAL TRAINING CENTER																					
A. Prepare Requisition Form	APM, PC	X																			
B. Request Bills	SMO	X																			
C. Request Exoneration	SMO		X																		
D. Delivery	SMO			X																	

- it is imperative that the epidemiologist and health planner be available immediately so that the training for the technical intervention take place in the first months of Phase II

- the Regional Medical authorities and the project staff are concerned that the presence of a unique contractor will lead to growing external involvement and the usurption of Senegalese prerogatives by visiting experts

As a result of these concerns, the following contracting package is proposed:

4.1. Long-Term Technical Assistance. Four long-term technical assistants will be hired by the project. Two of these, the Project Coordinator and the Project Training Advisor, will be filled by Senegalese on a temporary assignment to USAID from the Ministry of Health. Two other positions, the Health Planner and the Epidemiologist, will be off-shore contractors hired for three years. They will be recruited by HPNO and hired under a personal service contract with USAID/Senegal.

4.2. Participant Training. The project will finance the long-term training for masters and doctorates in Public Health for 10-12 candidates, as well as numerous candidates for short-term training. These training needs include but are not limited to biostatistics, health planning, epidemiology, nutrition, immunization programming, pedagogy, and micro-computers. The PP team has concluded that several American Schools of Public Health have the capacity to meet the needs of the Senegalese in both short and long-term training. A single university will provide year-long support for the Senegalese in their program. It is anticipated that a contract of this nature will result in a university being more likely to adapt their curriculum to the training needs of the Senegalese. There should also be a greater level of institutional understanding of the project.

To obtain these resources USAID Senegal will issue request for proposals for selection of a university to provide long-term and short-term training for the project. This selection process should take six months. Once selected a university representative will be asked to come to Senegal to visit the project and to develop training curriculum for the Senegalese candidates. It is anticipated that the first candidate will enter training in the 1985-86 academic year.

USAID and the MOH both are committed to using training resources available in Senegal and other African nations. A review of these resource centers in the PP stage found that they are capable of meeting many of the project's needs. Therefore, the project will establish contact with the institutions and use them as a first resource before sending candidates outside of West Africa.

4.3. Short-Term Technical Assistance. The Senegal Rural Health Project has and will continue to use short-term technical assistance in project implementation. Short-term technical assistance can be useful for training and in the research and implementation components of Phase II. In

the past, USAID has found that many local and regional institutions are capable of meeting these needs. A few of these institutions are the Organisation de Recherche sur l'Alimentation et la Nutrition en Afrique de l'Ouest (ORANA), Service de Lutte Anti-Parasitaire (SLAP), Institut de Technologie Alimentaire (ITA), WHO, and Strengthening Health Delivery Systems (SHDS).

In addition, USAID also has several large centrally funded institutional contracts from which the project can benefit. These include:

1. Combatting Communicable Childhood Diseases (CCCD). This is a project whose aim is to provide support to African nations to develop immunization, diarrheal disease control, and malaria control activites. The Center for Disease Control (CDC) has recently assigned to Abidijan an Epidemiologist to coordinate CCCD activities. This individual participated in the design of the technical interventions for this project. The project would hope to benefit from his technical expertise on a periodic basis.

2. Primary Health Care Operations Research (PRICOR). USAID has contracted with a Washington-based firm, the University Research Corporation, to conduct operations research studies in community participation in primary health care activities. Senegal has already benefited from a PRICOR financed study on the alternative of community financing of primary health care activities.

3. MEDEX. The University of Hawaii currently holds a five-year contract with AID to supply short-term technical assistance in primary health care management and training.

4. Technology for Primary Health Care (PRITECH). This contract recently awarded to Management Sciences for Health in Boston, with Johns Hopkins University and the Academy for Educational Development in Washington, will provide short-term assistance in oral rehydration, immunizations and public health education with primary emphasis on expanding and inproving the use of proven disease control technologies. This contract could be of obvious interest to the project in the areas mentioned. Like the PRICOR contract, PRITECH could be considered for involvement in the design of operations research and technical components, and the short-term training of Senegalese researchers in operations research techniques. This group could also be of interest in setting up vaccination cold chains and training health agents in their use and maintenance, drug management, microcomputer use for data gathering, and audio-visual training (video technology in micro-teaching, group dynamics and community development; the development and use of slide and sound shows with the use of the latest solar slide projectors for health education; the production of other visual aids for health education).

USAID/Senegal will discuss with AID/W and each of these institutions their capacity to meet various short-term technical assistance needs. If the Mission, the MOH, and the institutions concur that their involvement is appropriate then the project is prepared to invest funds in the central contract for support of additional services to the project. In sum, a short-term technical assistance package using both local institutions and resources available from existing central contracts in primary heath care will provide well-balanced and experienced short-term expertise.

VII. MONITORING AND EVALUATION

1. Project Management

The lines of supervision within the Ministry of Public Health are direct, such that the Minister has ultimate supervisory responsibility for all MSP offices. The directors of the technical offices of DHPS, DRPF, DAMPET, and Direction des Pharmacies at the national level report directly to the Minister unlike during Phase I, the Minister has designated within DHPS a national coordinator for USAID financial health projects. This position serves to facilitate the planning and evaluation of USAID financial health projects given the Coordinator acts as a liaison between MSP and USAID at both the national and regional levels. This position is financed in part by USAID funds and requires 50 percent of the professional's time.

At the regional level the Regional Medical Officer (RMO) has ultimate regional supervisory responsibility for all regional, departmental, rural community, and village medical personnel.

These regional offices most directly involved with SRH II are the:

- Regional Training Center;
- Supervisor for Primary Health Care;
- Supervisor for Material and Child Health Protection;
- Supervisor for Health Education;
- Statistics;
- Sanitation Brigade;
- Transmissible Disease Control; and
- Regional Pharmacy.

Lines of supervision thus extend from the Minister to the RMO, from the RMO to each of the regional technical offices, from the RMO to the Departmental/Medical Offices (DMO), from the DMO to the Health Post Officer (HPO) and, finally, from the HPO to the Community Health Workers (CHW's). Each of the directors of the regional offices are, of course, responsible for supervising the staff placed in their charge. It should be noted however, that the SRH II Project Office is also supervised by both the USAID Dakar-based Project Manager and Dakar-based Project Accountant concerning principally management issues such as USAID financial and project agreement monitoring. Project training and technical issues are handled through the RMO who transmits this correspondence directly to the Minister for appropriate dissemination to and action by the national technical offices.

Positions at the regional level which did not exist prior to Phase I and which have since been created or established are the:

- Regional Training Center Director and Staff;
- Regional MOH Statistician;
- Regional Pharmacy Pharmacist and Staff; and
- Health Planner, Epidemiologist and Office Assistant at the SRH II Project Office (these positions are USAID funded).

The Center for Transmissible Disease Control (Grandes Endemies) will become more significantly involved during SRH II due to greater emphasis on preventive technical interventions such as EPI, ORT and Chemo-prophylaxis. It should also be noted that since Phase I the Director of Grandes Endemies at the regional level has been officially designated as the RMO's adjoint director by the MSP.

At the departmental level the Departmental CM/Medical Officer has ultimate supervisory responsibility for all medical personnel in the Department Circonscription Medicale, as appropriate.

At each Health Center a supervisor has been designated to plan, supervise, and coordinate all health care activities within the Circonscription Medicale. This supervisory role includes supervision of Health Center personnel and activities, and more importantly, Health Post Officer activities vis-a-vis the SRH II program of technical interventions and CHW and Village Health Committee (VHC) training. Perhaps the most significant change to occur during Phase II from a programmatic and managerial viewpoint is that the CM/Departmental Supervisor will be responsible for the in-service training of the Health Post Officers under his/her supervision. Previously all in-service training occurred in Kaolack. This decentralization of training activities will greatly facilitate program implementation and, more significantly, empower the CM personnel to tailor their training programs to meet local needs.

At the Health Post the HPO supervises the activities of the CHWs within his/her service area. Additionally the HPO supervises the activities of the HP Matrone/Auxiliaire Accoucheuse and Sanitation Agent. During SRH II the Sanitation Agent will replace the previously assigned Itinerant Hygiene Technician (Technicien d'Assainissement Itinerant:TAI) the former having received more appropriate training at the Saint Louis Sanitation School, in rural sanitation.

The Departmental Association for Health Promotion (APSD) is an independent, democratically elected structure which serves to manage the receipts from user fees paid for services rendered at the Health Center. The Departmental Medical Officer serves as an advisor to this committee. At the Health Post there is an analogous relationship between the HPO and the Rural Community Health Promotion Association (APSC). The Health Promotion Associations at both the Health Center and Health Post levels are presently established and functioning extremely well in the Sine-Saloum region. According to officials of the PNA pharmaceutical and medical materiel purchases made by the nation's approximate 500 APSs (of which 85 are in Sine-Saloum) during 1983 approached 50 percent of the MSP 1983 national budget (600 million CFA or $1.7 million). These local health committees (APS) represent a significant change in the government's health care strategy by allowing local populations greater formalized decision making power regarding the quantity and quality of the health care they receive.

In addition to the management of user fees receipts, the APSD and APSD's also provide a manager and treasurer for the CM and Rural Community Drug Depots. The technical aspects of the Depots are monitored by the

Departmental/CM, the Health Post Nurse and the Kaolack-based Regional Controller for SRH II Depots. However, purchase of medicines and management of depot funds are the ultimate responsibility of the APSC.

2. Transfer of Project Activities to the Ministry of Public Health

A significant difference between Phase I and Phase II of SRH is that from the planning stages of Phase II MSP and USAID decision makers have actively discussed and are anticipating that SRH II activities will be incorporated within the quotidian activities of the MOH, particularly at the Regional Medical Office level. As proposed in the PID and restated here, the tranfer of SRH II activities will actively begin from the onset of the project but will intensify during project year three and be fully complete by project year five.

A natural system of transfer is apparent at the regional level. The Supervisor for PHC will be working in close collaboration with the Project Coordinator during SRH II. Those offices working under the Supervisor for PHC will each have significant input during the execution of SRH II. The Maternal and Child Protection/Family Planning Office will assist with the implementation of SRH II activities aimed at infants and mothers. The Health Education and Auto-gestion offices will have input into the community education and community financing aspects of SRH II, respectively.

The Regional Statistician will be incorporated in the design, implementation and analysis of health data from the Health Huts, Health Posts, and Health Centers. He will be assisted by the Project Health Planner and Project Epidemiologist. A more detailed discussion of the roles and responsibilities are found in Annex D.

3. Project Monitoring System

Continual monitoring and evaluation of project activities is possible through the management information system and regular MOH coordination meetings. The management information system (MIS) presented earlier in this report will be as simple as possible but still assure that WHO basic health indicators are made available and that the management needs of villagers, regional MOH authorities, and USAID and national MOH officials are met. Villages will have access to birth and death registries; regional MOH authorities will have valid and timely information to assess progress in training, utilization of services, drug inventories, and status of preventive interventions; and national MOH and USAID will have available health status indicators which will be used as a basis for impact evaluation; comparison with other PHC activities, and economic analyses.

Periodic services and discussion of the MIS reports will be conducted at the regular regional and departmental MOH coordination meetings. Held on a monthly basis, the regional coordination meetings include the Regional Medical Officer, Departmental Medical Officer, Regional Supervisors, and Project Coordinator, Training Advisor, Management Advisor, and Epidemiologist. The departmental coordination meetings include the departmental medical officer,

the departmental health and social development supervisors, health post nurses and sanitation agents. Whenever possible, the Regional Medical Officer and project officials also attend these meetings.

In addition to these coordination meetings, USAID, regional MOH officials and national MOH officials participate in joint project reviews every six months.

4. Evaluation

The USAID policy of periodic evaluation has had a positive influence on this project. The initial evaluation of the project in 1980 indicated that it had substantial problems. These problems were addressed in a project redesign, and a subsequent evaluation conducted two years later showed vastly improved project performance. Periodic evaluations will continue during the second phase and subsequent project activities will be contingent on positive evaluation results. The first evaluation will be at the end of year two to assess the introduction of the technical components and efficacy of community financing. If positive, then these technical components will be expanded throughout the region. If found to be less than adequate then either party can decide to radically redesign the project or to terminate financing.

The key assumption upon which this project is designed is that the rural population is able and willing to support the costs of supervision (i.e. mobylettes) by the health post nurse and at least a part of the costs of village-based PHC medical interventions. The supervision costs will be borne by the rural community who will pay for the amortiziation of the mobylette and its maintenance. Villages, paying through user fees, will finance the costs of immunizations and medicines. If by the end of two years this is not found to be realistic then the key assumption upon which the project is designed will have been false.

As a consequence, USAID and the MOH will need to radically redesign the project. At present, such a redesign might possibly consist of a PHC delivery system which is extended only to the health post and not to the village. This would be less optimal because the coverage would almost assuredly be limited to a smaller population. However, such a PHC delivery system would be more affordable since it would not require supervision by mobylette by the health post nurse and, hence, the implied costs of this supervision.

The evaluation in year four will use the internal management information system to assess the impact of the project on specific health indices. This final evaluation should provide sufficient guidance to MOH and USAID to enable a decision to be made on both the financial viability and the health impact of the PHC system and, ultimately, whether or not to expand the project to other areas of Senegal. Both evaluations will be conducted by individuals outside of the project staff and will include representatives from AID/W and the Ministry of Health.

4.1. Twenty-four Month Evaluation

The GOS and USAID have decided to collaborate on a Phase II Rural Health Care project in the Sine-Saloum region for three reasons:

1. To extend the test zone to cover the entire region of the Sine-Saloum;

2. To introduce new or improved couponents to the project. These components include improved technical interventions at the level of the health post and village such as the use of oral rehydration techniques to prevent death from diarrhea, immunization, reduction of mortality due to malaria, and growth monitoring. Also included is a program of applied research and the development of a modest training center in Kaolack;

3. To identify a method of payment for the recurrent costs of the supervision of village level activities by the health post nurse. These costs include as a minimum:

   a. Amortization of a mobylette each two years or F CFA 125,000/year,

   b. Regular maintenance of the mobylette including the purchase of spare parts estimated to cost F CFA 50,000/year,

   c. Gasoline which will average 7 liters per month or F CFA 26,796 per year.

The GOS and USAID agree that to achieve its objectives the project must make steady progress toward the realization of the above conditions. To assure that progress, the GOS and USAID agree to evaluate the project at leat twice - once after 24 months of implementation and again after 48 months. If progress towards the above conditions is insufficient at the time of either evaluation, either partner to this accord may choose to significantly modify the objectives of the project and its financing or to terminate the project. Criteria to be used to evaluate progress at the time of the first 24 month evaluation are given below. If the project is deemed by both partners to be going well at the time of the 24 month evaluation criteria will be proposed at that time for the 48 month evaluation.

4.1.1. Minimal Evaluation Criteria - 24 Months

a. Extension of the Project Region Wide

By the end of 24 months the village health committees and a male and female health worker will have been trained in each of 255 villages in the departments of Kaffrine and Fatick. This number represents 75 percent of the 340 villages in the two departments where project activities will take place.

In these 255 villages, at least 50 percent of the CHW will have been working continually for 12 months. In these 255 villages at least 75 percent of the village pharmacies will be demonstrated by audit to be financially solvent.

b. Introduction of New or Improved PHC Components

b.1. Expand Program in Immunization. A program comparing vaccine coverage and recurrent costs at the level of the Rural Community (RC) in 16 RC's using two different strategies will be underway. One strategy will establish the health post as an autonomous vaccination center with its own refrigerator and outreach capacity to the health hut provided by the health post nurse on his mobylette. The other strategy will feature vaccination at the level of the post and village with vaccine supplied in a cold box periodically from the Health Center i.e. no refrigerator at the level of the post. Vaccine coverage in the rural communities in the test zone where immunization reaches the post level will be at least 50 percent by 18 months.

b.2. Diarrheal Disease Control Program. A program comparing the efficacy, acceptability and cost of two different prepackaged oral rehydration salt solutions will be in effect in eight health posts. In the dependent villages of these eight health posts the CHW and mothers will be instructed in the home based preparation and use of an oral rehydration solution using sucrose and NACL or will use a traditional form of treatment such as pain de singe. By 18 months 50 percent of the mothers will know how to correctly mix and administer this salt and sugar preparation.

b.3. Malaria Control. A program comparing the efficacy of two strategies to prevent death due to malaria will be underway in the villages depending on the 8 health posts. One strategy will feature intense animation efforts to convince CHW and health committees to assure that pregnant women and children under age five will receive chloroquine chemoprophylaxis during the rainy season. The other strategy will not discourage chloroquine prophylaxis, which is the national policy in Senegal, but will not encourage it either. This strategy will emphasize the prompt treatment of any case of fever with chloroquine. Mortality due to malaria will be used as an end point to compare efficacy. In villages emphasizing chloroquine prophylaxis at least 50 percent of the target group should be found to be following the prescribed regime.

b.4. Growth Monitoring and Nutrition Surveillance. Nutrition activities will be village-based and aimed toward identifying children with signs of malnutrition. By the end of 24 months, growth monitoring will be conducted once every three months in 10 of the 16 test villages. In these 10 villages, at least 80 percent of all children under 24 months will have been weighed regularly. In addition, in 10 of these 16 villages, the nurse or mid-wife will have trained members of the mother committee to demonstrate improved feeding practices.

c. Identification of a Method of Payment of the Recurrent Costs of Supervision

Regional MOH activities of Sine-Saloum has proposed (No. 621/RMSS, "Etude de Charges Recurrentes du Projet de Santé Rurale Senegal au Sine-Saloum") that a combination of sources of funds at the level of the CM and the rural community be used to pay their costs. This approach will be implemented during the first 24 months of the Phase II project throughout the region but the evaluation will take into consideration performance only in the original four departments. By the end of this period, health posts will all receive their gasoline from the CM or the rural community. The project will provide a strictly limited amount of gasoline to the involved CM based on their calculated supervision need. (This allotment of gasoline will be phased out in year 4 and 5.) The gasoline for the health post nurses therefore must come from the normal ministerial allotment to the CM or other, non-project sources.

In order to replace the mobylettes after two years of use, the proposition of the Regional MOH officials suggests that the Conseil Rural agree to make this periodic investment. By month 24 of the Phase II project twenty-four of the forty-eight rural communities in the existing four departments will have agreed to replace the original mobylette after 24 months use and will have transmitted this willingness in writing to the involved prefet which in turn, will be transmitted to the MOH.

USAID will finance mobylettes repairs only in the Departments of Kaffrine and Fatick during the first year but by month 12 all mobylette repairs financed by the project will be terminated. By month 24, at least 50 percent of the APS at the level of the health post in the 6 departments will have made a decision, communicated in writing to the departmental prefets, to pay the maintenance and repair costs of the mobylettes. This method of paying for these repairs must be functional as witnessed by well running mobylettes in these posts.

d. Management Information System. A system of information gathering is necessary if MOH officials are to be able to evaluate on-going activities and make rational decisions. USAID and MOH agree that the system must not be burdensome for either villagers or the health post nurses and that only the necessary data be collected. A simplified MIS system has been proposed and will be reviewed by the MOH. At the end of 24 months, in ten of the sixteen test villages a standard reporting system must be in place. In six of the eight rural communities the necessary information must be analyzed and forwarded in a timely fashion to the departmental and regional authorities.

VIII. SUMMARY OF ANALYSES

The previous discussion summarizes the principal points of the four technical analyses conducted during the preparation of the Project Paper. These include the technical analysis of the preventive health interventions, the Institutional Analyses, the training strategy for Phase II, and the analysis of the Management Information System. The complete text of these analyses are in Volume II, the Annexes.

During the development of the Project Implementation Document (PID) a thorough economic analysis and social-cultural analysis were conducted. These have been discussed in detail in the PID (USAID/Senegal, August, 1983). The complete text of these analyses are found in the Volume II, Annexes.

IX. RESPONSIBILITIES AND COVENANTS

The project described in this paper has been developed in close consultation with the Ministry of Health. Both parties fully realize the need for certain key changes to the present PHC system if a replicable cost-effective rural PHC system is to exist in Senegal. If this is to succeed both partners must meet their responsibilities as defined below.

1. The Responsibilities of the Two Parties to this Agreement

1.1. The Responsibilities of USAID:

USAID will:

(i) Provide four long-term technical assistants: a project coordinator, a project training coordinator, a management expert/health planner, and an epidemiologist

(ii) Finance the construction/renovation of 19 health posts, the Health Center in Kaffrine and a Regional Training Center

(iii) Finance long-term and short-term training opportunities for MOH project-related personnel

(iv) Finance PHC training activities for all levels of personnel in the project zone over a 5 year period

(v) Purchase commodities, i.e. vehicles, vaccination equipment, and training materials, for project activities

1.2. The Government of Senegal (GOS) will:

1.2.1. Test Zone. The MOH will select sixteen rural communities and two villages in each of these rural communities in the four existing departments in which to introduce the technical interventions during the first 24 months of the project.

1.2.2. Project Staffing. The MOH agrees to:

(i) Assign two CESSI graduates to the Sine-Saloum Regional Training Center. One to serve as the full-time Center Director. The second to serve as a trainee-audiovisual specialist. Both of these positions will be filled by 31 December 1984.

(ii) Assign an Agent Sanitaire to each of the 16 health post where intensified technical components are being introduced. These individuals should be in place by 31 December 1984. As new graduates are available, they will be assigned to each of the remaining health posts in the region.

(iii) Assign nurses to each of the health posts to be constructed in the Department of Kaffrine by USAID. These individuals should be in place by 31 December 1984.

(iv) Assume responsibility for all salary and indemnity payments for all GOS personnel working in conjunction with the project.

(v) Assign a Nutritition Coordinator to the Region Medicale in Kaolack.

(vi) Assign a statistician to the Region Medicale Center in Kaolack who will be responsible for the analysis of MIS data and its distribution to national, regional and departmental MOH officials.

(vii) Assume responsibility for the per diem costs and transportation for all trainees from state institutions who attend training activities at the Sine-Saloum Regional Training Center.

1.2.3. Facilities Maintenance. The MOH will:

Establish a separate line item in the budget of the Region Medical Center for the maintenance and function of the health posts and training center constructed by the project.

1.2.4. Supervision Costs. USAID will provide vehicles to project personnel and to departmental supervisors and one mobylette for each health post. The MOH will gradually be responsible for gasoline for these vehicles. Mobylette maintenance and amortization will be financed by the rural community. It is the responsibility of the MOH to negotiate this support by the rural community.

1.2.5. Evaluation. The MOH will:

(i) Provide other experts as necessary from the Ministry of Health to work on project activities for up to four weeks at a time up to a total of 12 person weeks per year. The GOS will pay all salaries, indemnities and honoraria of MOH personnel assigned to the project for short periods. USAID will pay all per diem expenses.

(ii) Assign a clinically trained individual, a sociologist, and an economist to work full-time on the 24 and 48 month evaluations of the project for a total of twelve weeks.

2. Condition Precedents and Covenants

Extensive discussions have taken place with both regional and national MOH officials over the past ten months in the design of this project. Most of the substantive policy-level issues have been resolved. The difficulty ahead lies in the execution. The success of this project depends on some of these changes being implemented in a timely manner. Therefore, USAID will include two conditions precedent to disbursement of funds and several covenants.

The Condition Precedents are:

1. Prior to the first disbursement of funds the MOH will furnish to AID a letter agreeing to the evaluation criteria proposed in this project paper in Section VI part 4 and the implied need to redesign or terminate the project should the evaluation be unfavorable.

2. Prior to the first disbursement of funds, the MOH will furnish to AID a letter assigning two CESSI graduates to staff the Regional Training Center and concurring to the inclusion of a line item in the MOH budget to support the Regional Training Center.

The following covenants will be included in the Grant Agreement:

1. The MOH agrees to assign one health post nurse and one sanitation agent to the health posts to be constructed by USAID in the department of Kaffrine.

2. The MOH agrees to assign a nutrition coordinator to the Region Medicale in Kaolack.

3. The MOH agrees to assign a statistician to the Region Medicale in Kaolack.

4. The MOH agrees to maintain the position at the national level of the USAID Health Program Coordinator.

5. The MOH agrees to finance the personnel, support, and maintenance costs of the Regional Training Center.

6. The MOH will allow each Medical Center to provide gasoline from their allotment to the health posts for supervision of village health needs by mobylette.

7. The MOH through its regional and departmental authorities will negotiate with the Rural Communities for the periodic investment of the amortization and maintenance of the health post mobylettes.

8. The maintenance and repair of the health post will be guaranteed by the rural communities.