

PD-BAR-531

UNCLASSIFIED

PROJECT PAPER

OFFICIAL PROJECT
DOCUMENT

MAURITANIA

RURAL HEALTH SERVICES PROJECT

(682-0230)

LOP: \$5 Million
Approved:
July 20, 1983

AGENCY FOR INTERNATIONAL DEVELOPMENT

UNCLASSIFIED

COVER

ACTION MEMORANDUM FOR THE MISSION DIRECTOR, USAID/MAURITANIA

FROM: PDE, USAID/Mauritania, Barry MacDonald *B. MacDonald*

I. Action:

Your approval is requested for a grant of \$5.0 million from the FAA Section 121 (Sahel Development) appropriation to the Government of the Islamic Republic of Mauritania (GIRM) for the Rural Health Services (RHS) Project (682-0230). It is planned that all \$5.0 million will be obligated in FY 1983. The life of project is 5 years.

II. Discussion:

A. Description of the Project:

The goal of the Rural Health Services Project is to improve the health status of the Mauritanian people in order to enhance their productive capability. The project's purpose is to improve the effectiveness of the national Expanded Program of Immunization (EPI) and to develop an expanded and integrated community-based primary health care system in three selected regions. The project will provide immunization and community-based primary health care (PHC) services to rural populations. Immunization programs will be strengthened in all twelve regions while integrated PHC services will be expanded into Guidimaka and one other region in addition to Trarza.

Through the Ministry of Health and Social Affairs (MOH), the project will assist the GIRM to prepare and implement a comprehensive primary health care training curriculum and program at village, regional and national levels; expand and diversify primary health care services, including the training and supervision of village health worker teams in three selected regions; strengthen and more fully integrate the national Expanded Program of Immunization (EPI) into the Primary Health Care System; and carry out selected research activities and program management improvements designed to support the development of the primary health care system in Mauritania.

This project will encourage the current GIRM efforts to shift from an urban based, curative approach to health care towards a PHC system which focuses heavily on the rural sector and on preventive care. It will also support the strengthening of pharmaceutical distribution through the private sector, improvements to existing health institutions and fixed health centers, and the transfer of proven health technologies. Progress towards attaining project objectives will be closely monitored throughout the life of the project, and will be reinforced by the two major evaluations planned for years three and five.

Approximately 360,000 children and women will benefit directly from the project-funded vaccination program. Approximately 130,000 people will benefit from the presence of trained Community Health Worker Teams, and more than 400 community based and mid-level health personnel will receive training and new skills during the training programs.

B. Financial Summary of the Project

The total cost of this project is approximately \$7.76 million. AID's share of the costs will be \$5.0 million or approximately 64 percent of total project costs. All \$5.0 million is expected to be obligated in FY 1983.

<u>Input Category</u>	('000's \$ U.S.)		<u>LOP Amount</u>
	<u>FX</u>	<u>LC</u>	<u>Total</u>
1. <u>AID</u>			
- Technical Assistance	1,212	244	1,456
- Training	232	168	400
- Commodities	1,168	42	1,210
- Fuel and Maintenance	0	612	612
- Local Salaries	0	191	191
- Special Studies	91	36	127
- Inflation and Contingencies	708	296	1,004
Sub-total (AID)	<u>3,411</u>	<u>\$1,589</u>	<u>\$5,000</u>
2. <u>Host Country</u>			
- GIRM		1,900	
- Local Communities		648	
Sub-total (Host Country)			<u>\$2,548</u>
3. <u>Other Donors</u>			
- UNICEF (Vaccine)	170		
- WHO (Technical Assistance)	48		
Sub-total (Other Donors)			<u>\$ 218</u>
TOTAL PROJECT			<u><u>\$7,766</u></u>

The GIRM contribution will consist primarily of salaries for the 50 nurses and other health personnel working directly with the project, as well as the provision of space for the project headquarters and the rental of all field training sites. All vaccines for the EPI program will be procured by UNICEF. WHO is committed to providing several technical experts for evaluations and studies, and participating in several national and regional seminars.

C. Socio-economic, Technical and Environmental Description:

1. The socio-economic acceptability of activities like the RHS Project has already been demonstrated in the Trarza Region by a preceding AID-supported primary health care project, Rural Medical Assistance (RMA) (682-0202). As the RHS Project expands into other regions, care must be taken to adapt the model for project execution to the different socio-cultural systems which exist in each region. This is particularly important in the Guidimaka Region where cultural patterns are very different from those which have been experienced by the RMA Project in Trarza Region.

2. There are no human rights issues of concern involving this project.

3. The RHS Project, while complex in terms of logistical and administrative arrangements required, has been analyzed as being technically sound. It builds on the successful interventions carried out through previous AID health activities in Mauritania. Efforts have been made in this design to build upon previous achievements to develop a more efficient cost - effective delivery system which minimizes recurrent costs and integrates project activities into the existing Mauritanian health care system.

4. The Initial Environmental Examination produced a finding of a categorial exclusion, since the project includes no construction or other activities which might affect the environment. The categorial exclusion was upheld by the Africa Bureau's Environmental Officer on May 13, 1983.

D. Conditions Precedent, Covenants and Implementation Planning:

1. Given the thorough involvement of host-country agencies in the development of this project and the settlement of major implementation issues during the design dialogue, only one special condition precedent is required for the project. Since the Ministry of Health will be responsible for the management of a local currency fund over the life of the project, the MOH must supply evidence that it has established an adequate financial management and accounting system for the fund prior to the release of any funds to the MOH for purposes of the procurement of local goods and services.

2. In order to assure that the project operates within a strong administrative and policy framework, the Project Agreement will contain covenants that the GIRM will seek the ratification of a National Commission on Primary Health Care and Health Education and will pursue the ratification of a legal framework which defines the rights and responsibilities of Community Health Workers. To assure prompt and efficient execution of the project, the Pro-Ag will contain covenants that will bind the GIRM to reserve for use in the RHS Project all vehicles, furniture and equipment currently in use under the AID-financed Rural Medical Assistance and Expanded Program of Immunization Projects; to develop a formula with UNICEF for the provision of vaccines for the project; to prepare and maintain, in association with USAID, a vehicle scheduling and maintenance plan; and to assure prompt duty free customs clearance of all imported project commodities.

3. The project implementation plan has been carefully developed and reviewed to assure its completeness and realism. The principal implementing agency for the project will be the Ministry of Health, particularly its divisions of Preventive Medicine and Maternal and Child Services (SMI). USAID will also be heavily involved in project start up, particularly in procurement of goods and services, during the first year of the project. The Ministry of Health has been judged administratively capable of executing this project.

E. FAA Section 611(a) Requirements:

The administrative and financial analyses prepared for this paper satisfy the requirements of Section 611(a)(1). The legislative requirements of Section 611(a)(2) are covered by the covenant concerning the National Council on PHC outlined above. The GIRM's appeal for official ratification of this body has already been submitted to the President's Office, and ratification is expected by January 1984.

F. Responsible AID Officers:

The officer in USAID/Mauritania responsible for the project will be the USAID Health Officer. The position is currently vacant but will be filled as soon as possible either by a direct hire or, if necessary, a personal services contractor. The officer responsible in AFR/PD/SWAP is Mary Ann Riegelman.

III. Waivers:

The authorized source and origin for goods and services for this project is the U.S. (Geographic Code 000) and Mauritania. However, five procurement waivers are required for project procurement to proceed as planned in this document. These waivers include:

1. A \$400,000 source/origin and single source waiver to permit the procurement of medical equipment and supplies from Code 935 origin countries through the UNICEF procurement system (UNIPAC). This waiver will be reviewed by M/SER/COM and approved by AA/AFR.

2. A \$400,000 source/origin waiver and a Section 636(i) waiver for the procurement of 16 four-wheel drive vehicles from Code 935 countries. This waiver has been submitted for approval by AA/AFR. A waiver of the Commerce Business Daily Advertisement requirement will be also approved by the USAID Director to permit the procurement of these vehicles.

3. A waiver of the local cost financing limitation to permit up to 33 percent (\$370,000) of AID local currency financing to be utilized for procurement of imported shelf items. This waiver has been submitted for approval by AA/AFR.

4. A waiver of the ocean transportation requirement to permit Code 899 flag shipping to Nouakchott for the project's imported commodities. This waiver will cover up to \$215,000 in transportation costs on Code 899 vessels. This waiver will be reviewed and approved by M/SER/COM.

5. A \$60,000 source/origin and single source waiver to permit the procurement of vaccine and pharmaceuticals from Code 935 origin countries through particular suppliers such as UNIPAC. This waiver will be approved by AA/AFR.

IV. Justification to the Congress:

The project was briefly discussed in the FY83 Congressional Presentation (pages 86 and 88) and has been fully presented to the Congress in the form of an Advice of Program Change which was sent to the Congress on July 8, 1983. The waiting period expires on July 23, 1983.

V. Section 121(d) Certification:

Pursuant to Section 121(d) of the FAA, a certification was made by USAID/Mauritania on June 9, 1983. This certification was approved by AA/AFR on June 27, 1983. (See Annex N of the Project Paper for further details and copies of relevant documentation.)

Recommendation: That you sign the attached Project Authorization, and thereby approve life-of-project funding of \$5,000,000 for the Rural Health Services Project (682-0230).

Clearances:

RLA, REDSO/WCA,	DRobertson <i>DR</i>
CONT, USAID	GWestlake <i>GW</i>
SMO, USAID	PLacerte <i>PL</i>
OGD, USAID	BBrown <i>BB</i>
PDE, USAID	CBrown <i>CB</i>

PROJECT AUTHORIZATION

NAME OF COUNTRY: Islamic Republic of Mauritania

NAME OF PROJECT: Rural Health Services

NUMBER OF PROJECT: 682-0230

1. Pursuant to Section 121 of the Foreign Assistance Act of 1961, as amended, I hereby authorize the Rural Health Services Project ("The Project") for the Islamic Republic of Mauritania ("The Cooperating Country") involving planned obligations in an amount not to exceed \$5,000,000 (Five Million United States Dollars) in grant funds, over a five year period from the date of authorization, subject to the availability of funds in accordance with the A.I.D. OYB/allotment process, to help in financing foreign exchange and local currency costs for the project.

2. The project is designed to extend basic health services to rural areas of Mauritania by preparing and implementing a comprehensive primary health care training curriculum and program at village, regional and national levels; expanding and diversifying primary health care services, including the training and supervision of village health worker teams in three selected regions; strengthening and more fully integrating the national Expanded Program of Immunization (EPI) into the Primary Health Care System; and carrying out selected research activities and program management improvements designed to support the development of the primary health care system in Mauritania. A.I.D. assistance will finance long and short term technical services, participant training, commodity procurement and other costs including vehicle maintenance and fuel, special studies and primary health care seminars and workshops. Assistance to be provided from other donors to the project includes procurement of all required vaccines by UNICEF and technical support for project evaluations and a pharmaceuticals marketing study by WHO.

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

A. Source and Origin of Goods and Services

Commodities financed by A.I.D. under this project shall have their source and origin in the U.S. (Geographic Code 000) or in Mauritania, except as A.I.D. may otherwise agree in writing. The suppliers of commodities or services shall have the United States or Mauritania as their place of nationality, except as A.I.D. may otherwise agree in writing. Ocean shipping financed by A.I.D. under the project shall occur only on flag vessels of the United States except as A.I.D. may otherwise agree in writing.

B. Conditions Precedent

The Project Agreement will provide that prior to any issuance by A.I.D. of documentation for the disbursement of funds for the procurement of goods and services through the Project Operating Fund to be managed by the Ministry of Health, the Grantee must furnish in form and substance satisfactory to A.I.D. evidence that an adequate financial management and accounting system for the Project Operating Fund has been established.

C. Covenants

The Project Agreement shall contain covenants providing in substance that:

1. The Grantee agrees to seek formal, legal ratification of the structure and functions of the National Commission on Primary Health Care and Health Education and to provide the Commission with adequate staff and facilities.
2. The Grantee agrees that it will undertake to implement a system for providing all vaccines, through UNICEF, required to properly execute the project.
3. The Grantee agrees that it will pursue the ratification of a legal framework which defines the rights and responsibilities of community health workers and defines their role vis-à-vis other elements of the primary health care system.
4. The Parties agree to establish a project vehicle scheduling and maintenance system which conforms with standard technical norms. All vehicles financed under this project will be used exclusively for project purposes.
5. The Grantee agrees that it will reserve for the exclusive use of this project (a) all vehicles currently in use in the Rural Medical Assistance (682-0202) and Expanded Program of Immunization (625-0937) Projects, until such time as A.I.D. and the Grantee agree in writing that these vehicles are no longer required by the project; and (b) all furniture and equipment of the Rural Medical Assistance (682-0202) and Expanded Program of Immunization (625-0937) Projects.
6. The Grantee agrees to assure prompt duty free customs clearance for all commodities imported under the terms of this project, particularly vaccines and other perishable supplies. The Grantee further agrees to arrange the duty free purchase of all project-financed commodities purchased in Mauritania.

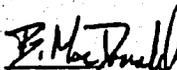
Date: 21 JULY 1983



PETER BENEDICT
Mission Director
USAID/Mauritania

Clearance:
RLA, REDSO/WCA, DRobertson 

Date: 20 July 83

Drafted:
PDE, USAID/Mauritania, BMacDonald 

Date: 20 July 1983

AGENCY FOR INTERNATIONAL DEVELOPMENT PROJECT DATA SHEET		1. TRANSACTION CODE A A = Add C = Change D = Delete	Amendment Number	DOCUMENT CODE 3
2. COUNTRY/ENTITY Mauritania		3. PROJECT NUMBER 682-0230		
4. BUREAU/OFFICE AFR 06		5. PROJECT TITLE (maximum 40 characters) Rural Health Services		
6. PROJECT ASSISTANCE COMPLETION DATE (PACD) MM DD YY 07 31 88		7. ESTIMATED DATE OF OBLIGATION (Under 'B' below, enter 1, 2, 3, or 4) A. Initial FY 83 B. Quarter 4 C. Final FY 83		

8. COSTS (\$000 OR EQUIVALENT \$1 = UM 53)

A. FUNDING SOURCE	FIRST FY			LIFE OF PROJECT		
	B. FX	C. L/C	D. Total	E. FX	F. L/C	G. Total
AID Appropriated Total						
(Grant)	(1,031)	(436)	(1,467)	(3,416)	(1,584)	(5,000)
(Loan)	()	()	()	()	()	()
Other						
U.S.						
Host Country	-	385	385	-	2,548	2,548
Other Donor(s)	77	-	77	218	-	218
TOTALS	1,108	821	1,929	3,634	4,132	7,766

9. SCHEDULE OF AID FUNDING (\$000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE		D. OBLIGATIONS TO DATE		E. AMOUNT APPROVED THIS ACTION		F. LIFE OF PROJECT	
		1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan
(1) SHX	513	510		-	-	5,000	-	5,000	-
(2)									
(3)									
(4)				-	-	5,000	-	5,000	-
TOTALS									

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each) 540 550 530 560 570	11. SECONDARY PURPOSE CODE 533
12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)	
A. Code	BRW DEL PART TNG
B. Amount	5,500 2,500 3,500 400

13. PROJECT PURPOSE (maximum 480 characters)

To improve the effectiveness of the national Expanded Program of Immunization and to develop an expanded and integrated community-based primary health care system in three selected regions.

14. SCHEDULED EVALUATIONS	15. SOURCE/ORIGIN OF GOODS AND SERVICES
Interim MM YY MM YY Final MM YY 01 86 07 88	<input checked="" type="checkbox"/> 000 <input checked="" type="checkbox"/> 941 <input checked="" type="checkbox"/> Local <input checked="" type="checkbox"/> Other (Specify) 935

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

17. APPROVED BY	Signature <i>Peter Benedict</i>	18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DC DOCUMENTS, DATE OF DISTRIBUTION MM DD YY
	Title Peter Benedict Director, USAID/Mauritania	
	Date Signed MM DD YY 07 21 88	

RURAL HEALTH SERVICES PROJECT

Table of Contents

	Project Authorization	i
	Project Data Sheet	viii
I	Glossary	1
II	Map	3
III	Project Rationale and Description	4
	A. Project Summary Recommendations	4
	B. Detailed Project Description	7
	1. Background	7
	a. Health and Nutrition Profile of Mauritania	8
	b. Governmental Health Plans and Policies	10
	c. GIRM Health Structure and Program	11
	2. Project Rationale	14
	a. Project Strategy	14
	b. Relation of Project to AID Country Strategy	14
	3. Project Elements	17
	a. Project Goal and Purpose	17
	b. Project Outputs	17
	(i) Community Health Worker Program	17
	(ii) The Expanded program of immunization	32
	(iii) Project integration within the MOH and with other donors	39
	(iv) Research Activities	44
IV.	Summary Cost Estimate and Financial Plan	49

V.	Implementation and Procurement Plans	56
	A. Implementation	56
	B. Procurement	61
	1. Source and Origin of Goods and Services	61
	2. Services	62
	3. Commodities	63
VI.	Monitoring Activities	68
VII.	Project Analyses	69
	A. Technical	69
	B. Economic and Financial	75
	C. Summary of Social Soundness Analysis	91
	D. Administrative	93
	E. Environmental	100
VIII.	Conditions Precedent, Covenants, and Negotiating Status	102
IX.	Evaluation Arrangements	104

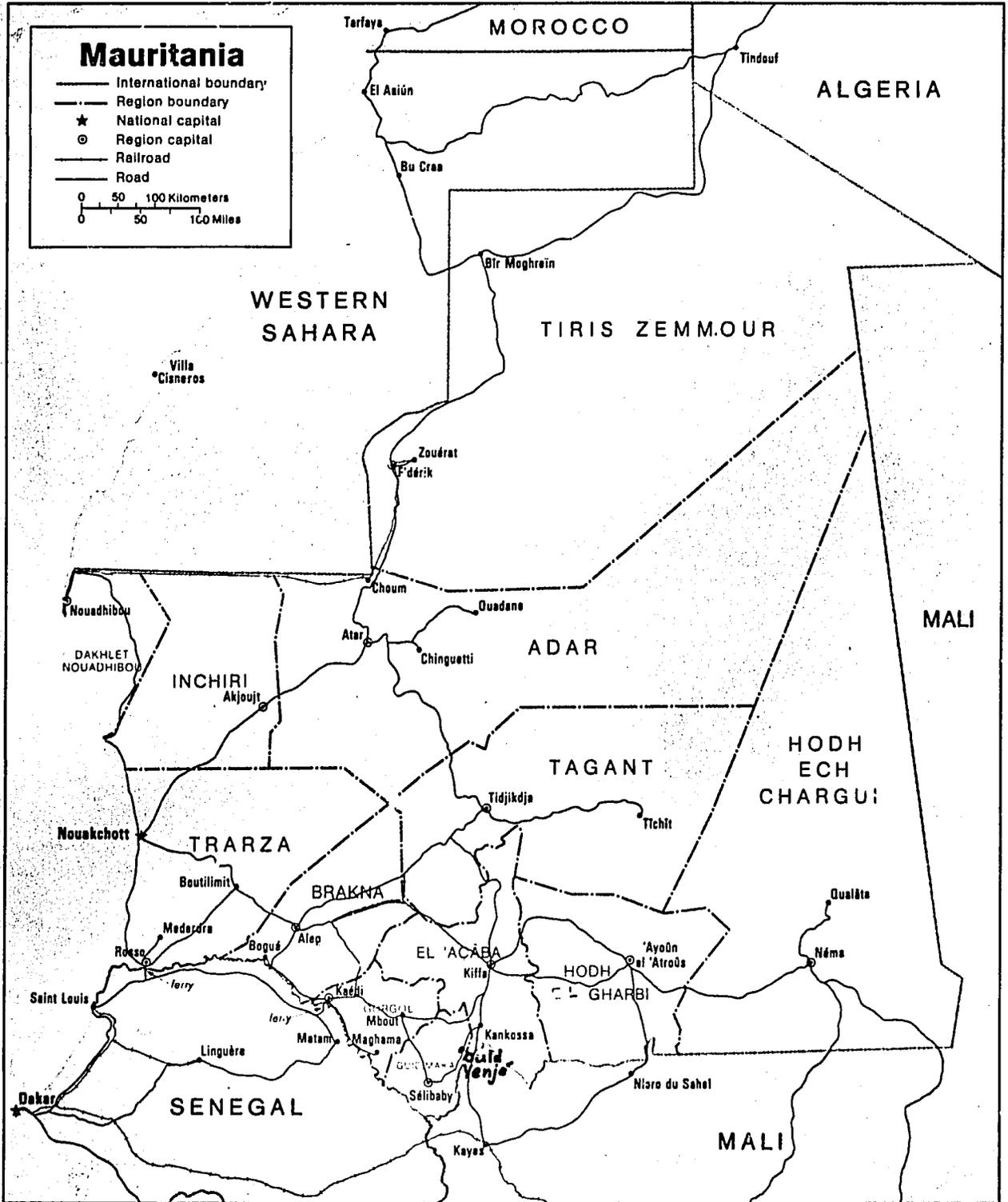
X. Annexes

- A. PID Approval Message**
- B. Logical Framework**
- C. Statutory Checklists**
- D. GIRM Request for Assistance**
- E. FAA, Section 611(e) Certification**
- F. Social Soundness Analysis**
- G. Scopes of Work**
- H. Training Plan**
- I. Target Population and Vaccine Requirements**
- J. Recommended Procurement Lists**
- K. Budget Tables**
- L. Health Programs in Mauritania**
- M. Detailed Project Implementation Plan and Key**
- N. Section 121 D Certification and the Project Operating Fund (POF)**

GLOSSARY

ADB	- African Development Bank
CDC	- Center for Disease Control
CCCD	- Combatting Childhood Communicable Diseases (698-0421)
CHC	- Community Health Committee
CHW	- Community Health Worker
CHW Team	- Community Health Worker and a Traditional Birth Attendant
CREN	- Centre de Rehabilitation et d'Éducation Nutritionnelle
CRM	- Red Crescent Society of Mauritania
CRS	- Catholic Relief Services
EOP	- End of Project
EPI	- Expanded Program of Immunization
FAC	- Fonds d'Aide et de Cooperation
FED	- European Development Fund
GIRM	- Government of the Islamic Republic of Mauritania
IST	- In Service Training
KAP	- Knowledge Attitudes and Practices Survey
LOP	- Life of Project
LWF	- Lutheran World Federation
MCH	- Maternal and Child Health (also called PMI)
MOH	- Ministry of Health and Social Affairs
NCPHC	- National Commission on Primary Health Care
NHC	- National Health Center
PC/M	- Peace Corps/Mauritania
PHC	- Primary Health Care
PMI	- see MCH

- POF - Project Operating Fund
- RHS - Rural Health Services Project (682-0230)
- RMA - Rural Medical Assistance Project (682-0202)
- SEM - Structure d'Education des Masses (new GIRM political structure)
- SMI - National MCH Service
- TBA - Traditional Birth Attendant
- UNICEF - United Nations International Children's Emergency Fund
- UNIPAC - UNICEF Packing and Assembly Center
- WHO - World Health Organization



Base 505113 (A00110) 10-82

III. Project Rationale and Description

A. Project Summary Recommendations

A grant of \$5,000,000 to the Government of the Islamic Republic of Mauritania (GIRM) is proposed to improve the effectiveness of the national Expanded Program of Immunization (EPI) and to develop an expanded and integrated community based primary health care system in three selected regions.

The Problem:

Health problems in Mauritania constitute a significant impediment to economic productivity and development as well as to the health and welfare of individuals. Infant and child mortality rates are among the highest in the world and problems are most acute in the rural areas. Many of the health problems can be prevented or treated through proven techniques of vaccination and primary health care (PHC). The GIRM has demonstrated its determination to provide improved PHC services to its rural populations. Its efforts, however, are impeded by strict budgetary constraints, an insufficient number of trained personnel, a widely dispersed population and extremely fragile and costly transportation and logistical support.

The Project:

The Rural Health Services (RHS) project will improve upon and extend two previously funded AID projects, the Expanded Program of Immunization (EPI) and the Rural Medical Assistance (RMA) project. Through the Ministry of Health and Social Affairs (MOH), it will assist the GIRM to: (1) prepare and implement a comprehensive PHC training curriculum and program at village, regional and national levels; (2) expand and integrate PHC services including disease surveillance, and Community Health Worker (CHW) referral and supervision in three selected regions; (3) strengthen and more fully integrate into the PHC system, the national EPI program; (4) carry out pharmaceutical marketing studies and epidemiological, nutritional and operations research; (5) improve health information systems; and (6) formalize national policies, programs and coordinating structures for primary health care.

This project will encourage the current GIRM efforts to shift from an urban based, curative approach to health care towards a PHC system which focuses heavily on the rural sector and on preventive care. It will also support the strengthening of pharmaceutical distribution through the private sector, improvements to existing health institutions and fixed health center, and the transfer of proven health technologies. Progress towards attaining project objectives will be closely monitored throughout the life of the project, and will be reinforced by the two major evaluations planned for years three and five.

Approximately 360,000 children and women will benefit directly from the project funded vaccination program. Approximately 130,000 people will benefit from the presence of trained Community Health Worker Teams, and more than 400 community based and mid-level health personnel will receive training and new skills during the training programs.

Financial Summary: The total cost of this project is approximately \$7.78 million. AID's share of this cost will be \$5 million or roughly 64 percent of the total. The AID contribution includes eight person-years of long-term and 18 person-months of short-term technical assistance; 16 vehicles plus equipment to strengthen the EPI cold chain and PHC facilities; fuel and maintenance resources; and several special studies. A summary breakdown of project financing by source and donor is provided below:

Summary Financial Table
(\$000)

<u>Input Category</u>	<u>LOP Amount</u>
1. <u>AID</u>	
- Technical Assistance	1,456
- Training	400
- Commodities	1,214
- Fuel and Maintenance	612
- Local Salaries	191
- Special Studies	127
- Inflation and Contingies	<u>1,000</u>
Subtotal (AID)	5,000
2. <u>Host Country</u>	
- Salaries and Personnel	1,482
- Facilities and Rent	200
- Community Financing	573
- Inflation	<u>293</u>
Subtotal (GIRM)	2,548
3. <u>Other Donors</u>	
- UNICEF (Vaccine)	170
- WHO (Technical Assistance)	<u>48</u>
Subtotal (Other Donors)	218
TOTAL PROJECT	7,766

The GIRM contribution will consist primarily of salaries for the 50 nurses and other health personnel working directly with the project, as well as the provision of additional space for the project headquarters and the rental of all field training sites. All vaccines for the EPI program will be procured by UNICEF. WHO is committed to providing several technical experts for evaluations and studies, and participating in several national and regional seminars.

Project Implementation and Procurement Planning: The project will rely on a phased, five year strategy to establish integrated community health worker teams in three of Mauritania's eleven regions. The EPI will continue to operate nationwide, but its strategy will undergo major review at the end of the first and third years, as data on the target population and coverage levels become available. Most of the project's procurement, including selection of a suitable long-term contractor, will occur during the first year of the project. Key baseline data collection and community surveys will also be conducted during the first year. Operations and policy research will take place in years two to five, after the contractor is established.

Project Evaluations: Comprehensive mid-term and final project evaluations are planned for years three and five of the project. These evaluations will not only provide occasions to analyze baseline data and subsequent trends, but will serve as occasions for intensive policy discussion on the various project components. The mid-term evaluation will help to guide project and MOH personnel in the selection of a third region for the CHW component. Both the mid-term and final evaluations will provide useful data in analyzing the operation of the EPI component of the project and recommending any changes required to improve its efficacy.

B. Detailed Project Description

1. Background

Mauritania is located in West Africa within the boundaries of the Sahel. It is surrounded by the Atlantic Ocean on the West, Senegal on the South, Mali on the East and the Western Sahara on the North. It is a flat, sandy desert for the most part, broken by rocky plateaus. The country shares the periodic drought conditions of its Sahelian neighbors, Mali and Senegal. In normal years it receives an annual precipitation of less than 5 inches with temperatures reaching as high as 120oF. During droughts, even less rainfall is received and the population and livestock suffer from various levels of starvation and thirst. Severe droughts have caused waves of migration and dislocation as the people seek refuge in more urban areas where relief programs are organized.

Present estimates set the national population level at approximately 1.6 million, increasing at an annual rate of approximately 2.7%.* Average household size is 5.6 persons. The heaviest concentration of people is in the southern region near the Senegal River, where water for more intensive agriculture is available. The population consists of Moors, who are in the majority, and groups of Peul, Toucouleurs, Soninke, Wolof and Bambara.

In 1965 the population of Mauritania was largely rural and nomadic with over 90% engaged in raising livestock or subsistence farming. By the 1977 census reports, however, sedentarization and urbanization were well advanced, with more than 25% of the people living within Nouakchott and other regional and departmental urban centers. This shift is thought to be largely due to the drought in recent years and the lack of sufficient food in rural areas. Nevertheless livestock herding and agriculture still employ more than 85% of the labor force.

Living conditions are extremely poor. It is estimated that only 16% of the urban population has access to potable water. Demographic data are difficult to obtain but Rural Assessment/Manpower Survey (682-0211), or RAMS Project cited that 44% of the Mauritanian population is under 15 years of age; and 54% is under 20 years of age. It is estimated that one out of every two nomads has now become sedentarized. The urban literacy rate is 25% with Nouakchott's rate at 36%.

Mauritania has a fragile economy, which has recently been weakened even further by a decline in commodity prices for iron and copper, the recent war over the Spanish Sahara and poor management of its fishing resources. The per capita income for 1982 was \$480. The Mauritanian government has difficulty in providing funds within its budget to provide services for its predominantly- rural population.

* RAMS Study, 1980.

Its development program is highly dependent upon international assistance from various bilateral and multilateral sources. For further information and analyses on the economic situation in Mauritania, see section 7a - Economic and Financial Analysis.

The U.S. has supported projects in integrated rural development, vegetable production, oases development, crop protection, human resources development, and has conducted a manpower assessment/rural survey. USAID assistance to Mauritania on a bilateral basis has been planned at a level of approximately \$15 million for FY 84, including about \$10 million in P.L. 480 program. The proposed integrated rural health project will be the largest development assistance effort during the coming year, and will represent an important area of collaboration between the United States and Mauritania during the next five years.

a. Health and Nutrition Profile of Mauritania

The health problems of Mauritania, as with most developing countries, are directly linked to the larger developmental issues of widespread poverty, low food production, general economic malaise and a weak infrastructure for delivering health services, particularly to the rural areas of the country.

Mauritania has additional demographic impediments to providing broad coverage health services. These are related to the desert conditions of the country. There are large areas of the nation which are very sparsely populated at all times, and in other areas, nomadic groups cause seasonal shifts in the anticipated population, precipitating frequent changes in the demand for health services. These demographic characteristics increase the costs of providing health services to the total population given the limited financial resources available to the Ministry of Health.

Major health problems in Mauritania are: diarrheal diseases, malaria, a number of communicable diseases which are preventable through routine immunization campaigns, and malnutrition. Malnutrition affects adults and children alike, is chronically severe and is caused by low food production on a national and local level. Another causal factor is the lack of knowledge about proper nutrition, particularly for infants and children.

Mauritania's infant and child mortality rates are among the highest in the world. The range for infant mortality (ages 0-1 year) is 170 to 180/1000 and is proportionately high for children from ages 1-4 years (31 per 1,000). Life expectancy is low, estimated at 43 years. The overall (crude) death rate is high at 22 per 1,000.* It is significant to compare the vital statistics of Mauritania, still

* RAMS Study, 1980.

classified as a middle income country, with the average rates for 33 low income countries reported by the World Bank in 1982.* These countries have an average infant mortality rate of 94, a child mortality rate of 22, life expectancy of 57 years and a crude death rate of 12.

More precise data on disease and mortality are not available in Mauritania, due to deficiencies in the current health information system. Most reports and studies on Mauritanian vital statistics comment on the need for baseline studies, special surveys and improved routine reporting of health data so as to develop useful epidemiological and health management information. Nevertheless, the available information from hospitals and health centers (with considerable under-reporting assumed) does provide the basis for recognizing the relative importance of certain diseases and illnesses in Mauritania.

These data reveal a high morbidity among children under five years of age: endemic, transmissible and infectious diseases; and nutritional and deficiency problems which are aggravated during times of drought. There is a high incidence of infectious and parasitic diseases combined with malnutrition for infants and children. Infant mortality is primarily caused by respiratory infections, gastroenteritis, communicable diseases, and tetanus. Diarrhea and dehydration are of major importance to this age group. Accidents, complications due to prematurity, and problems involved in delivery are also significant causes of infant mortality. Children suffer from similar disease patterns but in particular malnutrition is extremely lethal for this age group in Mauritania. Severe malnutrition exacerbates their precarious health status.

In general, malaria, diarrhea, shistosomiasis, measles, and pulmonary tuberculosis affect a high proportion of Mauritians every year. For the mothers, diseases relating to pregnancy and post-partum infections, hemorrhages, anemia, toxemia and labor complications are also significant.

In 1977, Maternal and Child Health (MCH) centers participated with the World Health Organization (WHO) in an anthropometric survey, which showed that 68% of the children surveyed were suffering from moderate malnutrition (80-61% of the median weight-for-age) while 36% of were found to be severely malnourished (60% of the median weight-for-age). Catholic Relief Services (CRS), working on feeding programs in Mauritania, has found that 36% of its program participants are under 80% of median weight for age.** A recent study by Dr. Heather Goldman in four oases indicated that 8.3% of children were severely

* Source: World Bank; World Development Report 1982.

** Stephens and Parlato, Mauritania Food for Peace/Title II Evaluation, April 1983.

malnourished (80% of median weight-for-height) and that 38% of the children were categorized as suffering from moderate to severe malnutrition (85-80% of median weight-for-height).*

As stated earlier, many of these health problems are preventable. All are susceptible to health interventions which are standard and have been well tested in Mauritania and in other developing countries worldwide. In a recent report, the State of the World's Children, it was noted that four health care interventions alone - immunization, oral rehydration, breast feeding, and growth monitoring can reduce infant mortality by 50%.**

b. Governmental Health Plans and Policies

Incorporated into the Ministry of Health plan for the period 1981-1985 are actions which would affect directly and positively the health status of the people of Mauritania. The Ministry of Health has an objective of increasing the impact on preventive medicine and other public health measures of certain selected programs. Highest priority has been assigned to those most vulnerable groups among the population: pregnant women and nursing mothers, children under five years of age, rural populations further than 5 kilometers from health facilities and people living in extremely substandard housing areas. Nutrition and health education are to be supported at all levels through health officials, civil servants and community leaders. Recurrent tropical diseases of Mauritania including malaria, bilharziasis, tuberculosis and leprosy are to be the targets of national campaigns. Environmental problems will be addressed through actions involving improved sanitation and attention to the quantity and quality of water supply. There is already a national extended vaccination program, EPI which has its goal to vaccinate 86% of the children by 1985 against six contagious diseases: diphtheria, whooping cough, tetanus, measles, polio and tuberculosis.

Also incorporated into the 1981-85 plan are actions to improve patient coverage and reduce the unit costs of providing health services, while expanding services in rural areas. The MOH plans to extend coverage of its health services by eventually creating 571 village-level primary health care posts. The MOH also plans a series of interventions which would improve the efficiency of health centers through renewal of facilities and equipment, an improved system of logistic support, a more responsive system for drug procurement and distribution, better training of professional and paramedical personnel and other personnel actions to upgrade the quality of its health workers.

* Goldman, Nutritional Status of Young Children in Assaba Oases, March 1983.

** State of the World's Children Report, UNICEF, 1982.

The MOH is gradually shifting resources from an urban-based health service, dominated by curative medicine, to a primary health care system with emphasis on preventive care. Currently only 30% of the total population receives some measure of health coverage, and two thirds of that group are urban dwellers. The socio-demographic characteristics of rural Mauritania make extending the current health delivery system, particularly costly and difficult. In 1980, Nouakchott, with 12% of the national population, had 58% of the hospital beds.

Several key constraints severely impede the MOH's ability to attain its principal policy objectives. These are: lack of a reliable health information system and severe budgetary constraints. In addition, there is an insufficient number of trained health cadre. In 1981 among the 88 physicians in Mauritania, only 23 were Mauritians and of these, half functioned in administrative positions.* Of all the categories of health personnel only nurses have been trained in sufficient numbers (see table III B1). The problem of manpower insufficiency is compounded because training has been oriented to hospital-based curative care rather than to primary health care.

c. GIRM Health Structure and Program

In order to understand the organization of the Ministry of Health (MOH) and how it will achieve a new emphasis on primary health care, it is necessary to describe the major organizational components of health services. The MOH is divided into three main divisions:

- 1) the National Health Center
- 2) the Department of Health
- 3) Pharmarim

1) The National Health Center (NHC) is primarily a scientific center that studies problems relating to the prevention of disease, that formulates research studies in health, and develops pilot programs prior to their application nation-wide. It focuses on research and evaluation of preventive programs. In the past, NHC has conducted studies in epidemiology, protection levels of the Expanded Program of Immunization (EPI) and nutrition. NHC receives significant financing from the Peoples' Republic of China and has a large number of Chinese health professionals working on its staff.

2) The Department of Health is responsible for the following central services: preventive medicine, maternal and child health, the national hospital, the national anti-tuberculosis service, the equipment and supply service (known as Pharmapro), planning and studies, and the National School of Public Health. These services are directed to an organizational network consisting of twelve regional health units and the District of Nouakchott.

* WHO 2nd semester report, February 1982.

The program activities of the Preventive Medicine Services and Maternal and Child Health Service (PMI) have a great degree of relevance to this project. The Preventive Medicine Service covers six major program areas: immunization, hygiene, health education, school health, the control of endemic diseases and the promotion of nutrition. PMI activities include surveillance of infants, children, and mothers, pre and post-natal care, childhood immunization, nutrition monitoring and rehabilitation. The Expanded Program of Immunization (EPI) began in October 1979 under the auspices of the Preventive Medicine Service, with the objective of immunizing within a five-year period 86% of the children against tuberculosis, diphtheria, pertussis, tetanus, poliomyelitis, and measles. Maternal and Child Health personnel have collaborated with the vaccination campaign which now targets children 0 to 5 years and pregnant women.

There is an Office of Health Education established now within the Preventive Medicine Service, but the program has been slow in getting started. WHO has assisted this program by providing guidance on the establishment of a national policy for implementing health education. There is a lack of training materials and thus far too little training of the trainers in this program. In urban areas, a few school health programs are being initiated.

Nutrition promotion is achieved in collaboration with the MCH and primary health care units. There are 25 MCH centers throughout Mauritania at present, with plans for UNICEF to construct additional centers. These centers provide integrated curative and preventive services to mothers and children; educational activities in hygiene, nutrition and home economics; primary health care services oriented toward rural populations; recovery and rehabilitation in cases of malnutrition and some family welfare services. The nutrition rehabilitation component is financed by UNICEF and Catholic Relief Services and operated through rehabilitation centers for severely malnourished children, these centers, known as CRENs have been established in all MCH clinics throughout the country and selected community feeding centers run by the MOH. Peace Corps volunteers assist in the Centre de Rehabilitation et d'Education Nutritionnelle (CREN) program by providing health and nutrition education. Over the last six years the MOH has progressively become more involved in experimenting with and developing different PHC activities in Mauritania. The GIRM has nascent PHC programs in place in most of the regions. Community health workers and first aid agents have been trained in Trarza, Adrar, Assaba, and Guidimaka. Traditional birth attendants (TBAs) have been trained in 10 regions. Each program has utilized varying animation approaches; training content, format and length of training; community financing mechanisms; selection criteria, and supervision and referral systems. For detailed descriptions of PHC activities in Mauritania, see Annex 10 Health Programs in Mauritania.

Family planning services are not currently a formal part of the health services delivery system in Mauritania. Family planning, even as a term, is not used. Instead, the term "family health" is acceptable. The 1920 French law prohibiting the use of contraceptives

is still in effect although not enforced. Certain contraceptives such as pills, IUDs, or injectables are available although all require a doctor's prescription. Female sterilization by laparoscopy has been available since 1981 at the Central Maternity Hospital, the director having been trained at Johns Hopkins (JHPIEGO program). Family planning information is being introduced into maternities through post-partum education activities and through MCH centers' nutrition education and pre and post-natal care programs. In Nouakchott, the MCH centers provide monthly family health and information sessions for men which include information on nutrition, child care and child spacing. Involvement of USAID thus far has been through information sharing and training activities for Mauritanian health personnel at decision-making levels. A key constraint for further development of family health activities, however, is the scarcity of health personnel with any knowledge of or motivation towards promoting birth control. Eight Mauritanian physicians have received training through JHPIEGO and several nurses have receiving training in the United States under UNFPA sponsorship.

3) PHARMARIM. A quasi parastatal organization under the direction of the Ministry of Health was started in 1975. Following a decision of the Fourth Party Congress, the pharmaceutical sector was nationalized. Pharmarim was then created to enable the population to buy medication at a low cost. It imports and sells pharmaceuticals on a commercial basis. There are outlets in each of the regional capitals as well as six private stores, 3 of which are in Nouakchott. Pharmarim handles over 3,000 items from 50 different laboratories.

A wider variety of donor organizations has provided financial assistance to the GIRM's MOH. Much of this financing has been spent on infrastructure construction and renovation. WHO and UNICEF have been extremely active and have provided considerable technical assistance to MOH officials. The U.S. Government has supported the development of different types of health activities through USAID and Peace Corps. Other foreign governments have made sizeable contributions especially to the national nursing school and national hospital. Seven private and voluntary organizations play an active role in health in Mauritania, focusing especially on PHC activities. For a more detailed description of other donor assisted programs see Annex L.

2. Project Rationale

a. Project Strategy

Since endorsing the 1978 Alma Ata Declaration of the World Health Organization for the provision of primary health care services, the GIRM has made a commitment to the development of a national PHC system based on increasing community participation and financial responsibility.

The Ministry of Health (MOH) is well aware that it cannot touch the majority of its population through classic health services based on high-cost, urban-based delivery models. The MOH recognizes that to develop and implement a comprehensive national PHC system, further changes are needed. The MOH is making innovative changes and is demonstrating its determination to provide PHC services to rural populations. Over the last six years the GIRM has piloted a series of small community-based health activities. It has also set up the organization of a national Expanded Program of Immunization.

The Rural Health Services Project has been designed to respond to the principal needs of the GIRM by: (1) promoting the emphasis on primary health care begun under the two major ongoing USAID health activities - the Expanded Program of Immunization (EPI) (625-0937.05) and the Rural Medical Assistance Project (RMA) (682-0202), and (2) targeting its resources on selected priority health problems for which there are proven cost-effective diagnostic, prevention and treatment technologies, including measles, acute diarrheal illnesses, and malnutrition. However, the GIRM has reached a critical point in the development of its discrete health programs and services. Demonstration and pilot programs in PHC have not been coordinated and there has been little assistance towards establishing a mechanism for integration and coordinating. USAID will assist the MOH to institutionalize a national PHC policy and structure; retrain health personnel in preventive service delivery and supervision; train new TBAs and CHWs in joint programs; develop supervision systems which are efficient and less costly; and develop management, financial and information systems which can maintain the services after completion of foreign technical assistance.

The project strategy was developed in close coordination with MOH and Ministry of Plan officials and fully reflects GIRM strategies, goals and plans for the next five years.

b. Relationship of Project to AID Country Strategy

USAID's strategy in Mauritania has been to assist the government in improving the economic and social conditions of the rural population. Based upon experiences in recent years priorities have been modified to address identified weaknesses in the area of institutional development and policy reform.

The draft FY 85 CDSS for Mauritania emphasizes USAID's catalytic role in promoting the shift from an urban-based, curative approach to health to a primary health care system which focuses heavily on the rural sector and on preventive care. A PHC system is deemed the most technically sound and cost effective approach to combat continuing major problems of infant mortality and adult debilitation caused by high levels of parasitic and communicable diseases in the country. The key goal of the strategy is to reduce the health impediments which hamper the Mauritanian population's ability to improve general productivity and agricultural output in particular.

The project is closely linked to all four of the principal targets of AID policy for development:

Policy Reform. The RHS Project supports important GIRM policy reforms aimed at the development of a national PHC system stressing preventive medicine, active community participation, development of fee for service systems, full integration of vertical delivery systems, and privatization of pharmaceutical distribution with eventual recurrent cost savings to the GIRM. The project is designed to promote the consolidation of these policy reforms into viable national programs which can be maintained by the GIRM after the project's completion.

Private Sector. The establishment of a drug distribution system, which utilizes in part privately owned and operated enterprise is in the incipient stage in Mauritania. The project will support this movement through market studies and assistance to the parastatal, PHARMARIM, the central pharmaceutical supplier, to improve its record systems for stock ordering and control. The project will also continue support to the MOH policy of increasing community responsibility for primary care services.

Institutional Development. The project assists in the GIRM's development of an institutional component of its PHC program - the National Commission for Primary Health Care. Strengthening of institutional capabilities will be accomplished through training; integration and referral services in regional, departmental, and community settings; and technical assistance for improving financial and information systems. Managerial, technical, and planning skills will all be reinforced through the establishment of a series of workshops and seminars for different levels of health cadre; systematic collection of cost information and baseline data; and assistance in defining lines of authority and communication. Throughout the LOP there will be an ever-increasing transfer of project responsibilities to the GIRM, based upon assessment and monitoring of the GIRM's absorptive capacity.

Technology Transfer. The project will support through its technical assistance and training program the transfer of proven techniques and essential equipment necessary for the successful implementation of a primary health care program. These include materials for the prevention and/or treatment of priority health

problems. Technical support and training will also be provided to complement the procurement and installation of cold chain equipment for the immunization component of the project. Techniques will also be introduced to aid the MOH in data collection and analysis, and commodity management.

In summary, the RHS Project is in accordance with and supportive of the USAID/Mauritania strategy. It addresses key aspects of AID's priority concerns and responds to Mauritanian needs for policy development and institution-building in the health field.

3. Project Elements

The Rural Health Services Project will provide immunization and community-based primary health care services to rural populations in Mauritania. Immunization programs will be strengthened in all twelve regions while integrated PHC services will be expanded into Guidimaka and one other region in addition to Trarza. The following section describes the project's goal and purpose, and outlines in detail its various components including the community health worker, support for EPI, national PHC integration and research activities.

a. Project Goal and Purpose

The goal of the Rural Health Services Project is to improve the health status of the Mauritanian people in order to enhance their productive capability. The purpose of this project is to improve the effectiveness of the national Expanded Program of Immunization and to develop an expanded and integrated community based primary health care system in three selected regions.

Included in this integrated approach to PHC are the following objectives:

1. basic health services are to be extended to a large percentage of the rural populations of three regions, with EPI covering 60% of the target population nationwide;
2. selected PHC interventions will be delivered by CHW teams with drugs and services financed through community support in the three CHW regions;
3. collaboration will be fostered between EPI and fixed center health personnel in implementing supervisory and referral mechanisms;
4. a uniform national primary health care curriculum will be developed; and
5. a data base and information systems will be designed and implemented.

b. Project Outputs

The project's purpose and its five underlying objectives will be attained through the four interrelated components outlined below:

(i) Community Health Worker Program:

The project's integrated strategy calls for the formation and retraining of 150 CHW teams in Trarza and the selection, training and retraining of another 100 such teams in Guidimaka and the third region (to be selected in consultation with the Ministry of Health in year two or three of the project). The TBA and CHW will be trained to work closely together in their respective villages, and will be jointly

supervised at least two times per year by a nurse accompanying the region's EPI mobile vaccination team. These mobile vaccination team visits will also serve as opportunities for EPI personnel to provide limited first aid, screen and refer cases to fixed facilities and collect data supplied by CHW team records.

This integrated approach offers three significant benefits. First, it permits the MOH to combine three separate rural health programs, which now employ separate mobile infrastructures: EPI, TBA supervision, and CHW programs into one mobile integrated PHC team system. This will be accomplished through the coordination of the various services at the national level and the addition of a supervisory nurse to each integrated mobile team. Second, the development of a CHW team consisting of a TBA and a CHW will permit more complete, coordinated, and standardized health data collection and reporting throughout the system. Finally, coordinated training of CHWs and TBAs as a village team may eliminate the need for two separate teaching staffs, curricula and facilities.

(a) Selection of Villages. In the Trarza Region, the RMA Project (682-0202) has sensitized almost every village in the area. A total of 192 villages have participated in the program and upon completion of the project over 225 villages will have a trained community health worker providing services to its members. Based upon the Trarza experience, careful attention must be paid to the size of the community (whether it can adequately support a CHW), its ethnic composition, total number of villages within each department, and a village's proximity to nearby health care facilities. These initial guidelines may vary and need to be re-examined when new regions are being considered. Their validity for different geographic conditions and ethnic make-up may require modifications in procedures for selection of villages.

Mauritania's cultural diversity is clearly evident as socio-demographic factors are considered for each region. With the use of new integrated PHC supervision teams, a new variable is added: the selection of villages at assembly points for the vaccination campaigns. This poses certain difficulties when considering the next region to receive this type of PHC services, the Guidimaka Region. The major ethnic group in Guidimaka is the Soninke who often live in larger villages, with as many as 3,000 inhabitants. These larger villages may require the selection of several village health workers, possibly by quartier or family group within the village. Other villages are extremely small, under 200 residents who represent an entirely different ethnic group. Not including these villages would eliminate a whole ethnic subset from the program. Project staff may want to consider the idea of using a health catchment area, encompassing several villages within close proximity to each other.

A community health worker would be responsible for 3-4 villages, all with 2-3 kilometers of each other, and would live in the larger village. In this case a joint committee, composed of village representatives, would be selected. The CHW would serve nearby areas

on a fee for service basis. If this alternative is needed, program details would require in-depth analysis.

In addition, the Guidimaka region has a considerable rainy season which makes certain roads and transportation almost impossible for up to 4-5 months per year. This factor must be taken into consideration for the selection of villages.

Important lessons have been learned from Trarza but require adaptation and revision for other regions in Mauritania. For example, many communities in Guidimaka are quite cohesive. Unlike Trarza, there is strong evidence in some villages of community cooperatives and projects. This may be a criterion to include. TBAs have been trained and in the near future, the Mauritanian Croissant Rouge Society (CRM) will be training first aid workers. Previous development projects have done training of veterinary medicine at the village level. The program may want to consider these existing village resources in the selection of key villages to be included in the program.

A team composed of project personnel will make an initial assessment of villages to be contacted and should make field site visits to confirm their analysis. Representatives from regional, departmental, and fixed center health facilities should participate in all phases of village selection. Careful attention should be given to the collaboration between this project and the proposed PHC program being implemented by CRM.

Inputs: Two teams, composed of two project nurses, and possibly a health staff member from the area, will do an initial assessment of potential villages to be selected. Project personnel will develop appropriate criteria for village selection and conduct in-depth discussions with administrative and government officials.

(b) Formation and Role of Village Committees. The most critical element in the success of the project will be the measure of support it receives from the communities involved. The approach of this project to meeting the primary health care needs in the rural areas draws on community support for: (1) identifying and choosing the CHWs for training; (2) supporting the CHWs by compensating them in the most appropriate manner; (3) generating funds from the community for the regular supply of medicines for the CHW; and (4) increasing the community's self-awareness of their own responsibilities and capabilities for improving their health status.

The RMA Project has had extremely favorable outcomes in working with village committees in Trarza. Initially, it was believed that specific health committees needed to be put in place, but project personnel have observed that a general development committee, may be more appropriate. The committees are composed of leaders and elders from the community, other important members of the community - businessmen, government officials, teachers, etc. The project has requested each committee to include a female representative and, if possible, a representative from the youth of the village. In many of

the villages the commercial sector has been included in the committee composition as they are often the ones asked to provide financial backing for the resupply of medicines or salary contributions to the worker.

One of the criteria for dropping a village from the program is if the committee has not met on a regular basis. This is often difficult for the nurse supervisor to ascertain. A lesson learned from Trarza and a need to be addressed by the new RHS Project is the strengthening and specific training of the committee. In the past, the committees have been loose structures with which the project personnel have met upon their arrival in the village. The RHS project proposes to reinforce this committee by bringing one or more village committee representatives into the training site, if possible. The members will observe actual training and receive some basic training in the financing of PHC services. Advice will be provided on fee scales for the village pharmacy and guidelines on community financing for the community health agent. Different approaches may be tried in the training of committees in order to make the training inexpensive, practical, and relevant to each specific village.

Again relying upon the Trarza experience, it has been noticed that there seems to be a correlation between the strength of the village committee and the quality of sensitization that was provided by project staff. Quality control at the project level will assure that at the village level there is maximum participation, involvement, and understanding of PHC. In the future, the new politization and mass education program (Structure d'Education des Masses SEM) will need to be considered. Linkages between the SEM structure and the village health committee may prove extremely useful.

Health care personnel from the region or department will be key contacts and will serve as project staff for assisting and training in the formation of village committees. It is important to have as much local participation as possible in order to assure continuity of follow-up and future supervision.

Inputs: The Health Education/Training Advisor will assist project staff to develop guidelines to be used in the field for the establishment of village committees. Two teams composed of project trainers/supervisors, will work at the village and/or project site in the training of the committees.

Considerable input needs to be made by project personnel on the community sensitization phase. It has been demonstrated in the past that significant amounts of discussion about the project's objectives, the selection criteria, the role of the village committee and CHWs, and community involvement must take place. The project personnel will have this component as their first training piece. This information-sharing and training will be time-consuming and must be well scheduled and organized in order to strengthen future community participation, commitment and support.

(c) Selection and Training of CHW

Selection

The initial selection and training of the CHWs are critical. They will be chosen by the community health committees (CHCs), based on certain criteria. Initially, there will be one CHW trained per community, but in larger communities, there eventually may be more than one.

The RMA Project has used the following criteria for selection of the community health worker: resident of the community; married if possible; other financial means of support; over 25 years of age; literate (Arabic or French); leadership capabilities; and appropriate representation from the ethnic composition of the village. Basically, the CHW should be a stable member of the community who is service-oriented; able to learn quickly and accept new responsibilities; able to travel; and is reliable and highly motivated. Although Trarza has had only two years of experience with CHWs, there has been an extremely small percentage of attrition among those trained workers. The main criterion responsible for this success has been that the agent has been a stable member of the community. Often a young woman selected by the community will marry and move to another village. The same holds true for a young man who may seek work in an urban area. Project personnel in Trarza have felt that these criteria have not been emphasized enough when working with the village committees. Age is key. Those too young are more likely to move while those elderly members of the community often have strong adherence to traditional beliefs and practices as well as difficulty in learning and performing adequately.

In the social soundness analysis section, there is evidence that in one of the new regions, Guidimaka, there is a heavy outmigration of the male youth. Men return after 40 years of age. In addition, men have absolutely no responsibility for young children within certain ethnic groups represented in that region. Careful social assessment must be made of cultural and demographic characteristics of these groups in order that respected and known community members are chosen as the community health workers. It also requires an in-depth community awareness process on the part of the community organizers, trainers, and supervisors in order to assure that the Trarza model has been revised to be culturally suitable for Guidimaka. The criteria for the third region will also have to be carefully reviewed as criteria for community health agents will vary according to the level of activity of the "education de masse" program. Political and cultural variations between regions will also affect the criteria to some degree.

The selection of traditional birth attendants, in Guidimaka Region is largely accomplished. Thirty-six TBAs have been selected and trained. Whether these are from the same villages that will be selected for inclusion into the CHW team program remains undetermined. The availability of a previously trained TBA by the Maternal and Child Health Service may assist in determining village selection. The project staff must work with the MCH staff in refining the criteria

for TBA selection and assist all health personnel in informing communities of the team approach to PHC delivery. Additional TBAs, to total 50 project villages in the Guidimaka Region, will need to be recruited. Given the need for cooperation and interaction between these community-based health team members, it may take several visits to a community to reach the stage where the people are prepared to participate in the project.

Careful attention must be paid by project staff to the adherence of these criteria by the village. Past experience has shown that during these initial steps, project personnel could have intervened to prevent the anticipated later drop-out and/or inadequate performance of the community health agent.

In Guidimaka, it is uncertain whether the Mauritanian Red Crescent Society (CRM) will have undertaken its first aid worker training by the time of project implementation. If first aid workers are available in the communities, the CHWs may be chosen from among them. If not, CRM would still be able to provide a base for cooperation in community health education and support for the efforts of CHWs.

Inputs: Project staff, four nurses forming an animation team with personnel from nearby dispensaries and in particular the PMI(s) will visit each community initially to explain the goals of the project, the PHC team approach, the responsibilities of the community, and selection criteria for the CHW team. Criteria will be revised accordingly by project and regional health staff. The national PMI personnel will collaborate with the project technical advisor on selection and community organization issues concerning the TBA.

Community Assessment

After a village has agreed to participate in the program, a CHW team has been selected, and it is assured that the community is truly interested and committed to the project purpose, a community survey should be conducted. Currently in Trarza project, the staff conducts two different surveys - a socio-demographic study and a household census survey. This is time-consuming for staff, is costly to the project, and provides a quantity of data that is difficult to handle, compile, and analyze. There have been long delays in processing the data; therefore it has been of minimal use for revising training methodologies and format, and relating to CHW needs and subsequent follow-up. The GIRM has indicated strong interest in strengthening but also streamlining this data collection process so that it may be useful for their own planning and policy reform needs.

In order to develop more appropriate training sessions and be responsive to a village worker's specific community health problems, an initial epidemiological study should be conducted. A community survey tool will be developed by a short-term consultant that will condense the two previously used questionnaires and address areas, focussing more on knowledge, attitudes, and practices around village health care. Disease patterns within the community, infant feeding

habits, health care utilization all should be included. Changes in Knowledge, Attitudes and Practices (KAP) and epidemiological patterns can hopefully be monitored. Current project staff from Trarza have suggested a mini-economic analysis be integrated into the study to provide some guidance on a community's possibility to support development efforts such as PHC. Survey work carried out under the Structure d'Education des Masses must also be taken into consideration.

Inputs: A one-month technical consultant will provide assistance during the first six months of the project to develop a community survey tool. The questionnaire will be prepared in collaboration with past and current project staff, USAID, and GIRM officials. Several prototype survey tools exist in-country that should be reviewed. The tool will be pre-tested by MOH project personnel and revisions made. Information and data obtained will be used by staff for training and planning purposes.

Task Analysis/Job Description Process

The job description of a CHW should evolve gradually, based upon Trarza's experiences and throughout the life of the RHS project and other PHC programs in Mauritania. The ultimate refinement will be shaped significantly by the communities and colleagues with whom CHWs will work.

Refining an appropriate role for CHWs is one of the most critical factors in pre-training design. CHWs should not be defined by what they do alone, but by what they do with others. Ideally they:

- respond to patients seeking treatment;
- identify and refer patients they cannot adequately treat themselves;
- seek out persons needing special services or follow-up care;
- work closely with local residents to identify and resolve community health problems;
- cooperate with supervisors in evaluating and improving performance;
- collaborate with other development workers, including agriculture extensionists and school teachers;
- assist traditional birth attendants and other health-related practitioners in their activities.

Many aspects of the job description influence training but two are especially important: (1) the relative emphasis on curative versus preventive health activities; and (2) degree to which the CHW will depend upon community support both for financial compensation and for the success of his/her own work. The source of CHW compensation is

critical to their job descriptions and to the indispensability of broad community participation. A task analysis has recently been developed by the Trarza project personnel, see Annex H which will be useful when assessing whether the present training materials correspond to duties performed by the CHW in the field. It seems that the Trarza-trained CHWs have concentrated on curative activities. Educational activities are minimal. The new CHW project component should re-examine whether training or supervision has been deficient in emphasizing preventative health care or whether community demands and incentives determine CHW health priorities.

Inputs: Project personnel will refine task analysis based upon epidemiological and socio-demographic data collected from new project regions. Performance reviews conducted by nurse/supervisors will assist in determining number and quality of functions.

Training

The effectiveness of community health work depends on many factors, only a few of which are related to training. Programs, therefore, must balance training support with support for supervision, logistical improvement, management, and evaluation. Pre-service training is only the start of CHW learning and may have less to do with their ultimate effectiveness than in-service education and other field support. The training of effective supervisors, for example, will affect, on-going continuing education needs of the CHWs provided by this cadre of personnel.

This project will furnish a wide array of training activities and opportunities, aimed at every level of the GIRM health infrastructure, to sensitize concerned parties to the roles of the CHW teams in the nation's PHC strategy. Training efforts will respond to needs of: national decision-makers and managers/regional health officers, rural nurses, community health workers, and other extension agents working in community on health-related programs. Training events will serve to focus special attention nationwide on PHC services; establish a body of better informed and knowledgeable health personnel; develop more effective communication channels between health persons working at national, regional, and departmental levels; and establish integration mechanisms between different services and organizations. Training will be developed to correspond to needs, problems, and expectations of each group. Format and technical subjects will vary based upon trainee expectations and level of expertise. The following training will be provided by the project:

- 1) Pre-service training of CHW teams.
- 2) In-service training of CHW teams.
- 3) Training of project personnel, trainers, supervisors, planners and evaluators.
- 4) Training of village committees.
- 5) Training of EPI personnel, both mobile team nurses and PMI staff nationwide.
- 6) PHC training events at regional and departmental levels in project target area.

- 7) Workshops and specific technical seminars at national level.
- 8) Short-term and long-term training opportunities in third-country settings.

A detailed narrative of training activities, training implementation plan, and budget are found in Annex H.

Input: The two long-term technicians in particular the Health Education/Training Advisor, will coordinate and provide assistance in setting up and planning all training activities. The GIRM project director, coordinator and other MOH personnel, especially PMI personnel will have an active role in planning and implementing these efforts. Other donor agencies and collaborating organizations will provide assistance as needed. The MOH will furnish two nurse coordinators to the project who will oversee training activities at the region, department, and local levels. Four other trainers will be selected by MOH and project personnel to conduct training for CHWs and assist in developing other continuing education programs. In addition, upon completion of the CHW training in a region, the MOH will provide a nurse/supervisor for inclusion on the EPI mobile team. Short-term technicians and the USAID Health office will be involved in assisting project personnel to develop overall training strategies.

(d) Supervision and Referral. Supervision is the critical element in all PHC and village based health care services. It is a means to motivate and boost the morale of field workers; to provide continuing education and advice; to enhance field workers' credibility in the eyes of peers; to assess the quality and quantity of field worker efforts; and to gather other information which can be fed back to program planners, administrators, and evaluators.

Because supervision entails such expenses as vehicles, vehicle maintenance, fuel, salaries, and per diem and because it often is suspended without immediately noticeable interruption in service delivery, it has frequently become a neglected aspect of many of the PHC programs in Mauritania. The RMA project has maintained a rigid adherence to a strict supervisory schedule. Intensive follow-up has been provided to the CHW immediately after training and for several months, thereafter. During these visits, the nurse supervisor conducts post-test exams, control of medicines, review of village committee involvement, collection of CHW records and accounts, and some data collection of the village. Supervision has been extremely time-consuming and costly for the project. Other weaknesses identified are: lack of quality control among CHWs, no consistency in meeting specified performance criteria for CHWs, and inadequate back-stopping for the weaker CHWs. In-service training and workshops have been provided to trainers/supervisors on supervisory functions, management, and techniques.

In the RHS Project, one supervisory approach to be tested will be the transfer to the EPI mobile teams the responsibility of CHW supervision. In each of the project regions a trained nurse/supervisor will be assigned the task of providing support and back-up to the CHWs. It is important that these supervisors have had

prior experience in the village sensitization phase and have participated in the CHW training. Maintaining continuity of personnel and on-going contact between CHWs and key PHC program staff is essential to institutionalizing and building up strong referral systems and supportive networks.

During this first year, this approach will be used and assessed in the Trarza Region. In addition, an alternative approach has been proposed by the MOH: the use of specific PHC fixed center personnel, to supervise CHWs in nearby areas.

The project staff will have to assess over time the experimental components and demonstration models for supervision. It may be extremely complex and difficult to maintain. Training of the other EPI team members in the necessary tasks and duties of the nurse/supervisor will be necessary as well as an orientation to the concept and framework of PHC services. Compromises in schedules and division of responsibilities will need to be made by all concerned parties.

This supervision model, however, should only be used once the CHW has received an intensive supervision period, immediately following training. Those project personnel involved in the community analysis, sensitization, and training phases should, subsequently, provide immediate follow-up visits. Specific attention should be given to those performing poorly during training or if there is evidence of a lack of community support.

An important element missing in the RMA Project was the involvement and inclusion of existing health facility personnel in supervision. If it is not possible to include these persons during the EPI mobile team visits, these medical personnel should participate in some of the initial supervisory assessments.

Throughout all project activities fixed center, dispensary and PMI personnel have been included and integrated. It is of particular significance to underline the importance of their active participation with and involvement in CHW efforts. The major element to strengthen is the referral system mechanism.

CHWs must become familiar and feel comfortable with the health personnel closest to their village. CHWs and health center staff together must establish referral guidelines in order to select efficient and effective routing patients for appropriate diagnosis and treatment. Supervision is an excellent time to examine referral needs and patterns for the CHW. The CHW will require feedback on his selection of the infrastructure level he utilizes for common referrals.

Fixed center personnel must understand the primary care services being delivered by the CHW in the field and be supportive towards receiving the referrals at the health center. It should not be viewed as an additional burden or workload. Referral mechanisms will be a key topic to be addressed at the annual integration seminars, held at

the regional and departmental levels.

Project personnel will need to continue to monitor whether CHW teams are receiving adequate and quality supervision. EPI teams may have irregular and infrequent schedules. The workload of the EPI team and the amount of time available may require substantial revisions in the duties and responsibilities of a CHW supervisor. Alternative options for CHW supervision will need to be continually explored.

Inputs: In Trarza two trainers will be selected from existing project personnel, to become the nurse supervisors on the two EPI mobile teams covering the region. Regional and departmental level personnel should be advised when these teams are visiting the CHW teams. In the other two target regions only one nurse/supervisor per region will be placed on the mobile team. A maximum of four nurse supervisors for CHW will be selected to be included on the EPI mobile teams in the three target regions (two will serve in Trarza as there are two mobile teams). This person will only be transferred upon completion of their project training and other program responsibilities, to the new supervisory role within the EPI structure. It is critical, whenever possible, that the PMI personnel be utilized and included in any supervisory arrangements in order to continue the assessment and monitoring of the TBAs.

A four-wheel drive vehicle provided by AID will be used in Trarza by the initial supervisory team and an additional vehicle will be provided for subsequent use by the EPI mobile team. Project personnel will provide technical assistance in developing: guidelines for supervision, a timetable for follow-up visits, tasks/duties of a supervisor, training in supervision techniques for EPI nurse/supervisors, and a practical monitoring system for supervisors to assess CHW performance.

(e) Community Participation and Financing. The provision of health services alone is not expected to resolve complex community health issues. PHC programs are planned to stimulate group health improvement activities and affect community-wide behavioral changes. These programs depend in part on communities for financial and organization support. Community participation is usually demonstrated as follows:

- organization - provide volunteers to serve as CHWs, select CHWs, organize and support village health committees.

- financing - compensate CHWs, pay for drugs, consultations, transport, etc.

- health improvements - contribute labor and local materials, identify and seek solutions to health problems, plan and initiate self-help activities.

The RMA Project has been extremely successful in working with the villages in the Trarza Region. Community participation has been adequate. Communities in most cases have respected the selection criteria and organized village committees. As discussed in the

previous section on village committees, those committees which have floundered might have been better supported through training on specific topics. Communities with which the project has worked, have demonstrated innovative and different ways of compensating the CHWs. Each community has a different mechanism for financial support. It will be important for future replication of community-based reimbursement schemes to identify which systems of support are the most viable and practical over an extended period of time.

Inputs: The project proposes to conduct an operations research review of various financing schemes developed by village committees. An analysis of their feasibility will be done and recommendations made to project personnel and the National Commission on Primary Health Care. Additional training will be provided to village committees to assist them with problems they encounter in financing PHC services. In particular, personnel will focus their attention on working with communities to assist them in supporting CHW activities and in becoming involved in initiating community-sponsored projects.

(f) Health Education

Health Education Curriculum and Resource Centers

Health education has been identified as a priority by the MOH for Mauritania. Much attention has been focussed on this technical area over the last few years and, in fact, the MOH has established a working committee in health education composed of various health services representatives as well as members from international organizations. The technical advisor and project director for the USAID RMA Project serves on the committee. The MOH has also established an Office of Health Education within the Preventive Medicine branch of the MOH. In both cases the office and the committee are beginning to define health education needs and examine resources that are available.

This project will assist the GIRM to develop a national health education strategy, including a strong nutrition education component, and produce a core PHC curriculum that can be used by CHW trainers, CHW teams, and other health personnel such as EPI nurses. In addition, the project will develop a set of teaching materials with accompanying visual aids for use by CHWs in their villages and/or by health personnel in the training of CHWs or specific clinic sessions, well-baby clinics in PMIs, etc.

Consensus on specific technical content and format for the PHC curriculum will be determined by a national workshop. These recommendations, in turn, will be approved by the National Commission for Primary Health Care for incorporation into the development of a national curriculum. Upon completion of the curriculum and production of materials, a second workshop will be held to train health personnel in the use of the teaching manuals. The commission at that time will decide what additional workshops or training sessions need to be conducted at the regional or departmental levels under GIRM auspices.

In addition, besides the development of teaching and educational materials, the project will provide an opportunity for health personnel to continue to upgrade their knowledge and information base outside the areas of workshops and seminars. The project will establish a health education resource center within the headquarters for the Council on Primary Health Care which will include a small audio-visual center. This center will also have a small PHC-oriented library that can be used by MOH planners and trainers as well as by faculty at the National School of Public Health. Most importantly, in order for continuing education needs to take place by those working at the outermost levels of the health infrastructure, the project will seek to establish within the three target regions mini health education resource centers at the regional/departmental levels.

Inputs: The Health Education/Training Advisor will assist in the coordination of the short-term technical assistance for the development of the PHC core curriculum and the visual aids. This person will also be responsible for working with the consultants on various approaches to the core curriculum so that they may be used for a variety of purposes. The project advisor and project director will work with GIRM health officials to develop other educational materials, such as aide memoires; and on sessions on PHC for the nursing school. All project staff will be responsible for assuring that the educational component is culturally appropriate and has been pretested in a diversity of settings. Other health education needs will be provided by the health education advisor. It will be his/her function to work in close collaboration with PMI and Preventive Medicine personnel. In particular the Office of Health Education will be a prime point of contact. All project personnel will assist in the needs assessment for setting up the audio-visual center (film and slide projectors, audio-visual teaching materials, etc.) as well as establishing mini-resource education centers in the project regions.

Radio Component

Few PHC programs have used mass media to support their efforts and to stimulate greater awareness of and interest in health. Mass media has great potential for stimulating receptivity toward preventive health activities and for raising the health consciousness of the population. In the current RMA Project it had been proposed to pilot the distribution of small hand-set CB-type radio systems. This was never implemented, but there continues to be great interest on the part of ministerial officials to develop effective radio messages in health.

Radio can be used not only to deliver short information sessions on particular health or nutrition problems, but also to share different PHC experiences and case studies within Mauritania, possibly using some of the CHWs; and to inform rural populations of scheduled EPI or other PHC-oriented visits to their community.

Inputs: A mass media specialist (central funding) will assess over a one month period the practicality and feasibility of developing such a

component. It will be done in collaboration with the MOH Office of Health Education the local radio station, and project personnel.

Drug Supply

Worldwide experience with community health worker programs shows that a CHW's effectiveness and acceptance in the community is positively related to the CHW's ability to meet the local demand for drugs. Initial information from the PHC project in Trarza suggests that the program there has increased the demand for medicines whether provided free of charge by the hospitals and dispensaries (Pharmapro) or purchased from the subsidized Pharmarim outlets.

Upon successful completion of initial training, each CHW will receive a CHW kit, fully stocked with simple tools and equipment and a three months' supply of drugs and material. Resupply of the drugs will be the responsibility of the CHW in coordination with the community health committee. Currently this is accomplished in a number of ways including: (a) fees charged for drugs and/or services sufficient to meet replenishment needs; (b) village-wide contributions collected to cover the costs; or (c) certain wealthy villagers meeting the financial responsibility for the entire village.

The logistics for obtaining drug resupplies is likewise diverse. In theory the CHW or other community agent is encouraged to resupply through either the Pharmarim pharmacies in the regional capitals or the few private outlets sprinkled throughout the country. Pharmarim and the private outlets sell the drugs to the CHW at a discount sufficient to cover the CHW's transportation or other expenses. In reality drugs are also requested from hospitals and dispensaries or even brought in from Senegal. Since there is not a regular drug supply system which reaches other CHW villages, drug procurement is frequently conducted sporadically on the basis of specific needs or traveler availability.

As noted above, success of the CHW model depends not only on the community's ability to finance drug purchases but also on the presumption that the basic pharmaceuticals used by the CHW will be available at a reasonable price and within a reasonable distance from the villages.

It is clear to government policy makers that the GIRM cannot significantly expand the supply of drugs available free of charge through Pharmapro. Pharmapro's supply already is inadequate to meet demand. Rather the GIRM will depend on the commercially oriented expansion of private pharmarim-supplied outlets to meet future demand.

Currently, the Trarza Region has a Pharmarim pharmacy in Rosso and private outlets in Mederdra and Boutilimit. The only place where drugs can now be purchased in the Guidimaka Region is at the Pharmarim outlet in Selibabi. This project will finance a study that will explore the best way to make affordable but market-priced drugs to expand the systems in the three regions affected. And the CHWs will

be trained to appreciate the importance of covering the costs of the drugs provided to villagers.

Nevertheless, a private, subsidy-free drug supply system may not be commercially viable in some sections of the country. Unless some innovative alternative is found, in those cases the CHW or his representative will have to resupply the community drug supply as best they can over long distance. The drug supply situation and its effect on the CHW's will be closely monitored and evaluated over the LOP. Project staff will assist the GIRM in addressing policy reform measures and planning outreach and expansion efforts.

(ii) The Expanded Program of Immunization (EPI)

USAID involvement in Mauritania's multi-donor funded Expanded Program of Immunization (EPI) dates back to 1980, when a \$400,000 Accelerated Impact Program agreement was signed funding over a three year period for commodities, operating costs and the establishment of a central vaccine warehouse in Nouakchott. This project's goal is to reduce the incidence of six communicable diseases among children age 0-5 (tuberculosis, measles, diphtheria, whooping cough, tetanus and polio), the principal contributors to infant and child mortality in Mauritania. Immunizations are currently being carried out by 11 mobile teams based in regional capitals and Nouakchott and 26 MCH fixed immunization centers.

USAID's role in the program's implementation, management, logistical planning, supervision, training and reporting, however, has been minimal. The multi-donor EPI evaluation of 1981 concluded that, in general, the program require coordinated technical assistance to address the variety of program management, logistical support and training problems affecting EPI. USAID therefore plans under the Rural Health Services (RHS) project, to take a more active role in EPI programming and management. The project's interventions in the EPI component fall into three general categories: immunization delivery, program management and cold chain and vaccine handling.

(a) Immunization Delivery. Several major issues will be addressed during the project concerning immunization delivery. These issues include the size and composition of the target population, the emphasis to be placed on fixed as opposed to mobile immunization strategies, the routing patterns appropriate for mobile teams, effective methods for sensitizing and animating villages, and diversification of mobile team activities.

Targeting. After three years of operation, the EPI in Mauritania is at a stage where it must seriously consider reducing the age group which defines its target population. As the program's coverage rate of the 0-5 year old age group reaches its upper limit, it may no longer be cost-effective to vaccinate children aged 3 to 5. WHO has recommended that EPI programs at such a stage in their development, reduce their target populations to the 0 to 2 years age group. Such a modification in strategy would imply a reduction in vaccine requirements and could represent a significant reduction in the recurrent cost burden of the program.

This argument for reducing the target population, however, must be carefully examined in the Mauritanian context, where the low population densities and highly mobile populations of many areas may argue for more gradual reduction in the target population. A detailed statistical estimate of the EPI target population is provided in Annex I. The target population can be expected to vary, however, from roughly 693,000 if the current 0 - 5 age group is used, down to 504,000 if the 0 - 2 age group is employed.

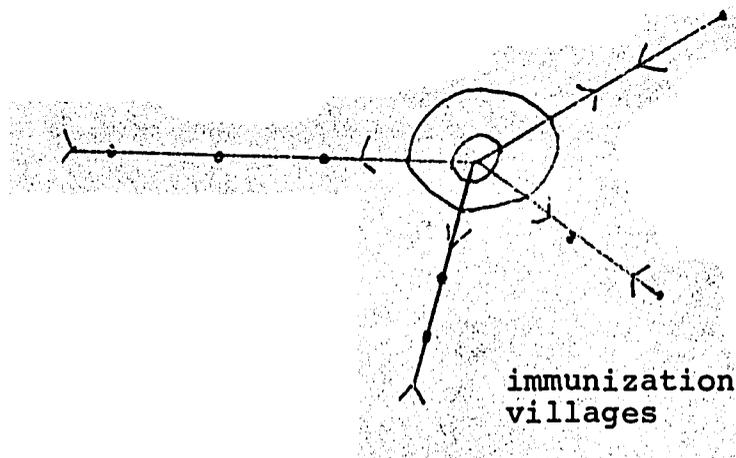
It will be the task of the long term EPI Management Advisor to advise the Ministry of Health (MOH) on this issue. AID will also provide short-term technical assistance in baseline data collection and EPI management to guide project personnel in the selection of the appropriate target population.

Fixed Versus Mobile Strategies. The 1981 evaluation stressed that the EPI program should evolve towards greater reliance on fixed center immunization and reduce its current emphasis on mobile teams. The EPI Management Advisor will work with the MOH to monitor demographic changes in the nation's population, such as rural to urban migration, estimate to the extent possible the current demographic realities in Mauritania, and modify the national EPI strategy accordingly. The project's midterm and final evaluations will provide opportunities to crystallize the issues involved in the choice of fixed versus mobile approaches to vaccination, and will permit for concrete policy dialogue on the subject.

Mobile Team Routing. A major immunization delivery issue to be addressed under this project is the question of the appropriate routing pattern to be followed by mobile vaccination teams. In order to achieve the broadest possible coverage at the lowest possible cost, the mobile teams must maximize the time which they can spend away from the regional capital on each trip, and minimize the amount of backtracking required to accomplish each trip.

In the current EPI program the mobile team follows a routing pattern known as the "radius system". The team, which is based in the regional capital, makes brief one or two day trips to villages along a simple straight-line route as indicated below. It then returns to the base site where it replenishes its supplies and prepares for another one to two day trip.

Figure 1: Radius System

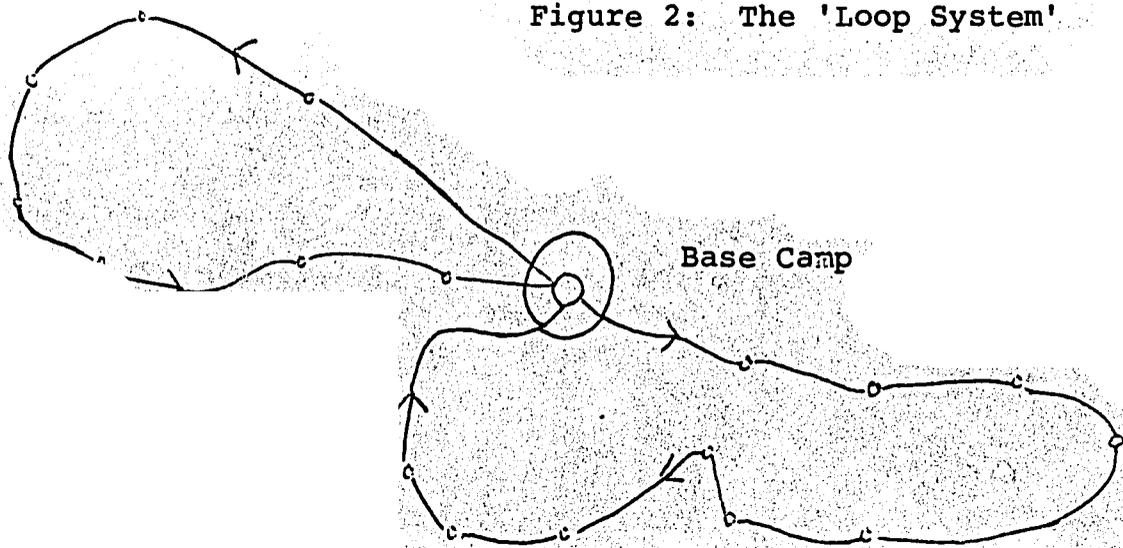


The government has used this pattern mainly because of the lack of adequate vehicle refrigeration and roof storage space to permit longer trips.

This routing pattern has restricted the distance which mobile teams can easily travel from the regional capital and has resulted in inefficient consumption of fuel and time as the vehicles retrace their tracks along each radius without entering new areas.

It has been suggested that major gains in efficiency and coverage could be made by switching to a 'loop system', in which the mobile team follows an extended itinerary of one week to ten days from the base site, stopping at larger assembly points at night. Longer treks than this have also been considered, but the consensus of experienced health workers is that the physical conditions of Mauritania would normally preclude them.

The loop system is illustrated below.



The 'loop system' has the advantage of reaching a larger number of villages over a greater total area because the vehicle is equipped to remain in the field for much longer periods of time. Before this system can become effective, however, the vehicle's cold storage must be upgraded and made to operate on both vehicle batteries and butagas bottles.

A loop system such as the one outlined above can be expected to attract villagers from up to 5 kilometers at each assembly point. These assembly points and their catchment areas, however, will not necessarily remain fixed over the life of the project. In semi-nomadic areas, for example, the teams will have to alter assembly points to correspond to shifting water resources in order to remain close to target groups.

Another implication of the loop system is that different vaccines may be required to permit maximum use of the new system. If the mobile team is to spend prolonged periods away from the regional vaccine depot, for example, it will be more difficult to preserve an adequate supply of the oral polio vaccine which requires lower storage temperatures than do the other vaccines. There is, however, the alternative of using the more stable, but more costly, injectible polio vaccine. As the project introduces longer mobile team trips into various regions, questions such as this will have to be addressed and resolved jointly with UNICEF, which has committed itself to meeting all of the EPI's vaccine needs during the life of this project.

The loop system would also become more effective if fewer repeat visits were required at each vaccination site each year. Currently, the combination DPT vaccine and oral polio are administered in three doses during a given year, while tetanus toxoid is given in two visits and measles and BCG are provided in a single dose. Each community is therefore scheduled for visits by the regional EPI team three times each year. During the life of the project, USAID with the assistance of UNICEF and WHO will test the feasibility of introducing into Mauritania a new vaccine known as "Neotetracoq" in place of the DPT and polio treatments. Neotetracoq is administered twice in a given year, and therefore permits the team to provide roughly the same vaccination level in two rather than three trips. This vaccine would not only permit major savings in operating costs of the teams (which compensate for the high cost of the vaccine), but would guarantee that a larger percentage of those reached would be fully immunized, as a given individual would only have to be reached twice rather than three times, to complete the vaccination series. In order to make this extended routing pattern possible, AID will finance the procurement of ten four-wheel-drive vehicles outfitted with appropriate and durable refrigeration equipment and accompanied by an entire set of vaccination, camping and other equipment to permit the extended trips. AID will also finance fuel and maintenance cost for this fleet during the life of the project. Ten EPI chauffeurs will be trained in the maintenance and repair of the vehicles and their cold chain equipment. Finally, in order to develop optimum routing patterns for each team, the long-term EPI Management Advisor will visit each region in succession, accompanied by EPI personnel from Nouakchott, to plan new routes with the mobile team and the regional medical personnel.

Village Sensitization. One of the weaknesses in the current EPI program is its lack of a systematic method for publicizing its routes and schedules. Advance notification of the team's arrival at a given assembly point currently takes place on an ad hoc basis, usually through word of mouth. The MOH has expressed an interest in publicizing this information over the radio. The EPI Management Advisor will therefore collaborate with the Health Education/Training Advisor to develop an appropriate radio publicity campaign for the EPI mobile vaccination program. Project funds are also available for a short-term consultancy by a mass media/communications expert.

Diversification of Mobile Team Activities. A recent American Public Health Association (APHA) report on immunization programs stressed the importance of diversifying the health services provided by EPI mobile teams to include basic on-the-spot curative services, health education and disease surveillance.* While some diversification of services, particularly in curative care, may significantly enhance program participation, too great a diversification of the team's functions could undermine its primary immunization function, with its stringent logistical requirements. During the project, in-service training courses will be held for EPI personnel to assure that there is a gradual introduction of new skills into their program. The long-term EPI Management Advisor will work with counterparts from the Division of Preventive Medicine to prepare an EPI manual which clearly delineates the tasks and responsibilities of all EPI personnel. The current EPI program lacks clearcut job descriptions for mobile team members and their supervisors, the regional medical officers (medecin chef).

The RHS project will also begin to explore the use of mobile teams to supervise CHWs. Using existing mobile teams in the three target regions, the project will replace the aide position on the team with a trained nurse/supervisor. The nurse/supervisor will examine CHW and TBA health records and monitor the performance of CHW teams in the vicinity of EPI assembly points. The nurse/supervisor will also sensitize villagers to the immunization program, alert regional health officials of epidemics, and reinforce key PHC interventions on the village level such as oral rehydration therapy. The other members of the mobile team will focus primarily on immunization, simple on-the-spot treatment, and necessary village sensitization, as well as compiling and analyzing vaccination records. CHWs in the Guidimaka and third regions would be selected from villages in close proximity to a routing track for the mobile teams, while in Trarza, EPI routing patterns will be designed around locations of existing CHWs trained under the RMA project.

This supervision model already exists on an ad hoc basis in many regions. EPI mobile teams are often found to be supervising traditional birth attendants (TBAs) who were trained by the MCH service (PMI). Occasionally, PMI personnel have even travelled with the team to conduct their own supervision of the TBAs. By incorporating supervision into the tasks of the mobile teams in the three CHW regions, and by carefully planning the routes in advance to accommodate this additional task, the project will increase the impact of the mobile team with little or no negative effect upon its vaccinating capability.

In developing this supervision model in each of the three CHW regions, a key question to be resolved will be whether to select and train a single nurse/supervisor to become a permanent member of the

* Primary Health Care: Immunizations, APHA, October 1981, p. 26.

team charged with supervising the entire region, or to train several nurses and base them in departmental dispensaries from which they can ride with the mobile team to supervise the CHW teams in their department. In larger regions such as Trarza, where there are six departments, it may be preferable to train six nurse/supervisors and make each responsible for the CHW teams in his department. This would permit closer ties to develop between the CHWs and the health personnel at the departmental reference point. In Guidimaka, however, there are only two departments, and it may be more cost-effective there to assign a permanent nurse/supervisor to the mobile team.

To promote the diversification of EPI skills, the project will finance in-service training courses in primary health care for the mobile team leaders. Intensive training will also be provided to all mobile team members working in the three CHW regions to prepare them to assume their supervisory function.

(b) Program Management. The EPI mobile team program is currently managed by a small staff attached to the Directorate of Preventive Medicine and operates out of the central EPI warehouse in Nouakchott. The lines of authority have been confused, however, because the fixed center vaccination activities have been managed entirely by the Maternal and Child Health Service (SMI), an entirely separate administrative division. This lack of coordination and clearly defined functions at the national level has resulted in ineffective monitoring of all field activities, and insufficient, uncoordinated data gathering and analysis.

Program Administration. This project will strengthen EPI coordination and administration by providing four years of long term technical assistance and five years of office space and administrative support to the Directors of Preventive Medicine and Maternal and Child Health to develop a more integrated management system for the program. The project will also provide third-country management training for senior EPI personnel, one long-term training opportunity in public health administration, and several national and regional seminars on EPI management. The long-term EPI Management Advisor will also work closely with EPI personnel to sensitize regional medical staff (particularly the medicin chef) to their crucial role in maintaining smooth EPI operations in their regions.

Finally, the EPI Management Advisor and central EPI personnel will jointly develop an operations manual for EPI, in which the functions of each actor in the program will be clearly defined. The manual will serve as a guide to regional medical authorities who are charged with the function of their regions' EPI activities.

Data Gathering and Analysis. The EPI program currently lacks a clearly defined and effective data collection and analysis system and therefore suffers from a highly inadequate statistical and epidemiological base. It is currently impossible to accurately predict vaccine requirements in a given period or to monitor population movements or progress in program coverage. An intensive two-week course in data collection and analysis will reinforce the

ability of fixed as well as mobile EPI personnel to recognize the diseases covered by the immunization program, adequately report these diseases through statistical aggregation and analysis, and channel results of the data analysis back to regional medical officers. This data collection system will both strengthen the regions' health planning and management capacities, and serve as an essential performance monitoring tool for central EPI staff. It will be the responsibility of the EPI Management Advisor, with the assistance of short-term technicians to revise the existing data collection and analysis system as required to assure its relevance and effectiveness.

(c) The Cold Chain. The 1981 evaluation indicated that ruptures in the vaccine cold chain and vaccine transport system were responsible for considerable loss of vaccine and additional program costs. The project will address this crucial problem at the central, regional and departmental vaccination site levels.

Central Level. Under this project, USAID will be included in the communications network between UNICEF, the vaccine supplier, and the Ministry of Health. Telex notification of the arrival of each vaccine shipment will alert the USAID project personnel in advance of a shipment's arrival. An AID-financed vehicle equipped with refrigerator will pick up each shipment at the airport. The vehicle's chauffeur will be trained to read the temperature monitors located on the vaccine boxes to verify immediately that the vaccine is still in good condition. In case the EPI vehicle is not at the airport when the shipment arrives, Air Afrique has promised UNICEF to store the shipment in an airconditioned room and notify concerned personnel.

The vaccine will then be stored at the central warehouse which is fully equipped with walk-in freezers and an automatic electric generator. This project will reinforce the warehouse with the procurement of thermal alarm systems and a variety of newly developed, simple temperature monitoring devices. As part of UNICEF's commitment to provide the project's vaccine, vaccine samples will be periodically sent to the Institute Pasteur in Dakar, at UNICEF's expense, to monitor vaccine quality. Finally, warehouse personnel will also be trained in inventory management to detect bottlenecks, project vaccine requirements in advance, and ship the vaccine according to sound stock management procedures.

Regional and Departmental Levels. The project will also finance the procurement of entire refrigeration systems for the nation's 30 fixed immunization (PMI) centers and for the 10 mobile EPI team regional depots located in regional capitals. These refrigerators will be equipped to function on gas, and USAID will negotiate a nationwide gas supply contract with a gas supplier to provide the required fuel. All EPI personnel will attend a cold chain maintenance and repair course which will be financed by AID with technical assistance from WHO and UNICEF.

(iii) Project Integration Within MOH and Relationship with Other Donors

The RHS Project has a mandate to integrate its activities and technical assistance into the MOH structure. Progress has been made over the last two years within the RMA project in reinforcing collaboration on with key government officials and other administrative authorities. In order to achieve long-lasting commitment to and understanding of village-based health services, intensive participation and involvement must be sought from those working in the health sector as well as those in key decision-making positions. The project is complex. Its activities involve government agencies, services and cadres of personnel at national, regional, departmental and community levels, and donor and private agencies.

Five key areas for effective project integration take place within the following entities: The Council on Primary Health Care, the Maternal and Child Health Service, the Preventive Medicine Service, regional and departmental officials and the Peace Corps.

Council on Primary Health Care. The GIRM will establish a Council on Primary Health Care as a coordinating committee for the delivery of primary health care services in Mauritania. The Council currently functions on an ad hoc basis, but approval is being sought from the GIRM for its ratification as a government entity. Members of this Council will be the Director of Health, the heads of all the technical services of the Ministry of Health.

The Chairperson of the Commission will be appointed by the Minister of Health. Representatives from other related ministries may serve on the committee, either on a permanent basis or as observers. International organizations and bilateral assistance agencies may also be invited as observers.

The purpose of the coordinating council will be to develop policy recommendations and advise on primary health care programs and overall national strategy for rural health care. The Council's mandate will include the authority to restructure existing programs as required in order to provide an integrated package of PHC services, and to guide and coordinate regional PHC and health education committees. These committees will meet in each regional capital, chaired by the Chief Medical Officer (Medecin Chef) and consist of the heads of existing services.

The Council will also serve as an advisory committee for the project. Mauritania is just beginning its experience with primary health care. It is critical at this point as the MOH and other planning staff of GIRM reflect upon issues such as community financing, drug distribution supply systems, management systems, recurrent costs, etc. that a well-organized and representative body be put into place to coordinate and address these issues before PHC services become disjointed and meaningless.

A health education committee has been established recently, composed of key government officials or involved in the area of health education. They should continue to meet under the auspices of the Council on Primary Health Care, receiving the direction and the advice of the Commission. This working committee and possibly other if needed, will report back and provide recommendations to the Council for inclusion in national policy statements, if appropriate.

The Council will have access to conference and office space within the project headquarters, contributed by GIRM. An office will be reserved for the Chairperson, and the commission could participate in or co-sponsor a series of national PHC seminars to be funded under the project.

Maternal and Child Health (PMI) Services. This service has received minimal attention from the RMA project. It has not been integrated into the CHW activities, except for CHW practical training in PMIs. Because the PMI personnel have had long experience in the two technical areas that the RHS project addresses - community health workers and immunization campaigns - it is of primary importance that their participation in all project activities be moved to the forefront. They will be involved in implementing the training and supervision of the TBAs and planning the EPI activities within PMIs. It is essential that a well organized and specific plan of action for their integration be developed for use at the national, regional, and departmental levels. The Health Manpower Training Advisor will have as one of his/her counterparts the Director of this service. PMI staff must be included in all planning sessions, training events and technical activities.

Preventive Medicine Service. This service because of its wide scope of responsibilities and activities has a major function in the RHS project. One of its main thrusts will be the implementation and monitoring of the nationwide EPI program. In addition, this service is in the process of establishing a new Office of Health Education. Both long-term technical consultants will work directly with the Director and his staff in development of specific project activities.

Regional and Departmental Linkages. Integration is important at all levels but for implementation purposes the regional level linkage is critical. In the Trarza Region, improvements have been made over time in establishing proper communication channels between administrative and health officials and project personnel. It is insufficient for the project staff to inform regional personnel only of the project's purpose and objectives. A permanent effective communication system must be established. The GIRM has stated that upon ratification of the Council on Primary Health Care, regional PHC committees will be established. The project will be useful in assisting these councils to become truly functional in the target regions. These councils will play a useful coordinating role and facilitate project integration, by assuming advisory functions for the project activities.

The Medicin Chef will serve as the GIRM coordinator for the project's activities. Nurse/trainers and supervisors serve under his authority. His role and support for the successful implementation of PHC activities is critical, for it is with his guidance that effective networking will be accomplished with other administrative authorities at the regional level. He will provide the mechanism to assure collaboration between the EPI mobile teams and the PMI personnel.

In order to establish a reliable referral system, good contact and rapport between dispensary-level personnel and the CHW must be established. It is not sufficient to have personnel merely aware of the project, rather, it is essential that they participate and/or have a well-defined role in the project. Fixed health center personnel serve as trainers, potential supervisors, evaluators, and referral points for CHWs. As discussed in prior sections in this document, the area of supervision requires the most complete integration as possible. Various CHW supervisory strategies including fixed center personnel will be tested in order to adopt a system that is well suited to the geography and existing health infrastructure of each region. Whatever the case, integration particularly at the departmental level requires a maximum of effort. Fixed center personnel will be included in: training of trainer courses, on-site technical training for CHWs and selected seminars/workshops. Funds have been set aside in the project to develop departmental level workshops and to assist selected dispensaries with purchase of equipment and supplies.

Annual seminars and workshops on program integration held at the regional and departmental level will assist in directing better use of personnel working in PHC and provide opportunities for exchange of experiences and specific training in PHC interventions: oral rehydration, infant feeding practices, childhood communicable diseases, etc. By improving skills and knowledge of those personnel working at the periphery of the health infrastructure, more effective referrals and support will take place.

Peace Corps (PC/M). At this point in the development of the project, USAID is not including Peace Corps volunteers among the project health workers. During the first year of the project, USAID will review with Peace Corps what specific role PCVs might play. If PCV involvement is assessed to be of value to the project and after detailed task analyses and job descriptions are developed, USAID and PC/M will suggest that the MOH consider requesting PCV participation in the RHS project. USAID and project staff will include PC/M in project planning and review sessions. Appropriate involvement for PCVs may consist of assisting in research studies, epidemiological surveillance, nutrition monitoring, and infant feeding program. Their participation in CHW training will be useful especially in the transfer of appropriate technology: smokeless stoves: low-cost water filtration systems, vegetable production, etc. which may become topics addressed during in-service training courses. Because they are situated at the village or departmental level, they will be useful in working with project staff in the community sensitization stage and in back-stopping CHWs in the field.

Other Areas for Collaboration. It is important that USAID and project staff undertake the maximum effort possible to integrate other administrative authorities and provide much needed intersectoral coordination. Obviously other departments such as PHARMARIM, PHARMAPRO as well as the Planning and Studies Division within the MOH need to be kept apprised and involved in related PHC activities. RHS project staff need to be fully integrated in the MOH system and serve as technical assistants to their MOH counterparts.

National School of Public Health (NSPH). The Health Manpower Training Advisor and other project personnel will keep the NSPH informed of project resources and assess the needs for technical assistance to the nursing school in development of PHC curriculum. Project staff will also assist the faculty to adapt training materials to their needs. In the past there has been no coordination between the national health service and this education institution. International donor agencies have concentrated their efforts on construction and expansion of facilities. Since this is the sole in-country source for training of Mauritanian nursing personnel, coordination with the faculty and students will be critical for the future success of PHC.

National Health Center. This unit within the MOH is a research and demonstration study center. It examines scientific problems and formulates research studies of pilot programs prior to their application nationwide. Project personnel will inform the PHC about the epidemiological surveillance and other special research studies conducted during this project, and share the methodology used and the results obtained.

WHO/UNICEF. The World Health Organization (WHO) will work primarily with the Council on Primary Health Care but can also provide technical assistance for cold chain management and the development of workshops/seminars for health personnel. WHO will also provide technical consultants, an epidemiologist for mid term and final evaluations, and a financial analyst for the pharmaceutical study. Training and other PHC documents/materials may be supplied by WHO. UNICEF will provide vaccines for the EPI program throughout the life of the project.

Red Crescent Society (CRM). RHS project personnel will draw upon the CRM's experience with first aid workers in Assaba and Trarza and their interest in working in Guidimaka, by setting up a series of planning sessions with CRM. These meetings will generate decisions on the role of CRM in the project, selection of target villages for PHC action an outline for mutual action during the community awareness phase of the project. There will be an exchange of training materials and responsibilities. CRM staff will be included, when appropriate in training courses and workshops and seminars.

Catholic Relief Services (CRS). The CRENS (Centres de Rehabilitation et d'Education Nutritionelle) and CACs (Centres d'Alimentation Communautaire) in which CRS has programs are excellent

sites for community-based PHC services. CRS will be invited to workshops and seminars and be included in nutrition-related planning sessions. A recent evaluation of CRS recommended that if any studies on nutrition practices and health status were to be conducted, communities with CRS centers should be included in the design. CRS will also be useful in retrieving sample baseline data on immunization at selected MCH centers. Project staff will request CRS assistance in training and in the development of nutrition-related survey instruments, and educational documents.

(iv) Research Activities

Research studies and data gathering activities will be performed during this project to resolve a number of policy, planning and management issues which have surfaced during implementation of the current EPI and RMA projects. They are related directly to the project purpose of assisting the GIRM to establish a more effective integrated community-based primary health care service network.

The inclusion of these research activities is in keeping with AID's reaffirmation of the value of well-designed research efforts in resolving critical development problems, most recently restated by an AIDAC from the Administrator in May, 1983. The research activities planned for this project will strengthen the institution building features of the Rural Health Services project.

Pharmaceutical Marketing and Distribution Study. The GIRM is attempting to institute a policy whereby pharmaceutical supply and distribution in Mauritania will increasingly be handled by the private sector. It is anticipated, for example, that there will be heightened demand for drugs, purchased by village health committees as the community-based primary health care network is expanded.

To encourage this movement, this project will assist PHARMARIM, the parastatal drug supplier, to carry out a comprehensive pharmaceutical organization, supply and marketing study. Areas to be examined include:

Organization and Management

- o Constraints and opportunities operating in a small market at high operating costs;
- o Current sales volume, pricing and distribution structure;
- o Personnel and management policies, structures and constraints;
- o Financial/liquidity situation and feasibility of inviting private investment;
- o Inventory Control and information systems; and
- o Potential for expanding the network of drug outlets.

Procurement and Supply Considerations

- o Feasibility of expanding the number of laboratories supplying drugs;
- o Feasibility of gradually moving towards a generic drug system; and
- o Potential efficiencies in external and in-country transportation systems.

Distribution and Marketing

- o Private depot location and licensing procedures;
- o Discount rates/profit margins accruing to the private merchant;
- o Other incentives needed to stimulate expansion of private depot system; and
- o Future price controls, if any.

The recommendations from this study should guide PHARMARIM in expanding its private outlets, in order to assure their commercial viability and assure that pharmaceuticals will be widely available at reasonable prices. The initial study will be carried out by a private contractor and will require approximately four person months of effort. After the report has been received and its recommendations discussed, the contractor will be required to return for one additional person month to conduct a short workshop and to assist PHARMARIM to implement the study's recommendations. During the first year of the project, short-term technical assistance by S&T/Health will be requested to finalize study scope of work and qualifications.

Epidemiological Studies (Centrally funded technical assistance; project will pay in-country support costs)

A baseline study of the incidence and prevalence of diseases and illnesses in the regions in which the integrated PHC project is to be tested will be performed at the outset and at specific periods throughout this project. This will be useful not only to determine the type of health services which are needed in future stages of the project but also to establish a baseline of health status data to measuring progress throughout the life of the project.

The study will not only develop parameters for investigating disease patterns, health care utilization, and local health practices, etc. but will also produce a protocol for collection of data, including simplified forms for use by the village-level CHW teams and other health units within the MOH health delivery network. Standardized methods of collecting and reporting data, standard definitions of disease categories, and the reporting system will be outlined by the technical consultants who participate in these studies.

The outcomes of these studies may be used in a number of ways by project personnel: to learn more precisely the incidence and prevalence of major diseases, to identify the causes of disease, including environmental factors to identify the patients most at-risk within the villages surveyed and the redistribution of PHC services in response to changes in disease patterns.

The study will begin with a baseline survey at the initiation of the project. There will be another measurement at the mid-term of the project and a final study at the end of the project. While the short-

term technical advisors are in Mauritania performing the epidemiological studies, they will also be asked to provide orientation and instruction to key members of the MOH network who will be most involved in the supervision and training of CHWs and other health personnel who will participate in the collection and analysis of epidemiological phenomena.

Nutrition Study (2 person months)

A nutrition surveillance survey will be conducted in 15-20 villages where community health workers are currently functioning in the Guidimaka Region. The purpose of the study will be to:

- obtain an indication of prevalence and severity of malnutrition, using anthropometric measures;
- use this baseline data as a part of a follow-up component of local food consumption, particularly among mothers and children under three years of age and infant feeding practices, etc.
- work with high performance level CHWs in various nutrition surveillance techniques and nutrition education methodologies.

This survey will be a longitudinal research study over a minimum period of 12 months. A sample of villages will be selected from those having CHWs who have been assessed by project personnel as performing their tasks well and have strong community support. Given the current lack of understanding of nutrition and the value of nutrition education by CHWs, this survey will rely heavily upon assessing the impact and the degree to which CHWs can influence and undertake nutrition education and monitoring responsibilities. Pretesting these techniques on the better qualified personnel will provide indicators on the absorptive capacity of these workers in the area of nutrition.

Project personnel in collaboration with technical assistance from consultant(s) and USAID health personnel will design a research methodology, and provide necessary follow-up over the length of the survey. Children under three years of age within specific villages will be weighed and measured. With the assistance of other collaborating agencies, e.g. Catholic Relief Services, or the PMI Service, a questionnaire will be developed to assess food consumption patterns and, in particular, infant feeding practices among the village members. This information will be useful in designing future nutrition education messages and training sessions to be delivered to CHWs. It will be desirable to include over the 12 months of this study an educational component and possibly an on-going nutrition monitoring system that the CHW can perform at the village-level. At the end of the 12 months, final anthropometric measures will be made of each child by the project team. It may be useful to include a mini survey at that time to ascertain any changes in knowledge of the community vis-a-vis infant feeding practices. Direct correlations are impossible to make regarding specific inputs from this study and any changes in improved nutrition status but a general assessment of what is happening at the local level in nutrition habits and practice can

be obtained. The lessons learned from this study will permit project personnel to revise and adapt nutrition interventions that can take place at the village level and with the participation, understanding and support of the CHW. In addition, this study provide the project with a testing ground for interventions such as the use by CHWs of a hanging scale. Periodic measurements of these selected children should be done to identify seasonal changes in nutritional status. Another important uses of such a study is in the development of more appropriate curriculum and training materials for the training of village-level personnel in nutrition education and monitoring.

Operations Research (4 person months)

As the project prepares to expand the integrated primary care network into other regions, it will also to begin to develop the experience and data base needed for planning and management decisions, revising program health service configurations, staffing patterns, etc., There are a number of these questions which have already arisen during the course of implementing the Trarza RMA project which would benefit from the application of operational research methods.

For example, one of the key issues in the future will be the extent to which the communities can assume total responsibility for financing village-level health services and the costs of supplying and replenishing pharmaceuticals. One of the areas of research, therefore should be a study of a sample of villages in the Trarza Regions which have self-financed their community PHC services over the past several years. This study would explore existing arrangements within the sample communities for organizing their services; compensation arrangements for the CHW team; experience in purchasing, storing and replenishing the necessary array of pharmaceuticals; the constraints experienced in providing accessible PHC; and the quality of the services rendered in comparison with the level of community investment.

A sample of villages would be surveyed to obtain such information as total health expenditures for the CHWs, for the TBAs, for CHW drugs and other supplies and medical services offered by villages. To assess demand and potential support for expanding community-based PHC services, it would be useful to know the costs per household and per capita for the CHW teams and pharmaceuticals, and for all other expenditures for health services and medicines. These data can be summarized in terms of the percentage of household income which is spent on medical services for comparison with other regions or other developing countries.

Another study initiated early in the project, will determine actual recurrent costs of the project and compare them with those projected now in this project paper. This effort would examine the relative cost effectiveness of various service operations, make recommendations for any immediate savings that could be made without harm to project objectives, and would project probable recurrent costs of the present project if continued beyond the scheduled termination year of 1989.

Other areas may be explored during the LOP as implementation problems develop. It is not planned at this time to outline all possible research assignments, but to allow sufficient person months in the budget (anticipated four person months) to permit flexibility in the operations research component. Such questions may be included in this research component as: which additional duties may be added to the CHW team without sacrifice to quality of service? What is the optimum scheduling and routing of EPI mobile teams? What are the criteria to be used for determining whether fixed or mobile operations will best serve a target area? and What are the minimum requirements for PHC data collection and reporting? The experience gained during implementation will guide the final selection of the research topics as stated earlier.

IV. Summary Cost Estimate and Financial Plan

This section outlines the financial profile of the RHS project and provides both an analysis of its component costs and description of the principal sources and methods of disbursement for project funds. As noted in Table IV.1 on the following page, the RHS project involves contributions from three donors (USAID, UNICEF and WHO) as well as from the host country, amounting to \$7,766,000. The USAID contribution is valued at \$5,000,000, that of the GIRM and Mauritanian target population at \$2,255,000, that of UNICEF at roughly \$170,000 and WHO at \$48,000.

A. Mauritanian Contribution

The detailed project budget found in Annex K (Table 1) indicates that the Mauritanian contribution to the project consists of two elements: The MOH support of project activities and the target population's support of Community Health Worker (CHW) Teams and pharmaceuticals resupply. The target population's contribution is based on experience with the Rural Medical Assistance Project, and preliminary indications are that similar community participation can be expected in the RHS project target area. (See Annex F, Social Soundness Analysis.)

The official GIRM contribution to the project consists primarily of the commitment to the project of currently employed MOH personnel (estimated at \$1.63 million including inflation for the project's five years). This portion of the contribution will require little administrative effort or budgetary outlay beyond that which is already undertaken. The GIRM has also agreed to permit vehicles, furniture and shipmer. from the two existing USAID-financed health projects to be utilized for the RHS project. This relatively minor but essential contribution also generates no significant fiscal or administrative demand on the GIRM. The counterpart financing which requires additional fiscal outlay is the \$200,000 worth of rent and utilities which the GIRM has undertaken to pay for the project headquarters and for the regional and departmental training sites and EPI depots required under the RHS project. Of these rent and utility fees, roughly \$100,000 represent a net addition to the current rent and utilities burden borne by the MOH. The Minister of Health has assured USAID, however, that sufficient time and budgetary flexibility exist to permit the required increase in MOH operating expenses.

B. Other Donor Contributions

The detailed budget table (Annex K.1) also outlines the details of the UNICEF and WHO contributions to the RHS project. UNICEF and the MOH have agreed that UNICEF will provide the EPI program with all its vaccine needs (as determined jointly in the course of the July 1983 EPI evaluation and subsequent studies) through July 1988. WHO, for its part, has agreed in the course of design meetings for the RHS project to finance a total of four person months of short-term technical expertise to assist in the project's baseline data

Table IV.1

Summary Cost Estimate and Financial Plan (\$ 000)

USE	AID		GIRM		OTHER (UNICEF/WHO)		TOTAL
	FX	LC	FX	LC	FX	LC	
<u>1. Technical Assistance</u>							
a) Long Term	1,050	190					1,240
b) Short Term	162	54			48		264
<u>2. Training</u>							
a) In Country	0	168					168
b) Third Country/U.S.	232	0					232
<u>3. Special Studies</u>	91	36					127
<u>4. Commodities (Incl. Shipping and Ins.)</u>							
a) Vehicles	400	0					400
b) Vaccine and Supplies	203	1			170		374
c) Other Commodities ^{1/}	565	41		210			816
<u>5. Fuel and Vehicle Maintenance</u>	0	612					612
<u>6. Local Salaries and Per Diem ^{2/}</u>	0	191	1,845				2,036
<u>7. Office and Training Space</u>	0	0	200				200
<u>8. Sub-Total</u>	2,703	1,293	2,255		218		6,469
<u>9. Inflation ^{3/}</u>	437	167	293		0		897
<u>10. Contingency 10%</u>	271	129					400
TOTAL	<u>\$3,411</u>	<u>\$1,589</u>	<u>\$2,548</u>		<u>\$218</u>		<u>\$7,766</u>

^{1/} Includes pharmaceuticals contained in CHW and TBA kits, teaching materials, cold chain equipment and community drug resupply.

^{2/} Includes community compensation of CHWs and TBAs, and PD for long-term TA.

^{3/} Inflation - applied to all project costs at midpoint of January 1986 (i.e. 2.5 years) at 5% for U.S. (12.5%); 7.5% for 935 countries (18.75%); and 5% for Mauritania (12.5%). Additional margin provided since most procurement and special studies take place prior to project midpoint.

collecting activities (Epidemiologist) and in the pharmaceuticals distribution and marketing study (Financial Analyst). In order to assure that this contribution will be made at the appropriate time, the MOH will forward an official request for assistance to WHO shortly after the PROAG is signed.

C. AID Project Costs

The AID financed portion of the project is shown in the detailed budget table (Annex K.1) and in the estimated annual expenditure table (Annex K.2). Further detail on the training costs envisaged under the project can be found in the Training Plan (Annex H). Detailed cost estimates of most of the project's commodities are found in Annex J, Recommended Procurement Lists.

1. AID Cost by Line Item:

The project budget allocates AID costs among major budget categories as follows:

Table IV.2:

Percent Distribution by AID Costs by Budget Line Item

	<u>% of Total</u>	<u>% of Sub-Total</u>
Technical Assistance	29.1	36.5
Training	8.0	10.0
Commodities	24.0	30.2
Fuel and Vehicle Maintenance	12.3	15.3
Local Salaries	3.8	4.8
Special Studies	<u>2.5</u>	<u>3.2</u>
Subtotal	79.9	100.0
Inflation	12.1	
Contingency	<u>8.0</u>	
TOTAL	100.0	

(NOTE: Based on budget of \$5,000 or \$3,996,000 net of inflation and contingency.)

Technical Assistance and Commodities account for 67% of this project. Most (85%) of the technical assistance costs are for the two long-term specialists who will provide the continuing professional guidance to the project over its four years of full operation. The commodity costs are largely accounted for by the EPI program, particularly vehicles and equipment for the EPI regional depots and mobile teams. Vehicles (for all purposes) account for 33% (\$400,000) of commodity costs. Vehicle purchase, fuel and maintenance are approximately 18% of total AID financing.

Average inflation (2.5 years from mid 1983 to Jan. 1986) was estimated at 5.8% p.a. or 15.14% total, on the basis of estimated inflation rates of 5% in the U.S. and Mauritania and 7.5% in France (taken as a proxy for Section 935 countries in this case, who would account for about 30% of procurement). Most procurement will take place before 1986.

Foreign exchange costs will account for 47% of project costs. A breakdown of foreign exchange (FX) and local costs (LC) in dollar amounts is given in Table IV.1 above. About 88% of the foreign exchange costs are for Technical Assistance and Commodities, while Fuel and Vehicle Maintenance alone accounts for half of the local costs.

2. AID Expenditures by Year:

AID expenditures by project year are indicated in Annex K.2. The percentage distribution is as follows:

Table IV.3: AID Expenditures by Project Year

<u>Year</u>	<u>Percent of Total Costs</u>
1	29.3
2	20.1
3	17.6
4	14.7
5	<u>18.3</u>
	100

Eighty percent of expenditures in the first year will be for procurement of commodities. Operating costs dominate the other four years, with long-term technical assistance being the largest single item.

Although annual costs decline after the first two years, this trend cannot continue beyond year five. By 1988, much of the capital stock (vehicles, cold chain equipment and health center supplies) will be reaching the end of its useful life and will have to be replaced in

years six or seven. This need for post-project reinvestment will be reduced slightly, by MOH policy reforms during the life of the project which are expected to result in a reduction in the number of EPI vehicles and perhaps the number of fixed vaccination points required to implement the nation's vaccination program.

3. AID Cost by Major Project Component:

The EPI component of the project accounts for 60 percent of total costs, due mainly to the cost of vaccination supplies and the large EPI share of vehicle and cold chain equipment purchase and operating costs. In Table IV.4 below the costs of the EPI and CHW components of the project are separated. Overhead support has been divided equally among the programs, on the basis of the expected division of administrative time and support between the two programs.

Table IV.4:

Allocation of Project Costs Between EPI and CHW Components (\$000)

A. Specific Purpose Items

	<u>EPI</u>	<u>CHW</u>	<u>TOTAL</u>
Short-term TA	24	96	120
Training	143	257	400
Vehicles 300	300	50	350
Equipment	240	85	325
Supplies and Teaching Materials	316	110	326
Fuel & Vehicle Maintenance	498	65	563
Special Studies	<u>24</u>	<u>63</u>	<u>87</u>
Subtotals	<u>1,545 (68%)</u>	<u>726 (32%)</u>	<u>2,271</u>

B. Overhead Support (50% each program)

Long Term TA			1,240
Short Term (Disease Sur. and Evaluations)			96
2 Vehicles - Purchase			50
Furniture & Equipment			59
Vehicle Fuel & Maintenance			49
Local Hire Salary			191
Special Studies			<u>40</u>
Subtotals	863 (50%)	862 (50%)	1,725

C. Total of A and B 2,408 (60%) 1,588 (40%) 3,996

D. Inflation and Contingency 602 (60%) 402 (40%) 1,004

GRAND TOTAL 3,010 (60%) 1,990 (40%) 5,000

The EPI component is in fact the key component around which much of the project integration efforts are centered. It is due to the diversification of the EPI mobile teams and their vehicle fleet, for example, that CHW supervision costs are kept relatively low under this project. For a more detailed discussion of the benefits of an integrated EPI-CHW project, see section 2 of the Economic Analysis.

D. Financial Management Analysis

1. Project Expenditure Channels:

AID funds under this project will be spent through one of three possible channels: USAID itself, the long-term technical assistance contract, or the local currency Project Operating Fund (POF). The breakdown of project funds between these three channels is provided in Table IV.5 below:

Table IV.5: Project Funds by Expenditure Channel*

<u>Category</u>	<u>Expenditures (\$000)</u>			
	<u>FX</u>	<u>LC</u>	<u>Total</u>	<u>% of Total</u>
USAID Direct Expend.**	1,470	740	2,210	44%
Long-Term Contract***	1,940	250	2,190	44%
Proj. Oper. Fund****	0	600	600	12%
TOTAL	3,410	1,590	5,000	100%

* Estimates in this table include inflation and contingencies.

** USAID funds principally for commodity and fuel procurement, and special studies.

*** Contractor Funds for technical assistance, training, local salaries and \$100,000 in commodities.

**** Project Operating Fund is to be used for in-country training cost, local vehicle maintenance, \$32,000 in shelf-item commodity procurement and per diem.

USAID direct expenditures and long-term contract expenditures are roughly equal for this project. The USAID expenditures are dominated by the extensive vehicle and other commodity procurement, most of which will take place during the first year of the project prior to the arrival of the technical assistance team. Contract expenditures are more likely to be evenly spread out over the last four years of the project. Expenditures through both of these channels will follow clearly established USAID procedures.

The POF, however, represents a relatively small but management-intensive channel for project expenditures. The system was developed with the assistance of the Sahel Regional Financial Management Project, (625-0950). Technicians funded under this project will visit Nouakchott periodically to assist in establishing and monitoring it. The following section provides an assessment of the MOH financial management capability and a brief description of the POF.

2. The Project Operating Fund:

a. Assessment of Competence of GIRM/MOH

Mauritania, like other Sahelian countries, is hampered by a multiplicity of constraints which mitigate against effective management of its monetary and human resources. These constraints include:

- low level of formal and vocational education and literacy.
- chronic budgetary deficits necessitating external financing of recurrent local costs leading occasionally to "borrowing" from donor project financing to meet ordinary budget requirements.
- concentration of available trained managers and administrators in Nouakchott with few skills available at local levels.
- frequent realignment of governmental ministries and entities to reflect personnel and policy changes.
- relatively new and untried central planning ministry.
- a bureaucracy burdened by too many employees with inadequate training.
- antiquated budgetary system better suited to ordinary ministry operations than to those of development.
- lack of roads and communication facilities in outlying areas, making inter-relationships between headquarters and field staffs difficult.

Added to the above, is insufficient coordination between the policy and program planning personnel and those concerned with budgetary planning and implementation. There is almost a complete lack of written procedures and manuals dealing with financial and administrative matters within ministries.

On top of these endogenous problems, the problem of numerous donors, each having differing requirements for financial administration and reporting, places an almost impossible task on an already over-taxed and fragile bureaucracy.

To overcome some of these shortcomings, donors have frequently resorted to the use of expatriates to manage and administer their projects. However, given the lack of trained manpower, the GIRM has difficulty supplying counterparts who could eventually assume such responsibilities.

Until now, not even AID projects have relinquished the management of local currency to GIRM. Financial control has been exercised by advancing funds to the project entity and then liquidating such advances after 100% review of acceptable documentation.

The USAID Controller's office assisted by consultants financed by the Sahel Regional Financial Management Project have reviewed the two on-going health projects (EPI and Trarza). The review pointed to the need to improve account maintenance and reporting and to clarify permissible revolving fund expenditures.

b. Changes Needed

Based upon this review of the two terminating projects (Trarza and EPI), an accounting and reporting system was developed for the Rural Health Services Project. This system calls for the proper recording classifying, summarization and reporting of financial transactions. It will enable the MOH to plan, control and appraise its own performance and will incorporate the following features:

- accounting documentation which meets acceptable standards;
- records to adequately identify obligations and funds due under the budget, as well as AID financed local costs authorized under approved budget categories;
- entries in the accounting records cross-referencing supporting documentation;
- procedures to trace transactions through available records and back to source documents to determine whether project expenditures have in fact been authorized;
- internal controls to (a) safeguard project assets; (b) check accuracy and reliability of accounting data; (c) promote operational efficiency; and (d) assure adherence to prescribed managerial policies.

- New Procedures for MOH Financial Management of Selected Project Activities. In accordance with AID procedures, once conditions precedent to disbursement have been met, disbursements can be made into a separate project bank account. A Project Operating Fund (POF) will be established through which everyday project expenses such as vehicle fuel, maintenance and repair; office and cleaning supplies; local project staff salaries and per diem can be paid. Expenses anticipated to be paid from the POF will be a maximum of \$600,000 or approximately 12% of total AID financing. The MOH Project Director or his designee will authorize payments made under the POF and AID disbursements to the POF will be approved by the USAID Project Manager.

Since this project consists of two operating programs (EPI and CHW) separate sub-budgets might be used to guide and control the two program managers in their financial planning and management. Budgetary categories and guidelines will establish the norms and limits for various types of expenditures. Expenditures outside of the guidelines would require advance approval of the AID Project Manager. All expenditures will be compared to detailed quarterly budgets prepared in advance.

While AID strongly recommends that project expenses be paid by check to the extent possible most expenses paid in the regions will necessarily be in cash. AID will also work with the project director and accountant to strengthen the petty cash system used for this purpose.

Other activities contemplated in the project financial procedures include:

- USAID furnishes MOH with Consultant's recommended accounting system for the Project. Upon approval, this will be basis for budgeting, accounting, recording and reporting under the Project.

- Prior to release of funds under the Project, MOH submits to the USAID Controller the written accounting procedures to be followed and designated functional personnel for approval, disbursement and accounting, recording and reporting. The procedures will be reviewed for adherence to acceptable accounting standards by the USAID Controller.

- MOH establishes records for property and materials/supplies provided for the project (in kind or purchased through project operating fund).

- USAID Controller upon presentation by the Project Director of a quarterly budget approved by the Project Manager and request for funds will advance the money.

- Upon quarterly completion, the Project Director will submit required documents, reports and request for funds to the USAID Controller for reimbursement accompanied by the Project Manager's certification.

- Transition from USAID to MOH Financial Management of Selected Project Components. Subsequent to the release of funds, a USAID/CONT representative should be assigned to work with the Project accountant on a regular basis for the first month. He should assure himself that all documentation meets acceptable standards, posting to the required accounting records is kept up-to-date and that accounting controls (authorizations, approvals, supporting documentation) are in place. At the end of the month, he should check accounting records to see that they are in balance. At the end of the quarter, records should be totalled and balanced and the required quarterly financial reports prepared. At that time USAID/CONT's representative should check the submitted reports against records to assure conformity. Particular emphasis should be placed on the bank reconciliation.

During the second quarter, the USAID/CONT's representative should visit the Project accountant two or three times per month, to test check postings to the records. At the ends of the months and quarter, he should verify that accounting records are in balance. Quarterly reports should be carefully reviewed in the same manner as indicated for the initial quarter ending.

Unless there has been major difficulty, subsequent to the second quarter, the USAID/CONT should be able to monitor reimbursement requests and review budget submissions on a desk audit basis predicated upon the quarterly financial reports submitted. On an occasional and irregular basis, he should sample the end-use for major commodity components, the cash count for petty cash and similar techniques in accordance with sound auditing practices.

V. Implementation and Procurement Plans

A. Implementation

The Rural Health Services project is a complex logistical undertaking which, to be successful, requires detailed planning and timely execution of procurement of goods and services. Efforts have been made to pinpoint the timing and relationship of actions critical to the project's operation. Details for the entire life of project are contained in Annex M. A summary of key actions during the first year of the project begins on the following page.

During the first year of project operations, no technical assistance personnel will yet be available to assist in the execution of the project. Therefore, USAID itself in coordination with AID/W must initiate a number of key actions including: all steps necessary to secure a T.A. contractor for the project (PIO/T, RFP, negotiation, contract), issuance of PIO/T's for several major studies to be undertaken early in the life of the project, and the issuance of PIO/C'S and the actual procurement of vehicles, supplies and equipment needed during the early phases of the project. The Ministry of Health is not equipped to carry out these actions, so the burden will fall directly on USAID which must assure adequate staff time to promptly execute these tasks.

USAID will also be required, in association with personnel of the Sahel Regional Financial Management Project (625-0950), to assist the MOH in establishing an accounting and reporting system which will allow it to operate a small revolving fund to be used for local purchasing activities. Successful execution of this element of the project is key to developing the MOH's capability to undertake procurement and accounting functions in accordance with AID procedures. In the future, if this activity is successful, it could be expanded to cover more of the project implementation work now being executed directly by USAID.

Upon arrival of the contract team, responsibility for the technical execution of the project and a portion of the procurement tasks will pass to the contractor. Experience with past projects in Mauritania indicates the need for strong administrative support for the T.A. team so that it is able to properly carry out its technical advisory functions. To assure such support, a locally-hired accountant and an administrative assistance have been included as part of the T.A. contract package. Without such assistance, the technical advisors will be swamped by clerical duties and will have insufficient time available to carry out their technical roles.

It is crucial to the success of this project that implementation follow closely the schedule outlined above, particularly during the first year to prevent severe disruptions in existing EPI and CHW activities. This project is the successor of two ongoing USAID health activities: the Expanded Program of Immunization (625-0937) which will be completed in August, 1983, and the Rural Medical Assistance project (682-0202) which will be completed in December 1983.

Quarterly Implementation Activities for First Year of Project

First Quarter (July - September 1983)

CRITICAL
MANAGEMENT
BENCH MARKS

1. Grant Agreement Signed.
2. PIL # 1 Re: CPs Signed.
3. Long Term PIO/T sent to AID/W.
4. RFP Issued.
5. Vehicle Specs., Source and Origin Finalized and Proprietary Waiver Signed.

Other Activities

- SRFM TDY to prepare PIL #2 (POF) and to help install project accounting system.
- Baseline Studies PIO/T to AID/W and study enumerator selected.
- Pharmaceutical Study PIO/T to AID/W.
- Imported commodities lists finalized.
- UNICEF/MOH vaccine agreement signed and vaccine ordered.
- Draft nutrition education lessons completed.
- RMA training continues.
- EPI program continues.

Second Quarter (October - December 1983)

CRITICAL
MANAGEMENT
BENCH MARKS

1. CPs Met.
2. PIL # 2 Re: POF Signed.
3. Long Term TA Proposals Received.
4. Vehicle Negotiations Completed Awards Made.
5. UNICEF Equipment PIO/C to AID/W.

Other Activities

- First Quarterly budget and request for funds (POF) received and project bank account established.
- Baseline Study TA arrives - data collection begins.
- Community Survey PIO/T to AID/W.

- Community Survey consultant selected and existing KAP info collected.
- Operations Research PIO/T to AID/W.
- MCH center needs assessment begins.
- 2 MOH personnel for WHO/CDC EPI course selected.
- Trarza villages for nutrition study selected.
- Village committee training needs identified and training plan drafted.
- Training for EPI mobile and fixed nurses planned.
- Trarza RMA project evaluated.
- EPI and Trarza activities continue.

Third Quarter (January - March 1984)

CRITICAL
MANAGEMENT
BENCH MARKS

1. Evaluation of TA Proposals Completed, Contractor Selected, Contract Negotiated.
2. Vehicle Use and Maintenance Schedule/Plan Finalized, and Maintenance Contract Finalized.

Other Activities

- National PHC Commission Decree Issued.
- First Advance to POF.
- Half of local hire staff hired.
- Baseline Data Collection continues.
- Community Survey TA.
- First third of audio equipment ordered (P.O.).
- Local commodities lists finalized.
- Request to AID for project furniture made.
- EPI material and Drug Manuals ordered (P.O.).
- Pharmaceutical and Ops Research studies conducted.
- EPI/CHW integration begins in Trarza.
- Begin nutrition study/train selected CHWs in nutrition surveillance.
- Begin training of village committees in Trarza.
- Select 2 persons for PHC Development course.
- Conduct IST of trainers/supervisors.
- Send 2 persons to EPI WHO/CDC course.
- Select 1 person for PHC Lome course.
- Assist in planning and conduct national PHC integration seminar.

- Plan regional and departmental PHC integration seminars.
- Conduct PMI nurses' training.
- Select, assign, and train PHC nurse/supervisors to 2 EPI mobile teams (Trarza).
- Train EPI mobile team in PHC.
- Assist in establishment of National Commission on Primary Health Care.
- Conduct in-depth social soundness analysis in Guidimaka.
- Prepare/order initial equipment for audio-visual center.
- Incorporate RMA EOP evaluation recommendations into RHS training strategy.
- Identify Trarza villages with trained TBAs.
- Identify additional CHW villages to develop team approach.
- Conduct vehicle maintenance training for EPI drivers.
- Trarza and EPI activities continue.

Fourth Quarter (April - June 1984)

CRITICAL
MANAGEMENT
BENCH MARKS

1. Vehicles Arrive Nouakchott, Clear Customs.
2. Imported Commodities Shipped from U.S. and UNIPAC.
3. Long Term TA Team Mobilized.

Other Activities

- Quarterly budget and renewal of POF.
- TA housing in place.
- Butagas supply/delivery contract negotiated.
- Send 2 persons to U.S. for PHC course.
- Send 1 person to Lome for PHC course.
- Conduct regional/departmental integration seminars.
- Continuation of PMI nurses training in EPI.
- Begin compilation of existing PHC/CHW curricula/training materials.
- National EPI seminar.
- Develop selection criteria for CHWs and villages (Guidimaka).
- Long-term health educator/trainer in place (tentative).
- Prepare initial list and order supply of books/materials for health education centers.
- Establish TBA training curriculum with PMI.
- Train selected CHWs (Trarza) in nutrition education/monitoring.
- Select 2 new trainers from Guidimaka.
- Trarza supervision continues.
- EPI program continues.

In the case of both projects, the salaries of key personnel are already being paid by the MOH, but logistics and operational expenses have been funded by donor activities. EPI currently has non-A.I.D. financing sufficient to continue its activities through December 1983, but no funds exist for either project from January 1984.

On the one hand, smooth and efficient start-up of the planned project dictates that the existing project organization and personnel be retained to the extent possible. On the other hand, the project Trarza experience points out some of the problems which could result from proceeding too rapidly with project implementation before the arrival of long-term technical advisors.

Accordingly, the Implementation Plan calls for MOH personnel to perform or assist in the following activities during the December 1983 - June 1984 transition period:

- (1) Continuation of current EPI mobile team and supervision activities.
- (2) Continuation of the supervision and retraining of CHWs in Trarza.
- (3) Continued education and strengthening of village health committees in Trarza.
- (4) Conduct of epidemiological surveys and collecting baseline information in Trarza and Guidimaka.
- (5) Assessment of PMI physical facilities and of the numbers of children and women being vaccinated in those facilities.
- (6) The collection of existing data from the villages in Guidimaka that already have TBAs trained through the MCH system.
- (7) The establishment of systems to collect epidemiological and cost information.
- (8) Finalization of project and National PHC Commission offices and training space, and
- (9) Integration of supervisory nurses with the two EPI teams in Trarza.

The RHS Project will finance up to \$48,000 for vehicle fuel and maintenance during this period. That should be sufficient to operate 11 EPJ vehicles including the two integrated units plus three additional vehicles for Trarza, central project and special study use. The MOH will continue to finance the salaries of MOH project employees and USAID will finance local hire staff support and the special study and information system activities scheduled during the transition period.

Although there has been wide acceptance of the Trarza experience, there are still modifications which should be made before moving on to

Guidimaka or other areas. Because of significant geographic, logistic and ethnic differences, criteria to be used in Guidimaka will be different from those used in Trarza. It is strongly recommended that, where possible, substantive interventions in Guidimaka follow the arrival of the long-term technical advisors who will be responsible for project implementation.

B. Procurement

Of the total AID expenditure of \$4.0 million anticipated under this project exclusive of inflation and contingencies, approximately \$1.5 million is for project commodities. The remaining \$2.5 million will finance technical assistance, special studies, training and related logistics and support services. Except for approximately \$1 million in fuels, vehicle maintenance, training expenses and miscellaneous local expendable shelf item procurement which will be financed under the project operating fund, procurement of off-shore commodities and commodity related services will be performed by USAID and/or through a procurement services agent (PSA).

After the long-term technical assistance team arrives, it will be responsible for preparing worksheet Project Implementation Orders (for commodities, technical services and training) as well as drafting purchase orders, and obtaining sales proformas and customs exonerations as required. During the first year of the project (or until TA team arrives), USAID in consultation with the MOH will be responsible for the preparation of all the above documents. The USAID Mission Director has determined that current GIRM/MOH institutional, financial and administrative capacities require that contracting for the project's TA team and other major procurements be handled directly by AID.

1. Source and Origin of Goods and Services:

The authorized source for goods and services for this project is the U.S. (Geographic Code 000) and Mauritania. However, five procurement waivers are required for project procurement to proceed as planned in this document. These waivers include:

1. A \$400,000 source/origin and single source waiver to permit the procurement of medical equipment and supplies from Code 935 origin countries through the UNICEF procurement system (UNIPAC). This waiver will be reviewed by M/SER/COM and signed by AA/AFR.

2. A \$400,000 source/origin waiver for the procurement of 16 four-wheel drive vehicles from Code 936 countries. This waiver has been submitted for approval by AA/AFR. A waiver of the Commerce Business Daily publication requirement will also be approved by the USAID Mission Director to permit procurement of these vehicles.

3. A waiver of the local cost financing limitation to permit up to 33 percent (\$370,000) of AID local currency financing to be utilized for procurement of imported shelf items. This waiver has been submitted for approval by AA/AFR.

4. A waiver of the ocean transportation requirement to permit Code 899 flag shipping to Nouakchott for the project's imported commodities. This waiver will cover up to \$215,000 in transportation costs on Code 899 vessels, and will be reviewed and approved by AA/AFR.

5. A \$60,000 source origin and single source waiver to permit the procurement of vaccine and pharmaceuticals from Code 935 origin countries through particular suppliers such as UNIPAC. This waiver will also be signed by AA/AFR.

2. Services

In order to minimize the support burden placed upon USAID, all long-term technical assistance, most short-term TA, local hire project support and certain studies will be obtained through a single, competitively awarded, AID direct contract. The disease surveillance TA is not being suggested for inclusion in the long-term contract since continuity from one visit to the next is desired and since the first disease surveillance visit should occur well before the long-term TA team arrives. The specific services currently recommended to be incorporated in that one contract total approximately \$2 million and include the following:

<u>Item</u>		<u>Estimated Amount</u> (\$000)
1. Health Educational/Training Advisor	4 p.y.	\$620
2. Health Management/EPI Advisor	4 p.y.	620
3. Curriculum Devt/Training Specialist	4 p.m.	48
4. Visual Aids Specialist	3 p.m.	36
5. Cold Chain Maintenance	2 p.m.	24
6. Procurement, Production and Reproduction of Training materials produced by above TA		120
7. Local hire contract support and per diem		191
8. Training		400
9. Commodities		<u>100</u>
TOTAL		\$1,957

Proposed key dates for PIO/T and RFP preparation, evaluation and contract negotiations are contained in the Implementation Schedule and key (Annex M) and draft scopes of work and qualifications for key personnel are included in Annex G.

3. Commodities:

Until long-term TA arrives, PIO/Cs will be prepared on the basis of procurement lists approved by the MOH. Equipment and supplies obtained from UNICEF will be based upon SER/COM issued PIO/Cs consistent with current AID/W guidance. Procurement of imported shelf items may either be done on the basis of a USAID issued purchase order or financed under the project operating fund. USAID has a commodity procurement specialist on its staff who will oversee all project procurement.

a. Vehicles - The largest single commodity item financed by this project are 16 four-wheel drive vehicles together with 25% spare parts. USAID is still exploring the exact specifications, source and origin of the vehicles to be purchased. It is probable, for example that 2-3 of the vehicles would be two, rather than four wheel-drive. Among the alternatives being considered are (a) Code 935 procurement of sturdy vehicles for which there are currently repair facilities in Mauritania and (b) procurement of U.S. manufactured AMC/Jeeps; contingent upon the establishment of adequate spare parts and service facilities in Mauritania. To cover both options, the PP has budgeted for the more expensive Code 935 vehicles and a source/origin vehicle waiver being sought from AID/W. So that the vehicles will be in place prior to the arrival of the TA team, vehicle procurement will begin immediately after signing the Grant Agreement.

The MOH will agree in the Grant Agreement to reserve current EPI and Trarza vehicles for project use during the transition period.

b. Furniture and Equipment - Annex J provide detailed recommended lists of project financed commodities and supplies to be purchased for the EPI Central Depot, Regional Depots and MCH Centers; for the EPI mobile teams, for the Community Health Worker Kits and for training materials. Except for local shelf items, the items on these lists will be purchased on a one-time only basis during the first year of the project. Approximately \$200,000 worth of the commodities on these lists (exclusive of shipping insurance and inflation) will come from the United Nations Children's Fund (UNICEF) Packing and Assembly Center (UNIPAC). The AID warehouse in Nouakchott can be used to store non-perishable commodities should they arrive before they are needed. As with other procurements through UNICEF, USAID will issue a type 5 worksheet PIO/C and transmit it to SER/COM AID/W. The need for office furniture will be met both from the reservation of RMA project furniture for this new project and from surplus material from other AID-financed projects which have been terminated.

c. Vaccine - UNICEF will finance approximately \$170,000 worth of vaccine required for the EPI component of the project. AID will finance up to \$50,000 in emergency vaccines, should they be necessary, also purchased through UNICEF. The perishability of the vaccine requires special handling. To minimize the need for long-term storage of huge quantities of vaccine, its procurement is spaced out over four years with the first order being initiated during the first quarter of

the project's operations and three additional orders following at annual intervals. This procurement schedule can of course be modified as usage rates indicate. PIO/Cs for UNICEF procurement are finalized by SER/COM in AID/W and delivery dates from UNIPAC Copenhagen are quite dependable given the adequate lead time allowed in the implementation plan.

The GIRM will be responsible for obtaining quick clearance through local customs and transfer to EPI Central Depot freezers and refrigerators.

d. Local Cost Procurement - Total AID financed local costs under this project are approximately \$1.9 million. Approximately \$1.14 million or 72% of this amount is for long and short term TA support costs, local support salaries, per diem, in-country training, special studies and vehicle maintenance. Locally procured shelf items imported from the free world total approximately \$446,000 or 28% of local cost financing. Nearly \$360,000 of these imported commodities are for Butagas and Kerosene for the cold chain equipment and fuel for project financed vehicles.

Through relatively small as a percentage of project expenses and limited to simple items, virtually, all expendable shelf item procurement will be carried out by the MOH and financed through the project operating fund. With the new financial procedures established for this project, MOH capability will be adequate to manage this limited local procurement. Certain miscellaneous local procurement may be done by USAID. USAID and the MOH are continuing to explore the possibility of a long-term local AID Host Country Contract for the supply and distribution of Butagas to key points around the country.

VI. Monitoring Activities

Once the contract team arrives at the beginning of year two, USAID responsibilities will become primarily monitoring activities such as review of contractor work plans, quarterly budgets and reports and project evaluations. This monitoring will help insure a proper balance between the costs incurred and the amount of work accomplished and otherwise point out project difficulties. Daily management responsibility will rest with the MOH Project Director and the long-term technical assistance team.

During the first year of the project, however, USAID will provide most of the MOH implementation support. As noted in the Implementation Plan and key, USAID tasks during year one of the project will include:

- a) initiating pre-contract actions for the long-term technical assistance;
- b) finalizing initial procurement lists and initiating procurement actions on vehicles and a significant amount of cold chain equipment and materials;
- c) preparing scopes of work for baseline epidemiological and pharmaceutical marketing studies; and
- d) helping the MOH to set up a project operating fund and acceptable financial procedures.

USAID currently has an experienced PSC procurement officer who will oversee all project procurement. USAID's financial management/controller staff will be charged with the installation of the project operating fund and new project accounting procedures. However, the controller staff will be supplemented with short term assistance provided by the Sahel Regional Financial Management Project.

At present, USAID has no full time health officer. Therefore, USAID's top personnel priority will be to recruit such person, either direct-hire or PSC. If a long lead time is anticipated before a permanent USAID health officer arrives, USAID should consider hiring an additional full time project manager on a temporary basis, to carry USAID through the transition period. In the meantime, project responsibilities will have to be handled by current USAID staff supplemented by TDYS from regional offices or AID/W, if needed.

VII. Project Analyses

A. Technical Analysis

Approximately 70% of the Mauritanian population lives beyond the reach of modern health care services. Lacking adequate care and exposed to widespread disease, infection, and malnutrition, this group of people and particularly infants and children, continue to experience high mortality and morbidity. Mauritania currently experiences one of the highest infant mortality rates in sub-Saharan Africa, 170-180 per 1,000, as well as a child mortality rate of 31 per 1,000. Life expectancy is low at 43 years of age. This minimal level of health status is further exacerbated by a high prevalence of communicable diseases such as: malaria, measles, respiratory diseases, tuberculosis, gastroenteritis and tetanus. Chronic severe malnutrition is rampant, caused by low food production due to recent droughts and a lack of knowledge regarding adequate feeding practices for infants, children, and mothers. Environmental sanitation hazards and lack of potable water contribute heavily to poor health conditions for the majority of the Mauritanian population.

The public health infrastructure is inadequate to meet the demands for curative and preventive care services under the existing organizational arrangement. A lack of financial support further contributes to this dilemma. Currently the health budget of \$7 million per year for 1.4 million inhabitants provides a per capita health expenditure of \$5 per resident. However, only approximately 30% of the population receives any type of health care services at all. Over two-thirds of the existing health infrastructure services are located in the urban areas. Also there is a considerable rural to urban migration pattern; estimates range from as low as 7% per year for secondary urban areas to as high as 26-30% in urban areas such as Nouakchott.

As described in the section on the GIRM health care infrastructure the government now recognizes that its existing health delivery systems and national health policies must be radically changed if it is to assure that basic health care is accessible and available to rural populations. Over the last five years, in particular, the GIRM and international agencies and organizations have committed themselves increasingly to the concept of primary health care and are currently implementing programs to increase access to health care in rural areas.

The technical analysis will focus primarily on the most pervasive and serious causes of implementation difficulties encountered by past projects and areas that AID/Mauritania believe should be highlighted. It is well-documented that changes need to take place when implementing PHC systems; for example policy reform, clear definition of the role of different government ministries in PHC, manpower training, and the input and involvement of educational institutions. Bureaucracy is affected, as well as chains of command, financing priorities, work styles, resource allocation, etc. In addition,

within on-going programs second-generation problems develop and refinements and adaptations need to be made on an on-going basis. Appropriateness of curriculum and selection criteria for CHWs for use nationwide are two examples that need to be looked at. Referral patterns, communication and collaboration between CHWs and MCH fixed center personnel, drug restocking, and community financing mechanisms for the support of volunteers all need to be examined and addressed.

Throughout the conceptualization and planning of this project, GIRM and USAID officials have mutually explored potential problems and identified areas of weakness that will require additional attention and revision over the LOP. The development of this project has been an evolutionary one based upon in-depth discussions, problem-solving, and the experiences of other PHC programs in Mauritania.

This project design provides strong responses to frequently encountered technical shortcomings in project design and implementation.* Mauritania has a strong cadre of health personnel that have been involved in all planning phases of this project design. The MOH has taken considerable initiative in raising key issues including the project's recurrent costs burden, the GIRM's management and absorptive capacity, supervision models, and drug supply system. The planning process has been a sound and intensive one. MOH personnel have seriously considered specific resource constraints in the MOH and carefully weighed the value of alternative combinations of PHC services. Those health personnel at the decision-making level have excellent backgrounds and experiences in rural health care services and are truly cognizant of problem areas in PHC.

This project has incorporated a number of provisions or characteristics which were based upon the RMA and EPI Projects. They are as follows:

1. Integration and intersectoral coordination are critical elements to the success of this project. The Council on Primary Health Care should assist in establishing more permanent and policy-oriented channels for various health services and inter-ministerial collaboration. Long term technical assistance will be matched to national counterparts where on the job technical support will be provided. This project does not compete with other PHC programs and will support and complement those already in place.

2. Building on the experience gained thus far in Trarza on the delivery of community-level health services, a gradual phased approach to implementation has been planned in order not to overwhelm the health system. Care has been taken to strengthen and reinforce the existing CHW program in Trarza and adapt and revise lessons learned to

* APHA Issues Paper, "Progress and Problems - An Analysis of 52 A/D Primary Health Care Projects", 1982.

two new additional regions. The MOH was perhaps too ambitious in Trarza in training over 200 CHWs in one region. This scope of magnitude has been greatly reduced and 50 CHW Teams will be developed in each of the other two regions. Future management and supervisory problems will arise and need to be addressed for Trarza once activities and attention are shifted to an integrated EPI and PHC program and expansion into other areas.

3. The cost for services during the project period in three regions of Mauritania has been kept to a minimum in order to maximize the possibility that the GIRM would be able to continue and even replicate the project on a national level when USAID and other donor support comes to an end in future years. At the EOP it is estimated that the GIRM will have to increase its current MOH budget by 8% to absorb recurrent costs incurred by this project.

PHC funds will compete with other high priorities for scarce government funds. It is difficult to predict what future resources will be available to GIRM for PHC given its heavy dependence upon foreign aid (which accounts for 50% of GDP and 40% of total public expenditures).

4. A new institutional structure is not required to support the PHC program in Mauritania. What is needed is reinforcement of the already existing service delivery structure through upgrading technical and managerial skills necessary to carry out a PHC program at all levels of the MOH. As designed, the project emphasizes reinforcement of service delivery capability at region and village levels. Additionally, the project will support the development of a Council on Primary Health Care which will act as a coordinating body for all MOH divisions in development of PHC policy and implementation plans.

5. The critical shortage of professional health personnel in the country and their scarcity in remote rural areas and small villages have been considered in designing the project so as to place reliance on the paraprofessional worker, especially the village level health worker supported by other more highly trained paraprofessional health personnel.

Training opportunities and continuing education activities have been planned so as to develop a flexible and responsive teaching program at all personnel levels of the health infrastructure. Training will be culturally and technically appropriate. In-service training, planned schedule of supervisory visits, and long-term training opportunities all have been taken into consideration and have been limited, given the small cadre of trained Mauritanian health personnel and their restricted absorptive capacity. Third-country training will be chosen to correspond to needs and skills of participants.

6. Community participation approaches have been addressed. Based upon past PHC experiences, more attention will be given to assisting communities to initiate development activities. The PHC program will permit more community input into designing and

implementing specific activities. Diverse village financing mechanisms have demonstrated that there is strong community support when community organizing is done in an open and relevant fashion. In fact, this factor of community spirit will be essential given the lack of an accessible drug supply system in Mauritania.

7. Given the lack of experience with data collection and reporting, the information system for service statistics, patients treated, remedies provided, and immunization schedules has been planned to be simple and restricted to those items of information which are essential to effective evaluation and management of the project.

8. Primary emphasis of the project is on proven technologies for the preventive care and treatment of a limited number of the most prevalent illnesses for the regions covered. A major emphasis is placed on basic health education of the population in such areas as nutrition, infant feeding practices, sanitation, basic health habits and prevention of communicable diseases, as part of the strategy to provide the effective health services in the most economical manner.

Despite the technical soundness of the project design, there remain several areas which will require careful monitoring over the LOP in order to assist GIRM/MOH to develop the most technically feasible, practical, and simple PHC system. They are:

1. Supervision - Two supervisory approaches will be tested over the LOP. Given the large numbers of CHWs trained in the Trarza Region and the excellent collaboration and technical experience at the health centers, supervision may be provided by nurse(s) from the regional or departmental centers. They will be picked up by the EPI team. The alternative approach will be a nurse/supervisor assigned permanently to the mobile team. Depending upon scheduled EPI team routings, CHW supervision load, accessibility of CHW, and distances from center to CHW these options will be examined and tested. It is important that a monitoring system be developed in order to assess the adequacy, practicality, and cost factors associated with each model. The long-term viability of a supervision system is a critical issue for future PHC services in Mauritania.

The supplementary task of supervision by an EPI mobile team member may pose problems. This person may be utilized for other more-urgent health care problems. Time may not be sufficient to do adequate supervision, and backstopping. Over a period of time, resistance may develop on the part of other team members to be involved in PHC. On the other hand, constraints for including fixed center personnel should be noted. It may not always be possible for mobile teams to pick up health personnel when going to a village where a CHW lives. Other center responsibilities might also preclude his/her absence for extended visits.

2. Fixed Center Personnel - A heavy reliance is being placed on the provision of supervision by EPI mobile teams. With considerable rural to urban migration patterns and increasing financial and

manpower costs for maintaining mobile teams, analysis should be made to ascertain the cost-effectiveness of EPI expenditures. In addition with better EPI coverage, there is a potential diminishing role for mobile teams and may be a lack of resources to maintain such an expensive health service mechanism.

This project has greatly expanded the role of fixed personnel in community-based PHC programs. Inclusion and participation in all training courses, workshops, and planning sessions has been emphasized. Material support has also been provided in order to upgrade and/or improve category A and B fixed centers. Integration, especially at the departmental level, is actively sought.

Project personnel will need to continue to provide training and encourage collaboration so that referrals are made efficiently and are well-received by fixed center personnel. Whether the supervisor functions out of a fixed center or is on an EPI mobile team, good referral networks should be established between all levels of the health care infrastructure.

3) New Level of Health Personnel - Primary health care specialists tend to view community health workers as fundamentally different from existing paramedical personnel, partly because of their community rather than clinical orientation, and partly because of their lack of formal health background. However, it is not uncommon to find a difference between commitment at senior policy levels in recognizing this new cadre. The GIRM will need to provide some recognition of where these CHWs are placed in the existing health infrastructure. The question of their legal standing will be important to consider as well as potential career advancement and incentives for those who have outstanding performance as CHWs.

4) Schedule of EPI Visits - In monitoring the regularity and duration of field trips the project must assess the cost effectiveness as well as the overall effectiveness of the cold chain system. The concept of using loop routing and major assembly points in order to reach the maximum number of people in the least time and at the lowest cost may be difficult to implement.

5) Drug Supply - The technical issue of availability of drugs and supplies for CHW Teams is key to the success of this program. Without access to a regular and reasonably-priced supply of medicines with which the CHW is familiar, the tasks and functions of the health agent are abandoned. Preventive duties alone are not conducive to continued job satisfaction nor are perceived worthy of financial reimbursement by the villagers. The GIRM is in the process of proposing future options in order to develop additional drug outlets to meet the demand at village and departmental levels. This current lack of an existing drug supply system is a problem for the project. Through a series of project research activities, a demand analysis and financial feasibility study will be conducted to provide concrete recommendations and encourage discrete implementation strategies on an

extended drug distribution system for the country. Project personnel will need to be aware of this continued constraint in the project design.

The MOH and the pharmaceutical parastatal, PHARMARIM, have recently agreed to begin developing private sector drug distribution points in the capitals of departments and other rural areas far from the regional government-owned and operated drug depots. Such centers could significantly reduce the cost and inconvenience to CHWs in replenishing their drug stocks. The project will assess the current pharmaceutical supply system and determine appropriate means of promoting and supporting private sector drug distribution to the village level.

6) Balance between Program Elements - A discrete program element, such as EPI, is easy to maintain once the system is well-established. However, at this state it still requires considerable management and administration. Logistics are time-consuming and activities can be crisis-oriented. The CHW and training components are ones requiring planning, participation and are process-oriented. The project's two central components, one with nationwide coverage and another within limited geographic boundaries, dictate strong management and planning capabilities to assure proper integration of all elements of the PHC program. The selection of highly qualified long-term technicians is therefore crucial to the implementation of this program.

B. Economic and Financial Analysis

The design of this project has been guided at each stage by economic criteria to maximize the project's cost-effectiveness and financial criteria to minimize the project's recurrent costs. The analysis begins with an assessment of the benefits to be gained from a project of this type. Then, the most cost-effective means of attaining these benefits is identified. Finally, this analysis discusses the project's design from the financial perspective, concluding that despite the relatively low recurrent cost burden of the selected design, the current macroeconomic and fiscal condition of Mauritania as well as the GIRM's present degree of willingness to allocate scarce budget resources to health activities make it unlikely that the GIRM will be prepared to bear the full recurrent cost burden of this project by 1983.

1. Project Benefits

There are several categories of benefits which can be associated with a project designed to improve the health status of a given population. Most of them are impossible to quantify realistically, at least not without a sound statistical base and considerable field research. Certain benefits, however, are generally accepted outcomes of successful public health activities which, if not easily integrated into cost-effectiveness calculations, are at least distinct, plausible and substantial. These benefits fall into three categories: economic, institutional and political/social.

a. Economic Benefits

These benefits derive from the overall project design objective of reducing the economic costs of endemic diseases in Mauritania. To achieve such benefits on a cost-effective basis, the program has been tailored to the country's unusual demographic situation: a very low average population density with wide variations; recent very large shifts in population -- partly drought-induced -- that are continuing in a largely unpredictable manner; cross-border migrations; and important ethnic/cultural differences (e.g. nomads) that affect population location and social organization. These characteristics have required and will continue to require a selective and flexible approach to Mauritania's serious health problems.

The inadequacy of present health care can be seen from a comparison of health indicators for Mauritania with those for low income countries in general. (In terms of its GNP per capita of \$480 in 1981, Mauritania is actually a lower middle-income country, though most of its social indicators place it among the least developed.) Mauritania's high infant, child and overall death rates reflect the general inadequacy of primary health care and offer scope for important reductions over the near term. Child death rates are particularly high, being 2.6 times the low income average. Only in nursing personnel per capita is Mauritania better off than the average low income country; but this relatively favorable ratio is offset by the relative scarcity of doctors, the dispersion of the population and the high rates of death and illness.

Table VII.B.1:

Health Indicators of Mauritania Compared to Low Income Countries in 1980

	<u>Mauritania</u>	<u>Ave. for 33</u> <u>Low Income Countries</u>
Life Expectancy (years)	43	57
Crude Death Rate per 1,000	22	12
% Change in Rate, 1960-80	-21	-36
Child Death Rate (age 1-4)	31	12
Infant Mortality Rate (age 0-1)	143	94
Pop. per Physician (1977)	13,700	5,810
Pop. per Nursing Person (1977)	1,980	4,840

Source: World Bank: World Develc

Estimates of specific quantitative benefits cannot be made with any certainty due to the lack of Mauritanian data as to specific causes of death and work days lost, i.e. mortality and morbidity rates for the diseases being treated by the national EPI and regional PHC programs. However, the coverage of the EPI program can be estimated to be 60% of the national target population.* Nomadic groups equal approximately 16% of the national population. Their children are not formally part of the rural target group but such children will be vaccinated as feasible during the circuits of the mobile teams among rural sedentary groups and assembly points.

* The target group is the total urban and rural sedentary population age 0-2 years, which equals 84% of such children. The mobile teams will be able to reach only half of their target group and a 10-15% shortfall for fixed centers seems probable, so that 60% overall coverage seems a reasonable estimate for the 0-2 target group.

By providing lifetime immunity against 6 diseases and preventing their spread to the rest of the community, this program will have a definite impact in reducing present high infant, child and adult death rates and unknown losses in work days and productivity.*

Wider benefits to the general population will be provided in three regions through integrated primary health care programs. These regions contain 31% of Mauritania's population and 51% of its cultivated land area. Health problems have been particularly pronounced in these regions. Measles, tetanus and enteric diseases contribute almost 50% of the infant mortality rate. Vaccination and local primary health care should greatly reduce such deaths. Malaria incidence exceeds 65%, peaking during the agricultural season. Gains in work days and productivity should be significant after the programs become fully operational.

Another type of economic benefit will be avoided treatment costs for the 6 targeted diseases and for all illnesses and injuries treated at the village level in the three regions. Inadequate data on present treatment costs does not permit a quantitative estimate of savings, but two forms can be noted.

Considerable travel is presently involved for villagers seeking costly curative care at overburdened secondary and tertiary facilities. For Northern Trarza, round trip transport costs to the nearest dispensary are approximately \$13 per person. For an average village of 300, about 60 person trips per year appear to be required. If roughly 75 percent of these evacuations could be prevented by the CHW team, the annual saving through local care to the villagers would be \$585, plus the opportunity cost of the 60 person days involved. If such savings are obtained for 250 villages in three regions, the annual transport saving would approximate \$146,000 (equal to approximately 50% of the annual recurrent costs of the project).

Another saving from village health care will be lower unit treatment cost through shifting considerable treatment from nurses to CHWs, who are less expensive to train and support. The use of CHW teams for screening and referral will also permit relatively scarce medical and nursing attention to be devoted to more serious health problems, thus increasing overall cost effectiveness.

b) Institutional Development and Policy Changes

The project inputs will provide a long-term improvement in the quality of Mauritanian health care and administration. In addition to training MOH personnel, TBAs and CHWs and upgrading a variety of

* Lost work days are usually costed on the basis of the minimum wage. The official minimum wage is 150 UM (currently \$2,83) per day; at least in some cases, agricultural workers are being paid about twice this rate.

facilities, the project will improve the overall health care system in numerous ways. These include the collection and analysis of better demographic, health and cost data; improvement of management, financial, logistical and cost control systems, and introduction of additional revenue raising measures. The additional revenue raising measures include financing of CHWs and drugs used, plus the beginning of a movement from free to purchased drugs and from public to licensed private outlets.

c) Political/Social Benefits

The U.S. will gain politically by responding to a GIRM development priority and through continued widespread identification with both the EPI project, which is the country's only national outreach program, and the new village self-help health effort, which is to be extended from one to three regions.

The Mauritanian Government will gain by attacking an obvious national problem and by instituting policy and institutional reforms. The latter will improve the efficiency of health care administration, raise additional revenues and involve the private sector more. By providing free vaccinations and low cost health care to persons otherwise unable to afford such services, the project will have a favorable effect on income distribution in real terms.

2. Cost Analysis

a. Why this proposed solution?

Early in the project design, alternative health interventions were examined including capital improvements to the national and regional hospitals, dispensary or MCH fixed center construction and the long term training of doctors. A major health sector grant approach was also considered.

USAID's decision to proceed with an integrated EPI/PHC program was based upon reasons including the following:

1. Except for the EPI activities in Nouakchott, the projects' target population is rural or secondary urban.

2. Other donors are heavily involved in a variety of others, often capital intensive, health activities.

3. This project employs an innovative approach with significant potential for replication.

4. EPI programs are cost effective and have high and immediate impact. They use proven methodologies and attack the most prevalent and treatable diseases.

5. PHC programs focus on preventive as well as curative care provided through less skilled, community supported workers.

6. The two predecessor AID funded project activities in EPI and Rural Medical Assistance provided a strong foundation for continued AID support.

In sum the integrated EPI/PHC approach, when compared to other possible intervention in the health sector, is cost effective, comprehensive and cohesive. It reaches the rural poor and offers good potential for replicability.

b. The Two Major Elements - Least Cost Solution

Given the EPI/PHC integrated approach the design team was charged with formulating the optimum mix of services and techniques which would minimize capital investments and recurring costs. As described below the final analysis showed that economic, cost and service data were insufficient to justify significant service modifications or cut backs from the basic models now in use. Rather program composition was based upon technical and political considerations and efforts were focused on keeping project costs to a minimum. The dialogue with the MOH will continue regarding the most cost effective program mixes and methodologies to be used to provide both EPI and PHC services and this project will provide more solid cost information upon which to base program extensions, modifications or reductions.

The cost criteria and economies built into the project can best be examined first in terms of the two major operating programs and then of their integration into a single project.

(i) EPI Program. EPI programs are generally considered to be highly cost effective on the basis of the value of lives saved relative to delivery and avoided treatment costs. Within the EPI program for Mauritania an important issue has been the most efficient method of providing vaccination services: the optimum mix of mobile teams and fixed center operations. Due to the dispersed nature of its rural sedentary population, vaccination costs per beneficiary are much higher for those served by mobile teams than by fixed centers. The groups account for 38% and 46% of the total EPI target population, respectively.

The possibilities for eliminating the least cost-effective activities in each type of operation were examined. Five fixed centers with "catchment area" populations estimated below 5,000 were considered for elimination. However, field visits, conversations with knowledgeable officials and new estimates of urban growth since the 1977 census all indicated substantial, sometimes extreme, growth in urban areas. However, it was also evident that current demographic estimates were very weak and provided a shaky base for making major program decisions. Since the population within 5 km of the five low-population centers had apparently increased significantly, and since the population had also apparently increased in all of the other 25 urban areas (including eight districts of Nouakchott) it was decided to continue to provide EPI services at the current fixed locations until firmer demographic estimates, corroborated with actual vaccination rates could be obtained.

For the program to vaccinate the rural sedentary population various alternative reductions in the number of mobile teams were considered. Possibilities of single teams covering two regions were examined. All cases would have involved the withdrawal of current EPI services from some rural groups, with the actual reduction dependent on the new logistical arrangements that would have to be worked out. There was also the political cost to the GIRM and US of withdrawing existing services from smaller groups and the more remote, thinly populated regions. Once again, it was concluded that existing demographic and cost data were too weak a base for a major program decision. In addition, the present routing system for team itineraries needs to be examined first for its cost effectiveness, before making changes regarding desired coverage.

As noted in the discussion of Cost per Beneficiary (section 3b below) the average cost per fully vaccinated child for the overall EPI program compares favorably with other LDC experience, especially given the dispersed nature of the Mauritania population. This project calls for the current EPI program to be made more cost effective during 1984-88 through the following measures:

- Reduction of the target group from 0-5 years to 0-2 years. This economy has been made on the assumption that most of the eligible 2-5 year children have been immunized. The program will now concentrate on the annual 12-month cohort of children and pregnant women becoming eligible each program year, i.e. those children entering the 3-24 month range each year for all vaccinations, except for the 9-24 month range for measles, and all eligible women. These cohorts are estimated at 3% of the population for pregnant women, 4% for measles and 5% for the other diseases. These percentages and the age ranges used can be adjusted on the basis of operational experience and improved target group estimates. As the project progresses, consideration will be given to further savings through the adoption of WHO target group standards of 0-18 months.

- Provision for improved health, demographic and cost data, its analysis and feedback into the program. The project calls for epidemiological specialists to advise and evaluate the EPI program. In addition the monthly reports of the mobile teams and public health officials will be studied for their disease and demographic (target group) implications. The unit delivery costs of the mobile teams and fixed centers will also be studied, to identify waste and possible economies of operation. (One source of "waste" is the opening of 10-20 dose vials for only a few inoculations at certain locations, with the remaining doses becoming unusable at the end of that or the next day.) Scheduled evaluations and the special study on recurrent costs will also assure feedback of improved information and analysis into the program.

- Re-examination of fixed center operations. The current program data base consists of rough estimates of 1985 population levels in Nouakchott and secondary urban areas where the existing 30 fixed centers are located. Improved target group estimates (based on actual utilization rates) will permit adjustment of the number of centers, vaccination days and vaccine vials. Using present urban

population estimates for 1985, the minimum population in each catchment area (of 5 km radius) will be 7,000 and the minimum number of children vaccinated per year will be 350, with the exception: The vaccination 350 children per year, or an average of seven per day (for a center open only one day per week) is considered a minimum threshold for attaining economies of scale and a ratio of vials to patients necessary to hold unit costs below a desirable maximum. These cost criteria will be revised as necessary on the basis of analysis of utilization and cost data.

(i) Mobile team operations. The present coverage of the rural sedentary population in nine of the 12 regions will be continued in 1984 while the cost effectiveness of present operations is being evaluated. The present routing systems will be evaluated in terms of (1) inoculations per day and per UM 1,000 (within and among regions) and (2) various economies of operation possible through avoiding bad roads and deviations from routes to reach small populations, and use of circular routes (loops) rather than straight-line sorties from the regional base. The loop method saves on fuel and, through overnight stops, gives the local population better advance notice of inoculations the next day. However, its use may not be feasible in many areas due to lack of fuel availability and the added difficulties of camping out for 3-6 days at a time.

(ii) Regional CHW Programs. Cost effectiveness has been built into these programs by placing the burden of participation and financing (except for training and supervision) on the village, i.e. those villages not sufficiently interested in supporting primary health services and drugs do not participate. The probable recurrent cost per beneficiary compares favorably with experience in other Sahelian countries. By keeping the cost to MOH per village as low as possible, the program facilitates its gradual extension to new villages and regions. The program seeks to obtain further economies of operation through possible new criteria for selection of CHWs, through improved training, retraining and supervision, and through evaluation of operations. The special studies of village self-financing and of recurrent costs will also seek to reduce the new costs of the program.

(iii) Integrated Project. In addition to the cost-minimizing elements built into each major program element, the integrated project offers four important advantages over pursuing the two activities separately: (1) it permits the MOH to combine the mobile elements of three separate rural health programs (EPI teams and supervision of CHWs and TBAs) into one mobile team system in the three regions involved; (2) the development of CHW village teams (CHW plus TBA) allows more complete, coordinated and standardized health data collection and reporting; (3) the coordinated training of CHWs and TBAs as village teams eliminates the need for separate teaching staffs and facilities; and (4) the Mauritanian policy shift toward greater self-financing and use of the private sector can be encouraged in the drug distribution area through combined direction of related programs.

3. GIRM Financial Capability

The GIRM's ability to finance the activity after the conclusion of the AID financing is determined by its ability and willingness to allocate scarce budget resources to the activity. The following section begins with an examination of the GIRM's present financial situation, examines the cost profile of the proposed project, and concludes with observations on the GIRM's ability to assume the project's cost burden.

a. Overall Budget

(i) Economic Situation and Outlook. As a result of reduced international demand for its chief export (iron ore) and excessive past government expenditures, Mauritania has a difficult budget, balance of payments and debt situation. The country is heavily dependent on foreign aid, which equals nearly half of gross domestic product (GDP), accounts for around 40% of total public expenditures, and (along with debt rescheduling) finances a balance of payments deficit equal to about 35% of GDP. The 1982 GNP per capita figure of \$480 is misleading because the currency is generally considered to be overvalued. With only a 17% literacy rate, Mauritania has vast needs for additional investments in human and physical capital.

The outlook is for only a slow improvement in the economic situation, which will remain subject to droughts and export fluctuations. Future growth will probably exceed the 3% average rate for the past five years, but the country will remain heavily dependent on foreign aid and debt rescheduling for the foreseeable future.

(ii) General Budget Situation. Government revenues fall about 25% short of financing current expenditures, with the gap filled by foreign budget support and domestic bank borrowing. In addition, there is a relatively small formal capital budget and large extra-budgetary project expenditures that are almost entirely financed (or supplied in kind) by foreign aid and credits. (Actual budget results since 1980 have not yet been released but conversations with visiting IMF teams have indicated general orders of magnitude and trends.) The Government has taken some measures to increase revenues and restrain expenditures, so that dependence on foreign aid has declined from about 60% of total public expenditures (including aid projects) in 1980 to around 40% in 1982. Further progress is expected, assuming another rescheduling of rising debt obligations, which should gradually increase the Government's ability to absorb the recurring costs of aid projects. However, while total current expenditures have been constrained, government employment and personnel expenditures have continued to increase, resulting in shortages of supplies and equipment for government operations.

(iii) MOH Ability to Finance Its Project Costs. The latest available Ministry of Health budget figures (shown in Table B.2) indicate an increase in health expenditures from 2.6% to 3.7% of the GIRM operating budget between 1978 and 1980. This share has

reportedly remained at or above 3.7% since 1980. The health share in capital project expenditures (almost entirely aid-financed) was also 3.7% during the Third Five Year Plan, 1976-80.

Table VII B.2: Budgets of the Ministry of Health
(UM Millions)

A. Operating Budget

	<u>1978</u>	<u>1980</u>	<u>Plan*</u> <u>1985</u>
Personnel	167	213	347
Operations	75	119	134
Drugs	<u>54</u>	<u>55</u>	<u>286</u>
TOTAL	295	387	767
As % of Total National Budget	2.6%	3.7%	5.6%

B. Capital and Project Foreign Aid Expenditures

	<u>Av. p.a.</u> <u>1976-80</u>	<u>Plan</u> <u>Av. p.a.*</u> <u>1981-85</u>
Health Total	268	668
As % of General Total	3.7%	3.7%

* Illustrative estimates for Fourth Five Year Plan, in 1980 prices.

Illustrative estimates made for the Fourth Plan, 1981-85, indicate that the health operating share will increase to 5.6% by 1985, but these estimates include a dramatic increase in the amount spent for drugs (in 1980 prices - see Table VII C.1). After the Plan was formulated, the Government decided to phase out its free-drug policy, to raise pharmaceutical prices to a cost-covering level and to begin licensing private pharmacies in the country. If drug expenses do remain at about the 1980 level, the adjusted 1985 health share would be about 4 percent. In fact it is hoped that MOH drug costs can be greatly reduced by charging full costs for most drugs now given away or subsidized, thus freeing funds for other uses. Annual capital project expenditures in health were projected to about double in 1981-85 (in real terms, over 1976-80, allowing for lower prices in 1976-79, as compared to 1980), but actual performance will depend almost entirely on the magnitude and pace of donor funded projects.

Total MOH expenditures (including project aid) are estimated to be about \$17 million in 1983, equal to 2.2% of GDP or about \$10 per capita.*

Total expenditures were divided about equally between the GIRM and donors. During the mid-year of the RHS project (1986) the dollar value of both kinds of expenditures will probably have increased another 15% due to inflation; assuming no change in the exchange rate, total expenditures will approximate \$19-20 million, about evenly divided between the GIRM and donors. By comparison, this \$5.0 million project will cost AID approximately \$1 million p.a., equal to about 10% of likely total donor contributions in the health field and about 6% of total health expenditures.

The Mauritanian contribution to this project will be about \$2.5 million (about 33% of total project costs), of which about \$573 thousand will be financed by communities. The GIRM's annual average contribution of about \$0.4 million to the project will account for about 4% of its likely average annual health expenditure. Most of the MOH expenditures will be for salaries of existing personnel who will be assigned to this project (many as a continuation of the two existing projects) so that the incremental budget costs for the MOH during the life of the project will be small and well within its budgetary capability.

* MOH operating expenses in 1980 were \$8.4 million; capital and project aid expenses were approximately the same magnitude. Since 1980 MOH expenditures have apparently increased at about the same rate as the exchange rate, i.e. by a total of 15%, meaning there has been little or no change in dollar amounts.

(Exchange rates: 1980: 46 UM/\$1; 6/83: 53.3 UM/\$1)

b. Costs per Beneficiary

As indicated in the following table, the average cost per expected beneficiary of the EPI program, assuming that only children aged 0-2 years and pregnant women are vaccinated is estimated at \$8.35.

Table VII B.3: Costs per Beneficiary

<u>Total Target Pop. (1985-88)</u>	Maximum Number of:			Coverage (% of Total Pop.)
	<u>0-2 yr. Children</u>	<u>Pregnant Women</u>	<u>Total</u>	
Fixed Centers	183,112	109,551	292,663	46
Mobile Teams	<u>132,000</u>	<u>79,000</u>	<u>211,000</u>	<u>38</u>
TOTALS	315,112	188,551	503,663	84
<u>Adj. to Expected 60% Coverage</u>	225,000	134,679	359,759	60
<u>Vaccine Costs</u>	\$159,950	\$11,650	\$169,600	
	93.1%	6.9%	100%	
<u>Vaccine Costs per Beneficiary</u> (No. of inoculations)	\$.70 (8)	\$.09 (2)	\$.47 (10)	
<u>Total EPI Program Costs</u> (incl. overhead, inflation, contingency)				
Allocated by No. of Inoculation	\$2,404	\$601	\$3,005	(all 000)
<u>Per Beneficiary</u>	<u>\$10.68</u>	<u>\$4.46</u>	<u>\$8.35</u>	

The cost per child is for a fully vaccinated child receiving a total of eight inoculations for the six diseases covered. The cost of vaccine per child is much higher than that per pregnant woman (who receives two inoculations of tetanus toxoid). This is due not only to the number of shots but to the higher unit costs of the vaccines for children. However, the cost of the vaccine, which is to be borne by UNICEF accounts for only 4% of the total cost of delivery. When total EPI costs are allocated by the number of inoculations, the cost per child is 2.4 times that per pregnant woman.

In considering the allocation of costs between programs, it should be kept in mind that the EPI mobile teams provide on-the-spot primary health care as well as inoculations during their circuits.

The 60% expected coverage of the total target population assumes that the EPI mobile teams will be able to reach roughly half of their target population and that there will be roughly a 10-15% shortfall for the fixed centers. On this basis the fixed centers would account for about 70% of total vaccinations. However, the demographic data base is presently very weak and additional studies of actual coverage are planned for the project. See the Section on Least Cost Solution below for a discussion of cost factors affecting EPI mobile teams and fixed centers.

No direct comparison with experience in other countries can be made for the coverage cost of \$8.35 per expected beneficiary (for lifetime immunity against six diseases plus some primary health care). However, a rough comparison can be made of EPI recurrent costs per fully vaccinated child in this project with indicated general magnitudes for fixed center EPI operations in LDCs. In 1983 prices the recurrent costs for the EPI program are \$336,000 per annum (see table in next section on Recurrent Cost). If divided by the annual average number of beneficiaries (90,000 children and pregnant women) a recurrent cost of about \$3.73 per beneficiary is obtained. As has been indicated, the average cost per child is about 2.4 times that for a pregnant women. Given this ratio and the number of child and women beneficiaries in this project, an annual recurrent cost of about \$4.77 per fully vaccinated child can be estimated for mobile and fixed center operations combined. This compares with the following cost ranges for LDC experience with fixed centers only:*

Ideal	\$1.20 to 2.00
Acceptable	\$2.00 to 3.30
Very Costly	\$3.30 to 6.00
Uneconomical	Over \$6.00

The indicated Mauritanian cost of \$4.77 per child falls in the middle of the "very costly" range for fixed centers. Vehicle related costs account for 53% of the total donor financed recurrent costs. Allowing for the necessity of using mobile teams to reach the dispersed rural sedentary population of Mauritania, the project average of \$4.77 appears to be an "acceptable" figure for Mauritania. Cost and vaccination data do not promptly permit a comparison of costs per beneficiary as between urban (fixed center) and rural (mobile team) operations, but mobile team operating costs are much higher and account for a large part of the EPI recurrent costs. (Comparative coverages and costs per beneficiary will be determined through studies and cost analysis under this project.)

* Peter Knebel, "Management of Immunization Program in Fixed Health Centers of Less Developed Countries", paper written in USAID Bamako, April 1983, page 28.

For the CHW program only a rough estimate of costs per beneficiary can be made. On the assumption that the CHW program will make primary health care available to half of the rural sedentary population in the three regions combined (i. e. to about 130,000 people) the average annual cost to AID per potential beneficiary will be about \$3.72.*

Reflecting the long-term investment nature of the AID contribution, average AID recurrent cost (in 1983 prices) for the CHW project will be only about \$97,000 p.a. equal to only 75 cents per potential beneficiary. MOH expenditures and Mauritanian village-financed costs for CHW teams and drugs will average about \$255 thousand p.a., or \$2 per potential beneficiary. This estimated total recurrent cost of roughly \$2.75 per beneficiary p.a. compares favorably with a range of \$2.31-4.70 estimated in 1980 for Sahel countries.**

Again, the project provides for considerable gathering and analysis cost information to facilitate informed decisions regarding service extensions, modifications or cutbacks.

c. Recurrent Costs Analysis

Annual average recurrent costs during the project are presented in Table 4. Total donor financed recurrent costs in 1983 prices are \$1,947 million, of which AID will pay \$1.777 million, equal to 45% of total AID project costs before allowance for inflation and contingencies. Assuming less than full project activities during the transition period recurrent costs have been calculated on the basis of four and one-half years of project operation. Depreciation of capital equipment accounts for 34% of estimated recurrent cost; the remaining 64% represents recurring operating costs.

About 77% of the recurrent costs pertain to operation of the EPI program, reflecting the relatively high costs of the mobile team effort to reach rural children. Except for any emergency vaccine which may be needed, the total vaccine requirement will be furnished by UNICEF.

* Total CHW program cost of \$1,990,000 divided by 130,000 persons divided by average four-year period of benefits. In reality the maximum number of beneficiaries is not reached until year 4.

** Peter Knebel, "The Village Health Worker in the Sahel", American Public Health Assoc., 1983.

It is expected that the vehicles and equipment will be at least 80% depreciated by the end of project. While post-project annual average costs of such equipment should not exceed the \$126,000 indicated (in 1983 prices) the purchase costs of replacement equipment (if and as needed) will be up to five times the \$126,000 and will fall mainly in the first post-project year of 1989.

Allowing for a 5.8% rate of inflation during the project, the annual average recurrent cost in current prices during the project will be \$514,000 (i.e. the estimated cost for 1986, the mid-year of the project).

Table VII B.4: Donor Financed Project Recurrent Costs

<u>Item</u>	<u>1983 prices (\$000)</u>		
	<u>EPI</u>	<u>CHW</u>	<u>Total</u>
In Country Training	25	109	134
Workshops	16	18	34
Vehicle Purchase	300	50	350
Equipment	240	85	325
Supplies	266	110	376
Fuel & Vehicle Maintenance	498	65	563
UNICEF Vaccine	170		170
<hr/>	<hr/>	<hr/>	<hr/>
Subtotal (4.5 years of operation)	<u>1,515</u>	<u>437</u>	<u>1,952</u>
Cost/Year	337	97	434

d. MOH Ability to Finance Recurrent Costs After Project Ends.

The financing of recurrent costs of operating existing facilities and projects already forms a major part of the health budget. A special study of the 1978 budget found that they accounted for 56% of current expenditures. The National Hospital alone accounted for over half of such expenditures; the maternal and child health program (PMI) accounted for 7%.* A partial analysis of health projects in the

* RAMS Project: "Rural Health: Outline of all Mauritanian Health Sector", 1981, tables on pp 33 and 36.

Fourth Plan (1981-85) indicates that the 56% ratio may be even higher in 1985.* Assuming that recurrent costs form 60-65% of the likely MOH operating budget of \$9-10 million in 1986 (mid-year of project) then MOH total recurrent costs will average around \$6 million p.a. during the project. By comparison, donor-financed annual average recurrent costs for the RHS project will be about \$433,000** in 1983 prices or \$573,000 in 1986 prices equal to about 8.6% of the planned MOH recurrent costs for 1986. Of the increase in annual recurrent costs paid by the MOH as a result of this project, \$30,000 would be added to the above figure. Recurrent costs of this project would thus amount to approximately 9% of planned MOH recurrent costs.

will drop by the end of the project as the result of the following actions:

- Increased cost effectiveness (lower unit costs) due to better demographic and cost information and improved management and logistical systems leading to economies of operation and avoidance of waste and low-return activities. Some of these measures are built into the project in the form of studies and new operating criteria and systems (e.g. for EPI cold chain and routes); others should result from planned training and evaluations.

- Increased self-financing of health activities and drug distribution. This project provides for extension of village financing of CHWs and drugs used from one to three regions. In addition the MOH expects to reduce its present drug costs by: (1) reducing demand for drugs at secondary and tertiary health centers, now distributed free, by charging at least nominal prices***, (2) ending present subsidies of PHARMARIM (the national drug distribution entity) by raising prices to cost-covering levels; and (3) greatly increasing the availability of such drugs by licensing private pharmacists throughout the country. Total MOH drug costs in 1980 were \$1.2 million, equal to 14% of the operating budget or about

* Oumar Ba and Judah Kessous, "Les Charges Recurrentes du IV^e Plan.

** Recurrent costs include vehicles, commodities & supplies; in-country training and workshops; vehicle fuel and maintenance; vaccines and local salaries. They exclude long and short term TA, 3rd country and U.S. training and special studies.

*** This would also increase the availability of such drugs, whose supplies are now usually exhausted long before the scheduled replenishment. Some subsidies of high-cost drugs will probably continue due to the inability of many recipients to pay.

(four) times the recurrent costs of this project. Unknown subsidies were apparently paid out of other government funds to the two state drug entities, which were also unable to repay supplies credits.*

Due to the uncertainties involved, it is impossible to estimate the actual reduction in project recurrent costs (from 1989 on, compared to the average level for AID during 1984-88) or the increase in drug revenues from the new policies. In the worst possible case (i.e. no reduction in costs and no use of new drug revenues), the MOH would need to increase its 1989 (post project) operating budget by approximately 8.6%** over what it would have been without the project. It is anticipated that by 1989 recurrent costs will be cut significantly through economies in operation and increased project self-financing. There is also scope for reducing the scale of operations (particularly of the EPI program) by eliminating the least cost-effective operations.

Whatever the actual magnitude of project recurrent costs from 1989 on, the MOH will have the following options for covering those cost:

a. Use of savings derived from reducing subsidies in the present MOH budget for drug expenses, which are about four times the annual project recurrent costs;

b. An increase in the MOH operating budget of up to a maximum 8.6%; and/or

c. Use of donor funding for this purpose, again up to a maximum of 8.6% of probable total donor financing in the health field.***

Though the percentage of the GIRM operating budgets spent on health increased from 2.6% to 3.7% between 1978 and 1980, there has been no measurable percentage increase since 1980. In the midst of an austere budgetary policy little relative increase in GIRM health expenditures is anticipated in the near future. While project recurrent costs have been kept to a minimum and while additional cost efficiencies are expected, it is still unlikely that the GIRM will be able to assume the full recurrent costs of the project by EOP. Significant donor participation will likely be needed in order to continue project activities beyond the EOP.

* These debts, until repaid, may limit the use of new drug revenues for program purposes.

** On the assumption that the ratio of costs previously cited for 1986 will prevail in 1989, i.e. average recurrent costs of \$513,000 per year compared to an operating budget of \$9-10 million.

*** Assuming that the 1986 ratio of donor financing to the total health budget still prevails.

C. Summary of Social Analysis:

Annex F contains the findings of the social analysis for the proposed project. These can be summarized as follows:

1. Appropriateness of Guidimaka Region: (Possibility for Diffusion) The Guidimaka is a rational choice for the next region for the GIRM to attempt to introduce its new concept of community based health services. From an economic perspective it is probably the country's most promising agricultural region and therefore warrants further investment in complementary social services. From a project perspective, it is culturally and environmentally different from the Trarza Region and therefore will present a formidable test of the applicability of Trarza project experience to other areas. One requirement will be major adjustments in implementation practices. Because most of the rest of Mauritania is composed of social elements found in either Trarza or the Guidimaka, the combined experience should allow for more rapid expansion to other future areas.

2. Feasibility: The socio-cultural environment in Guidimaka indicates that the people generally desire the interventions planned under the RHS project. The Soninke are the single largest group in Guidimaka. Their traditionally strong community structure and the existence of a significant influx of revenue from overseas workers will probably mean that establishing self-supporting community health organizations in Guidimaka will be easier than was the case in Trarza. On the other hand traditional cultural attitudes toward health care plus traditional divisions of male/female labor indicates that the training of village health workers and the inculcation of new, prevention-oriented attitudes toward health care may be significantly more difficult.

Other than socio-cultural matters, the difficulty of travel during the rainy season will present new logistical problems in supervision and supply distribution.

3. Beneficiaries: The demographic situation in the Guidimaka is characterized by extensive male outmigration between the ages 13-40 among the Soninke. Both because of this and the fact that the Soninke are the largest single group and live in the larger more stable communities, women and children will be the main beneficiaries. Conversely, the smallest class of beneficiaries will probably be the Peul who live in very small, isolated and often seasonal hamlets, not amenable to the program's increasing emphasis on fixed rather than mobile care, and the very poor Haratin communities who generally lack the financial resources, minimal education and community cohesion to respond to the demands that will be placed on participating communities.

4. Ultimate Determinants of Success: The prospects for success of the project in the Guidimaka region will be determined by the project's ability to reach many conceptually unprepared people; handle the logistics problems of rainy season transportation; and deal with communities that are either too large for only one or two health workers or too small to support one alone.

5. General Recommendations:

a) In all cases the project should continue to operate in an innovative fashion adapting to each new milieu. It should not assume that either the success or problem of Trarza will be duplicated in the Guidimaka.

b) Among the most significant differences of approach called for is in the choice of health workers among the Soninke. To effectively treat the population, both a male and female health worker may be needed. (Male for adults, women for children and female specific illnesses). In very large communities several people should be trained not only due to numbers but also inter-family jealousies.

The male candidate should be over 40 years of age but with significant experience outside the village, if possible. (Young men 20-40 cannot be expected to remain in the community).

c) Some trainers who speak Soninke and Poular will be needed. Neither Hassaniya nor French will suffice (especially for training women).

d) Communities should be chosen on a dual standard of population and geographic proximity. Some attempts should be made to group small hamlets together if within several kilometers of each other.

e) The Structure d'Education des Masses (S.E.M.) should be collaborated with on a case by case basis and only after consultation with community members.

f) Much greater emphasis has to be placed on educating community members in general as well as health committees on what modern health care is about and what to expect from the different levels of the health system.

g) Because of the vast differences between Trarza and the Guidimaka a special comparative study of cultural and environmental factors influencing project success should be made half-way through the project, if possible before moving into a third region. A new social analysis should be made once the choice of a third region is definitely made.

h) Special attention must be given to resolving the problem of the resupply of medicines and supervisory trips during the rainy season (June-Sept.) when many villages are cut off.

D. Administrative Analysis

The health manpower shortage in Mauritania, described earlier in the paper, persists at the management levels as well. While top level management is extremely competent, dedicated and hard working, the pool of support and administrative employees is shallow. Nevertheless, the Ministry of Health already executes a number of effective health programs. Administrative training and procedural improvements structured into the project design will help assure additional efficiency.

Management responsibilities under the Rural Health Services Project can be broken down into three major management areas: program, financial and logistics. Administration of these responsibilities can in turn be examined from national, regional and local perspective.

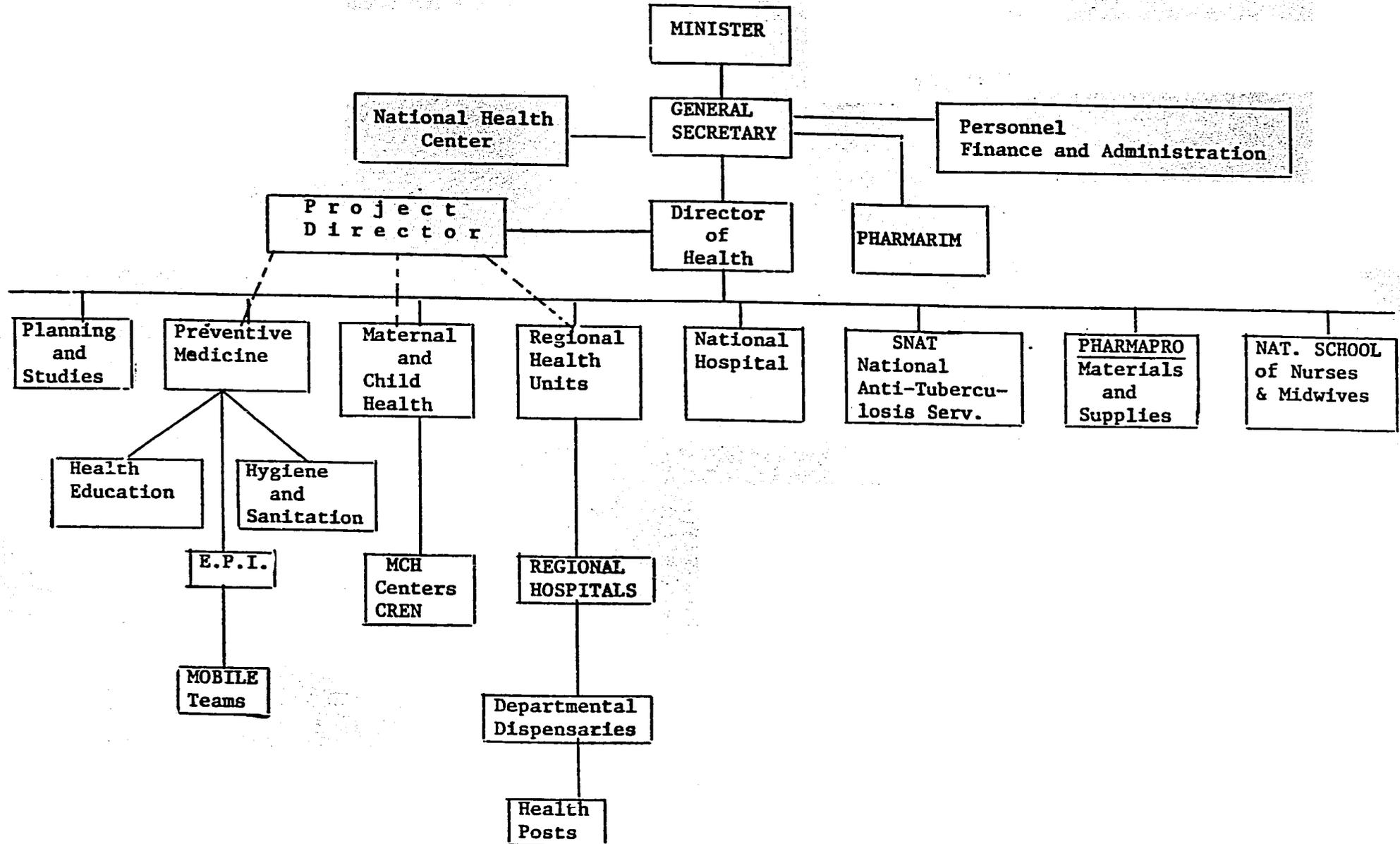
1. Program Management: The Ministry of Health has agreed that program management at the national level will be carried out by a full time project director plus one high level counterpart to each of the two technical advisors. These three MOH employees will play significant roles in the Council on Primary Health Care and will be in charge of implementing council and project policy, plans, and coordination.

The Project Director, with the assistance of project staff and the head of the Department of Maternal and Child Health (MCH), will finalize project planning and scheduling. He will assist in the development and approval of the scopes of work and qualifications of technical advisors and the terms of reference for studies, and lists and specifications of commodities to be ordered under the project. He will set project agendas and objectives for both the EPI and CW components of the project. He will recruit and direct staff as necessary and be responsible for coordinating the achievement of conditions precedent and meeting project documentation and reporting requirements. He will review project reports and contractor performance and will assist in project evaluations. In sum, the Project Director will be responsible for overall program management as well as for financial and logistic management.

As shown in the attached organization chart, the Project Director will derive his authority from the Director of Health but will have a significant degree of autonomy over project affairs, so as not to add an additional layer to the current MOH structure. Close cooperation between the Preventive Medicine and MCH departments will be encouraged through the policy and integrative effects of the National Commission. The Council is now functioning on an ad hoc basis; ratification of it as a formal, permanent commission is expected by early 1984. The project will fund an administrative assistant to help prepare project documentation and reports.

Since the Mauritanian regional medical officers (Medicin Chefs) are responsible for all health-related activities in their regions, they will be titularly responsible for this project in their regions. Given the other demands upon them, however, it is anticipated that

ORGANIZATION CHART OF THE MINISTRY OF HEALTH



day-to-day program management demands will be carried out by others. National project personnel, including the Project Director, department heads and technical assistance advisors will make regular visits to the regions. EPI elements of the project will continue to be performed by MCH personnel and by mobile teams regularly supervised from Nouakchott. The coordination of the community-based PHC elements will also be directed from Nouakchott but supplemented with a regionally based nurse coordinator/liaison officer. In addition, program policy and integration will be encouraged through the activities of Regional PHC commissions and through regional workshops and seminars. Technical assistance personnel and others working on the project out of Nouakchott must be sensitive to the key administrative role played by governors and prefets in each region. These officials, who are responsible to the Ministry of Interior, are charged with the overall oversight of all governmental activities which take place in territory under their jurisdiction. They must be kept thoroughly informed of the goals of the project and its method of execution. They should be consulted regarding any element of the project requiring the utilization of facilities or personnel under their general control. Without satisfactory cooperation with these officials, the project will not be able to function properly at the regional and local levels.

Project personnel working on the regional level will be responsible for passing policies and directives from the national project direction to the local communities and for assuring the flow of health data and program information from communities to the project director.

At the local level, health care will be administered and information gathered by mobile EPI teams and by the CHW teams. Project integration will be encouraged by combining CHW team supervision with EPI visits, by providing EPI services in MCH facilities and through departmental workshops.

One of the primary effects of an extended primary health care system is the integration of village and regionally-based PHC services with on-going curative activities at local dispensaries and regional hospitals. Through local, regional and national seminars, curative personnel will be sensitized to the importance and value of PHC programs and of community health workers. CHW teams will be trained to recognize cases which need to be referred to dispensaries. Ultimately this integration should make comprehensive health care more accessible in the regions affected and the PHC interventions should result in savings to the curative system. In the short run, however, it is safe to assume that the project will increase the demand for curative services at all levels and for government-subsidized medications.

2. Financial Management: Organizationally, financial management will follow a pattern similar to that described above. As the procurement plan indicates, most major contract and procurements will be AID direct actions. Where the project operating fund (POF) is concerned, however, ultimate financial responsibility will rest with

the Project Director who may delegate such financial responsibilities as he and AID believe are reasonable. A maximum of approximately 12% of AID financing will be channeled through the POF. Such daily needs as local purchase of office supplies, and per diem for personnel in training would be met from the operating fund. The operations of this fund, as well as a more thorough assessment of GIRM/MOH financial management capability and project financial procedure are described in Section VII.C, Financial Analysis.

The primary financial management responsibilities at the central project level will include: preparing a budget and time-phased financial plans, maintaining the project accounting system and certifying invoices for payment. Given the shortage of trained financial personnel, it is expected that financial management will remain centralized. Personnel in the regions must nevertheless collect and keep receipts and justifications for expenses reimbursable under the project operating fund. Other than providing guidelines or suggestions, the project will not become involved in financing the CHW teams or community drug supplies.

To help assure adequate financial control, the project will fund a financial manager/accountant to manage the POF and AID will make financial management assistance available through its Sahel Regional Financial Management Project. Consideration is also being given to a single contract for the supply of Butagas which would further simplify financial management.

3. Logistics Management: Logistics management will involve such concerns as vehicle scheduling and repair, cold chain maintenance, inventory control and supply and equipment distribution. Like financial management, it will be a highly centralized operation under the control of the Project Director, but procedures must also assure effective and prompt attention to logistics problems in the field. Procedures are to be instituted to schedule and record vehicle use and reduce the chance of abuse. Brief workshops and training courses are being planned for chauffeur and EPI personnel in vehicle maintenance and cold chain repair. Both central EPI and PHC personnel will receive brief training in equipment inventory and control and stock management. This should help assure that materials and equipment are ordered and delivered on a timely basis. Despite these improvements, however, the climatic and geographic constraints in Mauritania suggest that logistics problems will continue.

4. Current Operation and Outlook: When one looks at the myriad program, financial and logistic management responsibilities anticipated under this project and recognizes the country's personnel limitations, successful project implementation would at first glance seem to be a remote possibility. The fact is that most of these activities are being carried out now by the MOH, many with little outside management support.

The MOH itself is generally regarded as one of the most effective GIRM ministries. The Minister and his advisors, the General Secretary and Director of Health as a team provide solid political and technical support and direction at the top.

Though the current EPI program has been funded primarily by UNICEF, WHO and AID, it is entirely Mauritanian managed. While the requirements for maintaining health data and information and for integration with CHW team supervision in three regions will be somewhat heavier under this project, no revolutionary modifications are anticipated. At the same time greater efficiencies should result from the personnel training and new equipment which the project will provide.

Despite problems such as inadequate integration with ongoing MOH operations and a somewhat ambiguous administrative and supervisory structure, the Trarza project experience is extremely encouraging -- especially when one recognizes that it is primarily Mauritanian managed. The entire village sensitization, training, retraining and supervision of 192 village health workers was carried out with but one expatriate and minimal AID funded project administrative support. The Trarza Project Director, nine supervisory nurses and trainers are MOH employees available to lend their experience and training to this expanded PHC project.

The existing Maternal and Child Health Care structure already serves as one of the primary integration points between the EPI and PHC programs. The MCH program currently operates and staffs 26 MCH centers around Mauritania where it provides a comprehensive array of services. With only minimal external budgetary support, the central MCH staff of approximately 10 in Nouakchott is successfully carrying out in-country training programs, workshops and seminars and releasing people for short-term third-country training. Again, this new project will build upon an already existing and successful MCH structure.

The regional health units which provide curative services at the regional and local levels absorb, with the National Hospital, approximately 80% of both the financial and personnel resources for health. Drawing from the Trarza experience, some additional demand for curative services can be anticipated in the three regions with extended PHC programs. The project will provide training for dispensary personnel and limited financing to help upgrade the dispensaries in those three regions so no significant adverse effect on the quality of care provided should result from the increase in demand.

In addition to PHARMARIM, which is described below, the other offices or departments of the MOH with which this project will work include the Planning and Studies Office, staffed by 3 professionals, the Administration and Finance Office with 6 employees and the National Health Center, a well staffed, semi-autonomous health research organization.

To reiterate, the Ministry of Health leadership and the offices and departments involved in this project are all headed by competent and dedicated people. Despite the shallow personnel base beneath them, and with very limited expatriate management support, they are carrying out effective programs and are able to release employees for additional training. Given that this project is intended to build upon

and improve existing programs, and given the technical managerial and financial assistance the project provides, administrative and management support is adequate.

5. PHARMARIM

Under the current two-tiered distribution system, Ministry of Health facilities receive their supplies through a GIRM-run pharmaceutical importing and distribution system, PHARMAPRO. The system, in theory, provides a regular supply of drugs which are distributed free through Ministry of Health facilities. In fact, PHARMAPRO has difficulty in keeping up with the demand. In addition to severe budgetary constraints, they have certain logistical problems in stocking and moving supplies and in ordering needed supplies. A second semi-autonomous GIRM Organization established in 1975, PHARMARIM imports and sells pharmaceuticals on a commercial basis. Despite severe financial problems it has had less of a problem maintaining a sufficient stock of simple medicines and in keeping up with demand. The Ministry of Health understands that the government cannot continue the heavy subsidies to medicines obtained through PHARMAPRO. It has recently adopted a policy to liberalize the system to allow private sector involvement as a means for making pharmaceutical products more readily available. PHARMARIM would become a national drug wholesaler and its retail pharmacies at each of the regional capitals would be supplemented by privately owned and operated drug outlets.

The aim of the policy shift is to make the drug supply and distribution system self-financing and sufficient to meet demand at a reasonable prices. It is proposed that PHARMARIM review and license private agents. The agents would be retired nurses, merchants or others who have the means to transport sufficient supplies from PHARMARIM in Nouakchott on a regular basis and to maintain the medicine in good condition until they are sold. The license issued to the agent would entail the following responsibilities:

- a. Maintaining stock;
- b. Selling drugs to CHWs at a discount and to individuals at retail prices; and
- c. Maintaining performance standards set by PHARMARIM.

This liberalized PHARMARIM policy has been in effect for approximately two years and there are currently four private distributors in the country, all of whom are former MOH nurses. The private enterprise policy is sound in theory and will be promoted by this project. In reality, however, the private distribution system is constrained by a small and widely dispersed market and very high transportation/operation expenses. The challenge will be to assure that drugs are available to CHWs and individuals at a price which they can afford while still assuring that PHARMARIM as a wholesaler and the private distributors as retailers are both commercially viable.

As described in a prior section on research studies, this project will finance a detailed drug marketing and distribution analysis which will explore the issue of commercial viability. The GIRM and AID should recognize, however, that in the final analysis, market conditions may preclude the introduction of a private, subsidy-free drug distribution network in some areas of Mauritania.

E. Environmental Analysis

A.I.D. assistance under this project is limited to the financing of long and short-term technical services, participant training, health equipment and commodities procurement and such other costs as vehicle maintenance and fuel, special studies and health care seminars and workshops. The project does not include construction of medical facilities, water supply systems, waste water treatment units or other structure which could affect the environment. A categorical exclusion of this project from further environmental review was requested by the Mission Director on March 4, 1983. The exclusion has since been reviewed by GC/AFR and approved by the Africa Bureau Environmental Officer. No further environmental examination is required. A copy of the Categorical Exclusion is included on the following page.

INITIAL ENVIRONMENTAL EXAMINATION

OR

CATEGORICAL EXCLUSION

Project Country: MAURITANIA

Project Title and Number: RURAL HEALTH SERVICES PROJECT (682-0230)

Funding: FY (s) 83-87 \$5,000,000

IEE/CE Prepared by: RUDY GRIEGO, Mission Environmental Office.

Environmental Action Recommended:

Positive Determination _____
Negative Determination _____
or
Categorical Exclusion X

This activity meets the criteria for Categorical Exclusion in accordance with Section 216.2 (C) 2 (viii) and is excluded from further review because it is a primary health care project proposing to train and field village health workers, support an existing mobile team immunization system and conduct short term research efforts. The project includes no construction of facilities, water supply systems, waste water treatment units, or other structures which could affect the environment.

Action Requested by P. B. Brackett Date: March 9, 1983
Mission Director

Concurrence: [Signature] APPROVED: X
Bureau Environmental Officer

DISAPPROVED: _____

DATE: MAY 1983

Clearance: CC/AFR _____ Date: _____

VIII. Conditions Precedent, Covenants and Negotiating Status

The Rural Health Services project has been developed in close coordination with the Ministry of Health and has benefitted from the experience of the two predecessor projects, Rural Medical Assistance and Expanded Program of Immunization. For those reasons, there are no issues of significance which must be resolved prior to project authorization or obligation.

A. Conditions Precedent.

The only CPs recommended to be included in the project authorization are the following:

1. Prior to first disbursement: The Grantee will furnish to A.I.D., in form and substance satisfactory to A.I.D., a statement of the name of the person holding or acting in the office of the Grantee specified in Section 8.3 of the Pro-Ag, and of any additional representatives, together with a specimen signature of each person specified in such statement. These representatives will include: the Ministry of Health's Project Coordinator, Project Director and Director for the EPI (the Director of Health) component of the project.

2. Additional Disbursement: Prior to disbursement under the Grant, or to issuance by A.I.D. of documentation pursuant to which disbursement will be made, for the purpose of local procurement of goods and services through the project operating fund (POF) to be managed by the Ministry of Health, the Grantee shall furnish in form and substance satisfactory to AID evidence that an adequate financial management accounting system for the project operating fund has been established.

B. Covenants.

The following covenants are recommended for inclusion in the Project Agreement:

1. Evaluation. The Parties agree to establish an evaluation program as defined in Annex I, the Amplified Project Description. (see section IX of this paper).

2. The Grantee agrees to seek formal, legal notification by the GIRM of the structure and functions of the Council on Primary Health Care and Health Education and to provide the Council with adequate staff, facilities and operating funds.

3. The Grantee agrees that it will undertake to implement a system for providing all vaccines, through UNICEF, required to properly execute the project.

4. The Grantee agrees that it will pursue the ratification of legal framework which defines the right and responsibilities of

Community Health Workers and defines their role vis-a-vis other elements of the primary health care system.

5. The parties agree to establish a project vehicle scheduling and maintenance system which conforms with standard technical specifications. All vehicles financed under this project will be used exclusively for project purposes.

6. The Grantee agrees that it will reserve for the exclusive use of the project: (a) all vehicles currently in use in the Rural Medical Assistance (682-0202) and Expanded Program of Immunization (625-0937) projects, until such time as the vehicles to be ordered under this project arrive in Mauritania and USAID and the Grantee agree that those vehicles are no longer required by the project; and (b) furniture and equipment of the Rural Medical Assistance (682-0202) and Expanded Program of Immunization (625-0937) projects.

7. The Grantee agrees to assure prompt duty free customs clearance for all commodities imported under the terms of this project, particularly vaccines and other perishable supplies. The Grantee further agrees to arrange the duty free purchase of all project financed commodities purchased in Mauritania.

IX. Evaluation Arrangements

This project will serve as a laboratory for future Mauritanian efforts in integrated health service delivery systems. Consequently, much importance is given to the sequence and quality of the evaluations planned during the life of the project. It is planned that the USAID Health Officer, USAID Evaluation Officer, MOH project staff, special technical consultants and the long-term TA team will all participate in the various phases of evaluation.

The evaluation process planned for this project is intended to be an on-going tool for planning and continuous project monitoring. The plan recommended here is of course subject to revision according to specific implementation progress and problems. Information regarding indicators such as reduced mortality and morbidity rates is hard and costly to gather. It is even harder to show a cause/effect relationship between the project and changes in those indicators. Therefore, this evaluation plan is simple, and is based on primarily process and short-term impact indices. Several kinds of data will be collected during the life of the project and an institutional capability will be developed within the Ministry of Health to collect and manage data information for future primary health care programs.

Because this project integrates community-based primary health care activities and the national EPI program, it will be difficult to attribute the improvements in health indicators to either of these programs. Rather impact will be determined from outcome data, such as changes in health status within specific communities; process data which indicate changes in use of services; data on the outputs of project, e.g. completion of various project components, and cost data.

Several research studies and epidemiological surveys are planned during the early life of the project. These will provide baseline and specific data related to project efforts in the areas of: recurrent costs of fixed and mobile based services, drug distribution and feasibility of expanded marketing capabilities, various schemes for community financing and their viability based upon specific community case studies. In addition, simplified village and household data systems and information tools will be developed that will seek to ascertain health status information, health care utilization patterns, and specific community health care needs.

The primary thrust of the project evaluations will be to test how effective the project systems have been in reaching target populations. The rationale for this evaluation strategy is that the project seeks to establish an institutional base and effective systems for providing primary health care services. The important elements of this project are: the general enhancement and cost effectiveness of fixed and mobile service delivery networks, the development of health worker skills to perform their service functions more adequately, the improvements in drug and other logistic support and the development of improved data collection and reporting mechanisms. The latter will over the course of the project, help to measure the longer term impact of the project on disease control.

Evaluation Calendar - An informal project assessment will occur approximately twelve months after initiation of the project and will coincide with the arrival of the long-term TA team. It will serve to orient the TA team to project progress to date and to ascertain the effectiveness of existing administrative and financial arrangements and general management of the project.

This informal review will involve all interested parties and will examine organizational configurations established for the project, project staffing, communications and coordination, the arrangements made for data collection including demographic information on the target groups, reporting on management events, and the timeliness of procurements and other inputs which were scheduled during the early months of the project. This review will provide feedback to all participating project staff, point out early problems and enable adjustments to be made during later project implementation.

The mid-term evaluation, an in-depth examination of the effectiveness of project activities, will take place in the middle of the third year, with short-term TA assistance and continued participation of all agencies involved in the project. It should be designed as a combined process and output (or impact) evaluation. The extent to which project outputs and purposes have been realized will be measured. This examination will include:

- . the degree to which the national commission has been organized and is functioning,
- . the quality of the methodology and completeness of baseline data developed during the startup period,
- . the operation of the reporting system from department to region to ministry and commission levels,
- . the effectiveness of the logistical support system, including transportation and medical supplies, including the adequacy of the cold chain and replenishment activities,
- . the progress of the training program, including numbers trained and the adequacy of curriculum developed, including an evaluation on a sample basis of the skills developed by the trainees,
- . the cost effectiveness of fixed and mobile service delivery system including attention to conditions of the health facilities, level of staffing, number of patients being vaccinated.
- . the quality of the epidemiological activities planned for the project.

Depending on when the epidemiological baselines are developed through research studies, it may also be possible to measure by the middle of the third year some progress in terms of changes in

morbidity and mortality from an examination of records presented by the reporting system. However, this may be deferred until later in the project.

In particular, the mid-term evaluation will examine lessons learned about program efficiency and effectiveness. For example, the MOH will require an assessment of the economic and political feasibility of shifting resources into or out of fixed or mobile service facilities. In regard to the community health worker component, the evaluation should cover the following:

Community Awareness: actual selection of a CHW, number of villagers attending awareness meetings, types of villagers attending meeting, composition of village committee, other development projects in village, interest level in selection of CHW.

Preparation and Actual Training: level of MOH and other government collaboration, delivery of training program, when and where of training, required resources for training implementation, attendance during training, attrition during training, level of interest, skill level, ability to understand and perform tasks, etc.

Supervision: motivation and knowledge of CHWs, completion of record sheets, restocking of medicines, proper use of medicines, retention of information.

The mid-term evaluation will be particularly useful in identifying the major problems and constraints that may have hindered program activities. Tasks analysis and job analysis are key aspects that need to be examined for better integration of the CHW in the health care delivery system. A KAP study done for each village incorporated into the household census survey, would be useful to monitor and assess any changes in health behavior attributed to the program.

The mid-project evaluation should be followed by mid-course corrections/improvements to project implementation. In addition, the mid-term evaluation will be especially critical in determining the scope and nature of the selected third region. Findings and lessons learned from the evaluation will be applied in the third region. Those technical areas requiring further examination and support will be selected as priority issues to be addressed during future implementation in all three regions.

At the end of the five year project period, a full scale final evaluation will be performed during which all anticipated outputs will be measured. The success of the project in achieving the project purposes and in contributing toward the project goals will be determined and the results studied carefully for lessons that may be applied to future health delivery projects in Mauritania. The specific subject areas to be examined will be similar to those examined during the mid-project evaluation.

Formal evaluations will be supplemented by annual assessments made in coordination with the preparation of annual work plans and budgets. It is recommended that the MOH designate a Project Evaluation Officer to help specify evaluation content and methodology with the Chief of Party.

Three consultants will assist the MOH, USAID and the TA team during the two formal project evaluations. They are available for a total of six person months and will be: (1) an epidemiologist deployed by WHO, (2) a Health Education and training specialist and (3) a Public Health Management/Operations Research Specialist. The latter two will be supported by project funding.

X. Annexes

- A. PID Approval Message**
- B. Logical Framework**
- C. Statutory Checklists**
- D. GIRM Request for Assistance**
- E. FAA, Section 611(e) Certification**
- F. Social Soundness Analysis**
- G. Scopes of Work**
- H. Training Plan**
- I. Target Population and Vaccine Requirements**
- J. Recommended Procurement Lists**
- K. Budget Tables**
- L. Health Programs in Mauritania**
- M. Detailed Project Implementation Plan and Key**
- N. Section 121 D Certification and the Project Operating Fund (POF)**

ANNEX A

UNCLASSIFIED
Department of State

OUTGOING
TELEGRAM

PAGE 01 STATE 112770
ORIGIN AID-38

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STAFF 112770

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ORIGIN OFFICE AIDR-86
INFO AFW-84 AFD-86 PFC-81 PUPR-81 PPPB-83 GC-81 GCAF-81
GCTL-81 CTR-82 AFDA-81 RFLO-81 MAST-81 AFPM-81 CMG-81
M-81 3V-88 /032 AB

INFO OCT-80 AF-80 OES-80 /054 R

DRAFTED BY AID/AFR/PD/SWAP: MARIEGELMAN: FN
APPROVED BY DAA/AFR: ARLOVE
AID/AFR/PD: NCOHEN
AID/PPC/PPR: MLEWIS (DRAFT)
AID/AFR/TR/HM: MEDUFFY (DRAFT)
AID/AFR/DP: SSHARP (SUBS)
AID/GC/AFR: LDESOTO (DRAFT)
AID/AFR/SWA: LWERLIN (DRAFT)
AID/AFR/PD/SWAP: JRMCCABE

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FM SECSTATE WASHDC
TO AMEMBASSY NOUAKCHOTT

UNCLAS STATE 112770

AIDAC

E.O. 12336: N/A

TAGS:

SUBJECT: : ECPR, MAURITANIA RURAL HEALTH SERVICES
PID (682-0230)

REF: STATE 897640

1. ECPR APPROVED SUBJECT PID APRIL 13, 1983. DIRECTOR BENEDICT AND BARRY MACDONALD PRESENTED PROJECT ON BEHALF OF USAID/NOUAKCHOTT. FOLLOWING PARAS. SUMMARIZE ECPR DISCUSSION AND RESOLUTION OF POINTS RAISED EARLIER ISSUES MEETING.

2. ISSUE NO. 1. DOES THE CURRENTLY PROPOSED PHC DELIVERY SYSTEM PROVIDE SUFFICIENT SUPPORT TO SUSTAIN THE PHC SYSTEM OVER THE LONG RUN?

A. CHANGE IN MOBILE TEAM APPROACH. THE ECPR RECOMMENDED THAT MISSION AND PP DESIGN TEAM CONSIDER ALLOCATING ADDITIONAL PROJECT FUNDS (APPROX DOLS 400,000) TO EXISTING FIXED CENTERS/D SPENSASIES. SUCH SUPPORT WOULD REINFORCE INSTITUTIONALIZATION OF PHC DELIVERY IN THE THREE REGIONS INVOLVED AND COULD EVENTUALLY LEAD TO A REDUCTION OR ELIMINATION OF DEPENDENCE ON THE MOBILE TEAM

APPROACH IN THESE REGIONS. MISSION REPS POINTED OUT THAT IT WAS NOT INTENT OF PID DESIGN TO IGNORE FIXED CENTERS; RATHER, CURRENT LACK OF PHARMACEUTICALS AND WELL TRAINED PERSONNEL AT FIXED CENTERS, COMBINED WITH A WIDELY DISPERSED POPULATION, LED TO AN EMPHASIS ON THE MOBILE APPROACH. GREATER EMPHASIS IN THE PROJECT ON EQUIPMENT AND PERSONNEL TRAINING FOR FIXED CENTER FACILITIES SHOULD ALLEVIATE SOME OF THE CURRENT WEAKNESSES OF THE FIXED CENTERS.

B. FIXED CENTER RATIONALE. FOCUS ON FIXED CENTERS WOULD PROMOTE INSTITUTIONALIZATION OF RURAL PHC INFRASTRUCTURE AND MIGHT LOWER RECURRENT COSTS ASSOCIATED WITH A PREDOMINANTLY MOBILE TEAM APPROACH. AFR/TR/HM STATED THAT IT WOULD BE APPROPRIATE TO WORK WITH FIXED CENTER PERSONNEL, AS THEY ARE AN INTEGRAL PART OF THE MOH FIELD OPERATION, AND COUNTERPRODUCTIVE TO IGNORE THEM.

3. ISSUE NO. 2. DOES THE PID REFLECT THE LOWEST RECURRENT COST OPTION AVAILABLE FOR PHC DELIVERY IN MAURITANIA? ECPR RECOMMENDED THAT PROJECT PAPER ANALYSES (ECONOMIC, SOCIAL, TECHNICAL, AND ADMINISTRATIVE) SHOULD DETERMINE THE MOST APPROPRIATE MIX OF MOBILE TEAMS, FIXED CENTERS OR COMBINATION THEREOF, AND SHOULD EXPLORE THOROUGHLY RECURRENT COST IMPLICATIONS. PP SHOULD ATTEMPT TO PROJECT LIKELIHOOD OF FIRM ASSUMING RECURRENT COST BURDEN, FOLLOWING TERMINATION OF AID INVOLVEMENT. OTHER POINTS ARISING FROM THIS RECOMMENDATION:

A. VEHICLES. PP SHOULD ASSURE THAT ESTIMATES FOR COSTS OF VEHICLE PROCUREMENT, REPAIR, FUEL, ETC. ARE ADEQUATE.

B. ECONOMIC ANALYSIS. PPC URGED THAT DRAFT OF ECONOMIC ANALYSIS (PARTICULARLY THE MACRO-ECONOMIC AND RECURRENT COST MATERIAL) PREPARED FOR THIS PID BY HEAD OVER BE RE-EXAMINED AND DRAWN UPON MORE EXTENSIVELY FOR PP DESIGN. ECONOMIC ANALYSIS IS MOST CRUCIAL IN GUIDING MIX OF PROJECT COMPONENTS -- I.E. MOBILE TEAMS AND/OR FIXED CENTERS.

C. BUDGET TOTALS. FINAL BUDGET TOTALS IN PP WILL REFLECT DESIGN TEAM'S DETERMINATION AS TO BEST MIX OF MOBILE TEAMS AND/OR FIXED CENTERS. IF TOTAL EXCEEDS DOLS 5 MILLION, MISSION SHOULD ADVISE AID/W AT EARLIEST OPPORTUNITY AND DEFEND INCREASE.

4. IMPLEMENTATION PLAN. GIVEN COMPLEXITY OF THIS PROJECT, PP SHOULD PRESENT DETAILED IMPLEMENTATION PLAN.

PLAN SHOULD PROVIDE FOR PERIODIC (AT LEAST ANNUAL) REVIEW BY MISSION OF PROJECT PROGRESS TO DETERMINE IF IMPLEMENTATION IS ON TRACK.

5. OTHER CONCERNS TRANSMITTED AS GUIDANCE TO PP TEAM:

--A. PHC MANAGEMENT SYSTEMS SHOULD BE FURTHER EMPHASIZED IN THE PP AND EXPRESSED AS AN OUTPUT OF THE PROJECT (INFORMATION SYSTEMS, INVENTORY CONTROL, ETC.).

--B. THE PHARMACEUTICAL SUPPLY SITUATION SHOULD BE CLEARLY OUTLINED, AND THE ROLE OF THE PROJECT IN PROMOTING A RELIABLE SUPPLY SYSTEM SHOULD BE CLARIFIED.

--C. THE PP SHOULD INCLUDE MORE DETAIL ON POLICY REFORM MEASURES NEEDED TO ASSURE SUCCESS AND EFFICIENCY OF MAURITANIA PHC PROGRAM. MORE PLANNING NEEDED IN PP ON HOW TO PUT POLICY REFORMS INTO PRACTICE.

6. COMPOSITION OF PP DESIGN TEAM. REQUEST MISSION IMMEDIATELY BEGIN PREPARING JOBS FOR TEAM MEMBERS LIKELY TO BE BROUGHT ON UNDER CONTRACT. THESE INCLUDE PROJECT DEVELOPMENT OFFICER, ECONOMIST, AND TRAINING/HEALTH MANAGEMENT SPECIALIST. DUE TO COMPLEX NATURE OF THIS PROJECT, ECPR RECOMMENDED THAT A SENIOR PROJECT DEVELOPMENT OFFICER BE RECRUITED TO FACILITATE DEVELOPMENT OF PP. WE ARE ALSO ATTEMPTING TO RECRUIT AN SENIOR OR OTHER COMPARABLY QUALIFIED PUBLIC HEALTH EXPERT WITH EPIDEMIOLOGICAL EXPERTISE. CONTRACT OR ADVISORY ECONOMIST WILL BE REQUIRED. TERRY LUKAS WILL PARTICIPATE ON TEAM IF AVAILABLE. SHULTZ

UNCLASSIFIED

MAURITANIAN RURAL HEALTH SERVICES

LOGICAL FRAMEWORK

ESTIMATED PROJECT COMPLETE DATE FY 88

NARRATIVE SUMMARY

OBJECTIVELY VERIFIABLE INDICATORS

MEANS OF VERIFICATION

IMPORTANT ASSUMPTIONS

Goal: To improve the health status of the Mauritanian people in order to enhance their productive capability.

Significant lowering of incidence of major diseases and illnesses that affect health status in Mauritania.

Review of periodic public health reports on morbidity and mortality.

A continued commitment of GIRM resources to expanding health service network will effect improvement in health status and increase productivity.

Project Purpose:

To improve the effectiveness of the national Expanded Program of Immunization and to develop an expanded and integrated community-based primary health care system in three selected regions.

1. Community-based primary health care services are available (within 5 KM.) to a larger percentage of the rural population in 3 selected regions.
2. EPI and Community Health Worker Teams are functioning in collaborative activities in 3 selected regions.
3. Community-level primary health care services are providing selected interventions including treatment of diarrhea, immunizations first aid, maternal and child care, health education.
4. EPI program reaches 60% of target population
5. EPI Cold Chain system being maintained
6. Appropriate data on morbidity, treatments, immunization activities, maternal and child activities is being collected at and reported from all levels of health system to Ministry of Health.
7. Supervision and village sensitization programs are operational.

1. Reports of supervisory visits to established community-level health units
2. Reports of EPI team visits
3. Review of monthly public health reports and contractor reports.
4. EPI mobile and fixed center monthly reports, compared with demographic data for catchment areas
5. Review of maintenance records and monthly EPI reports.
6. Quarterly review of sample monthly reports, and summary data at several levels of system
7. Reports of supervisory visits, Review of animation materials and on site evaluation of village sensitization teams at work in selected villages.

- Communities accept primary health care concepts.
- Communities will sufficiently maintain financial and logistical support for primary health care activities.

EPI team able to maintain high level of immunization activity while assuming additional responsibility for supervising CHW teams.

Log Frame 2 Mauritania Rural Health Services

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
	8. EPI and drug distribution systems are effectively functioning.	8. Contractor/GIRM site visits. Monthly reports of CHW teams.	Communities will finance and support primary health care activities.
	9. Serious illnesses are referred to next higher level of treatment.	9. Site visits to PMIs, EPI teams, dispensaries and CHW teams; review of drug inventories on sample basis at various levels of system. (All purpose level indicators are to be verified during mid-term and end of project evaluations.)	PHARMARIM able to expand distribution outlets.
<u>OUTPUTS:</u>			
1. National Commission for Primary Health Care established and functioning.	1. Commission coordinating and guiding integration of various levels of primary health care network.	Review of GIRM directives, reports.	GIRM supports commission by appointing high level leadership and giving full consideration to policies developed.
2. Comprehensive PHC training curriculum developed and village health worker program operating.	2. - Health Education curriculum and visual aids developed and approved. - 4 PHC Nurse Supervisors and 4 Trainers are trained. - 200 community level committees are retrained and/or upgraded. - 25 EPI Nurses retrained for mobile teams.	Review of training and curriculum documents, teaching materials; EPI and MOH training reports.	Educational materials are culturally appropriate and responsive to felt needs of communities. Adequate qualified personnel and logistical inputs are provided in timely manner.

Log Frame 3 Mauritania Rural Health Services

NARRATIVE SUMMARY	(Outputs Contd)	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
3. Improved health delivery infrastructure staffed and functioning.	3.	<ul style="list-style-type: none"> - 60 Fixed Center EPI Nurses are retrained and skills periodically upgraded. - 175 new CHWs and 150 new TBAs trained. - In-Service training for 250 CHWs and 150 TBAs and 15 Trainers. - 14 short-term training courses. - 5 international conferences. - 3 long-term public health training programs. - 5 specialized workshops. - Annual integration seminars for national, regional and departmental health personnel. - 4 Integrated Mobile Teams functioning in Trarza, Guidimaka and third region. - 6 EPI only Mobile Teams in other regions. - 30 EPI Fixed Centers re-equipped and functioning. - 10 Regional EPI and Central EPI Depots with Cold Chain Equipment. - 13 Dispensaries in 3 regions re-equipped. 	<p>Monthly health reports and epidemiological data.</p> <p>Technical advisors progress reports.</p> <p>GIRM/AID/Contractor reports.</p>	

Log Frame 4 Mauritania Rural Health Services

NARRATIVE SUMMARY (Outputs Contd)	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
4. Pharmaceutical supply/demand/distributions marketing study conducted.	4. Recommendations to PHARMARIM on means of creating private pharmacies, site selection criteria, and drug procurement and price structure.	Study report and long-term technical advisors' reports.	Research design is appropriate to information requirements for decision making.
5. Epidemiological Surveys conducted periodically in 3 regions to assess health status and impact of PHC system.	5. Baseline study completed during first year of project, follow-ups in years 3 and 5.	Survey reports and evaluation documents which analyze these data.	
6. Health Information System operational.	6. Flow of information provided on patient load, disease, referrals, etc. from village to departmental to regional to national levels.	Review of reports at each level. Middle year and EOP evaluation reports.	Personnel at all levels are trained and participate in data gathering and reporting.

INPUTS (AID)

	(000's U.S.\$)	AID Field Monitoring expenditure records and GIRM reports and records.	GIRM and other donor inputs will be provided in sufficient quantity and on time, including MOH salaries.
1. Technical Assistance			
A. Long Term - 8 person years	1,240		
B. Short Term - 18 person months	216		
Sub-total T.A.	\$ 1,456		

Log Frame 5 Mauritania Rural Health Services

NARRATIVE SUMMARY	(Inputs Contd)	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
		(000's U.S.\$)		
2. Training				Appropriate technical assistance personnel can be recruited and will not arrive on site until six months or more after the PROAG is signed.
A. In-Country		134		
Workshop/Seminars		34		
B. Third-Country Training/Workshops		88		
C. Long-Term Training		144		Suitable participants are available for training.
Sub-total Training		\$ 400		
3. Commodities			Procurement and inventory records of USAID.	
1. Vehicles (including spare parts) 16 x 25		400		
2. Furniture and Equipment		388		
3. EPI Supplies and Vaccine		306		
4. Teaching Materials		120		
Sub-total Commodities		\$ 1,214		
4. Fuel and Vehicle Maintenance		\$ 612		
5. Local Hire Salaries		\$ 191		
6. Special Studies		\$ 127	Procurements records and maintenance reports.	
AID Sub-total		\$ 4,000		
Inflation (15%)		\$ 600	Project expenditure records.	
Contingency (10%)		\$ 400	MOH and AID vouchers.	
Total AID		\$ 5,000		

Log Frame 6 Mauritania Rural Health Services

NARRATIVE SUMMARY (Inputs Contd)

	(000's U.S.\$)	
II. Mauritanian Inputs		
A. Salaries	1,482	
B. Facilities (Rent, Utilities)	200	
C. Community Contribution - CHW Compensation and Drug Resupply	573	
D. Inflation	293	
Total Mauritanian Contribution		<u>\$ 2,548</u>
III. Other Donors		
UNICEF (Vaccines)	170	
WHO (Training Experts)	48	
Total Other Donors		<u>\$ 218</u>
TOTAL VALUE OF INPUTS		<u>\$ 7,766</u>

ANNEX C

Statutory Checklists

1. COUNTRY CHECKLIST

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

A. GENERAL CRITERIA FOR COUNTRY ELIGIBILITY

1. FAA Sec. 481. Has it been determined that the government of the recipient country has failed to take adequate steps to prevent narcotic drugs and other controlled substances (as defined by the Comprehensive Drug Abuse Prevention and Control Act of 1970) produced or processed, in whole or in part, in such country, or transported through such country, from being sold illegally within the jurisdiction of such country to U.S. Government personnel or their dependents, from entering the U.S. unlawfully? NO

2. FAA Sec. 620(c). If Assistance is to a government, is the government liable as debtor or unconditional guarantor on any debt to a U.S. citizen for goods or services furnished or ordered where (a) such citizen has exhausted available legal remedies and (b) the debt is not denied or contested by such government? NO

3. FAA Sec. 620(e)(1). If assistance is to a government, has it (including government agencies or subdivisions) taken any action which has the effect of nationalizing, expropriating, or otherwise seizing ownership or control of property of U.S. citizens or entities beneficially owned by them without taking steps to discharge its obligations toward such citizens or entities? NO
4. FAA Sec. 532(c), 620(a), 620(f), 620D; FY 1982 Appropriation Act Secs. 512 and 513. Is recipient country a Communist country? Will assistance be provided to Angola, Cambodia, Cuba, Laos, Vietnam, Syria, Libya, Iraq, or South Yemen? Will assistance be provided to Afghanistan or Mozambique without a waiver? NO
5. ISDCA of 1981 Secs. 724, 727 and 730. For specific restrictions on assistance to Nicaragua, see Sec. 724 of the ISDCA of 1981. For specific restrictions on assistance to El Salvador, see Secs. 727 and 730 of the ISDCA of 1981. N/A
6. FAA Sec. 620(j). Has the country permitted, or failed to take adequate measures to prevent, the damage or destruction by mob action of U.S. property? NO
7. FAA Sec. 620(l). Has the country failed to enter into an agreement with OPIC? NO

8. FAA Sec. 620(o);
Fishermen's Protective
Act of 1967, as amended,
Sec. 5. (a) Has the
country seized, or imposed
any penalty or sanction
against, any U.S. fishing
activities in international
waters?
(b) If so, has any deduction
required by the Fishermen's
Protective Act been made?
9. FAA Sec. 620(q); FY 1982
Appropriation Act Sec.
517. (a) Has the
government of the recipient
country been in default for
more than six months on
interest or principal of
any AID loan to the country?
(b) Has the country been
in default for more than
one year on interest or
principal on any U.S. loan
under a program for which
the appropriation bill
appropriates funds?
10. FAA Sec. 620(s). If
contemplated assistance is
development loan or from
Economic Support Fund, has
the Administrator taken
into account the amount of
foreign exchange or other
resources which the country
has spent on military
equipment? (Reference
may be made to the annual
"Taking into Consideration"
memo: "Yes, taken into
account by the Administrator
at time of approval of
Agency OYB" This approval
by the Administrator of the
Operational Year Budget
can be the basis for an
affirmative answer during
the fiscal year unless
significant changes in
circumstances occur.)
- NO
- N/A
- (a) N/A
- (b) NO
- N/A

11. FAA Sec. 620(t). Has the country severed diplomatic relations with the United States? If so, have they been resumed and have new bilateral assistance agreements been negotiated and entered into since such resumption?

- (a) YES
- (b) YES
- (c) A bi-lateral assistance agreement is currently under negotiation. Agreement is anticipated during FY 83.

12. FAA Sec. 620(u). What is the payment status of the country's U.N. obligations? If the country is in arrears, were such arrearages taken into account by the AID Administrator in determining the current AID Operational Year Budget? (Reference may be made to the Taking into Consideration memo.)

While Mauritania is in arrears on its obligations to the U. N., such arrearages were taken into account by the Administrator in determining the current OYB.

13. FAA Sec. 620A; FY 1982 Appropriation Act Sec. 520. Has the country aided or abetted, by granting sanctuary from prosecution to, any individual or group which has committed an act of international terrorism? Has the country aided or abetted, by granting sanctuary from prosecution to, any individual or group which has committed a war crime?

NO

NO

14. FAA Sec. 666. Does the country object, on the basis of race, religion, national origin or sex, to the presence of any officer or employee of the U.S. who is present in such country to carry out economic development programs under the FAA?

NO

15. FAA Sec. 669, 670. Has the country, after August 3, 1977, delivered or received nuclear enrichment or reprocessing equipment, materials, or

NO

technology, without specified arrangements or safeguards? Has it transferred a nuclear explosive device to a non-nuclear weapon state, or if such a state, either received or detonated a nuclear explosive device, after August 3, 1977, (FAA Sec. 620E permits a special waiver of Sec. 669 for Pakistan.)

16. ISDCA of 1981 Sec 720.
 Was the country represented at the Meeting of Ministers of Foreign Affairs and Heads of Delegations of the Non-Aligned Countries to the 36th General Session of the General Assembly of the U.N. of Sept. 25 and 28, 1981, and failed to disassociate itself from the communique issued? If so, has the President taken it into account? (Reference may be made to the Taking into Consideration memo.)

YES, such action has been taken into account.

17. ISDCA of 1981 Sec. 721.
 See special requirements for assistance to Haiti.

N/A

B. FUNDING SOURCE CRITERIA FOR COUNTRY ELIGIBILITY

1. Development Assistance Country Criteria.

a. FAA Sec. 116. Has the Department of State determined that this government has engaged in a consistent pattern of gross violation of internationally recognized human rights? If so, can it be demonstrated that contemplated assistance will directly benefit the needy?

NO

2. Economic Support Fund
Country Criteria

a. FAA Sec. 502B. Has it been determined that the country has engaged in a consistent pattern of gross violations of internationally recognized human rights? If so, has the country made such significant improvements in its human rights record that furnishing such assistance is in the national interest?

NO

b. ISDCA of 1981, Sec. 725(b). If ESF is to be furnished to Argentina, has the President certified that (1) the Govt. of Argentina has made significant progress in human rights; and (2) that the provision of such assistance is in the national interests of the U.S.?

N/A

c. ISDCA of 1981, Sec. 726(b). If ESF assistance is to be furnished to Chile, has the President certified that (1) the Govt. of Chile has made significant progress in human rights; (2) it is in the national interest of the U.S.; and (3) the Govt. of Chile is not aiding international terrorism and has taken steps to bring to justice those indicted in connection with the murder of Orlando Letelier?

N/A

2. PROJECT CHECKLIST

A. GENERAL CRITERIA FOR PROJECT

1. FY 1982 Appropriation Act Sec. 523; FAA Sec. 634A; Sec. 653(b).

(a) Describe how authorizing and appropriations committees of Senate and House have been or will be notified concerning the project;
 (b) is assistance within (Operational Year Budget) country or international organization allocation reported to Congress (or not more than \$1 million over that amount)?

a) FY 1983 Congressional Presentation and Congressional Notification.

b) YES

2. FAA Sec. 611(a)(1). Prior to obligation in excess of \$100,000, will there be

(a) engineering, financial or other plans necessary to carry out the assistance and
 (b) a reasonably firm estimate of the cost to the U.S. of the assistance?

a) YES

b) YES

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

3. The GIRM must notify and establish a National Commission on Primary Health Care and Health Education. Ministry of Health's appeal for official ratification of this body has been submitted to the President's Office, and ratification is expected by January 1984.

4. FAA Sec. 611(b); FY 1982 Appropriation Act Sec. 501. If for water or water-related land resource construction, has project met the standards and criteria as set forth in the Principles and Standards for Planning Water and Related Land Resources, dated October 25, 1973? (See AID Handbook 3 for new guidelines.)

N/A

5. FAA Sec. 611(e). If project is capital assistance (e.g., construction), and all U.S. assistance for it will exceed \$1 million, has Mission Director certified and Regional Assistant Administrator taken into consideration the country's capability effectively to maintain and utilize the project? YES
6. FAA Sec. 209. Is project susceptible to execution as part of regional or multi-lateral project? If so, why is project not so executed? Information and conclusion whether assistance will encourage regional development programs. NO
7. FAA Sec. 601(a). Information and conclusions whether project will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; and (c) encourage development and use of cooperatives, and credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture and commerce; and (f) strengthen free labor unions. 7. (a) No; (b) The project will promote GIRM policy to encourage the establishment of private pharmaceutical outlets in the PHC project area. (c) No; (d) and (e) Currently the Government is the only official health provider. This project promotes community self help activities in the health sector and encourages the extension of the pharmaceutical distribution system through private commercial outlets. (f) NO
8. FAA Sec. 601(b). Information and conclusions on how project will encourage U.S. private trade and investment abroad and encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise). 8. The project will finance technical assistance and numerous commodities purchased from private firms in the U.S.

9. FAA Sec. 612(b), 636(h); FY 1982 Appropriation Act Sec. 507. Describe steps taken to assure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services, and foreign currencies owned by the U.S. are utilized in lieu of dollars.
9. Mauritanian contributions to the project including both GIRM and community contribution represent approximately 30% of total project costs.
- Both the government and Project Beneficiaries face severe financial constraints precluding a larger contribution to project costs.
10. FAA Sec. 612(d). Does the U.S. own excess foreign currency of the country and, if so, what arrangements have been made for its release? NO
11. FAA Sec. 601(e). Will the project utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise? YES
12. FY 1982 Appropriation Act Sec. 521. If assistance is for the production of any commodity likely to be in surplus on world markets at the time the resulting productive capacity becomes operative, and is such assistance likely to cause substantial injury to U.S. producers of the same, similar or competing commodity? N/A
13. FAA 118(c) and (d). Does the project comply with the environmental procedures set forth in AID Regulation 16? Does the project or program take into consideration the problem of the destruction of tropical forests? YES
14. FAA 121(d). If a Sahel project, has a determination been made that the host government has an adequate system for accounting for YES

and controlling receipt and expenditure of project funds (dollars or local currency generated there from)?

B. FUNDING CRITERIA FOR PROJECT

1. Development Assistance
Project Criteria

a. FAA Sec. 102(b), 111, 113, 281(a). Extent to which activity will (a) effectively involve the poor in development, by extending access to economy at local level, increasing labor-intensive production and the use of appropriate technology, spreading investment out from cities to small towns and rural areas, and insuring wide participation of the poor in the benefits of development on a sustained basis, using the appropriate U.S. institutions; (b) help develop cooperatives, especially by technical assistance, to assist rural and urban poor to help themselves toward better life, and otherwise encourage democratic private and local governmental institutions; (c) support the self-help efforts of developing countries; (d) promote the participation of women in the national economies of developing countries and the improvements of women's status; and (e) utilize and encourage regional cooperation by developing countries?

(a), (b) and (c) - This project is designed to improve the health of Mauritians especially the poor living in rural areas. By helping to improve their health, this project will improve the economic productivity of the rural poor. The project will also support the transfer of proven health techniques and essential equipment. By encouraging self-help and community participation it will encourage the integration of the rural poor into the development process. The beneficiaries will participate fully in both the costs and benefits of the project. (d) Women will be among the primary beneficiaries of the project through improvements to their own health as well as their children's health. More than half of the CHWs and TBAs trained under the project are expected to be women. (e) This bilateral program will not directly foster cooperation between Mauritania and other countries in the region.

b. FAA Sec. 103, 103A, 104, 105, 106. Does the project fit the criteria for the type of funds (functional account) being used?

YES

c. FAA Sec. 107. Is emphasis on use of appropriate technology (relatively smaller, cost-saving, labor-using technologies that are generally most appropriate for the small farms, small businesses, and small incomes of the poor)?

(c) Project will use techniques, training and equipment appropriate to primary health care.

d. FAA Sec. 110(a). Will the recipient country provide at least 25% of the costs of the program, project, or activity with respect to which the assistance is to be furnished (or is the latter cost-sharing requirement being waived for a "relatively least developed" country)?

YES. Contribution estimated at 30 percent.

e. FAA Sec. 110(b). Will grant capital assistance be disbursed for project over more than 3 years? If so, has justification satisfactory to Congress been made, and efforts for other financing, or is the recipient country "relatively least developed"? (M.O. 1232.1 defined a capital project as "the construction, expansion, equipping or alteration of a physical facility or facilities financed by AID dollar assistance of not less than \$100,000, including related advisory, managerial and training services, and not undertaken as part of a project of predominantly technical assistance character.

NO

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

YES

g. FAA Sec. 281(b). Describe extent to which program recognizes the particular needs, desires, and capacities of the people country; utilizes the country's intellectual resources to encourage institutional development; and supports civil education and training in skills required for effective participation in governmental processes essential to self-government.

(g) This project attacks selected, high priority health problems in Mauritania. It fully considers the country's current capacities and constraints and seeks to expand participation and improve the human resources and institutional capacities essential to ameliorating the health problems.

2. Development Assistance Project Criteria (Loans Only)

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

N/A

b. FAA Sec. 620(d). If assistance is for any productive enterprise which will compete with U.S. enterprises, is there an agreement by the recipient country to prevent export to the U.S. of more than 20% of the enterprise's annual production during the life of the loan?

N/A

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

N/A

3. Economic Support Fund Project Criteria

a. FAA Sec. 531(a). Will this assistance promote economic or political stability? To the extent possible, does it reflect the policy directions of FAA Sec. 102?

N/A

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

c. FAA Sec. 534. Will FSP funds be used to finance the construction of the operation or maintenance of, or the supplying of fuel for, a nuclear facility? If so, has the president certified that such use of funds is indispensable to non-proliferation objectives? N/A

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

3. STANDARD ITEM CHECKLIST

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

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

A. Procurement

1. FAA Sec. 602. Are there arrangements to permit U.S. small business to participate equitably in the furnishing of commodities and services financed? **YES**

2. FAA Sec. 604(a). Will all procurement be from the U.S. except as otherwise determined by the President or under delegation from him? **YES**

3. FAA Sec. 604(d). If the cooperating country discriminates against marine insurance companies authorized to do business in the U.S., will commodities be insured in the United States against marine risk with such a company? **N/A**

4. FAA Sec. 604(e); ISDCA of 1980 Sec. 705(a). If off-shore procurement of agricultural commodity or product is to be financed, is there provision against such procurement when the domestic price of such commodity is less than parity? (Exemption where commodity financed could proceed in U.S.) **N/A**

5. FAA Sec. 6019. Will construction or engineering services be procured from firms of countries otherwise eligible under Code 941, but which have attained a competitive capability in international markets in one or these areas?

N/A

6. FAA Sec. 603. Is the shipping excluded from compliance with requirement in section 901(b) of the Merchant Marine Act of 1936, as amended, that at least 50 per centum of the gross tonnage of commodities (computed separately for dry bulk carriers, dry cargo liners, and tankers) financed shall be transported on privately owned U.S. flag commercial vessels to the extent that such vessels are available at fair and reasonable rates?

NO

7. FAA Sec. 621. If technical assistance is financed, will such assistance be furnished by private enterprise on a contract basis to the fullest extent practicable? if the facilities of other Federal agencies will be utilized, are they particularly suitable, not competitive with private enterprise, and made available without undue interference with domestic programs?

YES

8. International Air Transport. Fair Competitive Practices Act, 1974. If air transportation of persons or property is financed on grant basis, will U.S. carriers be used to the extent such service is available?

YES

9. FY 1982 Appropriation Act Sec. 504. If the U.S. Government is a party to a contract for procurement, does the contract contain a provision authorizing termination of such contract for the convenience of the United States? YES

B. Construction

1. FAA Sec. 601(d). If capital (e.g., construction project, will U.S. engineering and professional services to be used? N/A

2. FAA Sec. 611(c). If contracts for construction are to be financed, will they be let on a competitive basis to maximum extent practicable? N/A

3. FAA Sec. 620(k). If for construction of productive enterprise, will aggregate value of assistance to be furnished by the U.S. not exceed \$100 million (except for productive enterprises in Egypt that were described in the CP)? N/A

C. Other Restrictions

1. FAA Sec. 122 (b). If development loan, is interest rate at least 2% per annum during grace period and at least 3% per annum thereafter? N/A

2. FAA Sec. 301(d). If fund is established solely by U.S. contribution and administered by an internal organization, does Controller General have audit rights? N/A

3. FAA Sec. 620(b). Do arrangements exist to insure that United States foreign aid is not used in a manner YES

which, contrary to the best interests of the United States, promotes or assist the foreign aid projects or activities of the communist-bloc countries?

4. Will arrangements preclude use of financing:

a. FAA Sec. 104(f); FY 1982 Appropriation Act Sec. 525:

YES

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

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

YES

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

YES

d. FAA Sec. 662. For CIA activities?

YES

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

YES

- f. FY 1982 Appropriation Act, Sec. 503. To pay pensions, annuities, retirement pay, or adjusted service compensation for military personnel? YES
- g. FY 1982 Appropriation Act, Sec. 505. To pay U.N. assessments, arrearages or dues? YES
- h. FY 1982 Appropriation Act, Sec. 506. To carry out provisions of FAA section 209(d) (Transfer of FAA funds to multi-lateral organizations for lending? YES
- i. FY 1982 Appropriation Act, Sec. 510. To finance the export of nuclear equipment, fuel, or technology or to train foreign nationals in nuclear fields? YES
- j. FY 1982 Appropriation Act, Sec. 511. Will assistance be provided for the purpose of aiding the efforts of the government of such country to repress the legitimate rights of the population of such country contrary to the Universal Declaration of Human Rights? No such assistance will be provided.
- k. FY 1982 Appropriation Act, Sec. 515. To be used for publicity or propaganda purposes within U.S. not authorized by Congress? YES

ANNEX E

FAA Section 611(e) Certification of Host Country Capacity to Maintain and Utilize Goods and Services Provided by the Project

The Rural Health Services Project (682-0230) is designed to assist the Government of Mauritania (GIRM) in developing and implementing a cost-effective, primary health care system. USAID proposes to assist in the design of a national curriculum to train village health workers, their trainers and their supervisors. The project will also support training village health worker teams, developing a minimum cost for mobile vaccination and village health worker supervision system, and financing short term studies and technical assistance to explore health policy and management reforms which could minimize the program's recurrent costs.

Two previous USAID financed health projects, the Rural Medical Assistance (682-0202) and Expanded Program of Immunization (625-0937.05) projects, are both in their final year, and both projects have successfully attained their objectives. The Rural Health Services Project has been designed to build upon the technical, administrative and physical rural health infrastructure developed by the GIRM with the assistance of these projects.

As the principal officer of the Agency for International Development in Mauritania, I affirm that, in my judgment, the GIRM has both the financial capability and the human resources to effectively maintain and utilize the goods and services being provided by the Rural Health Services Project (682-0230).

Signature:



Peter Benedict
Director
USAID/Mauritania

Date

March 4, 1983

ANNEX F

Social Soundness Analysis:

A. Purpose: The objectives of this social analysis are twofold. The first is to assess the proposed actions sociocultural feasibility, its likelihood of diffusion, and the impact and distributions of its benefits. The second, is to extend the findings of past investigations conducted in the Trarza Region to those areas to be served by this new activity. As will be seen, there are not only wide divergencies between the populations within the Guidimaka but between the Guidimaka and Trarza regions. Therefore, to a significant extent, the answer to the question of social feasibility, diffusion and impact of benefits rests on the extent to which the proposed new action will remain flexible in its approach, and will avoid the imposition of schemes developed in other contexts. The regrettable but almost inevitable bureaucratic tendency is to equate institutionalization with the establishment of fixed procedures when in reality what needs to be institutionalized is a permanent capacity to adapt abstract institutional systems to the harsh realities in the field.

B. Project Trarza Background:

For the design of the Trarza project a detailed analysis of the area was conducted. It is repeated as an attachment to this analysis. Three aspects are important in judging the extent of readaptation the project will have to make as it moves into the Guidimaka area.

1) Traditional Medical Systems: Among the Moors, the predominant group of the Trarza, there was found an existent and quite active indigenous medical system based to a large extent on traditional Arab-Greek medical practices, including written texts. Its practitioners, both male and female, vary from well known specialists (eg. perform cataract operations) to local community home remedies dispensers. Without passing judgment on its efficacy, one can still say it results in providing a foundation of positive value to a community base health care system by providing: (1) an indigenous empirical attitude to medicines, diagnosis and treatment; and, (2) a high respect and status to medical knowledge and practitioners.

2) Mobility and Community: There remains a high level of mobility among the people in most of the communities in the Trarza. Most people have sedentarized, some since before independence, a few even before colonialization, but most in the last two decades. But in many village areas the community organization remains weak, and careful attention had to be paid both to not training individuals prone to migrate but to training people how to cooperate as members of a single village unit.

3) Geographic Location: The project region in Trarza is basically situated between Nouakchott on the north and Rosso along the river. In terms of peoples attitudes it is perhaps the area with the

longest exposure to outside ways. In terms of the year round access to goods and service and access to work in nearby urban centers, Trarza is in a relatively advantageous position compared to other regions.

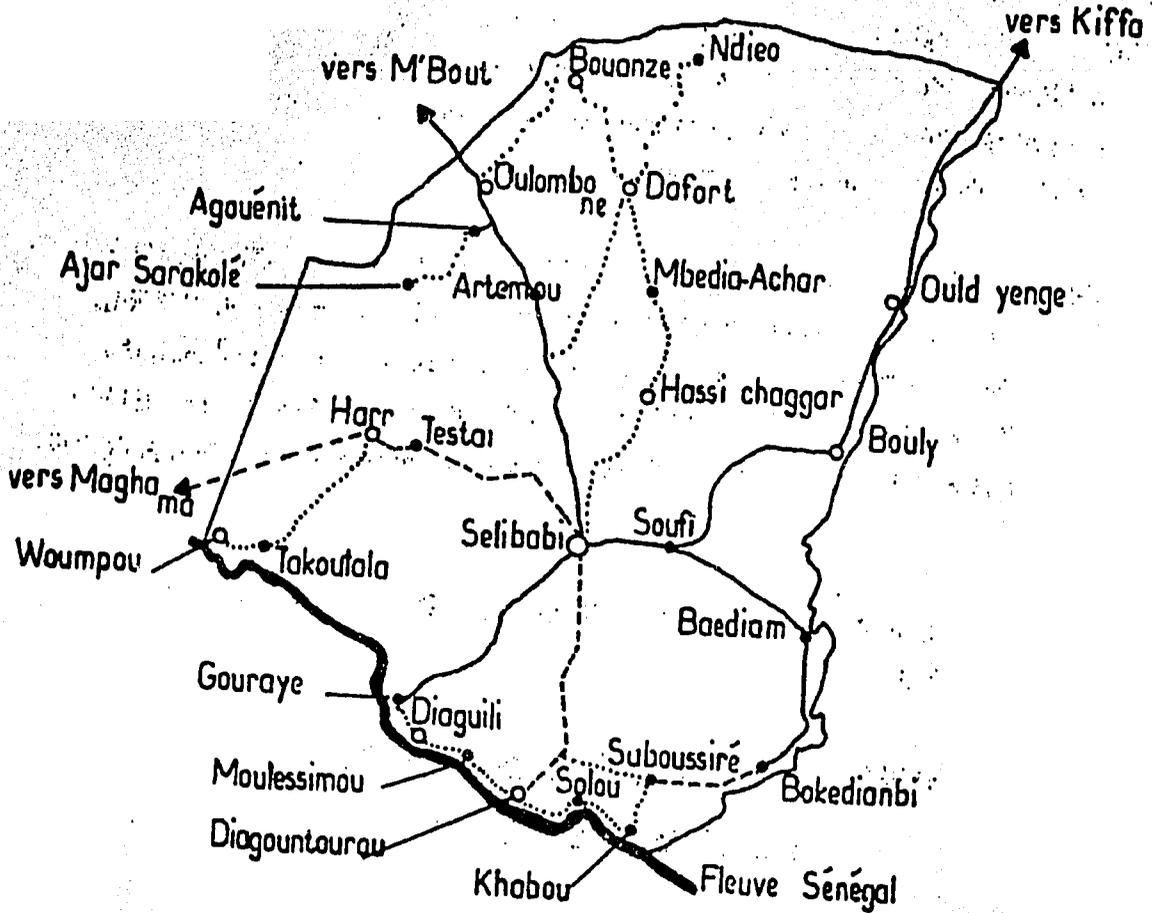
C. The Guidimaka in Particular:

1. The Guidimaka's Productive Potential and Immediate Needs

The Guidimaka is somewhat of an anomaly in Mauritania. It has the highest annual rainfall in the country of between 450-600 mm a year. In this sense, it is environmentally and culturally a northern fringe of production systems found in Mali and Senegal, rather than other parts of Mauritania. In fact, the "Guidimaka" traditionally represents an established area of Soninke domination that extends into two other countries. The Mauritanian portion is presently about a third of the total area. In the past, it exported both cereals and animals, especially donkeys and horses, and during the height of French colonial exploitation of the river it was a major crossroad. In comparison with the rest of Mauritania it has the combined potential of both future river irrigation and rainfed agriculture. Water is the single most important factor limiting increased production throughout Mauritania. The same would seem true of the Guidimaka, but in this case the problem rests in the loss of potential water through runoff and a geological situation that provides only limited areas of easily available ground water collection. In spite of the rainfall constraint, these problems could be solved over time with the proper combination of incentives and, in fact, one can predict that many interventions now being developed in much harsher areas of the country, such as retention dams, reforestation, and new water lifting systems will eventually find their most profitable application in the Guidimaka area.

Figure 1

CARTE DU GUIDIMAKA



20 km

Routes principales-toutes saisons

Routes principales-saisonnieres

Routes secondaires-saisonnieres.

Attach Figures 2 - 3 and Chart I

Pyramide des Ages de Guidimakha

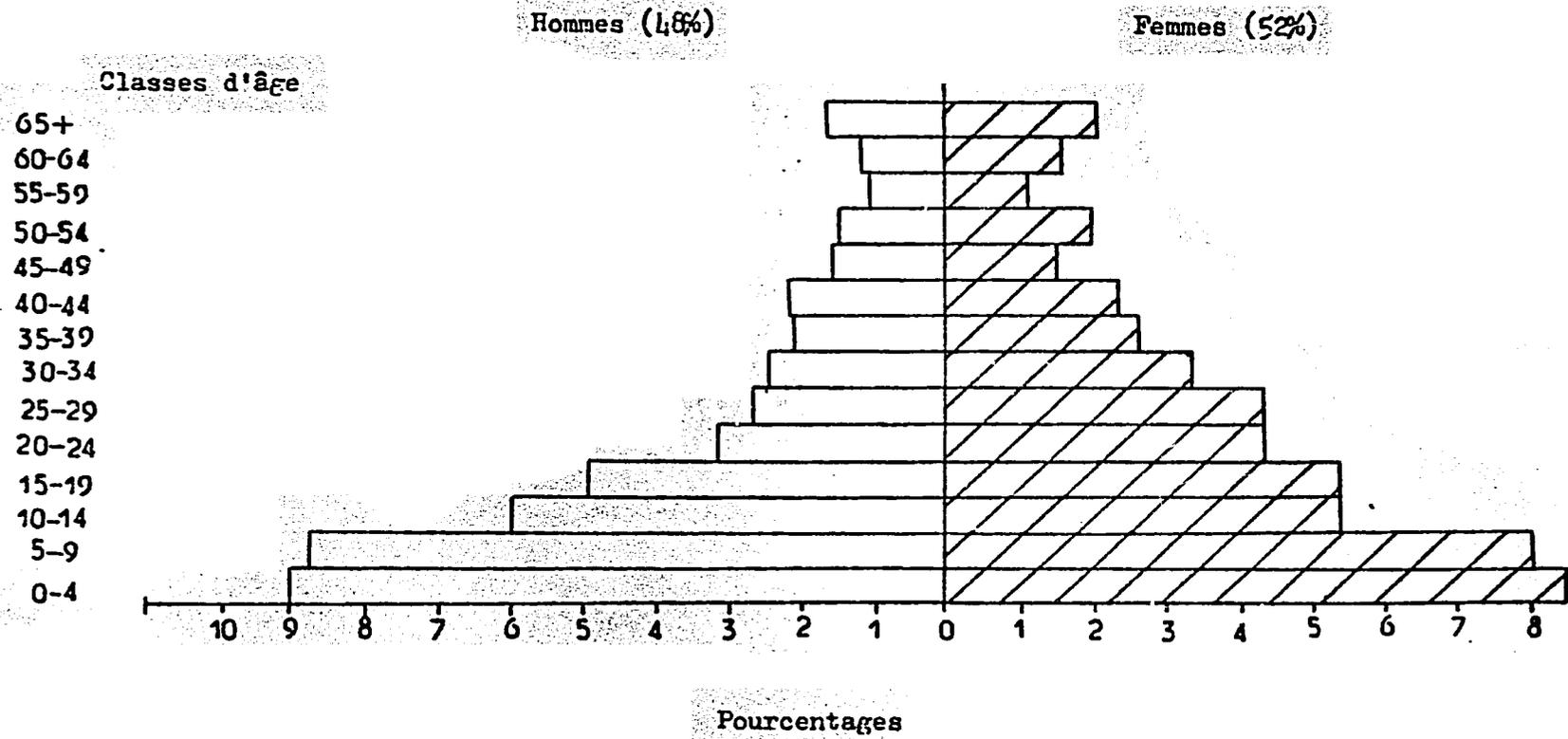
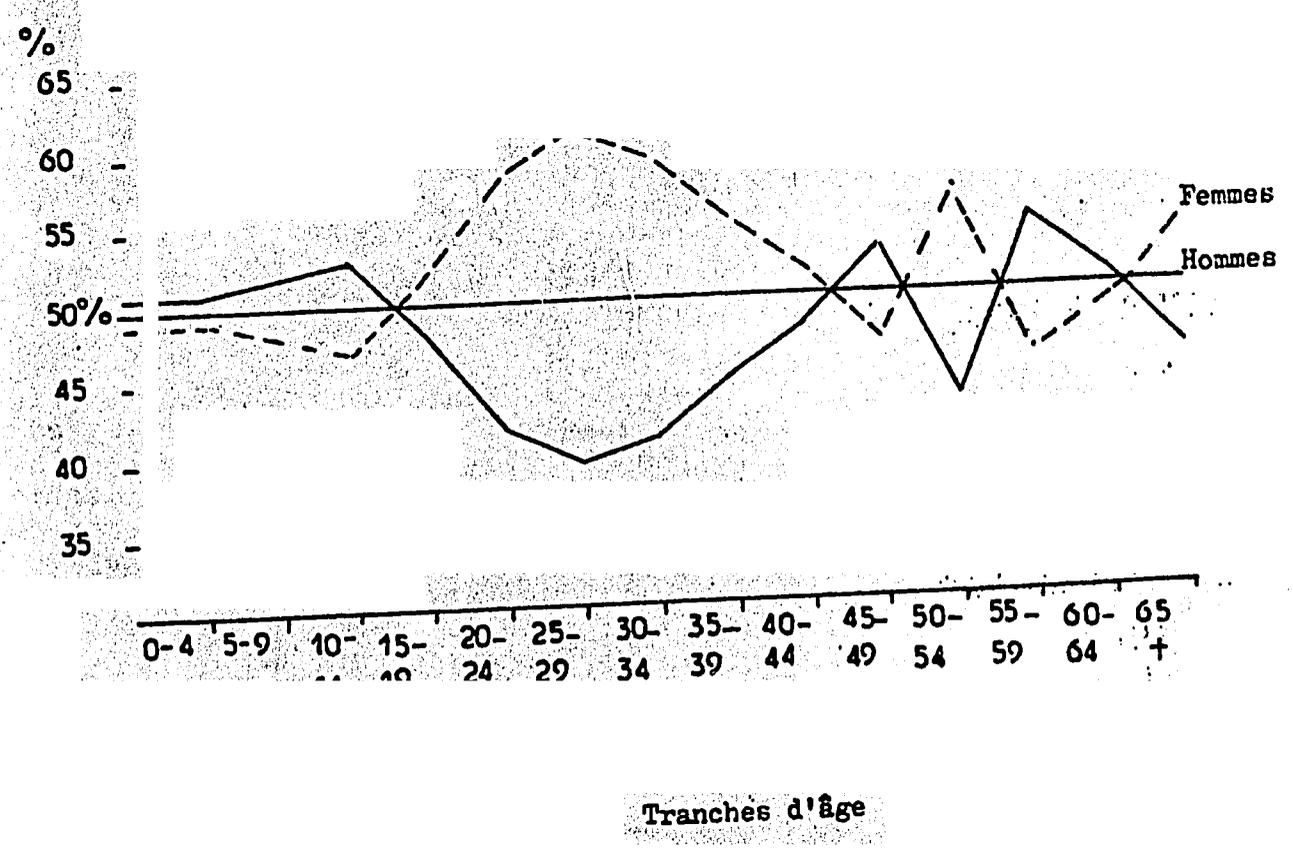


Figure 2. Age Pyramid for Guidimakha

Figure 3. Male/Female Age Ratios for Guidimaka

Rapports Hommes/Femmes au
Guidimakha, 1977



SOURCE : Données préliminaires du Recensement, 1977.

One can begin by viewing the region as an underdeveloped region of the Third World. Given such a view, one sees a localized system that operates with established internal consistency but whose productivity is insufficient to meet new needs and aspirations and therefore requires amelioration. A different view, however, is to realize that the region's population contains a highly productive and, in many cases, fairly skilled labor force well adapted to and already intermeshed with modern industrial civilization. The problem is that the region's most productive laborers reside overseas as migrant workers. As a result, the home communities are deprived both of much of the productive labor of their men as well as the secondary inputs such as roads, health facilities and commercial outlets that service the areas where they work. In the end, the greatest sufferers are the women and children who wait at home. In this respect, the situation is akin to areas of southern Africa or Appalachia - areas of "isolation poverty" - where improvement in both basic living standards and productivity is largely dependent on the development of more egalitarian two-way links between the hinterlands and the greater political entity with which they are associated. Improvement also depends on receipt of an adequate share of inputs in terms of services and development as part of the compensation for the expatriate labor supplied by these areas.

Despite its isolation, however, change is coming to the region. New all weather road links between Selibaby and other areas are planned (including the present USAID financed Kaedi-M'bout-Selibaby-Gouraye project). Lessening annual rainfall throughout Mauritania has also resulted in an increasing influx of nomadic and transhumant herds into the region. Moreover, a major reorientation of population and economic activities is probable in the future once the new series of dams along the Senegal River are finished. Such developments carry with them increased expectations for government services of which health is among the most demanded and most costly.

2. Population : Size and Distribution

The 1977 census calculated a total regional population of 83,200. The RAMS Project (682-0211) projection was for an increase as follows (all figures in thousands):

Year	Regional Total	Dept. of Selibaby	Dept. of Ould Yenge
1977	83.2	59.9	23.3
1980	88.9	64.2	24.7
1985	97.7	71.0	26.7

Equally as important as numbers is the distribution by age and sex as shown by figures 2 and 3. The pronounced divergence in numbers between adult males and females between the ages of twenty and forty is due to the out-migration of males seeking work in Nouakchott, Senegal and especially France.

The distribution over geographic space can be summarized as follows: (Please note that figures are from the 1977 census. Since that time there has been a modest increase in population, and the number of dispensaries. Specific figures for this increase are not available).

As demonstrated by the information presented in Chart I, there are major differences in population size, distribution and available health services between the Guidimaka Region's northern department of Ould Yenge and its southern department of Selibaby.

Ould Yenge, with less than one-third of the total regional population (approximately 29%) has a far greater percentage of small communities under 300 people (44%) than the department of Selibaby (16%). On the other hand it has a greater percentage of large communities over 1000 people, which are served or targeted to be served by official GIRM dispensaries. Two crucial questions therefore arise if the project uses the proposed standard of only training people in communities over 300 in population. First, does the system respond to the needs of the department of Ould Yenge whose main problem is isolated small hamlets? Secondly, will there even be an adequate mass of communities to mobilize departmental interest?

3. Cultural Groups and Productive Systems:

The question of ethnic group identity is an obvious, if albeit politically sensitive, aspect of everyday life in the Guidimaka. The major groups are the Soninke, the Toucouleur, the Peul (Fulbe) and the Moors (both Bidan and Haratin). The Soninke represent about 55% of the population, with the Toucouleur and Peul representing around 25% and the Moors (Bidan and Haratin) 20%. The number of Moors in the area is growing however as climatic conditions increasingly push herds southward.

The importance of these ethnic differences lies in the fact that each identity corresponds fairly closely to specific types of productive systems, social organizations and traditional practices and beliefs. These are of direct relevance to decisions the project must make on how to organize its activities within specific communities and the problems and expectations it should anticipate from the start.

a. The Soninke (Sarokolle)

As a northern fringe of Mande agricultural civilization, Soninke civilization and social structure has evolved as one primarily adapted to agricultural production, in contrast to Moor social organization which is basically an arid land pastoral adaptation with an agricultural appendage. The fact that the Soninke are found in the extreme fringes of the ecological zone conducive to major agricultural production has forced them to evolve additional survival mechanisms in the form of migratory commerce and labor.

The system is characterized by strong patriarchal group control, with an emphasis on group unity and self-help coupled with a strong tinge of xenophobia. The major production unit is the extended family compound, dominated by the eldest male of the family who controls younger brothers, sons and sometimes cousins. Production centers on the family field, though younger males and women have small individual fields as well. On the family field, labor is organized cooperatively and all productive activities are supervised by the patriarch. Primary responsibility falls on the head male to assure adequate food for the family, but money for other things such as health care, often must be earned by the women.

The patriarchal system is replicated on the village level where control rests with the oldest male of the founding family assisted by a council of males from other important families. This group controls other newer or socially lower families mainly by being recognized as the controllers of the village land. Others are seen as having land by permission of the controlling group. Given the strong emphasis on community unity, it is not easy for any community member to be denied or deprived of rights as long as they fulfill their community responsibilities.

However, as it is the controlling group that determines rights and responsibilities, the distribution is not completely equal. Control and distribution of rights and duties is also affected by the highly stratified social classes that extends from nobles through commoners to artisans and slaves. These distinctions no longer have legal significance but are important in terms of the facts of community power. Given that this system even replicates itself in migrant factory communities in France (where, for example, everyone works together on the assembly line but the lower class members do the cooking at night), there is little that a foreign donor could possibly do to change this system. Above all, it should be remembered that the system has its own internal regulating mechanisms which place a high value on continued group solidarity.

b. The Moors:

The Moors in the Guidimaka are represented by three sub-groups: the noble warrior Bidan (white Moors), the Zenaga (white Moor tributary herders), and the Haratin (freed slaves). In the past, Bidan groups or their tributary Zenaga, used the Guidimaka as seasonal pasture land. Important groups established tributary slave villages that engaged in agriculture and provided the ruling groups with a share of the crop. Today the majority of Moor villages are former slave communities or newly settled areas of Zenaga. There are, however, some noble Bidan who, having lost their herds during the drought, are attempting to establish new sedentary mixed farming-small herding communities. These villages, especially those of the Haratin, are among the poorest in the area. Because they are generally small in size, it is unlikely that they will in the foreseeable future be provided major infrastructure, and therefore access to health and education facilities is closely tied to commuting to the nearest large settlement.

c. The Toucouleur and Peul:

These people represent a common linguistic group that are strung along a cultural spectrum the ends of which differ enormously in terms of production and community organization. The prototype of the Toucouleur community is found along the river where there are relatively large communities whose economic existence is traditionally based on river recession agriculture supplemented by dryland agriculture on nearby lands, fishing, and some livestock (either sheep or goats, or cattle which are generally cared for by Peul herders). Like the Soninke, they receive substantial remittances from men working out of the community, in this case somewhat less in Europe and more in Nouakchott and other African countries.

The social organization of production is generally on the nuclear family level and the communities do not have the strong patriarchal control of the Soninke. Most of the major settlements are in the southern, especially southwest, area towards Maghama and Kaedi. In many cases, these southwest communities are far better serviced in terms of available supplies and in/out access because of their proximity to the river.

The Peul (Fulbe) are at their cultural epitome on the other end of the spectrum. They live in small seasonal hamlets of a few families, in houses of grass or banko with straw roofs, devoted to their livestock and engaging in agriculture only as a secondary, mainly subsistence, activity. The small size, isolation and seasonal nature of their settlements put them on the lowest end in terms of either public or private services being directed to them. These communities will generally only be served if they are along the access route to larger settlements.

In between the prototype large Toucouleur river agriculture settlement and the small temporary Fulbe hamlet lies a growing number of intermediate communities where sedentary agriculture is combined with transhumant cattle raising (only selected family members travel with animals). There is good reason to believe such communities offer potentially expanding models of the type of highly adaptive mixed farming-herding units that have sprung up in neighboring Mali.

D. Government and Social Structure and the Distribution of Power:

Basically, two systems exist concomitantly in the Selibaby area. The modern system administratively consists of a regional governor, departmental prefets and heads of governmental services such as agriculture, health and public works, who are representatives of their respective ministries in Nouakchott but under the immediate authority of the governor. This structure consists of individuals and groups in largely modern economic classes: traders, chauffeurs, mechanics, salaried laborers and families in non-traditional settings such as Selibaby. Juxtaposed against this is the already described social landscape of the various traditional communities and ethnic groups and their heirarchical class structure. The two tend to overlap in many quasi-official situations and committees such as the Red Crescent, the

Volunteer Movement, and the Regional Advisory Committee. In these settings, traditional leaders or aspiring politicians often try to reinforce existing powers or gain new ones by acting as brokers between the populace and the government in the distribution of goods and services in return for cooperation and support as needed.

The newest addition to this constellation is the S.E.M. (Structure d'Education des Masses). It is a system designed to organize people from the top down. The smallest unit is the 10 family "cell" which is part of a 100 family "quarter", which are progressively regrouped into zones, departments, regions and national units. Because it provides a mechanism for uniting previously isolated groups; for providing access on the part of community members to higher government echelons; for organizing groups for specific work tasks; and for propagating new ideas on community self-help, it represents one potential institutional collaborator for project activities. However, for several reasons the S.E.M. should not be considered as a viable mechanism per se for organizing community health groups. Its efficacy differs greatly from community to community. In many communities its method of dividing people by geographical location and its rigid number formula established from the top down cuts across traditional family and authority lines. These lines are especially important in health care where the established emotional bonds are a major *raison d'etre* for mutual assistance. Many of its most dynamic organizers are younger people "on the way up" and therefore lack the permanence necessary for a village health committee. Many of the activities, since their purpose is perceived as pleasing the government, tend to be quickly implemented highly visible show pieces (such as a new classroom, or one fixed dune) rather than the labor intensive, long-term knowledge imparting type actions called for by this project.

Finally, the fact that it has already made numerous demands on the local populace for contribution of labor and funds already presents a problem for any other activity that requires additional community contributions, given limited resources. It is therefore essential that the proposed health project be clearly perceived by the population as their project and their priority not the government's.

E. Male Outmigration and Mobility:

Figure three, represents comparative estimations of population by age and sex, in the Guidimaka. Quick perusal makes evident the preponderance of females over males in the most productive age group of 15-40. These figures are composites of both sedentary and nomadic groups. Since the nomadic groups travel as a family, their sex distribution is more even, which means for the sedentary communities which would be the areas of project intervention, the situation is even more skewed than shown. Moreover, not only is a large percentage of the male work force out of the region, but those who go and succeed in foreign work markets are almost by definition the most energetic, ambitious and capable.

The situation vis-a-vis Soninke male outmigration frames the entire picture concerning labor availability in the area. This outmigration is actually an ancient phenomenon and is virtually an inherent part of Soninke manhood. At circumcision age young boys are expected to go to other communities or Selibaby to earn the money to pay for their special dress. A young boy who has not participated in the hardships of overseas work often encounters difficulty making a good marriage. This situation existed in the past when the Soninke specialized as traders in Black Africa (known as "Marka" in Mali and Senegal). During the colonial period they specialized as boat workers along the Senegal river, in Europe, and even worldwide. The latest major alteration came around the years of independence in 1960 when, as a result of the end of the Algerian war, France began to replace Algerian workers with manpower from her former African colonies.

However, while migration as a worker is an inherent part of the Soninke system, so is remaining loyal to one's home community. Workers not only continue to send large sums of money home, but maintain their families there and generally retire to their home communities at the age of 40-45 years. (Among other things, this is the age when the prophet Mohamed received the call and therefore is seen as a time to assume patriarchal responsibilities, as well as the time when the still older generation has likely passed away and new power opportunities open, and when a younger generation of males, 15 years and older, arise to take up the responsibility of migrant labor.)

Money is not only sent home to support the family, but to support the community and Soninke culture as well. Large and expensive mosques dot the Guidimaka landscape like small medieval cathedrals. Often characterized as "non-economic" or "non-productive" investments, they are, in fact, among the most crucial investments toward maintaining the unity of community on which the productive system rests. Likewise, many communities evidence a renaissance of traditional architecture and decoration to an extent that bespeaks an effort to compensate for the threatened disintegration due to modernization and urbanization occurring elsewhere. It can therefore be said that as a group they have already evidenced strong positive actions to maintain their home area as a vital community and would be willing to do so in the future if the opportunity is offered.

Among the Toucouleur along the river a similar but much reduced form of this phenomenon occurs. Outmigration is not quite as pronounced; is usually either of shorter duration or conversely more permanent; and generally is more towards Mauritanian and Senegalese urban areas rather than Europe. Large remittances to family and community also occur.

The situation among the Moors and Peul differs greatly. The Haratin (Black Moors) general live in the poorest communities. If they migrate out it is for seasonal, minimally remunerative labor which provides few funds for large community projects. Neither they nor the Bidan or Peul share the strong personal identification with a particular geographic area as do the Soninke. The Bidan and Peul are

both mainly herders who have more recently (since independence or since the drought) settled in the region. In contrast to the outmigration of the Soninke, the Bidan and Peul have immigrated to the region. Though identifiable with specific areas, they still remain highly mobile, moving seasonally to new grazing and watering areas.

F. Women and Children

USAID in previous years invested substantial resources investigating the situation of women in Mauritania, including those in the Guidimaka. The findings of Melinda Smale, who wrote a report on the subject, were that the combination of male outmigration and drought has dramatically increased the burden on Soninke women. Traditionally, Soninke women and children were expected to contribute labor to the family field, but this still remained the primary responsibility of the men. Women had fields of their own on which secondary crops such as peanuts, indigo, etc. were raised as a side income. Today, due to the combination of labor shortage and poor production, the women's fields are being used to provide the basic family grains. Thus, women are laboring more but have experienced a significant drop in their discretionary income. This greatly increases the already burdensome responsibilities of the women in other areas such as house construction, and their primary responsibility for providing clothing, education and perhaps most crucial for purposes of this project, health care for their children.

If the general welfare of the area is improved, including access to health care, women and children are likely to constitute the majority of beneficiaries. However, any increase economic burden or time demands imposed by such improvements would also fall most heavily on these groups.

Among the other ethnic groups of the region the burden on women is less severe, or rather more equally distributed, with that of males. Among the Toucouleur and Moors, while there is a significant number of women left with children to manage the homestead while the male is away, there is less of the marked separation into two separate orbits, especially as regards the extreme division between older men and children found among the Soninke. Peul fathers are involved with their younger children, as are Toucouleur and to a lesser extent Moor males. In the case of women, higher caste Bidan women are almost the exact opposite of the Soninke females, being the least called upon or ready to partake in physical labor.

As will be seen, these diverging attitudes and practices are important both for traditional health care and for the proposed project activities.

G. Traditional Health Practices:

As was noted in the introduction, an indepth analysis of traditional Moor health practices in the Trarza was conducted as part of the original project design. Its purpose was mainly to assess both the people's conceptual understanding of medicine and the healer-

patient relationship. The discovery of an existing, albeit antiquated, empirical medical tradition practiced by both men and women argued favoreably for success in imparting modern elementary health knowledge to local trainees. A similar tradition was not found among the Wolof along the river but in that case their more complete integration into modern African society and experience with modern medical treatment promised to be a compensating factor. As will be seen, the situation in the Guidimaka is quite different and argues for extensive reconsideration of some of the premises of the Trarza project, especially as regards the choice and training of village health workers.

1. The Moors (Bidan and Haratin)

No established regionwide traditional medical system was found as in the Trarza. It was discovered that there were some Bidans who did practice traditional Moor medicine including some travelling Bidan traditional healers. In fact often the response when inquiring about such practices was "that was something practiced by the Moors." The lack of such an established system can be attributed to the relatively small percentage of Moors in the region (est. 20%); and the fact that the majority are lower class, consisting of poorly educated Haratin who even in Moor areas are not those who generally possess such knowledge. However those Bidan who are in the area, mainly recent emigrants, do seem to share their culture's proclivity for delving into the medical sciences. (For example, one Bidan Red Crescent trainee who was interviewed not only evidenced a relatively superior understanding of both simple treatment and preventive medicine but showed us cases where he had done successful minor surgical incisions for removing embedded foreign bodies).

2. The Peul

A significant number of Peul males were cited as being healers of which three were interviewed. The Peul unlike the Moors do not seem to possess any well developed theory of medicine or disease. Rather they rely heavily on some home remedies based largely on local plants. Thus "Peul healers" are usually specialists in only a few recognized remedies. They tend to use their medicine only when modern facilities are not available rather than instead of them; a situation that arises from their living in isolated hamlets and dispersing into yet smaller groups to graze their herds. One unfortunate noticeable tendency, however, was for some Peul healers to seek to extend a relatively sound repertoire of home remedies into associated potions and practices that at best had psychological value but earned them money when treating others.

3. The Soninke

The Soninke do have traditional healers. Unfortunately, the traditional practices would seem to present more problems than promise for project purposes. To begin with it must be acknowledged that the Soninke are infamous for their secrecy and inwardness vis-a-vis outsiders. Thus indepth penetration of their beliefs requires a major

effort which was beyond the available time of this study. However, what appears to exist is a healing tradition that is non-empirical, non-inquisitive, and oriented to being a psychological palliative for adults, even when the patient is a child. In addition, rigid differentiations between male healers' concerns with adult problems and female healer's responsibility for children, coupled with the equation of age (sometimes very old age) with power and knowledge, all raise possible impediments to effective project implementation.

As observed, traditional Soninke medicine consists of various remedies with little apparent consistency (e.g. if plant "w" isn't available you can use "x", "y" or "z"), mixed with various quasi-religious or magical treatments, writings, or special objects. (Objects such as human teeth are reportedly removed from the site of leg sores). Elderly men are the repository of such knowledge for adults but for sick children the responsibility falls on elder females whose remedies are even less medical and more psychological or magical (e.g. strings tied around parts of the body). Since many of the patients are infants, if any psychological benefits accrues at all it would seem to be towards lessening the anxiety of the mother rather than assisting the child.

Especially for diseases of children, the tendency seems to be to first try a traditional remedy even if a dispensary is available. (In contrast one healer said she always goes there for her problems). The basic orientation seem to be that any medical treatment, modern or traditional, is of equal potential value and that choice is made based on availability, cost, convenience or the healer's reputation but certainly not on any understanding of the specific usual relation between medical treatment and cure.

4. The Toucouleur

Unfortunately, due to the location of the Toucouleur communities in areas cut off by rains, a visit into those areas proved impractical. However, prior experience would indicate their situation strongly resembles that of the river Wolof village in Trarza. Relatively speaking, they are much more outwardly oriented and used to modern medical systems than the communities of the interior.

H. Synopsis of Observations and General Recommendations

1. General Observations

a. There are major social, economic and geographic differences between the Trarza region and Guidimaka. These two regions virtually at different ends of the spectrum. As such the Guidimaka is an ideal second testing ground for project policy.

b. The majority of the population of the Guidimaka do not share the traditional empirical medical system of the Moors. This means the project may encounter greater difficulty in training both village health workers and properly preparing the communities themselves.

c. Among the Soninke a strong aversion on the part of men to involving themselves in child care presents problems as far as choosing the village health worker. Concomitantly, lack of respect for the young and women present additional problems vis-a-vis training workers to treat older adults. Other problems with women trainees would be their lower education level, their burdensome family responsibilities, and their ultimately being under the authority of the male head of household.

d. There are numerous scattered hamlets of under 300 people each in the region. These tend to be the most isolated and least serviced communities. If inhabited by Haratin, they tend to be the poorest while if Peul they can be fairly well off.

e. The existence of the S.E.M. (Structure d'Education des Masses) presents possibilities for collaboration in that it presents a new structure for activating community labor. At the same time its highly political nature, its disregard for family hierarchies and its involvement in a multitude of tasks all represent possible conflicts with the project purposes.

f. Among the Soninke in general, as well as many of the Toucouleur on the river, traditional community structure already provides mechanisms for the type of cooperative venture called for. Therefore, though it is probable that the project will encounter greater training problems in the Guidimaka than in Trarza it will probably have fewer problems with organizing communities.

g. Many communities have significant sources of money to support a village health worker. Others however, are too poor, too small or already possess burdensome traditional labor exchange requirements, that will act as a deterrent to such a new encumbrance on their limited resources.

2. General Recommendations:

a. In all cases the project should continue to operate in an innovative fashion adapting to each new milieu. It should not assume that either the success or problems of Trarza will be duplicated in the Guidimaka.

b. Among the most significant differences of approach called for is in the choice of health workers among the Soninke. To effectively treat the population both a male and female health worker is needed. (Male for adults/female/women and children. In very large communities several people should be trained not only due to numbers but also inter-family jealousies.

The male candidate should be over 40 years of age but with significant outside experience, if possible. (Young men 20-40 cannot be expected to remain in the community).

c. Some trainers who speak Soninke and Poular will be needed. Neither Hassaniya nor French will suffice especially for training women.

d. Communities should be chosen on a dual standard of population and geographic proximity. Some attempts should be made to select village worker teams to serve a group of small hamlets within several kilometers of each other.

e. Consideration should be given to collaborating with the Red Crescent Society to direct the training of village first aid volunteers in areas too small for project intervention.

f. The S.E.M. should be collaborated with on a case by case basis after consultation with community members.

g. Much greater emphasis has to be placed on educating community leaders as well as health committee members on modern health care and on the roles of the different levels of the health system.

h. Because of the number of differences between Trarza and the Guidimaka, a special comparative study of cultural and environmental factors influencing project success should be made half way through the project, if possible before moving into a third region. A new social analysis should be made one the choice of a third project region is definitely made.

i. Special attention must be given to resolving the problem of the resupply of medicines and supervisory trips during the rainy season (June-Sept.) when many villages are cut off from local and regional centers.

Attachment to Annex ESOCIAL SOUNDNESS ANALYSIS (from Rural Medical Assistance Project Paper)

As stated in the Rural Medical Assistance PID, the choice of the Sixth Region (Trarza) as a pilot zone was based in part on its containing a representative cross-section of peoples and situations found throughout the rest of the country. The following social analysis has therefore been based largely on the perceived need to identify and document the full extent of diversity existant, (in fact, much greater than as noted in the PID), and the type of flexibility and adjustment that will have to be built into the project design, to test its applicability to all relevant sectors.

Part I - Descriptive DataA. Ecological and Ethnic Diversity of Region VI

1. Region VI may be divided into a series of unofficial but clearly recognizable ecological zones as follows:

(a) An extremely arid northern zone that centers around the arrondissement of Aguilat Fai. This area was not visited by any member of the team. The Chief of the Arrondissement of Aguilat Fai was met in Boutilimit since this is where he actually lives. The area itself is described as generally barren but capable of producing good pasture land for several months (July through October) during years of adequate rainfall. As such times it becomes a gathering place for camel herds that at other times generally travel either to the Fifth Region north of Aleg or towards Mederdra. Population density is between 0.1 and 0.99 persons/km², virtually all nomads.

(b) A Sahelian zone extending from about 90 miles north of Boutilimit to an area south of Mederdra. It has an increasing number of established wells and sedentary communities, largely concerned with livestock raising: camels, sheep, goats and cattle.

(c) The area around Lake R'Kiz forms its own mini-ecological zone, due to the lake that is an offshoot of the Senegal River. Recession agriculture is practiced along its boundaries, with both millet and mellons being extensively grown. Sheep, goats and an increasing number of cattle are seen in contrast to the camel herds to the north.

(d) The River Area (known as the Chemama) which comprises the band of land (10 -20 kms.) that borders the river. Recession agriculture is practiced on flood areas (walo), while rainfall-dependent cultivation of millet occurs on the higher non-flood areas to the north (dieri).

(e) The Coastal Region in the arrondissement of Keur Masene. The domain of several fishing groups - (not yet visited).

(f) The area bordering the major roads, in the case of the Sixth Region this means the Nouakchott-Rosso, and Nouakchott-Bouti-limit-Aleg roads. These are not generally seen as separate ecological areas, however, they are progressively drawing people to settle along their borders. In terms of their access to rapid transportation to urban centers, as providers of services to those travelling through, and as new, ever-growing, more sedentary and less isolated communities they represent a new social phenomenon not yet clearly understood but of increasing importance.

2. The major ethnic groups and sub-groups represented in at least one if not all of these areas are as follows:

(a) Hassaniya speakers, who predominate over the majority of Region VI are initially divisible into two crucial sub-groups - the Bidan or white Maures and the Haratin or black Maures. The Bidan (white Maures) are traditionally further divided into Zwaya (religious or "marabout" groups), Hassan (warrior groups), Zenaga (free tributary groups), Mu'allamin (craftsmen) and Ighyuwn (entertainers). Besides the traditional occupation by which these sub-groups are identified, they generally involve themselves in other commercial trading or livestock raising, or both. All, however, shun agricultural labor.

The Haratin (black Maures) are commonly referred to as "freed slaves", (in contrast to the term "Abid" which means a captured slave). They are viewed as the descendents of former black slaves, originally taken from along the river, Mali or Senegal. Some live as an integral part of a larger Bidan encampment; others have their own encampments and work as herders, or are settled in Haratin agriculture communities, (Abdaye).

(b) The Toucoulour are the agricultural populations who predominate along both sides of the Senegal River, where, in the centuries prior to colonial domination, they lived under a highly stratified theocracy. While the traditional division of their society into free men (Rimbe), artisans (Nyenybe) and captives (Maccube) still has meaning in terms of an individual social status, it no longer dictates either actual occupation or their actual power relationships between different sub-groups and particular individuals.

(c) The Peuhl are cattle pastoralist (though many now also cultivate) closely related in language and social structure to the Toucoulour.

(d) The Wolof are the single largest ethnic group in Senegal. While they too had a traditional stratified society its traditional divisions are largely meaningless today. This is especially true among the basically expatriate communities found in Mauritania near the border region around Rosso.

(e) Both the Bambara and the Sarakolle are ethnic groups without established communities in the Sixth Region. Concentrations of Sarakolle populations begin around the Guidmaho Region; the Bambara population is found mainly in southeastern Mauritania (along the Malian border). If the proposed medical project is successful, it

would eventually be extended to these groups who unfortunately have no representative community to serve as part of the proposed project. However, both groups have very strong traditions stressing the welfare of the community over the individual and have established mechanisms for mobilizing people to work together. It can be assumed with fair confidence that should the proposed project succeed among the most scattered, less sedentary, more individual groups found in the Sixth Region, it will have a very strong chance of being successful when extended to these other groups.

(f) The New Urban Class. General speaking, Mauritania does not possess the type of well established urban population found in many other African countries whose populations, values, and ties are well divorced from that of the rural population. Most urban dwellers from the head of government to the unemployed squatter are still closely tied to rural values and specific rural communities. While the urban population is not the focus of this project, many of the Mauritians who will participate in it, and ultimately be responsible for continuing and supervising it, are. It is important for the project design to remain aware that these people when placed in the rural milieu will be subjected to the same social pressures and share many of the same social perceptions as the immediate target population.

However, it should be noted that the lack of alienation of the urban dweller from his rural origin does not usually extend to his presence among other rural ethnic groups with whom he is often ill at ease and among whom he is considered an invariable stranger.

3. Spatial Organization

1. Hassaniya culture has traditionally been an essentially nomadic society save for a few central market, resting, or religious centers, generally in the oases areas. Most of the relationships that unite people are therefore more social than residential since residential patterns are so fluid. To the extent that geographic identity is important, it usually occurs on the level of regional identities that express themselves when people find themselves third-party strangers (i.e. in Nouakchott, people often see a unity among those from Trarza, as opposed to others from Tagant, or Adrar. This phenomenon is being both expressed and catered to by the new GIRM decision to denote administrative regions by their traditional names).

The social cement that unites people extends across regions. Basically a Bidan (white Maure) belongs to one of a large number of tribes or clans (Qabila) whose members theoretically descend from a common ancestor. These, however, generally are large and ancient to the point of having little meaning in terms of the management of everyday life. As a result they break down into smaller factions called (FAKHDH) or "fractions". In theory, members of the same Fakhdh also descend from a common descendent of the original founder of the Qabila. In reality, however, membership in both a Qabila and Fakhdh can change and are as much an alliance of people of similar social status as they are actual kin groups. Moreover it is usually the

Fakhdh that is the actual functioning alliance and in fact members of different Fakhdh of the same Qabila may be actually allied against each other. The Fakhdh themselves are composed of patrilineal extended families (father and sons) called Ahel and which are the most fundamentally important kin units, especially since divorce is quite frequent in many areas and the nuclear family of husband, wife and children is therefore unstable. (see attached chart I, Moor social organization)

In the rural areas the basic living unit is the Khayma or tent, which generally is synonymous with the nuclear family. The Frig is the encampment of which three different categories are generally recognized: (a) small Frig from 1 - 15 tents, generally referred to as a Fhyam; (b) Frig of 10 - 20 tents called Nazla; and very large encampments, called Massa. The Massa, where the chief of the Qabila has his tent, is referred to as Hella or El Kariya (the tribal center). Such a settlement may be divided into sections or "neighborhoods" referred to as Halagaiz, Halgay or Halagai (circles).

Haratin (black Maures) are seen not as members of a Qabila but as "attached to" or "belonging to" (like a possession) specific Bidan factions. They may either live in the encampment of the Bidan fraction to which they are attached; have their own encampment where they take care of animals of the fraction or their own or both; or live in more settled agricultural communities where they farm fraction land called Abdaye.

2. Toucouleur and Wolof. Both of these groups live in settled communities along the river which are not only permanent but in some cases quite ancient. Such settlements are often characterized by substantial investments in both personnel and community physical infrastructure (houses and mosques) and depending on size are further divisible into neighborhoods (quartiers) and family concessions.

3. Peul. The Peul tend to live in smaller hamlets (wuro) usually composed of straw huts sometimes surrounded by flimsy fences. Sometimes these are occupied seasonally if the whole family travels with the herd. Other times only specific herders (e.g. teenage boys) will leave with the animals while the others stay home. The pattern is generally referred to as Transhumance - having fixed home locations but with substantial seasonal movement of at least some members of the household. However, these fixed locations are neither Toucouleur and Wolof communities.

Part II - Power, Religion and Distribute Justice in Mauritanian Society

To understand the major social problems facing the implementation of an effective, low-cost, community-based health program that will benefit all elements of the population, it is crucial to realize that inherent to the program is the distribution of three things which are scarce and valued in the Hassaniya culture: (a) medicine, (b) medical care, and (c) medical knowledge. For a western outsider the value of the first two is easily understandable.

So too are their scarcity once one has seen the burdensome transportation problems faced in delivering goods and services to rural areas, and the deficiency in economic resources, manpower and experience that the GIRM is faced with as it tries to perform its governmental functions. Such difficulties mean that even wealthy and privileged elements find themselves suffering severe deficiencies in necessary health services.

The question therefore is how are scarce and valuable resources distributed. The first part of the answer is: from within the group - out; meaning one's immediate family, "'Ail", and "fraction" before outsiders. The second part of the answer is still somewhat more difficult for westerners to understand. Foreigners, especially Americans and Europeans who come to bring assistance, tend to confuse the concepts of "neediest" with that of "most deserving". Such reasoning would argue that if one man has no blanket and another has one, then, even if the nights are cool enough to justify two blankets, it would seem only right that the man without any blanket should get one before the man who already has one gets another. In Hassaniya society, such is not necessarily the case. Since everyone is "in need", the judgement as to the "most deserving" is often based on other social considerations. Of some importance here is the Islamic concept of baraka - a mixture of grace, blessing, and power bestowed by God - the possession of powerful and saintly men. Wealth, power, or status that comes from strenuous work and accomplishment is humanly understandable and less awe inspiring and respected than that which is unearned - either inherited or apparently the gift of Allah. If one person is found to be more deserving of Allah's blessing, why should another mortal feel differently.

The fact is that Maures are neither ungenerous nor uncharitable. Generosity is a necessary ingredient to prestige and social importance. A generous man is admired and obtains social influence through his generosity. The contrary vis-a-vis a stingy man applies. Charity is not only applauded but dictated by the Islamic religion. Many people not only give the annual Zaka (theoretically a 10% tithe for the poor), but rich people may establish the equivalent of trusts (Waqaf or Wakuy for the benefit of others (i.e. give a palm grove for the use of all who need or to a specially "deserving" party). The point is that charity begins at home, and after that it is as likely to go to a deserving socially privileged person as to a needy nobody.

Moreover, the problem is not only the attitude of the giver, but the community at large. One Red Crescent volunteer pointedly explained how he knew that those who most needed donated supplies were not the same as those who formed his circle of social obligation. However, were he to give to others and not them (and give generously at that), he would actually make enemies and lose prestige among those to whom he is inextricably tied. (In this case, he claimed the solution was not to give out anything at all, but to pass the responsibility onto others who weren't similarly bothered by this conflict.)

The situation as to the third factor (medical knowledge) is somewhat different due to the special role that knowledge in general plays in traditional Hassaniya culture and the extent to which it operates as an economic/political resource that is extensively manipulated and monopolized by certain elements of the population.

Traditionally, those groups that could, subjected others by force. The Zewya found a counter-balance to the military might of the warriors, in knowledge - religious and legal - that was necessary to insure the daily functioning of the society. They were not beneath using force - theirs or that of their allied warrior groups - to obtain and dominate both slaves and tributary groups (Haratin and Zenaga). Today, force is no longer an accepted mechanism to maintain such ancient ties. To a large extent old relationships of domination are today maintained through more subtle manipulations (i.e. dependence on religious leaders for salvation and assistance, one form of which is religious intervention against disease and calamity). It is important that the proposed project does not allow its gifts of supplies and skill to be selectively obtained and manipulated to maintain such relations. The question is not only a social judgement but a "health prerequisite" since a fundamental prerequisite to success is the incubation in each individual of a growing awareness of his/her own responsibility and ability to effect their own, their children's and their community's health.

NOTE ON TRADITIONAL HEALERS

All ethnic groups in Mauritania have some traditionally established way of dealing with illness and specific people recognized as having knowledge and authority in this area. Centrally this breaks down into two co-existing domains - that of the "mundane-curative" generally involving herbal treatment, and the "super-natural", generally involving the interventions of a religious figure. What is most noticeable among the Hassaniya speaking Maures is the extent to which the "mundane-curative" is embodied in a well established system of treatment and doctrine, directly traceable to ancient greek medicine. An attached chart of locally recognized diseases and treatment is provided to demonstrate not only the specific remedies but also the orderly standardized fashion by which they are known.

The standardization found in traditional medicine is based upon the existence of a few notable families of traditional doctors, each of which often has a specific specialization (i.e. cataract operations), and some of whom have produced written texts. These practioners represent a widely recognized, still used, resource. Unfortunately in the process of competing with modern medicine they have tended to even further "specialize" in the domain of "illnesses that haven't responded to modern treatment", and their repertory seems to have shrunk to a few purgetives and vitamin tonics plus pychological support, often a missing element in crowded government dispensaries.

There is a second level of traditional healers, usually women, who can be both midwives and home remedy specialists. Some of them have as extensive knowledge as the first group and a few have passed into their ranks. (see Annex B, Chart III)

The approach to the selection of the community health worker makes it possible that a traditional healer might be chosen by a community for participation in the program. There is no contra-indication to using a traditional healer to carry out the duties assigned to the CHW. However, it is unlikely all healers, especially the most established ones, will meet the criteria developed for the project. The well-known "professional" healer tends to be located in the more populated areas which have been designated as low-priority for participation since they may have access to some kind of care. Some of the traditional healers also travel from camps to villages and thus would not be acceptable in the program as designated. It is not very likely that the "professional" traditional healers will have a major role in the village health worker program, but since they are usually very influential in many communities, it will be important to gain their cooperation and maintain good relations. Membership on the community health committee might be a way to capitalize on their prestige and provide extra status. Direct involvement of the second level - "non-professional" traditional healers seems more likely.

For an interesting discussion about the practice of traditional healers in Mauritania, one cannot find a better source than an article by Dr. Mustapha Siddatt, Dir., Nat'l. Hygiene Center. He points out the dangers of an overly "romantic" view of traditional medicine. While much of the practice can be empirically sound, or at least not harmful, there have been many instances where the treatment provided has been actually harmful and even dangerous. It would seem important therefore that the training address the question of using traditional home remedies whether or not traditional healers are being trained per se.

In all, there is no clearcut answer to the question of whether to use traditional healers as community health workers. Basically, the criteria established for the CHW should be adhered to and decisions made on an individual basis.

CHART I

TRADITIONAL MOOR SOCIAL ORGANIZATION

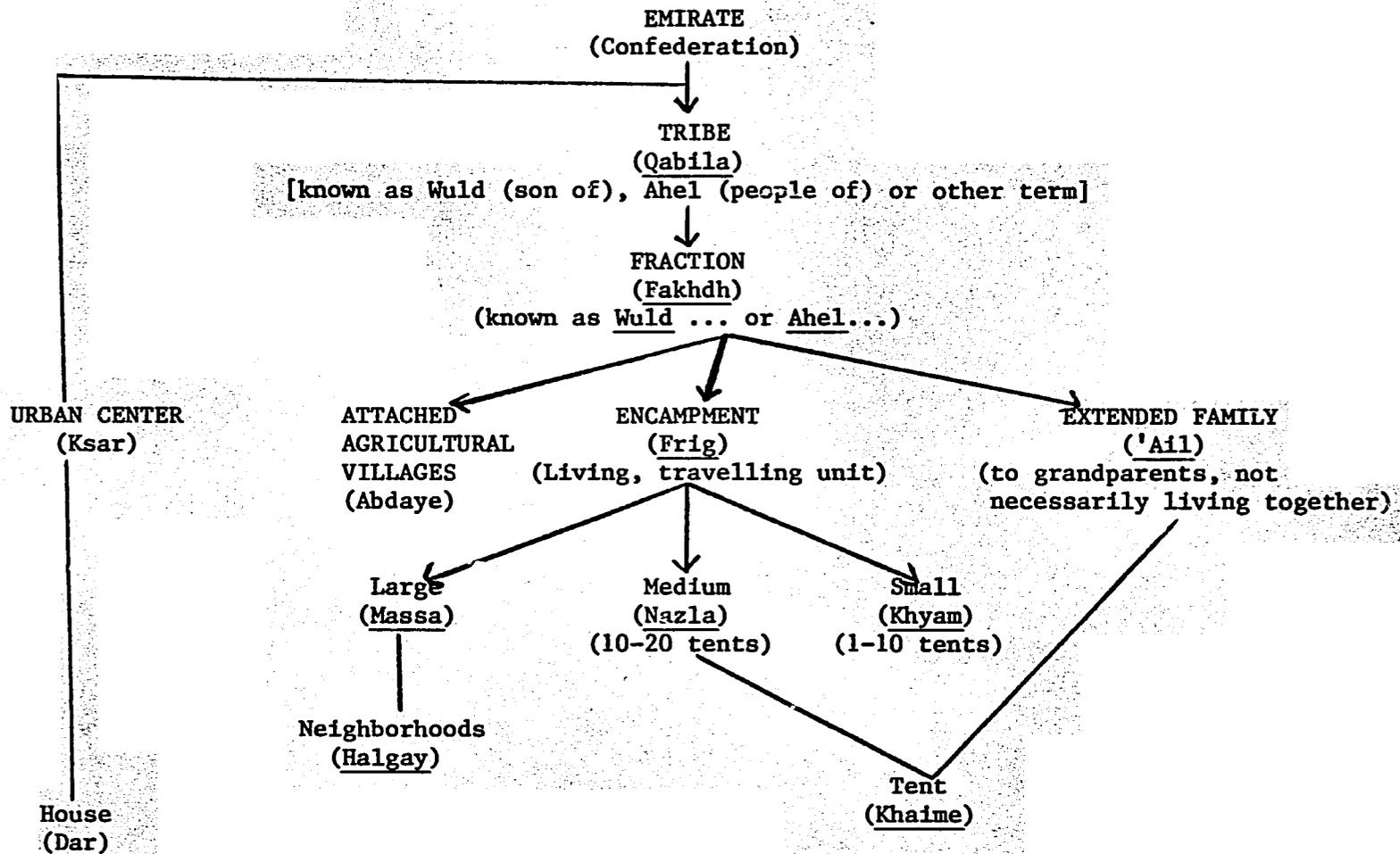
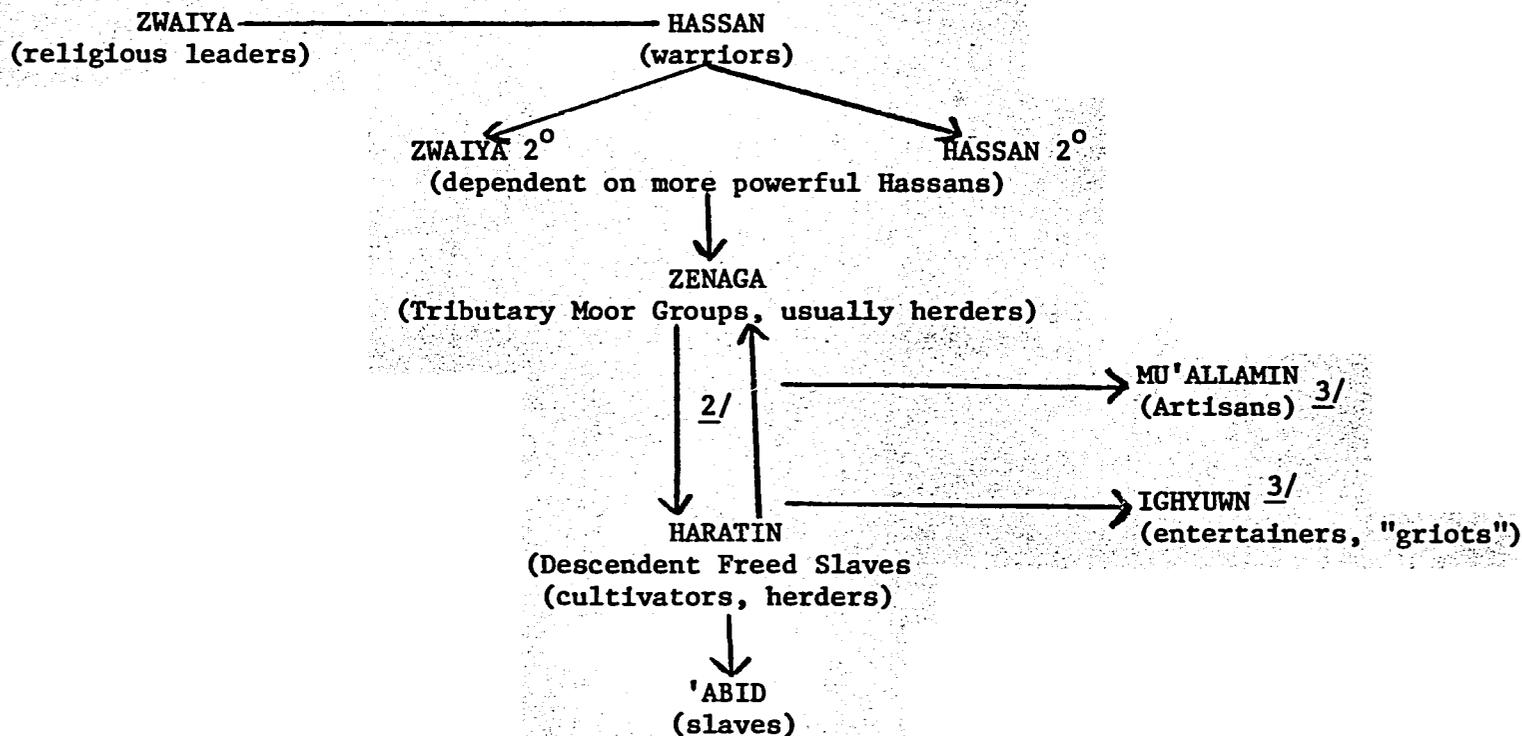


CHART II

SIMPLIFIED OUTLINE OF MOOR SOCIAL STRUCTURE^{1/}



- Comments:
- 1/ None of this structure is legally enforced in Mauritania, but it still has major social significance.
 - 2/ The relative position of Zenaga and Haratin varies by region.
 - 3/ These groups have an ambiguous position as attached to but not part of Moor groups, and as both despised for earning their living working for others, admired for their skills, and feared for supposed magic powers and ability to slander.

CHART III

TRADITIONAL MEDICAL REMEDIES

Information source: AICHETOU who is a traditional Bidan, female healer in Nouakchott. She is from the 6th Region. Sept. 1978

HASSANIYA	ENGLISH	
ILLNESS	ILLNESS	HERBAL TREATMENT
Aynine	Conjunctivitis & other eye troubles	<u>Henna</u> + <u>Gum Arabica</u> + <u>Sugar</u> + <u>Ounkede</u> (when boiled becomes red) - 2 drops daily
Kerche	Stomach ache	Powdered <u>Ounkede</u> + sugar + milk - boil, filter and drink/or <u>Sdere</u>
	Vomiting	<u>Tidikte</u> + date + a special wood "Eil Bare" (used for canoe masts) - boil and drink
Leye Humme	Dysentary Malaria	2 types: 1) stool without blood, <u>Takhya Bateina</u> powder - mix and drink; 2) stool with blood, <u>Gum Arabica</u> mixed with water - drink with millet flour + burnt gum + simple gum + sugar + uncooked <u>Ounkede</u> - boil and drink
	Constipation	<u>Valagette</u> + yellow date + hot water + ripe date - soak over night, filter and drink in the morning - powerful and should be used only by strong people
Cheguigne	Nerve Inflammation	2 types: 1) <u>Cheguigne el Bord</u> , <u>Zebd</u> + <u>Tidgte</u> + salt - inhale through the nose; 2) <u>Cheguigne el Zew</u> , <u>Henna</u> + <u>Haja</u> + <u>Zebd</u> - tie around forehead
	Diarrhoea	Sour milk + sugar + uncooked gum - drink mixture

CHART III/cont.

HASSANIYA	ENGLISH	
ILLNESS	ILLNESS	HERBAL TREATMENT
	Colic	First drink boiled <u>Tamarin</u> and purge with <u>Valagette</u>
Ashfi	White spot on pupil	Grind bean (1 or 2 grains) with charcoal in cooking pot, and water and filter - 1 drop on the eye daily
	Whooping cough	Ass milk + sugar + honey - drink mixture
	Measles, Small-pox	Before the pimples appear, eat sugary food and put <u>Henna</u> drops in eyes in order to protect them
Kahhe	Cough	<u>Aichee</u> leaf + sugar + gum - mix and drink

Annex G

Scope of Work for Technical Assistance Personnel

USAID/Mauritania plans to obtain, through a single, competitively awarded, AID direct contract, the long-term technical assistance (TA), most short-term TA, and local hire project support staff required to implement the project. The contractor will be responsible with the guidance and supervision of the USAID Project Manager, for coordinating and supervising the use of all inputs. The contract should be self-contained and independent of USAID support for such items as housing, maintenance.

All technical assistance personnel, both long-term and short-term are to work in office space provided by the Ministry of Health (MOH). They are to serve as advisors to the MOH on project related matters but they are not supplements to MOH staff and should not work on non-project related MOH activities. All advisors should work in close coordination with their MOH counterparts.

A. Long-Term Technical Advisors

1. Chief-of-Party Functions:

One of the two long-term advisors will serve as Chief-of-Party (COP) for the technical assistance team. The choice of technician to play the role of COP should be made by the prospective contractor in its proposal according to the qualifications of the personnel it puts forward. Either long-term TA position could be expanded to include the responsibilities of COP outlined below:

a. Contract Management. The COP will bear ultimate responsibility for the effective fulfillment of contractor responsibilities and will therefore serve as supervisor for other long and short-term contractor staff as well as for local hire contract employees. The COP will also be responsible for administrative support of contractor personnel and project activities (procurement of certain goods and services -- including drafting of required AID procurement documentation -- management of project equipment and stocks) and will be assisted in this role by a local-hire Administrative Assistant.

b. Reporting and Evaluation. The COP must submit to USAID/Mauritania quarterly Project Implementation Reports outlining accomplishments during the quarter and plans for the following quarter. The COP will also gather all available information required for the conduct of the three evaluations (years 1, 3, and 5) envisioned under the project. The contractor's final report should thoroughly document the project's achievements and point to major issues for final project evaluation and future project design.

c. Liaison with MOH and USAID. The COP will work closely with the USAID Project Manager and the MOH Project Director to develop review and modify the project's Implementation Plan. Formal meetings between the COP, the USAID Project Manager and MOH personnel

concerned with the project should take place at least once each quarter to discuss and propose solutions to major implementation issues.

USAID/Mauritania will consider the following criteria in evaluating COP candidates:

- . Experience as COP for previous contract teams or in comparable leadership roles, including supervision of senior level technical advisors;
- . Ability to integrate short-term advisors into a long-term technical assistance effort;
- . Skill in working with personnel of various professional and cultural backgrounds; and
- . Experience in managing AID technical assistance contracts including performance of technical and financial monitoring, procurement management and equipment inventory.

2. Health Educator/Training Advisor:

a. Objective. To serve as chief project technical advisor and manager for all health education and training activities, and to actively participate in the national policy dialogue on primary health care strategy.

b. Scope of Work. The Health Educator/Training Advisor will provide four years (48 months) of technical assistance to the project. This individual will reside in Nouakchott but spend approximately 30 percent of the work year in the field supervising and coordinating training activities, and evaluating health education approaches. S(he) may be designated as COP for the project (see section 1 above). As Health Educator/Training Advisor, this individual will be administratively responsible to the Mauritanian Project Director, and serve as counterpart to the Directors of Preventive Medicine and Maternal and Child Health (MCH) Services as well as the Project Director. This individual's responsibilities fall into three principal categories: national curriculum development, national primary health care (PHC) policy formulation and training activities. These three spheres of activity are outlined below:

(i) National Curriculum Development. The specialist will coordinate the efforts of short-term technicians and local personnel to develop a uniform national PHC curriculum for use in training community health workers (CHW), traditional birth attendants (TBA), CHW and TBA trainers and supervisors, and mid-level primary health care personnel (regional doctors, nurses and nurse-midwives). This effort should result in the production of a complete range of tested and approved teaching materials in several national languages, including a set of visual aids and appropriate practical learning tools. In order to produce this curriculum the specialist will carry out the following activities:

- . Conduct an assessment of existing health education materials and advise the Project Director on the content and format of the new curriculum.
- . Develop consensus within the MOH on priority themes for the curriculum.
- . Outline, with the help of short-term technical assistance, the format, approach and technical topics to be covered during the various training programs included under the curriculum.
- . Prepare preliminary teaching materials and pre-test them under field conditions.
- . Modify materials as required and prepare a full set of final documents and teaching aids.
- . Develop and establish a Primary Health Care Resource Center in Nouakchott and mini-resource centers in the three CHW target regions.

(ii) National Primary Health Care Policy Formulation. The Health Educator/Training Advisor will be USAID's principal representative on the National Council for Primary Health Care and/or on relevant subcommittees. In addition to this policy function, s(he) will serve as chief technical advisor for the design and implementation of specific primary health care workshops and seminars financed by the project.

(iii) Training Activities. The Health Educator/Training Advisor will develop and assist in the execution of an initial training program and in-service training courses for CHWs, TBAs, village health committees, CHW trainers and supervisors, and nurses and other staff members of the expanded program of immunization (EPI). This individual will also develop the survey instrument and the short-term technical teams for all community-based health sector surveys and assessments financed under the project. Please refer to the attached Detailed Training Plan for specific targets and proposed implementation plan.

(iv) Follow-up. The health educator/training advisor will be responsible for assisting Mauritanian counterparts in verifying that personnel trained under the project are properly performing their functions at the regional and local levels.

c. Qualifications. A minimum of five years' experience in training and adult education in the area of primary health care in developing countries is required. Demonstrated experience in the design of training programs, particularly village-based community health programs is also required. An MPH in Health Education or an MD with formal training in Medical Education is preferred. Excellent interpersonal skills, management and organizational abilities and demonstrated capacity to live in harsh climatic conditions are

essential. Willingness to spend extended periods in the field, outside of Nouakchott, is imperative. A minimum FSI rated level of 3 plus speaking, 3 plus reading in French is essential to successful performance of the task. A knowledge of Arabic is useful but not essential. Preference will be given to candidates with Sahelian experience.

3. Health Management/EPI Advisor:

a. Objective. To serve as chief project manager and technical advisor for the national Expanded Program of Immunization (EPI) component of the project, and to develop an appropriate health information system for the national primary health care program.

b. Scope of Work. The Health Management/EPI Advisor will provide four years (48 months) of technical assistance to the project. This individual will reside in Nouakchott but spend 30 percent of the work year in the field supervising EPI mobile team and fixed center operations, conducting detailed studies of routing patterns and EPI logistics, and developing and verifying the health data collection and reporting system. S(he) may be designated as COP for the Project (see Section 1 above). This specialist will carry out activities in three principal areas: management and implementation of the EPI program, design and implementation of an appropriate health information system, and coordination of epidemiological and evaluation studies.

(i) Management and Implementation of EPI Program. The Health Management/EPI Advisor, in close collaboration with the Directors of Preventive Medicine and MCH Services, will assess the operation of the EPI program, recommend and help to implement necessary improvements, and help to assure the program's effective operation throughout the life of the project. In order to achieve this objective, s(he) will carry out the following activities:

- Oversee the procurement of all EPI commodities and their distribution to project sites.
- Develop, in conjunction with regional health personnel as well as national EPI staff, logical and cost-effective routing patterns and operating practices for mobile EPI teams and fixed vaccination centers. This effort will include collaboration with the short-term mass media advisor to develop means of publicizing EPI vaccination routes or other PHC activities, particularly over the radio.
- In each of the CHW target regions, design and put into operation an appropriate CHW teams supervision system based on the EPI mobile team.
- Collaborate closely with the Health Educator/Training Advisor on the selection of CHW sites according the EPI routing patterns in those regions.

- Establish and monitor an appropriate inventory and vaccine management system at the national EPI warehouse and at the regional EPI fixed centers and mobile team depots.
- Participate as technical advisor in all in-country workshops and seminars for EPI personnel, which will be planned and managed primarily by the Health Educator/Training Advisor.
- Serve as USAID's chief technical advisor to the MOH on all matters related to policy reform for the EPI program. A major goal of this effort is to reduce the country's reliance on a mobile vaccination strategy. Other goals include the phased reduction of the target population from children age 0 - 5 years to children aged 0 - 2 years, introduction and testing of newly developed vaccines, and advising the MOH on the range of non-vaccination health services which should be provided by EPI mobile teams.

(ii) Design and Implementation of an Appropriate Health Information System. This specialist will develop a simple, reliable health data gathering and analysis system for the national primary health care program. To attain this objective, s(he) will perform the following tasks:

- Collaborate with the Health Education/Training Advisor to determine the precise information required for the system.
- Review the existing reporting mechanisms and revise the system accordingly.
- Develop and test the data gathering tools.
- Assist key MOH counterparts in the analysis and practical application of the primary health care information system data.

(iii) Coordination of Epidemiological and Evaluation Studies. In conjunction with short-term TA, this advisor will develop the survey instruments and coordinate the field work required to assemble and update the project's epidemiological data base. This advisor will also participate in the design of all survey instruments for the mid-term and final project evaluations.

c. Qualifications: A minimum of five years' experience in managing or designing EPI programs in developing countries, as well as experience in the design and implementation of health information systems are required. An MD with a strong background in epidemiology will also be considered. Excellent interpersonal skills, management and organizational abilities and demonstrated capacity to live in harsh climatic conditions are essential. Willingness to spend extended periods of time in the field, outside of Nouakchott, is imperative. A minimum level of FSI rated 3 plus speaking, 3 plus reading, in French is essential to successful performance of the task.

Knowledge of Arabic is useful but not essential. Preference will be given to candidates with Sahelian experience.

B. Short-Term Technical Advisors

Three short-term TA efforts will also be provided under the single technical assistance contract. The following scopes should of course be carefully reviewed and modified as the project develops and as project requirement dictate.

1. Position: Cold Chain Management and Maintenance Advisor (2 months)

Objective: To assist the EPI staff to develop effective management and maintenance procedures for the immunization cold chain system for receiving, storing, transporting, and distributing vaccines and other perishable biomedical materials used in immunization campaigns and medical treatment.

Qualifications: Minimum of two years in designing and maintaining cold chains in developing countries, particularly where tropical climate and precarious power supplies and transportation facilities threaten the effective life of medical supplies. Required B.S. in any field of engineering: electrical, chemical refrigeration and mechanical or equivalent. but equivalent experience may be substituted. Special consideration given to experience as instructor of maintenance personnel for refrigerating electrical and mechanical equipment. Must have (FSI 3+4) French speaking ability; knowledge of Arabic desirable. Experience in Sahelian countries desirable.

Scope of Work: Under administrative supervision of Chief of Party and in collaboration with MOH counterparts in EPI division of Preventive Medicine Service, will recommend improvements to the national system for assuring safe transportation, storage, preservation and handling of vaccines and other perishable supplies, and develop and conduct a training program for EPI personnel, including central storage/maintenance personnel and mobile teams. This specialist will carry out the following activities:

a. Perform assessment of current status of cold chain system used in EPI, nationwide.

b. Develop requirements for changes in equipment or revisions of procedures to assure a reliable system.

c. Assess training needs of personnel involved in assuring reliability of cold chain, including central and regional depot staff and regional mobile teams.

d. Develop a simple training program and curriculum on maintenance and repair of cold chain equipment including freezers, cooling elements, insulated containers, etc. and management support for system.

e. Train EPI personnel in cold chain equipment maintenance and system management.

2. Position: Graphic/visual aid specialist (3 months)

Objective: To provide illustrations and other visual aids, to implement newly developed or revised project curriculum. To provide initial training to a Mauritanian artist responsible for production of project visual aids.

Qualifications: An illustrator with background in visual aids for adult populations in African/Arab countries.

Scope of Work: The visual aid specialist will be responsible for:

a. Identifying with project personnel the types and format of visual aids required for this project.

b. Designing illustrations and other appropriate and culturally sensitive visuals that can be used in non-formal educational settings.

c. Assisting project staff in negotiating details for the off-shore production of all educational materials.

d. Developing series of training guidelines for use of aids.

e. Assisting, if appropriate, in any health education or training workshops/seminars.

f. Training Mauritanian counterparts in adaptation of visual aids.

g. Assisting project staff in determining needs for audio-visual center.

h. Developing in conjunction with curriculum specialist series of illustrated lesson plans that can be distributed to CHWs, school teachers, etc.

3. Position: Curriculum Development/Training Specialist (4 months)

Objective: To assist long-term health education/training advisor review and revise current PHC related curriculum and to develop a competency-based training plan and modules for use in a variety of settings.

Qualifications: At least three years of experience in development of educational materials and curriculum for use in an African/Arab setting. Must be fluent French speaker (FSI 3+4) and have expertise in non-formal educational methodologies. Desirable to have rural field-based experience.

Scope of Work: The specialist will be responsible for assisting the long-term technical advisor in the following:

- a. Identifying with project personnel key concerns and specific technical content to be included in materials.
- b. Reviewing task analysis of CHW team and develop relevant competency-based training manual.
- c. Developing curriculum, identifying modules to be used by TBAs, school teachers, etc.
- d. Pre-testing the educational materials in the field.
- e. Developing specific aide-memoires to be used by CHW teams in the village.
- f. Assisting the visual aid specialist in determining type of accompanying graphics.
- g. Developing guidelines for training of workers in usage of materials.
- h. Participating in health education workshops/seminars.
- i. Assisting project personnel in identifying other PHC curricula used in West African/Arab-speaking countries.
- j. Providing limited technical assistance to National School of Public Health for development of PHC course for nursing and midwifery students.

In addition to the above technical assistance, five short-term research and technical assistance efforts will be financed through USAID/Mauritania or AID/Washington. The scopes of work for these efforts are outlined below:

1. Position: Epidemiologist (4 months)

Objective: To assist the MOH to improve its system for gathering and analyzing information on disease prevalence, patient loads by disease encountered, and collecting data for baseline study of health status and epidemiological survey.

Qualifications: At least 5 years experience designing and implementing health information reporting systems, preferably in Francophone Sahelian countries. Must have M.P.H. in epidemiology; French at FSI 3+4 speaking level.

Scope of Work: This advisor will be responsible administratively to the Project Chief of Party but will collaborate directly with MOH counterparts involved in the development of an effective health data system. The objective will be to improve the uniform reporting system for the primary health care system, including the gathering of data by

EPI teams and the community-based health personnel. This specialist will perform several short-term assignments including:

a. Assessment of the current MOH surveillance/monitoring system its procedures, constraints, adequacies and performance record.

b. Perform information needs assessment at the several levels of the primary health care network, including the Preventive Medicine Service, the Maternal and Child Health Service, regional and departmental service providers, community-based health units, and EPI Fixed Center and Mobile Team operations.

c. Develop with MOH counterparts a simplified system of reporting health data which will feed information from village level to the central MOH staff.

d. Develop outline of baseline survey including selection of EPI-related diseases particularly major targeted communicable diseases: measles, polio, diphtheria, tetanus, pertussis, and tuberculosis, and malaria; nutritional status of children under 3 years.

e. Advise on use of health information system to provide subsequent assessments of health status and reduction of major communicable and other diseases as the PHC system and immunizations campaign begins to impact on target populations; advise on use of system to assess percentage of target population being reached by integrated PHC program.

f. Provide in-service training of MOH trainers who will instruct personnel at various levels of PHC system on data collection and reporting, using uniform simplified forms.

2. Position: Mass Media Specialist (2 months-centrally funded)

Objective: To examine the feasibility/viability of using radio for PHC education and information. Must be fluent French speaker (FSI 3+4).

Qualifications: Extensive background and expertise in radio production in West African/Arab countries.

Scope of Work: The mass media specialist will be responsible for:

a. Assessing technical and financial feasibility of producing health messages for radio.

b. Developing several pilot radio messages relevant to key PHC interventions in appropriate local language.

c. Examining use of radio for other primary health care purposes.

d. Testing effectiveness of prototype radio messages and revising accordingly.

e. Outlining methodology and plan of action for future mass media campaigns to be used in support of PHC programs.

f. Providing other technical assistance as requested by project staff.

3. Position: Community Survey Specialist (1 month)

Objective: To review, condense and simplify the gathering and processing of socio-economic and medical information at the community level.

Qualifications: Extensive experience in survey design tools in particular at the community level. Strong background in socio-demographic surveys and "Knowledge, Attitudes and Practices"(KAP) type of questionnaire development. Strong French capability (FSI 3+4) required. Desirable experience in African countries.

Scope of Work: The community survey specialist (provided by central funding) will be responsible for:

a. Assessing prior data collection efforts at village level.

b. Prioritizing major epidemiological needs and technical areas to be addressed in survey tool.

c. Reviewing existing questionnaire and KAP tools used in-country.

d. Developing draft questionnaire, pretesting, and making revisions accordingly.

4. Position: Epidemiologist/Evaluator (2 months) Mid/Final Evaluations, to be funded by WHO.

Objective: To assist GIRM in evaluating epidemiological impact of project on target population.

Qualifications: Minimum of five years experience in conducting epidemiological studies in developing countries, preferably in areas with disease patterns similar to those of Mauritania. Graduate training in epidemiology with preference given to public health physician or epidemiologist with doctorate degree. Must speak fluent French at FSI 3+4 level.

Scope of Work: This advisor will participate in two joint impact evaluations of the project, scheduled at years 3 and 5 during the LOP. The specialist will report administratively to the Chief of Party of the evaluation team, but will collaborate closely with MOH counterparts who participate in the evaluation. The specialist will perform the following activities:

a. Make an assessment of the reliability, consistency and general quality of data generated by the ongoing health information of the MOH.

b. Review data and determine changes in incidence and prevalence of specific communicable diseases including an estimate of the impact of the EPI component of the project.

c. Determine epidemiological significance of other health problems reported through the PHC network.

d. Relate epidemiologic phenomena reported to project activities and organization of immunization and other public health interventions being supported by the rural health services project.

e. Advise MOH on changes in technology, procedures, management or reporting which would improve the data gathering system.

5. Position: Operations Research Specialist/Evaluator (2 months) (Mid/Final Evaluations)

Objective: To assist GIRM in evaluation of specific operational problems, constraints and issues which have been identified during the course of the project.

Qualifications: Minimum of five years performing operations research on public health management problems, preferably in developing countries and in the Sahel. Ph.D. or equivalent combination of education and experience in operations research, quantitative analysis, management, or public health. Fluent French at FSI-3+4 level required.

Scope of Work: This advisor will participate in two joint impact evaluations of the Rural Health project, scheduled at years 3 and 5 during the LOP. The specialist will report administratively to the Chief of Party of the evaluation team, but will collaborate closely with MOH counterparts who participate in the evaluation. The specialist will perform the following activities:

a. Performs operations research on specific problems and issues, designated by the Chief of Party which are of importance to project evaluation. The specialist will perform the following types of activities:

(1) Assess the nature of operational problems identified by the MOH Project Director and personnel of the Preventive Medicine and Child Health Services, including the efficacy of the cold chain system in protecting vaccine supplies, alternative methods of presenting health information at the community level, comparative costs of providing service through fixed or mobile services, the optimum mix of personnel to provide primary health care services at minimum cost, given variables of catchment area, patient load, population density, etc.

(2) Advise on the collection of quantitative and qualitative information on specific operations within the primary health care system.

(3) Analyze data, select and/or design mathematical or other models for processing information to provide such outcomes as least cost alternative, optimum staffing configuration, replenishment schedules. The individual will prepare findings for use by evaluating team including recommendations for reallocation of resources, staffing, organizational reforms, introduction of alternative technology, and training or technical assistance which would improve program operations.

Finally, three additional special studies are planned which will require short-term technical assistance. The project includes financing for three person months of a pharmacist's time to collaborate with a WHO pharmaceutical marketing expert on a study of the PHARMARIM marketing and policy structure. Four person months are also set aside for various operations research studies. An AID centrally funded nutrition research effort will also be sought. The details of these studies will be developed in collaboration with the MOH during project implementation.

ANNEX H

Detailed Training Plan

- I. Introduction
- II. Role of Community Health Worker (CHW)
- III. Pre-service Training for CHW Teams
- IV. In-service Training for CHW Teams
- V. Training of Trainers and Supervisors
- VI. Training of Village Committees
- VII. Training of Expanded Program of Immunization (EPI) Personnel
- VIII. Seminars
 - a) Integration Seminars
 - b) Technical Workshops
- IX. Short and Long-term Training
- X. Curriculum
 - a) Introduction
 - b) Curriculum
 - c) Radio
- XI. Evaluation of Training
- XII. Detailed Training Implementation Schedule and Plan
- XIII. Detailed Training Budget

Table 1: Differences between educational and competency-based approaches to training

Table 2: How can the health impact of training be established

Table 3: Suggested stages for overall evaluation of a training program

Table 4: Task analysis of village health worker

I. Introduction

Generally agreed-upon principles of good CHW training include the following:

- o Train CHWs for the most essential knowledge, attitudes, and skills.
- o For instilling knowledge, employ methods trainees are most used to (including lectures), but when possible add such participatory techniques as role playing, group discussions, and case analysis.
- o For developing skills, use practice, especially in community settings.
- o For developing new attitudes, use field experience, especially with working CHWs, and discussions, role playing, and case analysis.
- o Orient trainers not only to appropriate teaching techniques but also to CHW functions and resources. Trainers should have first-hand experience in the CHW's tasks and functions.
- o Trainers should be open to learning from trainees. Participatory training techniques can facilitate this.
- o Training facilities, location, equipment, audiovisual aids, language, and vocabulary should be similar to those found in the trainees' future working environment. Where necessary adapt to trainee needs rather than to trainer convenience.
- o Emphasize continued skill development after initial training, through regular and supportive supervision and periodic refresher training.
- o Encourage community participation in selecting health priorities, in choosing trainees, and in supporting CHWs during and after training; keep communities informed about CHW training.
- o Help new CHWs return to their communities and get a good start in their work.
- o Conduct post-training evaluations to assess the appropriateness of training methods and content, as well as to help individual CHWs. Constantly modify future courses to reflect what has been learned.

Primary health care is a multi-faceted activity, and many types of training contribute to the success of a PHC worker. The Alma Ata

Declaration listed eight key objectives including improved water and sanitation, nutrition, immunizations, basic curative care, and maximum feasible community self-reliance. Training can support each of these elements alone or in combination, but resources are limited and priorities must be selected. Some training efforts should take precedence over others; it makes little sense, for example, to train lower level health staff if program managers and supervisors do not yet know what their subordinates are to do. There is an appropriate phasing for training, just as there is for other aspects of health care, and one of the first problems in program design is to ensure that sequencing has been appropriately established.

Planning for training is the key to a successful and appropriate learning process. Werner and Bower* feel two objectives are particularly important:

- 1) Each training program should be designed according to the special needs and circumstances of the area it serves;
- 2) Each course should be adapted to the experiences and needs of each new group of students.

Planning is not just done by project staff but it will be useful to begin including some of the CHWs formerly trained in Trarza to assist in revising the training sessions.

II. Role of Community Health Workers in the RHS Project

The Rural Medical Assistance (RMA) Project laid the groundwork for the training of Mauritania's CHWs. Under the RMA project, CHWs have been trained to recognize symptoms of prevalent diseases (particularly malaria, diarrheas and dysenteries, upper respiratory tract infections, eye infections, tuberculosis, and tetanus); to dispense a few basic medicines and ointments; to deliver first aid; and to provide some sanitary and health education. Village health kits, which are restocked by the community include antimalarial pills, cough medicines, eye and skin ointments, anti-helminthics, and first aid and birthing materials. The CHWs in the project have been able to deliver these specific PHC services.

An important aim of the new Rural Health Services (RHS) Project is to develop and test a nationally-applicable package of essential PHC activities which can be delivered by CHW and TBAs. The project will assist in the modification of the existing curriculum for training village health workers according to the regional disease profiles defined by the epidemiological survey provided in the project. The curriculum will also be changed according to the experience of how effectively CHWs are working in the RMA and Maternal and Child Health (MCH) projects.

* Helping Health Workers Learn, 1982.

The MOH is now developing a primary health care package which would commit most of its resources to:

- Maternal and child health care which would be delivered by CHWs and TBAs at the village level, support nutrition auxiliaries at the departmental level and midwives and nutrition auxiliaries in the maternal and child health (PMI) and nutrition rehabilitation (Centre de Rehabilitation et de Nutrition - (CREN) centers at the regional level.

- Vaccinations which would be delivered by nurses on the mobile PHC team and in fixed centers.

- First aid and treatment and referral of acute illness by the CHW.

- Dispensing of basic medicines by the CHW and TBA.

- Health and sanitary education with an emphasis on sanitation and supply of clean drinking water and on the prevention of disease which would be delivered by the CHW and TBA and reinforced by the PHC nurse-supervisor on the PHC mobile team.

The Rural Health Services Project will help the MOH improve the coverage and quality of these essential PHC activities. Project funds will also be spent to help the MOH determine the feasibility of a simple growth monitoring system at the village level. With AID assistance, the MOH plans to experiment with the weighing of infants in villages. The experiment will help to determine whether the CHW can learn to use a hanging scale, and whether he or she can rely on another villager to assist in reading and recording anthropometric measures. If a nutrition system based on easily interpreted, color coded weight for height charts proves feasible at the village level, the system would be integrated into the national CHW curriculum. The study would also consider the simpler alternative of arm band assessment techniques.

The referral system of mild-to-moderately malnourished children must also be reinforced and improved so that these children arrive at existing nutrition rehabilitation centers (CRENs) or CRS/MCH child-feeding centers before they are too malnourished to be saved. This project will also help the government reinforce sound oral rehydration techniques in the regions' fixed centers and, as feasible, through the CHW at the village level.

Finally, to strengthen PHC referral and to upgrade the TBAs skills, the project will investigate means of training TBAs in simple screening techniques for high risk mothers and low birth weight infants.

III. Pre-Service Training for CHW Teams:

a) Course: Initial Training of CHW

Participants: 10 CHWs

Duration: 45 days (offered 5 times/region)

Location: Departmental Health Center

Personnel Needed:

2 trainers at each training site
PMI/health center personnel
Nouakchott project staff, upon request

Format: lecture, small group work, discussions, etc. on-the-job training at PMI/health center. Field site visits, community surveys, health education talks, development projects.

b) Course: Initial Training of TBAs

Participants: 7-10 TBAs

Duration: 15-20 days (offered 5 times/region)

Location: Departmental PMI/Maternity Center

Personnel Needed:

National PMI TBA trainer
PMI Personnel

Format: same as for CHW

Content: Focus on working in maternity. Emphasis on child development, nutrition surveillance/education.

Other: Training to be done during CHW training.

Trainees will be placed in a training program according to language and other geographic or cultural factors. A total of 50 CHW teams will be trained in each region. Training format and curriculum need to be based upon the CHW task analysis, previous feedback and evaluation of training, and community survey information. It may be useful to build upon Trarza's training successes but allow each training group to be unique.

TBA training should be scheduled to correspond with the CHW training, since prenatal, postnatal and infant care are all topics included in the current CHW training curriculum. The Maternal and Child Care Service currently conducts the TBA training and has

developed their own training materials. Though PMI personnel will be responsible for this training component, although it should be integrated with other project training efforts.

Trainers will be based in the regional capital and be assigned to the department when a training session is in progress. There will be a total of 4 trainers for the project, providing initial training and in-service training. Two project nurse coordinators will assist these trainers in planning their training activities. Upon completion of training and intensive supervision, nurse/supervisors will be assigned to EPI mobile teams and/or fixed centers to supervise CHWs.

There will be two trainers at each training site. Arrangements will be made so that dispensary-level nurses will also participate as trainers and begin to establish contact with the CHW teams. Training will be divided into didactic instruction at the training site, provided by project nurses, and practical experiences given at the PMI and health facility.

Didactic learning should take place in the afternoons when patient demands at the health facility has lessened. The morning hours can be spent profitably in an actual work experience. If possible, work experiences should be deliberately chosen to illustrate a variety of tasks, especially the kind they will be expected to perform in the field. Time should be allotted for discussion about the condition observed, treatment, implications for health education, etc. A major effort should be made to point out which patients seen are clearly beyond the competence the CHW will have at the end of the program and must be referred.

However, it should be noted that the various geographic areas differ in the medical, health and social problems that will be encountered. Curriculum content and emphasis should be appropriate to the needs of the area.

The training course will emphasize, such areas as the reduction of child and maternal morbidity and mortality, prevention and control of communicable and other diseases, first aid techniques and principles of sanitation and nutrition. There will be instruction in simple recordkeeping techniques. The CHWs will also be trained to recognize the common health problems which they will be qualified to treat and the more serious conditions which will need referral to other health care facilities. Emphasis will be placed on the CHW's broad and important role in providing basic health services to their communities on an equitable basis. Training will also stress community organization and will promote the concept of team work. The CHWs will have to mobilize their communities for activities as they begin public health education efforts. CHWs from neighboring villages will also be encouraged to develop working relations with each other. This will encourage the CHWs to share problems, frustrations and common experiences.

Other health-related community development activities also need to be incorporated into training: vegetable gardens, low-cost alternatives of filtering water, smokeless stoves, etc.

The AID-funded health education and training advisor will help to orient the training efforts and to provide clear organization. The project will finance the training materials, including the medical supplies used by the students and will help upgrade the dispensaries and PMIs used for training. The four-wheel drive vehicles provided by the project will be indispensable for on-the-job training in the CHWs communities.

Project staff will call upon Peace Corps, Catholic Relief Services (CRS), Red Crescent Society (CRM), to make collaborative contributions in various training efforts.

IV. In-Service Training (IST) of CHW Teams

Inconsistencies often develop between trainee and trainer expectations and actual practice in the field. This may lead to inappropriate training and needs to be resolved by modifying job descriptions or to improve training, and in particular in-service training to emphasize community work. In-service training (IST) is the time to reinforce existing skills, add new skills, and to boost CHW morale. Training needs are based upon weaknesses identified by supervisors during their field visits as well as from post-training tests and feedback and suggestions from the CHWs themselves. IST is particularly desirable in Mauritania given the isolation of the CHWs and the potential irregular and less frequent supervisory function provided by EPI mobile teams.

IST will be provided to existing trained CHWs in the Trarza Region (currently 230 trainees) three times during the LOP. Training will be held for a period of one week, focussing on technical areas in which the CHWs are the weakest. In particular, preventive health care information, e.g. infant and child nutrition, health surveillance, maternal health, etc. will be emphasized. IST is an excellent time not only to reinforce prior training but to provide additional skills in health-related activities. Given that one of the primary reasons for CHW attrition is the lack of community support, it is critical that during IST the trainer and CHW mutually explore community financing mechanisms, fee for service schedules, etc. In addition, new clinical interventions will be taught and referral system approaches strengthened.

IST for the CHW teams in the Guidimaka Region will be offered twice during the LOP and once in the third target region. IST will be conducted by a combination of available project trainers, fixed center personnel, and EPI nurse supervisors. TBAs will receive IST at the same time as the CHWs with heavy emphasis placed on nutrition education and surveillance and maternal and child health care. IST for the TBAs will be done in collaboration with PMI staff. This will be an opportunity to test and assess appropriateness and acceptance of new training format, curriculum, visual aids, and teaching techniques

on CHWs previously trained and working in the field. IST provides the opportunity to also assess each CHW's technical performance and understanding. If minimum standards are not met, action should be taken by project staff at that time.

Course: IST of CHW Teams

Participants: 15-20 CHW Teams

Duration: 10-15 days (depending upon CHW needs)

Location: Departmental Health Center

Personnel needed: 2 trainers at each training center personnel

Other: Information on community financing mechanisms and support systems needs to be given. Evaluation of past training activities, task analysis, and exploration of future training/supervision needs can be conducted.

V. Training of Trainers and Supervisors

Resources for training of trainers and for other training reforms are scarce, in part because other investments take precedence in primary health care programs. Political pressures to train and field large numbers of CHWs do not allow the time for many desirable training improvements and revisions. In the RHS project time has been allotted for formal training of trainers and supervisors. Project staff through technical assistance and periodic discussion sessions will continue to provide on-the-job continuing education. The project nurse coordinators will be selected from existing RMA project staff and will require minimal training. Two trainers will also be selected from current project staff. Two other additional trainers will be selected from the Guidimaka Region. Training of the trainers, supervisors, and, in general, the entire project staff will be an on-going process, serving to strengthen existing personnel and keep them flexible and open to new training methodologies and interventions. It is essential to consider regional and departmental fixed health center personnel as trainers of CHWs and to provide them as well with intensive training sessions. In the past, they have not been included in nor kept informed of the formal CHW training sessions. There has been a gap between what is being taught in the classroom and what is being provided and reinforced in the practicum.

In-service training of trainers will offer a variety of activities: 1.) It will provide new training techniques/interventions to their acquired skills areas. 2.) Together they can assess their training capabilities individually, with each other, or as a total training entity. 3.) During the IST, held at the end of each year an evaluation of training will occur, at which time feedback and revisions will be fed into the development of an annual training implementation plan.

(a) Course: Training of Trainers already on RMA project

Participants: 6 trainers

Duration: two weeks

Location: Nouakchott and/or regional training site

Personnel needed:

Project staff; outside training experts, if needed.

(b) Course: Training of new trainers

Participants: 2 trainers per new region

Duration: 1-2 months

Location: Nouakchott and project training site

Personnel needed: Project staff

Other: New trainers will be selected and assessed for their training/teaching capabilities. Each trainer will observe and participate in an on-going CHW training program prior to becoming a 'master' trainer. Additional training will be provided through third-country courses, e.g. WHO Training Center (see section IX).

(c) Course: Annual IST

Participants: All project staff involved in training; MOH personnel in training (PMI); and USAID Health Sector personnel.

Duration: one week

Location: Nouakchott

Format: Small group, role-playing, practical demonstrations, training exercises

Other: A portion of the time spent in this IST will be to reflect on and assess the quality of training events done over the past years. Trainers will be evaluated as well as the overall training plan. Accomplishments and obstacles will be noted. Additional information will be provided to trainers on new clinical interventions, management, etc.

VI. Training of Village Committees

Many tasks which village committees are asked to perform require skills and a range of experience that members do not possess. Few

villagers have experience, for example, in initiating community-development work, raising funds to compensate CHWs, financing drug resupply, monitoring workers on medical stocks. Training of these committees must be oriented to these tasks. Village leaders and committees should receive a series of training sessions, either based in the village or possibly have an intensive training session at one of the CHW training sites. In the past nurse supervisors have held small group discussions with village committees, but this project proposes to intensify these efforts by conducting specific sessions on topics of community financing, organization, preventive health care, etc. Two key leaders will be selected from the community to receive additional training at the departmental level. All villages will receive a minimum of this training, obviously the less-organized or poorly CHW-supported villages, within reasonable limits, will receive priority for this type of additional training.

Training in primary health care and health-related activities should not only be focused on a few individuals, but information and general human development through continuing education should be offered to as many community members as possible. Supervisors from fixed centers or from EPI mobile teams also can serve on an on-going basis as village-based trainers for committee members and other interested community leaders.

Since specific formal training has not been offered to these committees previously, there will be a concerted effort to train these community leaders immediately after each region completes its CHW training. It is hoped that project personnel will identify additional means to continue training at the village level, besides solely through the nurse supervisors. The possibility of training for these committees should be examined.

Course: Training of village committees

Participants: Entire village committee or selected committee members (2 per village). Budgeted currently at 100 villages for Trarza, 50 villages for Guidimaka Region, and 50 for the third region.

Location: Both at the CHW training site and in the village

Personnel needed: Project nurse coordinator (initial training sessions), 2 trainers, Fixed center personnel, Representatives from "structure d'education des masses (SEM)".

Format: Discussions practical demonstrations, questions and answers.

Content: Community organizing, value of kit, value of treatment, financial management, development projects.

Other: Portions of the training could occur at the same time as the CHW training.

VII. Training of EPI Personnel

To improve integration of community-based health services, different types of training opportunities will be available to health personnel working in the area of EPI.

a) Course: Vehicle Maintenance

Participants: 10 EPI drivers

Duration: minimum 7 days

Location: Nouakchott

Personnel needed: Vehicle mechanics provided by service representative

Format: lecture, demonstrations, actual repair work

b) Course: Cold Chain Maintenance

Participants: 10-12 EPI mobile team nurses (offered twice)
total 25 participants

Duration: Minimum 2 weeks

Location: Nouakchott

Personnel Needed: WHO/CDC specialist in cold chain maintenance, new EPI technologies/interventions

Format: workshop methods - discussion, small group exercises, actual demonstrations/testing equipment

Other: In-service training will be offered three times during LOP. Additional training in EPI interventions, cold chain management, specific PHC activities will be included in those one-week IST sessions depending upon needs and areas identified by EPI personnel.

(c) Course: EPI and EPI/PMI Health System

Participants: 15-20 PMI (fixed center) personnel. Nurse/midwife plus colleague. Total 60 PMI nurses (offered 3 times initially)

Duration: Minimum one week

Location: Nouakchott

Personnel: same as b) and EPI national staff (possibly including several representative from mobile teams)

Format: same as b) but emphasizing demonstration of cold chain management, efficient utilization of vaccine doses.

Other: IST will be offered during the 4th year of the project to the PMI nurses working in EPI. A needs identification for the IST will be conducted to determine content for the session, most likely an update on immunization techniques and data collection, management information will be emphasized.

(d) **Course:** National EPI Seminar

Participants: 20 persons (sponsored by project) from national and regional level

Duration: minimum one week

Personnel: MOH officials in particular EPI personnel will plan and sponsor the seminar, with technical assistance provided by WHO, UNICEF, SHDS/USAID (centrally funded AID Project "Strengthening Health Delivery Systems"), etc.

Format: Plenary sessions-lectures, speeches; small group workshops to outline policy recommendations and program changes; demonstrations and practical case studies.

Other: This seminar will be conducted during the 4th year of the project, prior to the IST sessions given to EPI mobile team and fixed center personnel. This will provide a mechanism to transfer information and policies from the national level down to those working at the regional and department level.

(e) **Course:** CHW nurse supervisors

Participants: Total of 4 nurses

Duration: minimum of 1-2 months

Location: Project headquarters, training sites, field, etc.

Explanation: This will be an informal on-the-job training for CHW nurse supervisors. These nurse supervisors will, ideally, be selected for inclusion on the EPI mobile team(s) for the target region by their prior experience as a trainer/

supervisor with the project. If that is the case, training will be minimal as they will be experienced in training and supervisory techniques of CHWs and will be specialized in PHC. However, additional training will need to be provided to familiarize the supervisors with EPI methodologies. If a nurse supervisor is an already existing EPI team member or from a fixed center, it is advisable that the person spend at least a month in one of the training sites, observing and participating in the activities, and be involved in the initial intensive supervisory schedule given to recently trained CHWs. Appropriate training for these 4 persons, one assigned to each mobile team, is essential to their success as the PHC link on an EPI team.

- (f) At the regional level: through the regional team PHC commissions, integration seminars, project training efforts, and special continuing-education classes organized. The entire EPI mobile team will need to be thoroughly conversant and committed to the integration of a new supervisory and PHC approach. This, most likely, will require an on-going training and sensitization including as many different EPI team members in training events as possible and offering to them specific sessions to sort out potential problem areas in an integrated delivery system - role clarification, workload, time management, scheduling, etc.

VIII. Seminars/Workshops

The RHS project has focussed within its training efforts on a series of seminars and workshops that will address specific technical areas and serve as a mechanism to bring about necessary policy changes and improved communication and collaboration.

- (a) Integration seminars - National integration seminars will be held each year in Nouakchott to discuss major policies, programs, and needed reforms in primary health care. MOH officials, international organizations, and other administrative authorities will examine key PHC issues encountered in Mauritania. It will provide an opportunity to have a dialogue between technicians, policy-makers, and funding agencies and exchange information and program concerns. These seminars will be held under the auspices of the National Commission for Primary Health Care (NCPHC) and will be planned and orchestrated by a sub-committee. These national seminars are extremely important to the project's success and for future PHC programs: participants become better informed of program constraints; it provides a larger body to suggest policy changes to the NCPHC; and it serves as a forum for wider dissemination of PHC concepts and ideas. There will be a sequence for these seminars (several similar seminars have been held in Nouakchott recently). Recommendations and major discussions areas made at the national level will be utilized as agenda items for the

regional and departmental integration seminars. The latter are extremely important, for within these sessions specific technical issues, project activities, and implementation problems in PHC will be discussed. It is also here that supervision constraints, referral systems approaches, and effective coordination between EPI and fixed center personnel and CHWs will be examined. It is at this level that the objective of good integration between different cadre of health personnel will begin to be achieved.

(1) Seminar: National Integration

Participants: 30 representatives from diverse services and organizations

Duration: 3 days

Location: Nouakchott

(2) Seminar: Regional Integration

Participants: 10 representatives

Duration: 3 days

Location: Regional capital

Other: National officials should be selected to attend these seminars in order to become better acquainted with common obstacles encountered in PHC service delivery. Fixed center personnel will be key participants and other regional administrative and ministerial officials should be included.

(3) Seminars: Departmental Integration

Participants: 10 persons

Duration: 3-4 days

Location: Departmental seat

Other: Same as above, including outstanding CHWs, village committee members, etc. if desirable. Involvement and participation by all fixed health center staff is critical.

(b) Workshops - Four technical workshops have been included in the RHS project. They are in particular response to areas that need to be covered during the LOP. Other workshops may be scheduled by the MOH and/or international, and bilateral agencies. The workshops will also be planned collaboratively by project staff and in cooperation with working sub-committees of the NCPHC. Short-term technical consultants will be extremely useful in planning and conducting some of the workshops. Keynote speakers may be requested from other

organizations or through USAID central funding contracts. These workshops will be designed around a specific purpose, e.g. curriculum development.

(1) Workshops: Health Education

Participants: 20-25 MOH personnel, other invited representatives

Duration: one week

Location: Nouakchott

Personnel Needed: Project personnel, MOH (Office of Health Education) officials
Outside consultants/experts (curriculum development specialist and visual aids specialist)

Format: Plenary sessions, small group discussions and work groups.

Other: Two workshops will be held, approximately a year apart.

Purpose: To develop consensus around major health education topics, approaches and pedagogical methodologies to be used in a PHC curriculum. Second workshop will serve to inform and instruct participants in use and distribution of materials.

(2) Workshop: Pharmaceutical

Participants: 20-25 persons

Duration: 5 days

Location: Nouakchott

Personnel needed: PHARMARIM/PHARMAPRO personnel, outside consultants/experts

Purpose: To present study findings and results on financial and marketing analysis on drug supply system. The main objective will be to translate research data into policy recommendations and reforms.

(3) Workshop: EPI (see Section VII)

(4) Workshop: Nutrition Education

Participants: 15-20 persons

Duration: 4 days

Location: Nouakchott

Personnel Needed: Project staff, USAID Health Officer, MOH (Office of Health Education), Outside consultants/experts (FAO, CRS, USAID central contracts).

Purpose: To develop an outline of specific nutrition education techniques and monitoring activities to be included in PHC curriculum. The workshop will also serve to bring a consensus around diverse educational messages, e.g. age of infant weaning practices.

IX. Short and long-term training

Numerous short-term training opportunities as well as three long-term educational programs are suggested for Mauritanian health personnel throughout this project. These are designed to upgrade existing MOH cadre and provide them with additional skills and knowledge in the area of PHC and EPI. Much emphasis is placed on training in this project, but there are inherent problems to be faced when relying heavily upon third country training. An inappropriate training context may be provided, given conditions in a country; unqualified candidates may be selected for political reasons; and there may be attrition of trained personnel soon after completion of training. Training provided by long-term technical assistance and short-term advisors should strengthen and work alongside existing counterpart national personnel. The advisors must serve as facilitators and teachers and not substitutes for Mauritania program managers. They can be instrumental in assisting the government agency in making the necessary procedural and organizational changes for PHC policy reform.

All short-term training courses will be selected for particular relevance to the specific technical needs of the participant. Most courses will be conducted, for the most part, in French. Candidates will be chosen for their role in on-going project activities and their participation and commitment to future planning of rural health services in Mauritania. Selection of participants will be done collaboratively by RHS project personnel and MOH officials.

Short-term training opportunities range from one week at international technical conferences to two month sessions in the U.S. Long-term project technical assistance personnel will need to keep informed of new training courses offered in French in either community health, training of trainers, maternal and child health, family health, immunization, health management, etc. Training should complement already existing MOH skills. Short-term training may also be provided in-country through the technical assistance provided by consultants, e.g. training of local artist, etc.

a) Short-term training

(1) Course: PHC Program Development

Participants: Two persons per session, offered twice during LOP

Duration: 2 months

Location: To be determined, e.g. University of North Carolina

(2) Course: EPI course

Participants: Two persons per session, offered twice during LOP

Duration: 1 month

Location: To be determined, e.g. offered by WHO or through SHDS project, CDC or USAID's CCCD program.

(3) Course: Community Health Workers

Training Course (or Training of PHC trainers, or TBA Training course)

Participants: 6 persons, through LOP (selection of participants dependent upon project needs, career development, type of person required, e.g. trainer, nurse/midwife, etc.)

Location: WHO Training Center, Lome, Togo

(4) Course: International Conferences

Participants: Minimum 5 persons during LOP (other central or Sahel funds may be available for additional)

Duration: one week or more

Location: To be determined

b) Long-term Training

(1) Course: Epidemiology, M.P.H.

Participant: 1 senior MOH official either M.D. or a B.A. Level

Duration: 2 years

Location: a U.S. school of public health

(2) Course: Health Education, B.A. or M.P.H.

Participant: 1 MOH official

Duration: 2 years

Location: a U.S. school of public health, possibly a community college

(3) Course: Health Administration, B.A. or M.P.H.

Participant: 1 senior MOH official

Duration: 2 years

Location: a U.S. school of public health, possibly combining public administration and health management

X. Curriculum Development

a) Introduction

Training, teaching, and learning are all processes that must be extremely personalized. In order to be fully alive and meaningful, these components cannot always be prepackaged and oftentimes are difficult to replicate, either at different training sites or with different trainers. One of the major issues in training implementation concerns the degree to which training curricula, manuals and teaching aids can be realistically adapted to local circumstances. The objective of adaptation is to improve training quality but if too much adaptation occurs, there is a tendency to weaken national standards and may even be beyond local capacity.

b) Curriculum

No matter whether the curriculum is adapted from existing materials or done from scratch, it should reflect detailed job and task analyses based upon consultation with both communities and professionals. This description is analyzed to ascertain the knowledge and skills needed in order to do the job well and permits the trainer to identify appropriate learning methodologies. The current Trarza curriculum is not a competency-based approach. In order to be of maximum relevance to Mauritania and for future PHC programs, it is recommended that such a curriculum be developed, reflecting knowledge of community behavioral and resource factors affecting CHW performance. (Please see Table 1 for a list of differences between educational and competency-based approaches to training.) Two issues of importance for this project will be (1) the

capacity of the trainers to learn such an approach; and (2) as indicated in the social soundness analysis, there is wide regional cultural diversity which will impact on CHW tasks and functions, thereby necessitating an in-depth task analysis and KAP study for each geographic area.

It has been suggested by Trarza project staff that adjusting the curriculum so that teaching modules are self-contained will make the format more useful for other training purpose. In addition, simple messages on prevention and health education ideas for CHWs to incorporate in their village talks should be included and reinforced throughout training. A small number of key health problems, specific to communities, should be identified and health interventions be continually stressed in different ways throughout the majority of the modules.

Initial observation of the existing curriculum suggests the need for a stronger maternal and child health element, focusing on pre-natal and post-natal care, weaning and infant feeding practices, infectious diseases, and diarrheal disease control. Currently the USAID is working with the Trarza project staff on revising and reorienting the nutrition education component of training. This will require on-going review and testing of training content in order for it to be of relevance to the appropriate behavioral and cultural nutritional habits of the community in which the CHW works.

Traditional medicine should be better incorporated into training. Various herbal and medical practices and treatments should be identified and related to symptoms and manifestations of different diseases. Many of the trainees may have considerable experience with traditional medicine and should be utilized as resources in training.

The above measures should be heavily considered in the preparation of 'aide-memoires' used by CHWs. Accompanying visual aids, posters, illustrations, etc. should pick up on these themes and reinforce the educational message. A maximum of 4-6 common themes should be identified, incorporated into the curriculum and constantly repeated to the CHWs.

The training format might also experiment with more varied teaching methodologies - role-playing, story-telling, discussion, drama, etc. to find what is most relevant, culturally acceptable and effective.

The curriculum/training materials should serve several purpose and should be used in a variety of settings. They should be easily adapted and/or revised for use by PMI, CRS, CRM personnel and, with technical upgrading, by the faculty of the National School of Public Health. Consideration should be given for the development of aide-memoires and their translation into major languages used in target regions.

A number of steps must be followed in producing new training materials:

- o survey of training needs and training resources
- o preparation of material, including designing, writing, and illustration
- o pretesting and revision
- o printing and other production details
- o distribution to users
- o training in use of materials
- o evaluation and periodic revision.

Local production of materials requires a major investment of money, expertise, and equipment. Given these constraints and lack of technical capacity in-country, reproduction of materials will be done in the U.S.

Periodic revision, based on actual uses and changing conditions, is generally essential.

Pretesting and evaluation are a vital stage in materials production and should be continued while manuals are used. Questions to ask include:

- o Are CHWs given manuals during training and allowed to keep them afterward?
- o Do they know how to use them?
- o Do they use them after training?
- o Do manuals withstand local storage conditions?
- o Are contents of the manual (still) appropriate for local circumstances?

c) Health education centers will be small resource areas located at the regional and departmental health centers. In effect, they will be mini libraries to be used by fixed center personnel and trainers, offering literature on community health, non-formal education, primary health care strategies, etc. These centers will serve as continuing education sites in PHC. It may be possible to provide limited visual equipment such as battery - operated slide projectors, etc. Careful research should be done to identify available training, and community health pamphlets, books, periodicals. It might be interesting to explore with the National Commission on Primary Health regarding the possibility of developing a small bi-monthly PHC newsletter.

XI. Evaluation

Regardless of teaching methods, evaluation of courses while they are in progress helps greatly to adapt them to trainee learning capacities. Trainers need to know which methods are effective in their specific course and which are not; and they also need to identify trainees with particular problems. Trainers need to be constantly flexible to modify their approaches; if teaching is their objective (not simply the coverage of content) they must know what is being learned and what is not and take steps to remedy shortcomings. All of these things are impossible without trainers skilled in self-evaluation and willing to be flexible.

Appropriate evaluation begins prior to the course itself and continues into the field during supervisory contacts. Instructors need to know how much their trainees understand before they start teaching, and they need to assess daily whether their teaching is understood. For example, the RMA project repeats the same test questions before and after training to assess individual and group progress. These methods do not provide continuous day-to-day feedback, however, and must be supplemented by regular assessment. Methods for this include:

- o trainer observation of trainees during participatory training sessions;
- o close supervision of field practice;
- o asking questions at the start of each session about what was learned the day before.

Evaluation of training activities should be conducted at the end of the year by project training staff, MOH personnel, and participants, e.g. CHWs, TBAs, etc. Including the latter will enable evaluation to become a cooperative effort of self-criticism and reflection. It not only considers the results of community-based education, it is a part of the process. Evaluation throughout training will assist trainers to learn how effective and appropriate their teaching is. Having a collaborative evaluation process helps to bridge the gap between teacher and student and gives the trainees skills and practice for evaluating their own work in the community. Werner and Bower* suggest ways to include trainees in evaluation during training: short summary evaluation sessions at the end of each class, rotating evaluation committee, and weekly evaluation sessions. In addition, the trainers themselves should get together and do self-evaluation of classes, examining participation, content, format, etc.

* Helping Health Workers Learn, 1982.

Above all, the overall evaluation of training should be simple for all. It provides feedback on whether training is recognizing on how well the CHWs are prepared to help people meet their needs. Table 2 and 3 outline some of the suggested stages for evaluation of training and how it can be estimated.

In-service training is an excellent point in time each year, to conduct an annual evaluation of the different training and continuing education needs. Mid-term and EOP evaluations will begin to address questions of worker performance, impact of the CHW on the health status of the community, etc. Evaluations of any kind should certainly move beyond a statistical approach, e.g. numbers trained, attrition rate, etc. and focus on improving and re-examining training objectives and their corresponding activities.

ANNEX H

XII. Training Implementation Schedule

<u>Year 1:</u>	<u>USAID Required Input</u>
<u>1st Quarter (July 83)</u>	
(RMA training activities on-going until 12/83)	
Design Trarza nutrition study	X
Finalize draft nutrition education lessons	X
<u>2nd Quarter</u>	
Health Educator/PHC Trainer recruitment	X
RMA training component evaluated (EOP)	
Identify 2 MOH personnel (2) for WHO/CDC EPI course	
Select community survey consultant	X
Compile current KAP tools/studies used in GIRM	
Select CHW villages in Trarza for nutrition study	X
Identify village committees and training needs in Trarza	
Develop draft training plan for training of village committees	
Plan training for EPI mobile team nurses and PMI nurses	
<u>3rd Quarter</u>	
Design and pretest KAP/community survey questionnaire	
Begin nutrition study/train selected CHWs in nutrition surveillance	X
Begin training of village committees in Trarza	
Select 2 persons for PHC development course	
Conduct 1ST of trainers/supervisors	

Send 2 persons to EPI WHO/CDC course X

Select 1 person for PHC course

Assist in planning and conduct national PHC integration seminar

Plan regional and departmental PHC integration seminars

Conduct PMI nurses' training

Select, assign, and train PHC nurse/supervisors to 2 EPI mobile teams (Trarza)

Train EPI mobile team in PHC

Assist in establishment of National Commission on Primary Health Care X

Conduct in-depth social soundness analysis in Guidimaka

Prepare/order initial equipment for audio-visual center X

Incorporate RMA EOP evaluation recommendations into RHS training strategy X

Identify Trarza villages with trained TBAs

Identify additional CHW villages to develop team approach

Conduct vehicle maintenance training for EPI drivers

4th Quarter

Send 2 persons to U.S. for PHC course X

Send 1 person to Lome for PHC course X

Conduct regional/departmental integration seminars

Continuation of PMI nurses training in EPI

Begin compilation of existing PHC/CHW curricula/training materials

National EPI seminar

Develop selection criteria for CHWs and villages (Guidimaka)

Long-term health educator/trainer in place (tentative)	X
Prepare initial list and order supply of books/ materials for health education centers	X
Establish TBA training curriculum with PMI	
Train selected CHWs (Trarza) in nutrition education/monitoring	
Select 2 new trainers from Guidimaka	

Year 2:1st Quarter (July 84)

1ST EPI mobile team nurses

Semi-annual work/training implementation
plan due

Conduct series of 1ST CHW team (Trarza)

Set up national health education center

Select villages for CHW teams (Guidimaka)

Begin community awareness process (Guidimaka)

Conduct KAP study (Guidimaka)

Begin draft CHW training curriculum

Training of existing trainers

Training for 2 new trainers (Guidimaka)

Conduct pharmaceutical workshop

Finalize nutrition education component in
existing curriculum

Conduct TBA training in Trarza

Conduct training for EPI mobile team nurses

2nd Quarter

Continuation of 1ST CHW team (Trarza)
 CHW team training (Guidimaka)
 Include TBA training component above
 (Guidimaka)
 End of year evaluation of training activities
 Review, revise, pretest draft curriculum
 Begin technical analysis with National School
 of Public Health
 Conduct national health education workshop
 Conduct national nutrition education workshop
 Begin assessment of visual aid needs

3rd Quarter

Follow-up study in nutrition surveillance in
 selected Trarza villages
 Continuation of CHW team training (Guidimaka)
 Set up of audio-visual center (Nouakchott) X
 Prepare annual training plan
 Conduct annual IST for trainers/supervisors
 Select 2 persons for PHC course (U.S.) X
 Send 2 PMI nurses to Lome PHC course
 Conduct national PHC integration seminar
 Conduct regional/departmental PHC integration
 seminars
 Finalize PHC curriculum and arrange for reproduction X
 Design visual aids for PHC curriculum
 Train local artist in visual aid design

4th Quarter

Continuation of CHW team training (Guidimaka)

Order documents/supplies for mini-health education resource centers X

Begin intensive supervision for recently trained CHW teams (Guidimaka)

Two persons attend PHC course in U.S.

Year 3:1st Quarter (July 85)

1st CHW team (Guidimaka)

CHW training (Replacement for drop-outs - Trarza)

Begin transfer of CHW supervisory functions to EPI mobile team

1st EPI mobile team nurses

Select, assign, and train PHC nurse/supervisors to EPI mobile team (Guidimaka)

Train EPI mobile team in PHC (Guidimaka)

2nd Quarter

Select candidate for long-term training in epidemiology

Mid-term evaluation examines training activities/curriculum, etc.

Set up regional/departmental health education resource centers (Guidimaka)

Select 2 persons for WHO/CDC EPI course

Send 1 person to CHW course in Lome X

Begin assessment of mass media needs in health

3rd Quarter

Prepare annual training plan
 Select villages for CHW teams (Region X)
 Conduct KAP study (Region X)
 Begin community awareness process (Region X)
 Conduct annual IST for trainers/supervisors
 Conduct national PHC integration seminars
 Conduct regional/departmental PHC integration seminars
 Conduct national health education workshop
 Instruct MOH personnel in use of curriculum visual aids and distribute
 Design preliminary health radio messages

4th Quarter

2nd IST for CHWs (Trarza)
 Training of 2 new trainers for Region X
 National EPI seminar

Year 41st Quarter (July 86)

Send 1 person for long-term training in epidemiology X
 Select 2 persons for long-term training in health education, health administration
 Begin CHW team training (Region X)
 Include TBA component in above
 Adapt PHC curriculum to needs of National School of Public Health
 1ST EPI mobile team nurses and fixed center (PMI) nurses

2nd Quarter

Conduct end of year evaluation of training

2nd series of IST for CHW teams (Guidimaka)

Send 2 persons to PHC trainers' course in Lome

X

3rd Quarter

Prepare annual training plan

Set up regional/departmental health education resource centers in Region X

Begin intensive supervision of recently trained CHW teams (Region X)

Annual IST for trainers/supervisors

Conduct national PHC integration seminar

Conduct regional PHC integration seminars

4th Quarter

Begin transfer of CHW supervisory duties to EPI mobile team

Select, assign, and train PHC nurse/supervisor to EPI mobile team (Region X)

Train EPI team in PHC (Region X)

Year 51st Quarter (July 87)

Develop long-term implementation plan for PHC/CHW training with MOH

2nd Quarter

End of year evaluation of training

Begin revisions or recommendations on training materials

3rd series of CHW 1ST (Trarza)

Conduct 1st CHW 1ST (Region X)

CHW training (replacements for Guidimaka)

Send 2 persons for long-term training in health education/administration (or EOP)

X

3rd Quarter

Conduct final 1ST for trainers/supervisors

Compile/analyze training data on CHWs, TBAs, other training courses etc.

4th Quarter

EOP evaluation on PHC/EPI training activities

X

Undetermined

International conference attendance (5 LOP)

On-going

Referrals

Village committee assistance

Supervision by EPI mobile team and/or fixed center personnel

ANNEX H

XIII. Detailed Training Budget

\$.000

1. Technical Assistance*

a) Long-Term

Public Health Educator/Trainer 4 py x 150 600

b) Short-Term

Curriculum Development Specialist 4 pm x 12 48

Mass Media Specialist 2 pm (central funds)

Visual Aids Specialist 3 pm x 12 36

Community Studies Specialist 1 pm x 12 12

Health Educator/Trainer (evaluation) 2 pm x 12 24

Sub-Total T.A. \$ 720

2. In-Country Training

a) CHW Teams 50

(i) Initial Training (250 Trainees)

CHW per diem \$3/day x 45 days x 100 CHWs

TBA per diem \$3/day x 45 days x 150 TBAs

Transportation \$20/RT x 250 CHWs/TBAs

Materials \$20/participant x 250

Trainer per diem \$7/day x 50 days x 5 sessions x 2 trainers

(ii) Training for CHW Replacements (75)

CHW per diem \$3/day x 45 days x 75 CHWs

Transportation \$20/RT x 75

* Relevant only to training component.

\$.000

Materials \$20 x 75

Trainer per diem \$7/day x 45 days x
3 sessions x 2 trainers

- b) Village Committees (100 in Trarza, 100 in other regions, 200 villages - 2 participant/village = 400 participants) 10

Training 50% at training site

Per diem \$3/day x 3 days x 200

Transport \$20/RT x 200 .

Materials \$5 x 400

Trainer per diem \$7/day x 5 days x
10 sessions x 2 trainers

- c) In-Service Training for CHW Teams 28

Trarza (150 CHWs + 50 TBAs)

Per diem \$3/day x 5 days x 3 sessions x 200

Transportation \$20/RT x 3 sessions x 200

Materials \$5 x 200

Trainer per diem \$7/day x 10 days x 30
sessions x 2 trainersGuidimaka (50 CHW Teams)

Per diem \$3/day x 5 days x 2 sessions x 100

Transportation \$20/RT x 2 sessions x 100

Materials \$5 x 100

Region X (50 CHW Teams)

Per diem \$3/day x 5 days x 1 session x 100

Transportation \$20/RT x 1 session x 100

Materials \$5 x 100

- d) Training of Trainers (15 Trainers) 5

Per diem \$7/day x 5 days x 4 years x 15

\$.000

Transportation \$20/RT x 4 years x 8 (outside area)	
Materials \$20 x 4 years x 15	
Trainer per diem \$7/day x 10 days x 4 years x 2 trainers	
e) EPI Mobile Team (25 Nurses) Nouakchott	13
Per diem \$12/day x 5 days x 5 years x 25	
Transportation \$25/RT x 5 years x 25	
Materials \$15 x 5 years x 25	
f) EPI PMI Staff (60 Nurses) (2 Participants per PMI) Nouakchott	12
Per diem \$12/day x 5 days x 2 sessions x 60	
Transportation \$25/RT x 2 sessions x 60	
Materials \$15 x 2 sessions x 60	
g) PHC Nurse/Supervisors (4 - One per EPI Mobile Team) Nouakchott	2
Per diem \$12/day x 30 days x 4	
Transportation \$20/RT x 4	
Materials \$40 x 4	
h) Nurse Trainers (4) - Nouakchott/Field	2
Per diem \$12/day x 30 days x 4	
Transportation \$20/RT x 4	
Materials \$40 x 4	
i) Vehicle maintenance training for EPI mobile team drivers (supported under service contract)	
	<u>Sub-Total</u>
	<u>\$ 134</u>

3. Workshop/Seminars

a) National Integration Seminars (30 Participants) Nouakchott (15 from Nouakchott)	4
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\$_000

- Per diem \$12/day x 3 days x 5 years x 15
- Transportation \$20/RT x 5 years x 15
- Materials \$10 x 5 years x 30
- b) Regional Integration Seminars (10 participants each, Trarza - 5 Sessions, Guidimaka - 4, Region X - 2) 13
- Per diem \$7/day x 3 days x 5 years x 11 sessions x 5 (5 out of area)
- Transportation \$20/RT x 5 years x 11 sessions x 5
- Materials \$10 x 5 years x 11 sessions x 10
- Trainer per diem \$9/day x 6 days x 11 sessions x 2 trainers
- c) Departmental Integration Seminars (Trarza - 4 Depts. - 20 Sessions, Guidimaka - 2 Depts. - 8 Sessions, Region X - 5 Depts. - 10 Sessions) 11
- No per diem/transport (local personnel)
- Materials \$300 (for 5 years) x 28
- d) Health Education Workshop (2) (20 Participants) Nouakchott 2
- Per diem \$12/day x 5 days x 2 sessions x 10 (10 out of area)
- Transportation \$20/RT x 2 sessions x 20
- Materials \$5 x 2 sessions x 20
- e) Pharmaceutical Workshop (20 Participants) Nouakchott 1
- Per diem \$12/day x 5 days x 1 session x 10 (10 out of area)
- Transportation \$20/RT x 10
- Materials \$10 x 20
- f) EPI Seminars (20 Participants) Nouakchott 2
- Per diem \$12/day x 5 days x 2 sessions x 10 (10 out of area)

\$ 000

Transportation \$20/RT x 2 sessions x 10

Materials \$30 x 2 sessions x 20

g) Nutrition Education (20 Participants) Nouakchott 1

Per diem \$12/day x 4 days x 10 (10 out of area)

Transportation \$20/RT x 10

Materials \$30 x 20

\$ 344. Third Country Training Workshopsa) PHC Program Development Course (2 Participants/
Course x 2 Sessions - U.S.) 24

Tuition \$2,500/course x 4

Transportation \$3,000/RT x 4

Other \$500 x 4

b) WHO/CDC Training Course for EPI (4 Participants
- U.S.) 20

Tuition \$1,500 x 4

Transportation \$3,000 x 4

Other \$500 x 4

c) PHC/CHW Training Course (6 Participants
- Lome) 24

Tuition \$3,600

Transportation \$1,500

Other \$1,000

d) International Conferences (5 Participants) 20Sub-Total \$ 885. Long-Term Training Programsa) Health Education M.P.H. Course 48
24 pm x \$2,000

	<u>\$ 000</u>
b) Epidemiology M.P.H. Course 24 pm x \$2,000	48
c) Health Management 24 pm x \$2,000	<u>48</u>
Sub-Total	<u>\$ 144</u>
 6. <u>Training Materials and Related Supplies</u>	
Reproduction of teaching materials for CHW (500 sets, 100 pages)	25
Reproduction of EPI materials	5
Reproduction of visual aids (1,000 sets, 40 pages)	30
Mass media health educ. materials	10
Health education resource center (manuals, books)	15
Audio-visual equipment for center	30
Mini-resource centers (7) - regional/ departmental)	5
Drug treatment manuals	<u>5</u>
Sub-Total	<u>\$ 120</u>
TOTAL	<u>\$1,120</u>

Table 1

DIFFERENCES BETWEEN EDUCATIONAL AND COMPETENCY-BASED APPROACHES TO TRAINING*

<u>Educational</u>	<u>Competency Based</u>
Organization of content around academic topics such as anatomy, physiology, and disease vectors.	Organization of content around specific functions, such as identification and treatment of diarrhea, motivation of community leaders, etc.
Emphasis on knowledge.	Emphasis on attitudes and skills.
Limited skill practice.	Extensive skill practice.
Use of competitive exams, mainly designed to evaluate rather than assist students.	Use of non-competitive exams to verify competencies and help students and trainers identify weak areas.
Attitude that students must adapt to the teaching method.	Attitude that teaching method must be adapted to the student.
Use of "downscaled" nursing or other educational curricula.	Use of task analysis to base curricula on specific CHW functions.
Separation between "theory" and practice.	Close conjunction between theory and practice, preferably taught concurrently.

* APHA draft paper for UNICEF, Training of Community Health Workers, 1983.

Table 1

DIFFERENCES BETWEEN EDUCATIONAL AND COMPETENCY-BASED APPROACHES TO TRAINING ^{1/}

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Separation between "theory" and practice.	Close conjunction between theory and practice, preferably taught concurrently.

^{1/} APHA draft paper for UNICEF, Training of Community Health Workers, 1983.

Table 2

HOW CAN THE HEALTH IMPACT OF TRAINING BE ESTIMATED? 1/

<u>Type of Evaluation</u>	<u>Description</u>	<u>Specific Questions</u>	<u>Advantages</u>	<u>Disadvantages</u>	<u>Comments</u>
A Priori	Evaluation of training plans	Should CHWs be trained? Are projected costs reasonable, given other program priorities?	Requires little data collection	Largely a matter of judgment; virtually useless for assessing health impact	Mainly used for evaluating funding decisions
Process	Comparison of training methods and content with standards	Were trainees taught the right skills? Were participatory and practical techniques used appropriately? Were trainers adequately trained?	Much can be learned from non-quantitative observation	Relation of process to health impact has not been demonstrated	Probably the most common form of training evaluation, yet specialists differ somewhat on ideal standards
Output	Evaluation of trainee knowledge, attitudes and skills at close of training	Did trainees learn material covered during the course?	Can be measured relatively objectively	Course may have included inappropriate knowledge and skills	Often used in conjunction with pretest
Retention	Post-training assessment of CHW knowledge and skills (material covered during course only)	Do CHWs remember what they learned?	Gives evaluator a better idea of potential health impact	Retained knowledge and skills may be inappropriate or inadequate for field needs; forgotten ones may have been unnecessary anyway	
Performance	Assessment of CHWs' ability to respond to critical health problems (as determined by professionals or by community residents)	Was training appropriate for field needs? Are CHWs performing as communities wish them to?	Results useful for planning of future pre-service and inservice training	Performance is difficult to assess objectively, and, in any case, training may be only a minor factor	
Knowledge, Attitudes, Practices (KAP)	Analysis of residents' health knowledge and behavior	Has community's health-related knowledge increased since CHW training? Have health practices improved?	May be the best available substitute for measurement of health impact. Results useful for planning a future pre-service and inservice training	Changes in KAP may be due to non-programmatic factors	Many CHWs do simple community diagnoses which may be quite helpful
Health Impact	Measurement of change in morbidity and mortality rates and attribution of change to CHW training	Has CHW training improved the community's health status?	The ultimate question for program evaluation	Health status is costly to measure and attribution of cause and effect requires use of control	Generally feasible only in research projects

1/ APHA draft paper for UNICEF, Training of Community Health Workers, 1983.

Table 3

SUGGESTED STAGES FOR OVERALL EVALUATION OF A TRAINING PROGRAM ^{1/}

BEFORE TRAINING COURSE	DURING TRAINING COURSE		AFTER TRAINING COURSE
<p>OBSERVATION OF NEEDS & RESOURCES</p> <p>Gather information about:</p> <p>Needs and Problems</p> <ul style="list-style-type: none"> • Environment (physical and biological) • Social (economic, cultural, political) • Frequency of diseases, death, injustices <ul style="list-style-type: none"> • At local level • At national or regional level <p>Resources and Strengths</p> <p>Within the community</p> <p>Outside the community</p> <p>Including:</p> <ul style="list-style-type: none"> • People • Skills • Traditions • Education (formal and practical) • Materials (animal vegetable, mineral) • Leaders • Possible instructors, advisers, health workers, etc. <p>Conflicts of interest</p> <p>Between different groups, strong and weak</p> <ul style="list-style-type: none"> • Within the community • Between the community and outside agents or institutions 	<p>ANALYSIS OF NEEDS & RESOURCES</p> <p>Which needs are of greatest importance?</p> <p>To whom? (local people, ministry, government, international agency)</p> <p>Whose needs are greatest?</p> <p>Why? (age, sex, income, race, location)</p> <p>In what way do the environment and social order affect people's needs and health?</p> <p>What are the biggest obstacles to resolving people's needs:</p> <ul style="list-style-type: none"> • within the community? • within the country? • within the government and health ministry? • around the world? <p>In what ways might some of the resources (money, MD's, health authorities) be obstacles to the health and well-being of those in greatest need?</p> <p>How can the resources best be used to increase the self-reliance, health, and well-being of those whose needs are greatest?</p>	<p>PREPARATION TO MEET NEEDS</p> <p>What is the long-range social or human vision of the program?</p> <p>Does it include fairer distribution of resources, decision making and power? Is community organization considered necessary, or dangerous? Are there differences of opinion or hidden motives among the planners? (These issues are of great importance, as they help determine whose needs the training program is designed to meet.)</p> <p>Goals and specific learning objectives:</p> <ul style="list-style-type: none"> • How well do they fit the real and felt needs of people in the health workers' communities? • How realistic are they in terms of the students' abilities and limitations? <p>How appropriate are the following:</p> <ul style="list-style-type: none"> • Selection of instructors and health workers. • Extent and nature of community and student participation in planning different aspects of the program. • Attitudes and actions of instructors. • Time, length, location, etc. • Content of the course and teaching methods used. • Flexibility of content and plans. • Teaching methods. • Balance of power and decision making during course. • Balance between practical and classroom learning. • Balance between curative, preventive, teaching, and organizing skills. • Student and community participation during the course. • Use of alternative and local resources. • Emphasis on memorization or on problem solving. <p>How well does the training program prepare health workers to help people meet their needs in terms of:</p> <ul style="list-style-type: none"> • Specific health-related knowledge and skills? • Motivation, organization, and leadership? • Teaching skills? • Social awareness, problem solving, and thinking skills (observation → analysis → action → evaluation)? 	<p>MEETING OF NEEDS</p> <p>How well are community needs being met with the health workers' help?</p> <p>(Where appropriate, compare with information gathered before or when the health workers began work.)</p> <p>Measurable indicators:</p> <ul style="list-style-type: none"> • How many deaths? births? • How much illness? • How many latrines, etc.? <p>Non-measurable indicators:</p> <ul style="list-style-type: none"> • People's response to program? • More self-reliance and sharing? • Greater awareness of problems and possible solutions? • Poor people better organized? • More resistance to abuses by those in power? • More justice? (often preceded by greater repression or abuse) • More hope and dignity? <p>Program function after training:</p> <ul style="list-style-type: none"> • Support system (back-up and supplies). • Formation and role of health committee. • Involvement of mothers, school children, and others. • Health-related activities (family gardens, co-ops, water system, health theater, etc.). • Health workers' suggestions for improving training. • Follow-up training

1/ Werner and Bower, Helping Health Workers Team, 1982.

Table 4

TASK ANALYSIS
Village Health Worker - Rural Medical Assistance Project

NO.	MAJOR TASKS	MEASURES	DUTIES	CONDITIONS	Discrepancy		REASONS	Training	
					Yes	No		Yes	No
1.	Prevent Accidents	1. Reduction in cases caused by accidents (object). 2. Households claiming to have received health education.	1. Group education sessions 2. Patient education 3. Household visits	1. Has to have confidence of villagers. 2. Supply of registration forms.					
2.	Provide first aid	1. Patients treated (patient records, hospital records). 2. Supplies utilised.	1. Treat and evacuate complex cases. 2. Treat simple cases: <ol style="list-style-type: none"> 1. Infected wounds 2. Wounds 3. Burns 4. Toxicity and bites 5. Fractures 	1. Necessary supplies and materials are available. 2. Transportation is available. 3. Financial means are available. 4. Supply of registration forms.					
3.	Health Education: A. Hygiene B. Sanitation	1. Observation of village, villagers, V.H.W.	1. Group education sessions	1. Functioning committee					

TASK ANALYSIS

Village Health Worker - Rural Medical Assistance Project

NO.	MAJOR TASKS	MEASURES	DUTIES	CONDITIONS	Discrepancy		REASONS	Training	
					Yes	No		Yes	No
		2. Reduction in cases of illnesses related to poor hygiene. 3. Comprehension on the part of the population as to relationship between hygiene and health. 4. Increase in latrines. 5. Knows ORT. 6. Villagers understand need to immunize their children.	2. Patient education 3. Household visits 4. Committee organisation primary to educate for causes of: a) Diarrhea b) Intestinal worms c) Respiratory ailments 5. Teach oral rehydration. 6. Mobilize PEV teams.	2. Has to have confidence of villagers. 3. Cooperation of regional PEV team.					
4.	1. Treat, 2. Evacuate and 3. Follow-up patients	1. Patient records	1. Recognize and treat simple cases of: 1.1. Diarrhea 1.2. Vomiting 1.3. Fever 1.4. Colds and upper respiratory infections.	1. Materials and supplies available.					

TASK ANALYSIS

Village Health Worker - Rural Medical Assistance Project

NO.	MAJOR TASKS	MEASURES	DUTIES	CONDITIONS	Discrepancy		REASONS	Training	
					Yes	No		Yes	No
		2. Patient visits 3; Dispensary and hospital records. 4. Medical supplies records.	1.5. Worms 1.6. Skin problems 1.7. Ear infections 1.8. Measles and whooping cough. 1.9. Headaches 1.10. Conjunctivitis and other eye problem both for adults and children. 2. Recognize and evacuate complex cases of above. 3. Follow-up patients who have received treatment at hospital or dispensary.	2. Village organized to pay supplies. 3. Village organized to reimburse VHW. 4. Transportation available for evacuation of complex cases. 5. Adequate supply of registration forms.					
5.	Manage infectious diseases.	1. Reduction of cases of infectious diseases (particularly whooping cough and measles).	1. Recognize signs of infectious diseases and treat symptoms.	1. Collaboration of PEV.					

TASK ANALYSIS

Village Health Worker - Rural Medical Assistance Project

NO.	MAJOR TASKS	MEASURES	DUTIES	CONDITIONS	Discrepancy		REASONS	Training	
					Yes	No		Yes	No
		2. Authorities alerted in case of epidemics. 3. Patient records.	2. Evacuate complex cases. 3. Inform authorities in cases of epidemic. 4. Isolate cases where possible. 5. Institute hygienic practices to prevent epidemics. 6. Collaborate with PEV to prevent epidemics.	2. Collaboration of authorities. 3. Cooperation of village and affected households.					
6.	Health Education: A. Nutrition	1. Reduction in cases of malnutrition. 2. Reduction in cases of nutrition-related illnesses.	1. Group sessions and individual counseling in: 1.1. Food groups 1.2. Importance of good weaning practices. 1.3. Causes of malnutrition. 1.4. Importance of breast-feeding. 1.5. Food availability 2. Anthropometric measurements on patients (primarily arm circumference).	1. Arm-band circumference 2. Food availability					

TASK ANALYSIS

Village Health Worker - Rural Medical Assistance Project

NO.	MAJOR TASKS	MEASURES	DUTIES	CONDITIONS	Discrepancy		REASONS	Training	
					Yes	No		Yes	No
	B. Evacuate	<p>3. Reduction in infant mortality as a result of severe weaning practices (possibly available through patient records) and sample surveys.</p> <p>1. Hospital records</p>	<p>3. Nutrition demonstrations.</p> <p>1. Evacuate to hospital or CREN severely mal-nourished cases).</p>	<p>3. Availability of means to purchase food not available locally.</p> <p>4. Comprehension of traditional child-rearing practices.</p> <p>5. Confidence of villagers.</p>					
7.	Health Education Pregnancy and Childbirth	<p>1. Patient records show pre-natal visits.</p> <p>2. Reduction of infant deaths due to tetanus and poor birthing techniques.</p> <p>3. Increase in hospital evacuees showing complications due to pregnancy.</p>	<p>1. Examine pregnant mothers.</p> <p>2. Recognize signs of toxemia and eclampsia.</p> <p>3. Evacuate complications in pregnant women.</p>	<p>1. Cooperation between VHW and TBA.</p> <p>2. Understanding of social and cultural practices affecting pregnancy and childbirth.</p> <p>3. Means available to evacuate complex cases.</p>					

- 6 -
TASK ANALYSIS

Village Health Worker - Rural Medical Assistance Project

NO.	MAJOR TASKS	MEASURES	DUTIES	CONDITIONS	Discrepancy		REASONS	Training	
					Yes	No		Yes	No
			4. Give patient education on personal hygiene. 5. Give nutrition education to pregnant mothers. 6. Explain the birth process to pregnant mothers. 7. Recognize and evacuate post-partum complications. 8. Do umbilical bandaging. 9. Give patient education on importance of breast-feeding. 10. Encourage regular pre-natal visits. 11. Encourage post-natal follow-up.	4. Availability of registration forms.					
8.	Management and Organizational Tasks	1. Quality of records maintained. 2. No. of meetings with committee.	1. Work closely with village health committee. 2. Work closely with other health practitioners (TBA, PEV, Supervisor)	1. Functioning health committee. 2. Collaboration of other health professionals.					

H 45

TASK ANALYSIS

Village Health Worker - Rural Medical Assistance Project

NO.	MAJOR TASKS	MEASURES	DUTIES	CONDITIONS	Discrepancy		REASONS	Training	
					Yes	No		Yes	No
		3. No. of encounters with other health professionals. 4. Regularity of hours. 5. Quantity and quality of medications in stock. 6. Functioning financial reimbursement system by villagers to pay for stock. 7. VHW reimbursed for his services.	3. Organize clinic time. 4. Purchase medical stock. 5. Maintain records. 6. Plans future activities and future needs. 7. Regular communication with departmental dispensary.	3. Willingness of villagers to pay for medications and services. 4. Ability of villagers. 5. Regular supervision by nurse in health system to keep him supplied with records, charts and encouragement.					

ANNEX I

Immunization Data

1. FIXED CENTER IMMUNIZATION TARGET POPULATION

Region No./Name	Urban Center with MCH Clinic*	1985 Population Estimate		(Approx) % Urban	Annual Population Incidence (from 1985 onwards, exclusive of rate of increase)		
		Region Total	Urban		for BCG, DTP, Polio 3-24 months (5%)	for Measles 9-24 months (4%)	Pregnant Women Tet. Toxoid (3%)
0) Nouakchott		503,000					
	Teyaret		49,150		2,450	2,000	1,500
	Ksar		69,200		3,450	2,750	2,050
	Toujounine		70,550	100	3,550	2,800	2,100
	T'vrakzein		26,600		1,350	1,050	800
	Sebkha 1, 2		121,150		6,050	4,850	3,650
	Elmina 1, 2		166,350		8,350	6,650	5,000
1) Hodh El Charghi		148,000					
	Nema		12,000		600	500	350
	Timbedra		9,700	15	500	400	300
2) Hodh Charbi		120,000					
	Aioun		11,500		600	500	350
	Tintane		12,000	20	600	500	350
3) Assaba		135,000					
	Kiffa		17,400		850	700	500
	Guerou		7,200	18	350	300	200
4) Gorgol		70,000					
	Maghana		7,300		350	300	200
	M'Bout		7,100	27	350	300	200
	Kaedi		31,500		1,600	1,300	1,000
5) Brakna		160,000					
	Bababe		5,200		250	200	150
	Aleg		10,500	20	550	450	350
	Roghe		9,800		500	400	300
	Maghtar Lahjar		6,100		300	250	200
6) Trarza		230,000					
	Mederdra		4,600		250	200	150
	Boutilimit		12,200	20	600	500	400
	Rosso		30,300		1,500	1,200	900

Annex I
Target Population and Vaccine Requirements

TARGET POPULATION - IMMUNIZATION

Region No./Name	Urban Center with MCH Clinic	1985 Population Estimate			(rounded) Annual Population Incidence		
		Region Total	Urban	% Urban	for BCG, DTP, Polio 3-24 months (5%)	for Measles 9-24 months (4%)	Pregnant Women Tet. Toxoid (3%)
7) Adrar	Atar	58,000	22,000	38	1,100	900	650
8) Nouadhibou	Nouadhibou	28,000	27,400	98	1,400	1,100	800
9) Tagant	Tidjikja	70,000	13,000	19	650	500	400
10) Guidimaka	Selibaby	90,000	7,900	9	400	300	250
11) Tiris Zemmour	Zouerate	24,000	21,700	90	1,100	900	650
12) Inchiri	Akjoujt	16,000	10,050	63	500	400	300
TOTAL		1,752,000	799,450	46	40,100	32,200	24,050

NOTE: a) Region Totals from Office of Statistics, Ministry of Plan

b) Calculation basis for Nouakchott: 378,000 (1982 census of each arrondissement); for other areas: 1977 census.

c) Annual Rate of Increase for Nouakchott: 10% from 82-89
for other urban areas: 7% from 77-85

* The choice of fixed centers was made on the basis of a total population of 7,000 plus within a 5 km radius, with the exception of Bababe, Maghtar Lahjar, and Mederdra.

2. MOBILE TEAM IMMUNIZATION TARGET POPULATION

B. MOBILE TEAMS

REGION Name	PREFECTURE	PROJECTED REGIONAL POPULATION in 1985			ANNUAL POPULATION INCIDENCE 1985		
		Total	Rural Sedentary	% Rural Sedentary	3-24 months (5%) (% of rural sedentary population only)	9-24 months (4%)	pregnant women (3%)
1) Hodh Charghi		148000	65000	44%	3250	2600	1950
2) Hodh Gharbi		120000	58000	48%	2900	2350	1750
3) Assaba		135000	85000	61%	4250	3400	2550
4) Gorgol		170000	127000	75%	6350	5100	3800
5) Brakna		160000	99000	62%	4950	3950	2950
6) Trarza		230000	97000	42%	4850	3900	2900
7) Adrar		58000	24000	41%	1200	950	700
8) Nouadhibou		28000	1000	4%	No mobile team		
9) Tagant		70000	28000	40%	1400	1150	850

10) Guidimaka	90000	77000	85%	3850	3100	2300
11) Tiris Zemmour	24000	3000	17%		No mobile team	
12) Inchiri	16000	2000	13%		No mobile team	
TOTAL	1249000	666000	53%^{1/}	33000	26500	19750

1/ This is 38% of 1985 National Population total of 1,752,040 including Nouakchott population of 503,000.

3. Target Population Summary - Immunization

	1985	1986	1987	1988	Total
A. Fixed Centers ^{1/}					
Children (BCG, DTP, Polio)	40,100	43,669	47,555	51,788	183,112
Children (Measles)	32,200	35,066	38,187	41,585	147,038
Women (Tetanus Toxoid)	24,050	26,190	28,521	31,060	109,551
Infants (Tetanus)	22,246	24,226	26,382	28,731	101,335

^{1/} 1985 base year from Table ___ "Fixed Center Target Population. Annual Rate of Increase: 10% for Nouakchott; 7% for other areas".

B. Mobile Teams ^{2/}					
Children (BCG, DTP, Polio)	33,000	33,000	33,000	33,000	132,000
Children (Measles)	26,500	26,500	26,500	26,500	106,000
Women (Tetanus Toxoid)	19,750	19,750	19,750	19,750	79,000
Infants (Tetanus)	18,300	18,300	18,300	18,300	73,200

^{2/} 1985 base year from Table ___ Mobile Team Immunization Target Population. Assumes no annual rate of increase.

C. Total					
Maximum Possible Children					315,112
Maximum Possible Women					188,551
					503,663 ^{3/}
Anticipated Coverage Children					225,080
Anticipated Coverage Women					134,679

^{3/} Maximum possible target group includes urban and rural sedentary population only (84% of total). Since maximum possible coverage is based upon 60% of total population, the numbers actually expected to be vaccinated are $\frac{60}{84} \times 503,663$ or 359,759.

4. Maximum Percentage Coverage Estimate with Combined Fixed Center and Mobile Team Strategy

Region	% Fixed Centers	% Mobile Teams	% Total
0) Nouakchott	100%	-	100
1) Hodh Charghi	15	44	55
2) Hodh Gharbi	20	48	67
3) Assaba	18	61	76
4) Gorgol	27	75	90
5) Brakna	20	62	72
6) Trarza	20	42	55
7) Adrar	38	41	76
8) Nouadhibou	98	no mobile team	98
9) Tagant	19	40	54
10) Guidimaka	9	85	93
11) Tiris Zemmour	90	no mobile team	90
12) Inchiri	63	no mobile team	63
Average Total - Maximum Coverage	46% <u>1/</u>	38% <u>2/</u>	76%

1/Based on urban population living within 5 kilometers of Fixed Center EPI.

2/Based on rural sedentary population.

Note: Whereas the 42 percent maximum coverage figure for immunization from fixed centers is a reasonable estimate of actual coverage, the mobile teams may only actually reach about half of the expected 38 percent of their target group. We therefore estimate that approximately sixty percent of the entire target population could be reached by the immunization program by E.O.P.

5. Vaccine Requirements for Immunization at Fixed Centers (1985 Population Projection)

Assume: 250 working days/year, 6 days/week, 3 visits for each fully vaccinated child, 2 visits for each pregnant woman

No.	Region	Name Urban Center with MCH Center or Clinic	Maximum Number of Fully Vaccinated				Suggested Number of Vaccination Days		No. of Vaccine Vials/Year (+ 20% mark up, rounded up to the nearest 5)				
			Children		Women		Per Week (5 days)	Per Year (52 weeks)	BCG 10 dose	DTP 20 (x 3) dose	POLIO. 20 (x 3) dose	MEASLES 10 dose	TET. TOXOID 20 (x 2) dose
			Max. Avail. /year	Average /day	Max. Avail. /year	Average /day							
1	Nouakchott:	Teyaret	2,450	10	1,500	6	daily	250	300	440	440	300	180
2		Ksar	3,450	14	2,050	8	daily	250	600	620	620	600	250
3		Toujounine	3,550	14	2,100	8	daily	250	600	640	640	600	250
4		Tvrakzein	1,350	9	800	6	3	150	180	240	240	180	95
5		Sebkha 1	3,000	12	1,800	7	daily	250	600	540	540	600	215
6		Sebkha 2	3,050	12	1,850	7	daily	250	600	550	550	600	225
7		Elmina 1	4,000	16	2,500	10	daily	250	600	720	720	600	300
8		Elmina 2	4,350	17	2,500	10	daily	250	600	780	780	600	300
9	Hodh Chargi:	Nema	600	6	350	7	2	100	120	110	110	120	45
10		Timbedra	500	10	300	6	1	52	65	90	90	65	35
11	Hodh Gharbi:	Aloun	600	6	350	7	2	100	120	110	110	120	45
12		Tintane	600	6	360	7	2	100	120	110	110	120	45
13	Assaba :	Kiffa	850	9	500	5	2	100	120	155	155	120	60
14		Guerou	350	7	200	4	1	52	65	65	65	65	25
15	Gorgol :	Maghama	350	7	200	4	1	52	65	65	65	65	25
16		Kaedi	1,600	8	1,000	5	4	200	240	290	290	240	120
17		M'Bout	350	7	200	4	1	52	65	65	65	65	25

No.	Region	Name Urban Center with MCH Center or Clinic	Maximum Number of Fully Vaccinated				Suggested Number of Vaccination Days		No. of Vaccine Vials/Year (+ 20% mark up, rounded up to the nearest 5)				
			Children		Women		Per Week (5 days)	Per Year (52 weeks)	BCG 10 dose	DTP 20 dose	POLIO 20 dose	MEASLES 10 dose	TET. TOXOID 20 dose ^(x 2)
			Max. Avail. /year	Average /day	Max. Avail. /year	Average /day							
18	Brakna	: Aleg	550	10	350	7	1	52	65	100	100	65	45
19		: Bababé	250	5	150	3	1	52	65	45	45	65	30
20		: Boghé	500	10	300	3	1	52	65	90	90	65	35
21		: Maghta Lahjar	300	6	200	4	1	52	65	55	55	65	25
22	Trarza	: Mederdra	250	5	150	3	1	52	65	45	45	65	20
23		: Boutilimit	600	6	400	4	2	100	120	110	110	120	50
24		: Rosso	1,500	10	900	6	3	150	180	270	270	180	110
25	Atar	: Atar	1,100	7	650	4	3	150	180	200	200	180	80
26	Nouadhibou:	Nouadhibou	1,400	7	800	4	4	200	240	250	250	240	95
27	Tagant	: Tidjikja	650	7	400	4	2	100	120	120	120	120	50
28	Guidiraka	: Selibaby	400	8	250	5	1	52	65	70	70	65	30
29	Tiris Zemmour	: Zouerat	1,100	7	650	4	3	150	180	200	200	180	80
30	Inchiri	: Akjoujt	500	10	300	6	1	52	65	90	90	65	35
TOTAL			40,100		24,050				6,535	7,235	7,235	6,535	2,925
									6,550	7,250	7,250	6,550	2,950

Source: Peter Knebel, MD, Sahel Development Planning Office.

Note : Maximum number of children and women available for vaccination per year from Annual Population Incidence on Table ____ "Fixed Center Immunization Target: Population".

6. Vaccine Requirements for Immunization by Mobile Teams

No. of Teams	Region	No. of Fully Vaccinated Children		No. of Women		No. of Vaccine Vials/Year (+ 20% mark up, rounded up to 5's)				
		Maximum Available Per Year	Average Per Day	Maximum Available Per Year	Average Per Day	BCG (20 dose)	DTP (20 dose)	POLIO (20 dose)	MEASLES (10' dose)	TET. TOXOID (20 dose)
1	Hodh Charghi	3,250	32	1,950	20	240	585	585	360	235
2	Hodh Gharbi	2,900	30	1,750	18	240	520	520	360	210
3	Assaba	4,250	42	2,550	26	360	765	765	480	305
4	Tagant	1,400	14	850	8	120	250	250	150	100
5	Gorgol	6,350	64	3,800	38	480	1,145	1,145	600	455
6	Brakna	4,950	50	2,950	30	360	890	890	480	355
7	Trarza	4,850	48	2,900	30	360	875	875	480	350
9	Adrar	1,200	12	700	6	120	215	215	120	85
10	Guidimaka	3,850	38	2,300	24	240	695	695	360	275
Nouadhibou, Tiris Zemmour, Inchiri: No mobile teams, fixed centers resupplied from Nouakchott.										
Total		33,000 x 4 yrs = 132,000		19,750 x 4 yrs = 79,020		2,520	5,940	5,940	3,390	2,370

Notes: a) Assume 100 immunization days, plus approx. 50 travel days, 12 weeks at the base camp, 30 holidays, 3 trips/year for each assembly place.

b) Calculation base for amount of vaccine vials:

- for daily disposable vaccine (BCG, Measles), No. of vials within the range of maximum average/day (e.g. vials for 35 children) x 100 + 20% mark up. (No. of children for measles assumed to be 20% less due to 15-24 mo. range VS. mo. 3-24 mo. range for BCG.)
- for other vaccine (DTP, Polio): total maximum $\frac{\text{No. of children} \times 3 + 20\% \text{ mark up}}{\text{No. of dose/vial}}$
- for Tetanus Toxoid: total maximum $\frac{\text{No. of women} \times 2 + 20\% \text{ mark up}}{20}$

c) Maximum numbers of children and women available for vaccination per year from Annual Population Incidence on Table ___ "Mobile Team Immunization Target Population".

7. Vaccine and Related Costs

Amount of Vials and Costs (both rounded up to nearest 50)

	85		86		87		88		Total	
	No.	\$	No.	\$	No.	\$	No.	\$	No.	\$
1:1 Fixed Centers										
BCG (10 dose at 0.85 \$)	6,550	5,600	7,150	6,100	7,800	6,650	8,500	7,250	30,000	25,600
DTP (20 dose at 0.65 \$)	7,250	4,750	7,900	5,150	8,600	5,600	9,400	6,150	33,150	21,650
Polio (20 dose at 0.56 \$)	7,250	4,100	7,900	4,450	8,600	4,850	9,400	5,300	33,150	18,700
Measles (10 dose at 1.15 \$)	6,550	7,550	7,150	8,250	7,800	9,000	8,500	9,800	30,000	34,600
Tet. Toxoid (20 dose at 0.50 \$)	2,950	1,500	3,250	1,650	3,500	1,750	3,850	1,950	13,550	6,850
Total		23,500		25,600		27,850		30,450		107,400
1:2 Mobile Teams										
BCG (20 dose at 1.25 \$)	2,500	3,150	2,500	3,150	2,500	3,150	2,500	3,150	10,000	12,500
DTP (20 dose at 0.65 \$)	5,950	3,900	5,950	3,900	5,950	3,900	5,950	3,900	23,800	15,600
Polio (20 dose at 0.56 \$)	5,950	3,350	5,950	3,350	5,950	3,350	5,950	3,350	23,800	13,400
Measles (10 dose at 1.15 \$)	3,400	3,950	3,400	3,950	3,400	3,950	3,400	3,950	13,600	15,800
Tet. Toxoid (20 dose at 0.50 \$)	2,400	1,200	2,400	1,200	2,400	1,200	2,400	1,200	9,600	4,800
Total		15,550		15,550		15,550		15,550		62,200
Grand Total		39,050		41,150		43,400		46,000		169,600
										Total rounded = 170,000*

Notes: (a) Vaccine (UNIPAC 83 catalogue prices) exclusive of annual inflation. 1985 Vial amounts from Tables E and F (Vaccine Requirements for Fixed Centers and Mobile Teams).

(b) For fixed centers, the increase in the numbers of vials is based upon a multiplication factor of 1.089 (reflecting the weighted annual rate of increase).

(c) For mobile teams, no increase in children or vials is assumed.

* Of which UNICEF will finance \$ 120,000, AID \$ 50,000.

Item	Code No.	Per Fixed Center			Per Mobile Team		Item Total \$
		Unit Price \$	Quantity	Total Cost \$	Quantity	Total Cost \$	
3) SYRINGES							
3:1 Syringe, tubercular, 0.01 ml graduated glass, liner	0786500	1.88	6	11.28	10	18.80	
3:2 Syringe, hypo, 2 ml glass, liner	0783500	0.29	15	4.35	-	-	
3:3 Syringe, hypo, 2 ml nylon, liner	0756700	0.82	-	-	30	24.60	
3:4 Syringe, hypo, 5 ml glass, liner	0784000	0.34	10	3.40	-	-	
3:5 Syringe, hypo, 5 ml nylon, liner	0785672	1.28	10	12.80	20	25.60	
		Total: per center/y : \$ 32			per team/y : \$ 50		
		for 30 centers/4y: \$ 3,840			for 10 teams/4y: \$ 2,000		\$ 5,840
4) NEEDLES							
4:1 Needle, hypodermic, 0.70 x 32 mm/226 x 1 1/2", liner, box of 12	0750500	0.35	15	5.25	30	10.50	
4:2 Needle, hypodermic, 0.45 x 10 mm/266 x 3/8", liner, box of 12	0751502	0.35	3	1.05	10	10.50	
		Total: per center/y : \$ 6.30			per team/y : \$ 21		
		for 30 centers/4y: \$ 756			for 10 teams/4y: \$ 840		\$ 1,596
5) COTTON WOOL, non-sterile, 500 g							
	0519600	1.16	10	11.60	20	23.20	
		for 30 centers/4y: \$ 1,392			for 10 teams/4y: \$ 980		\$ 2,372
6) COTTON SHEETING 1 x 1.4 m							
	2289405	1.00	10	10.00	20	20.00	
		for 30 centers/4y: \$ 1,200			for 10 teams/4y: \$ 800		\$ 2,000
7) SOAP							
	Local	.60	5	3.00	10	6.00	
		for 30 centers/4y: \$ 360			for 10 teams/4y: \$ 240		\$ 600

IA

Item	Code No.	Unit Price \$	Fixed Centers		Per Mobile Team		
			Quantity	Total Cost \$	Quantity	Total Cost \$	
8) IMMUNIZATION CARDS 120 mm x 190 mm							
8:1 Children (total LOP)	U.S.	.25	185,000	46,250	135,000	33,750	
8:2 Pregnant women (total LOP)	U.S.	.25	110,000	27,500	80,000	20,000	
				<u>73,750</u>		<u>53,750</u>	\$ 127,500
9) PLASTIC COVER BAGS 125 mm x 200 mm							
9:1 Children (total LOP)	E 0315500	.02	185,000	3,700	135,000	2,700	
9:2 Pregnant women (total LOP)	E 0315500	.02	110,000	2,200	80,000	1,600	
				<u>5,900</u>		<u>4,300</u>	\$ 10,200
10) STATIONERY (4 ball pens, 100 daily tally sheets, 36 monthly report sheets, 1 daily register book/center/y)							
	Local		1 set	20	2 sets	40	
				per center/y : \$ 20	per mobile team/y : \$ 40		
				for 30 centers/4y: \$ 2,400	for 10 mobile teams/4y: \$ 1,600		\$ 4,000
						ST	\$ 154,108

	\$ (000)
Sub-Total Vaccine + related costs	\$ 204
Shipping and Ins. (90%)	\$ 102
Total	\$ 306

ANNEX J: PROCUREMENT LISTS

1. Procurement List for EPI Regional Depots

<u>Item</u>	<u>Source*</u>	<u>Unit Price</u> \$	<u>Quantity</u>	<u>Total Cost</u> \$**
A. <u>Furniture</u>				
1) Table	U.S.	72	1	72
2) Chairs, metal folding	U.S.	10.15	3	30
3) Waste baskets	U.S.	5	2	10
4) Closet, metal	U.S.	125	1	125
5) Filing cabinet, U.S. standard	U.S.	226	1	226
6) Diesel barrels, 200 l, empty	Local	30	10	300
7) Shelving units, 5 levels, 36 x 48	U.S.	101	1	101
		Sub-Total		\$ 864
B. <u>Equipment</u>				
1) Typewriter, French keyboard, manual	4329495	139.79	1	140
2) Refrigerator/freezers, RCW 65, kerosene, 142 liters	S-2DIR, E3/20	1,050	1	1,050
3) Refrigerators, RC65, gas, 142 liters	9202305-01	760	3	2,210
4) Scales, bathroom, metric	0139900	9.06	2	18
5) Pocket calculators	U.S.	20	3	60
6) Thermometers, dial	1183010	.84	4	3
7) Vaccine coldboxes, large, 31 liters	1185055	243.67	1	244
8) Ice packs	1119310	.15	30	5
9) Refrigerator maintenance kit	4077850	29.30	1	29
10) Automatic gas changeover valve, type 66, butane	U.S.	60	1	60
		Sub-Total		\$ 3,819
C. <u>Sterilizing Supply Service</u>				
1) Stove, butane gas, 3 burner, table model	2004200	13.81	1	14
2) Stove, kerosene, 2 burner, non-pressure, table model	2006500	29.22	1	29
3) Timer clock, spring wound	0983400	3.21	1	3
4) Pressure cookers, 6 liters	2039505	23.67	2	47
5) Needle sharpener stones	0559000	0.89	2	2
6) Miscellaneous office and cleaning supplies	Local	-	-	300
		Sub-Total		\$ 399
		Total per Depot		\$ 5,078
		Total for 10 Depots		\$ 50,780

* All code numbers are UNICEF.

** Rounded.

2. Procurement List for EPI Fixed Centers

<u>Item</u>	<u>Source*</u>	<u>Unit Price</u> \$	<u>Quantity</u>	<u>Total Cost</u> \$**
A. <u>Equipment</u>				
1) Refrigerator, RCW-42 EKG electric/kerosene/gas 22 l, with ice-lining (2.2 l)	UNICEF	420	1	420
2) Thermometer dial vaccine-storage, bi-metal	1183010	.84	2	2
3) Vaccine coldbox, large size, 31 liters	1185055	243.67	1	244
4) Vaccine carrier with 4 ice packs, 2 liters	1185000	25.25	1	25
5) Ice packs for coldbox	1119310	.15	11	2
6) Tray instruments with lid	0270000	3.63	3	11
7) Cups, 180 ml, 55	0237000	.71	3	2
8) Forceps, 125 mm	0721000	.72	2	1
9) Vial holder	Local	10	1	10
10) Tray, cafeteria type, 350 x 450 mm	2091500	1.45	1	1
11) Scales, bathroom, metric 120 kg	0139900	9.06	2	18
12) Wrenches, adjustable	4094800	6.00	2	12
13) Refrigerator maintenance kit	4077850	29.30	1	29
B. <u>Sterilizing Standby Service</u>				
1) Stove, butane gas, 3 burner table model or hotplate electric, 2 burner, 220 V	2004200	54.92	1	55
2) Timer clock, spring wound	0983400	3.21	1	3
3) Pressure cooker, 6 liters	2039505	23.67	1	24
4) Needle sharpener stone	0559000	.89	1	1
Total per Fixed Center				\$ 860
Total for 30 Fixed Centers				\$ 25,800 -----

* All code numbers are UNICEF.

** Rounded.

3. Procurement List for EPI Central Depot

<u>Item</u>	<u>Source*</u>	<u>Estimated Unit Cost \$</u>	<u>Quan- tity</u>	<u>Total Cost \$**</u>
A. <u>Cold Chain Equipment</u>				
1) Freezers, TC 1850 500 liters	9204808-02	350	5	1,750
2) Refrigerators, 285 l capacity, 220 V/50 HZ	1140220	226	10	2,260
3) Coldboxes, large, 31 liters	1185055	244	5	1,220
4) Cooling elements	1119310	.15	500	75
5) Thermometers, dial, electric	EPI/V400/ MP/DC6/A	120	20	2,400
6) Alarm units, mark 5, electric	UNICEF	172	2	344
7) EPI/RFBD/B recording thermometer		870	1	870
8) Generator, 60 KWA	Excess Property	11,000	1	11,000
9) Scale, platform, metric, 500 kg	3052902	316	1	316
10) Voltage regulators	1153830	230	4	920
		Sub-Total		\$ 21,156
B. <u>Office Furniture and Miscellaneous Office and Cleaning Supplies</u>				
	U.S.	Sub-Total		\$ 5,000***
		Total EPI Central Depot		\$ 26,000

* All code numbers are UNICEF.

** Rounded.

*** USAID is prepared to make a quantity of excess office furniture now in the warehouse available to the MOH. The MOH will make a specific request for excess property during the early months of the project.

4. Procurement List for EPI Mobile Teams

Per Team:

<u>Item</u>	<u>Source*</u>	<u>Unit Cost \$</u>	<u>Quantity</u>	<u>Total Cost \$**</u>
A. Furniture				
1) Tent, large (5 people)	U.S.	500	1	500
2) Tables, folding, camping	U.S.	180	2	360
3) Chairs, folding, camping, sturdy	U.S.	6	3	18
4) Mattresses	Local	20	5	100
5) Mosquito netting	Local	10	5	50
6) Plastic sheeting, sturdy (role)	U.S.	37	1	37
7) Bed sheets, cotton, 1 x 2 m	U.S.	3	10	30
8) Blankets, woolen	U.S.	14	5	70
			Sub-Total	\$ 1,165
B. Equipment				
1) Refrigerators: vehicle mounted RCW-42EKG, 220V/50HZ/Gas/Kerosene, 22 liters	SUPDIR, EPI/IC/13.55	1,035	2	2,070
2) Automatic Gas Changeover valve (Butane)	U.S.	60	1	60
3) Coldboxes, RCW 25	9911501-01	191	2	382
4) Vaccine carriers, 3504	0585000	18	4	72
5) Lamps, kerosene with spare wicks and chimneys	Local	40	3	120
6) Jerry cans for water, 20 liters, plastic	U.S.	16	5	80
7) Jerry cans for gas/diesel, 20 liters, metal	U.S.	31	10	310
8) Coldboxes, large, Coleman/equal	U.S.	40	2	80
9) Tarpaulins, large, for roof rack	U.S.	23	2	46
10) Megaphone	U.S.	179	1	179
11) Bathroom scales, sturdy (in kg)	0139900	9.06	2	18
12) Clipboard holders	0518650	.67	5	3
			Sub-Total	\$ 3,420
			Total per Mobile Team	\$ 4,585
			Total for 10 Teams	\$ 45,850

* All code numbers are UNICEF.

** Rounded.

5. DRUG/EQUIPMENT LIST FOR COMMUNITY HEALTH WORKER
(3 Months Supply)

<u>I T E M</u>	<u>UNIPAC CODE</u>	<u>QTY.</u>	<u>UNIT PRICE</u>	<u>TOTAL</u>
1. Aspirine 300 mg., tin of 1000 tabs	1506002	1	\$ 2.11	\$ 2.11
2. Chloroquine 100 mg., tin of 1000 tabs	1532002	1	6.29	6.29
3. Chloroquine Syrup 60 ml.	1533975	3	0.23	0.69
4. Ophthalmic Ointment, 1%, 5 g. tube	1510000	10	0.10	1.00
5. Ferrous Sulfate (Heliofer) 300 mg., 1000 tabs	1550010	2	1.12	2.24
6. Piperazine Citrate Syrup, 30 ml.	1550025	10	0.20	2.00
7. Cough Syrup - expectorant	Local	2	3.00	6.00
8. Alvityl Multi-vitamin syrup, 40 oz.	Local	3	3.50	10.50
9. Cotton Wool Absorbent, roll 500 g	0519600	1	1.16	1.16
10. Argyrol, 1% 1 oz.	Local	3	1.00	3.00
11. Gauze Roll non sterile, 200 mm. x 6 m.	E 0521875	4	0.33	1.32
12. Syringe, 10 cc.	0784500	2	0.53	1.06
13. Forceps (for sterile handling)	0742975	1	1.79	1.79
14. Hand brush	0514000	1	0.36	0.36
15. Alcohol, 90%, 250 ml.	Local	1	3.00	3.00
16. Charcoal, bottle, 1000	Local	1	9.00	9.00
17. Tetracycline capsules, 1000	1569000	1	11.79	11.79
18. Tincture of Iodine, 2%, 30 ml	1553100	10	0.50	5.00
19. Adhesive Tape 2" x 5 yds.	0503000	2	0.93	1.86
20. Antiseptic/Antibiotic Skin Ointment, 3%, 20 g. tube	1505110	1	0.26	0.26
21. Pair of Scissors, bandage lister	E 0770000	1	2.61	2.61
22. Bottle with lid cap 60 ml., amberglass	0417000	6	0.11	0.66
23. Plastic sheeting, sturdy 1 x 1 m.	0361000	3	0.50	1.50
24. Plastic bags, self sealing	0315500	10	0.02	0.20
25. Plastic cups, w. lids. 250 ml.	0921400	3	0.26	0.78
26. Soap Bar	Local		1.00	1.00
27. Soap Box	Local	1	1.00	1.00
28. Wooden case	Local	1	40.00	40.00
29. Thermometer oral CO FO	0481060	2	0.40	0.80
30. Towel, cloth	Local	1	4.00	4.00
31. Lindane (Gamma Isomer), 500 ml. tin	1551900	1	3.12	3.12
32. Eosin (burns) (antiseptic) 25 g.	1018200	1	1.74	1.74
32. Arm Band	Local	1	1.00	1.00
				<u>128.84</u>
	Shipping & Ins. 50%			<u>64.42</u>
				<u>193.26</u>
	Plus Contingency			<u>6.74</u>
	TOTAL			<u><u>\$200.00</u></u>

Note: New TBAs will receive TBA/Midwifery Kit with Aluminium Case 9900601 1 \$ 23.26
Say \$ 25.00

6. PROCUREMENT LIST FOR CATEGORY A + B DISPENSARIES IN 3 REGIONS

<u>Item: Furniture/Office Equipment</u>	<u>Source</u>	<u>Unit Price (\$ US)</u>	<u>Quantity</u>	<u>Total Cost (\$ US)</u>
1. First room: recording/diagnosing/routine drug dispensing/storage/oral rehydration				
a) Filing boxes, wooden (0.5 x 0.5 m)	Local	20	2	40
b) Drug dispensing box, wooden with six compartments for routine drugs such as aspirin, chloroquine, charcoal, vitamins, iron tablets (labeled with quantity instructions)	Local	30	1	30
c) Cupboards, lockable with shelves, metal	U.S.	125	2	250
d) Table, wooden (1.5 x 0.5 x 1 m)	U.S.	72	1	72
e) Clipchart holders (for simple treatment manual)	0518650	.67	2	1.34
f) Plastic sheeting, large, sturdy	2075000	2.64	4	10.56
g) Miscellaneous office and cleaning supplies	Local	-	-	150
h) Trolleys or small tables (1 x 0.8 x 0.9 m) with two levels	U.S.	35	2	70
i) Metal chairs, folding	U.S.	10.15	3	30.45
j) Jerry cans, clear plastic with screw tap	U.S.	16.00	2	32.
		Sub-Total		686.35

2. <u>Item: Medical Equipment First Room</u>	<u>Source</u>	<u>Unit Price (\$ US)</u>	<u>Quantity</u>	<u>Total Cost (\$ US)</u>
a) Stethoscope, binaural, Ford type	0686000	1.78	1	1.78
b) Flashlight with batteries	0630000	1.34	1	1.34
c) Otoscope	0660000	17.91	1	17.91
d) Batteries		.50	2	1.00
e) Trays, cafeteria type	0278000	4.18	1	4.18
f) Thermometers, centigrade, oral with cover	0481050	4.40	12	4.40
g) Bowls, 500 cc, plastic or metal	0225420	.76	5	3.80
h) Wooden sticks or matches for swabsticks		.01	200	2
i) Basins, 40 cc, plastic or metal	216000	3.59	3	10.77
j) Wooden tongue depressors in box or bowl (one bowl marked used, one marked clean), box of 500	0621000	2.89	1	2.89
k) Adult weighing scale, bathroom type	0139900	9.06	1	9.06
l) Ear syringe, metal, large, Kramer type with spare tip	0783000	14.75	1	14.75
m) Steel kidney dish, large	0210000	1.35	1	1.35
n) Drinking glasses (200 ml)	0280020	.24	5	1.20
o) Sputum specimen cups, resterilizable, 30 ml	0324970	.02	50	1.00
p) Sphygmomanometer, desk type with bandage cuff	0683000	8.99	1	8.99
q) Eyechart, illiterate with red/green color bars	0610000	.66	1	.66
r) Jar for thermometer with plastic cap	0334200	.61	2	1.22
s) Hemoglobinometer set, Sahli type	0950000	28.88	1	28.88
t) Pipettes Sahli, 0.02 ml for hemoglobinometer with mouth-piece, rubber tubing	0950500	.44	2	.88
u) Blood lancets, disposable, box 1000	0531990	10.71	1	10.71
v) Rack for test tubes, wood	0968520	1.07	1	1.07
w) Test tubes, glass 150 x 25 mm	0980020	1.11	12	13.32
x) Brushes for test tubes	0923600	.32	2	.64
		Sub-Total		\$ 146.90

3. <u>Item: Medical Equipment Second Room</u>	<u>Source</u>	<u>Unit Price (\$ US)</u>	<u>Quantity</u>	<u>Total Cost (\$ US)</u>
a) Pressure cooker, 7-litre capacity with one spare valve (without plastic ring) fuel type	0157000	99.91	1	99.91
b) Sterilizing drums, to fit into pressure cooker	0109000	29.28	2	58.56
c) Timer clock, spring wound	0983405	19.23	1	19.23
d) Aprons, clear vinyl	0305000	1.53	2	3.06
e) Kidney dishes, stainless steel (SS)	0210000	1.35	3	4.05
f) Dressing jars, SS permanently labelled, 2.13 litres	0255000	3.96	5	19.80
g) Tray, covered SS permanently labelled	0276500	4.19	3	12.57
h) Cheatle forceps, SS	0735400	6.10	2	12.20
i) Dissacting forceps, fine dented tips	0736650	.92	2	1.84
j) Needle holders, SS, box lock	0743600	3.09	2	6.18
k) Pairs of scissors, surgical strength	0771000	1.17	2	2.34
l) Pairs of scissors, blunt tip, bandage cutting type	0770000	2.61	2	5.22
m) Trays, cafeteria type, plastic or metal	0278000	4.18	3	12.54
n) Bowls, 500 ml, plastic or metal	0225420	.76	2	1.52
o) Gauze/cotton/sponge-holding forceps	0735000	3.18	1	3.18
p) Needle sharpener, stone, Arkansas/carborundum type	0559000	.89	1	.89
q) Razors with 20 razor blades	0544200	.08	8	.64
r) Flashlight with batteries	0630000	1.34	1	1.34
s) Set of suture needles, curved, small 1/2 with cutting edge with ear	0759302	1.01	24 needles	4.04
t) Boxes w/lids for cotton sheeting, cotton wool, gauze pads, all nonsterile but clean	Local	10	1 set	10.
u) Minor surgery knife handles, SS	0745000	1.62	3	4.86
v) Resterilizable blades to fit knife holders, SS	0746200	.26	5	1.30
w) Canisters, 180 ml with lid, labelled	0256000	1.92	5	9.60
x) Bottles, various sizes, glass, labelled with stoppers	0920700	15.75	1 set of 15 bottles	15.75
y) Syringes, glass Luer 5 cc reesterilizable needle	0784000	.34	15	5.10
Page Sub-Total				\$ 15.72

<u>Item</u>	<u>Source</u>	<u>Unit Price (\$ US)</u>	<u>Quantity</u>	<u>Total Cost (\$ US)</u>
aa) Needles, hypodermic, 3/4" resterilizable to fix syringes	0751000	.35	5 boxes of 12	4.20
bb) Instrument tray, large with lid for dental	0276500	4.19	1	4.19
cc) Drinking cups	0280020	.24	3	.72
dd) Set of 5 tooth extracting forceps for children	1257600	29.57	1	29.57
ee) Set of 6 tooth extracting forceps for adults	1250000 1252000 1254000 1256000 1257000 1257500	47.11	1 set	47.11
ff) Arm/leg splinter, plastic or wood, non-inflatable type	0555675	28.58	2	57.16
gg) Stretcher, for carrying patients	0180000	33.55	1	33.55
hh) Stove, butane gas burner floor model	2004500	17.49	1	17.49
			Page Sub-Total	\$ 193.99
Approximate Total				1,341.48
Reequipping during year 4 (Medical Equipment Rooms)				655.13
Grand Total per Dispensary				\$ 1,996.61
Times 13 Dispensaries in 3 Regions -				\$26,000 -----

Note: Assumptions used include:

- 1) Space:
 - 2 medically used rooms (approx. 12 m²: 4 x 3 m)
 - 1 waiting area (approx. 20 m²)
- 2) Personnel:
 - 1 infirmier du premier cycle
 - 1 guardian/manoeuvre

3. Activities:

- Registration/recording/reporting; limited group/individual health education; limited diagnosis; limited treatment of dressing, injections; limited minor surgery; oral rehydration of infants; simple dentistry (tooth extraction); patient referral; pharmacy; sterilization of equipment (supervision of VHWT not calculated).

7. Fuel Procurement for EPI Cold Chain

1 BUTAGAS* for Fixed Centers and Mobile Teams

1:1 Refrigerator	per center/y	:	100 liters (10 bottles)	
	for 30 centers/4y	:	12,000 liters (1,200 bottles)	\$ 5,700
1:2 Sterilizing stove	per center/y	:	50 liters (5 bottles)	
	for 30 centers/4y	:	6,000 liters (600 bottles)	\$ 2,850
1:3 Initial fees ("consigne") for LOP	\$ 40/bottle			
	per center	:	5 bottles at any one time	\$ 200
	for 30 centers	:	150 bottles	\$ 6,000
			Sub-Total	\$ 14,550

	per mobile team/y		600 liters (60 bottles)	
	for 10 mobile teams/4y:		28,800 liters (2,880 bottles)	\$ 13,680
	per mobile team/y	:	100 liters (10 bottles)	
	for 10 mobile teams/4y:		4,800 liters (480 bottles)	\$ 2,280
	per mobile team		12 bottles at any one time	
	for 10 mobile teams		120 bottles	\$ 5,700
			Sub-Total	\$ 21,660

2 BUTAGAS for Regional Depots

2:1 Refrigerators: 2 for each depot	per depot/y	:	1,100 liters (110 bottles)	
	for 10 depots/4y	:	4,400 bottles	\$ 20,900
2:2 Sterilizing stove	per depot/y	:	50 liters (5 bottles)	
	for 10 depots/4y	:		\$ 950
2:3 Initial fees ("consigne") for LOP	per depot	:	35 bottles at any one time	
	for 10 depots	:	350 bottles at \$ 40/ bottle	\$ 14,000
			Sub-Total	\$ 21,850
	Total LOP Butagas Expenditure			\$ 58,060

* Local procurement, 1 bottle = 10 liters @ \$ 4.75/ltr.

KEROSENE* for Regional Depots

- for 2 refrigerators, each depot			
per depot/y	:	1,900 l	
for 10 depots/4y:		76,000 l	\$ 45,600
- for mobile teams			
(kerosene lamps)			
per team/y		100 l	
for 12 teams/y		4,800 l at \$.60	\$ 2,880
Total Kerosene Expenditure			\$ 48,480

Note: Initial fees for barrels ("consigne) are included under Furniture, Regional Depo

* Local procurement, 60 cents/liter.

ANNEX K: BUDGET TABLES

1. Detailed Budget

A. AID

(\\$000) (\$000)

1. Technical Assistance

A. Long-Term

1) Health Education/Training Advisor	4 py x 155	620
2) Health Management/EPI Advisor	4 py x 155	<u>620</u>
		1,240

B. Short Term

1) Cold Chain Mgt./Maintenance	2 pm x 12	24
2) Visual Aids	3 pm x 12	36
3) Disease Surveillance for Info. Systems and Baseline Studies	4 pm x 12	48
4) Curriculum Devt./Training	4 pm x 12	48
5) Mass Media Specialist	2 pm (central funds)	-
6) Community Studies Specialist	1 pm x 12	12
7) Project Evaluations Research (operations research, health education, public health management)	4 pm x 12	48
		<u>216</u>

Sub-Total TA 1,456

2. Training

A. In-Country

1) CHW and TBA: Includes 100 New CHWs, 150 New TBAs and 75 Replacement CHWs		50
2) Training Village Committee Members 200 Villages x 2/persons per village		10

Table K1 (p. 2)

3) In-Service Training: Trarza 150 CHWs + 50 TBAs; Guidimaka and Region X each 50 CHWs + 50 TBAs	40
4) 4 Trainers - Initial training, Nouakchott	2
5) In-Service Training of Existing Trainers: 15 Trainers x 5 days x 4 years	5
6) 25 EPI Nurses (Mobile) Nouakchott: 25 x 5 days x 5 years	13
7) 60 EPI Nurses (Fixed) Nouakchott	12
8) 4 PHC Nurse/Supervisors-Nouakchott	<u>2</u>
	134

B. In Country Workshops/Seminars

- Annual PHC Integration Seminars	
- national (30 participants, 3 days)	4
- regions (10 participants, 3 days)	13
- departments (10 participants, 5 days)	11
- Health Education Workshop (2) 20 participants, 5 days	2
- Pharmaceutical Workshop (20 participants, 5 days)	1
- EPI Seminar (20 participants, 5 days) (2)	2
- Nutrition Education (20 participants, 4 days)	1
	<u>34</u>

C. Third Country Training/Workshops

PHC Progr. Dev. Course, 4 persons @ 2 mos.	24
WHO/CDC Trng. Course for EPI, 4 senior persons @ 1 mo. each	20

Table K1 (p. 3)

PHC/VHW Course for trainers (Lome, Yaounde), 6 persons @ 3 mos.	24
PHC/EPI Conference, 5 persons @ 1 wk. each	20
	<u>88</u>

D. Long Term Training

3 Long-Term M.P.H. Training Programs for:

- Health Education (1)	24 pm x \$ 2	48
- Epidemiology (1)	24 pm x \$ 2	48
- Health Management (1)	24 pm x \$ 2	<u>48</u>
		144

Sub-Total Training \$400

3. Commodities

A. Vehicles (4 WD CIF incl. 25% Spare Parts)

- EPI Mobile Team (10) (4 for Integrated PHC activities)	10 x 25	250
- EPI Supervisor and delivery	2 x 25	50
- PHC Supervisors (2)	2 x 25	50
- Central Project Support (2)	2 x 25	<u>50</u>
	16 x 25	400

B. Furniture and Equipment

Central Project Headquarters (including Generator and Fuel)		33
EPI Regional Depots	10 x 4.9	49
EPI Fixed Centers	30 x .86	26
EPI Central Depot	10 x 2.6	26

EPI Mobile Team Outfitting - including refrigeration, racks, camping equipment	10 x 3.9	39
100 CHW Kits	100 x .2	20
100 TBA Kits	100 x .025	2.5
Upgrading 13 Dispensaries	13 x 2	<u>26</u>
Sub-Total		221.5
Shipping and Ins. (75%)		<u>166.5</u>
		388

C. Vaccine and Related Supplies

Emergency Vaccine for unforeseen epidemics (UNICEF providing \$170,000 in EPI vaccines)		50
Other EPI related (e.g. syringes, needles, cotton, soap, vaccination cards, etc.)		<u>154</u>
Sub-Total		204
Shipping and Ins. (50%)		<u>102</u>
		306

D. Teaching Materials and Related Supplies

Reproduction of Teaching Materials for VHW (500 sets, 100 pages)		20
Reproduction of EPI Materials		5
Reproduction of Visual Aids (1,000 sets, 40 pages)		30
Mass Media Health Education Materials		10
Health Education Resource Center (manuals, books)		15
Audio-visual Equipment for Center		30

Mini-Resource Centers (7) (reg'l/dept.)	5	
Drug Treatment Manuals	<u>5</u>	
	120	
Sub-Total Commodities		<u>\$1,214</u>

4. Vehicle and Equipment Maintenance and Fuel

1) Fuel		
- Kerosene for 32 refr.	48	
- Butagas for Cold Chain in Vehicles, Fixed Centers and Depots	58	
- Gas/Diesel for 16 4 WD Vehicles 20 lit./100 km x 15,000 km/yr. 3,000 lit. @ .81 = \$2,430/V/yr. x 4 years	156	
2) Vehicle Maintenance (\$.30/km) \$4,500 x 16 Vh x 4 yrs.	288	
3) Fuel and Maintenance during Transition @ \$3,465 for 6 mos. x 14 = \$48,000	48	
4) Refrigeration Maintenance (25% of \$56,000)	<u>14</u>	
Sub-Total Fuel and Vehicle Maintenance	612	<u>\$612</u>

5. Local Hire Salaries and Per Diem

1 Administrative Assistant @ \$7,500 x 4.5 = \$33,750	34	
1 Financial Manager @ \$7,500 x 4.5 = \$33,750	34	
2 Secretaries @ \$6,000 x 2 x 4.5	54	
3 Chauffeurs @ \$2,800 x 4.5 x 3 = \$37,800	38	
1 Guard @ \$2,000 x 4.5	9	

Table K1 (p. 6)

Per Diem - Chauffeurs 150 days/yr. @ \$5 per day x 150 x 3 x 4.5 yrs.	10
Per Diem - Long-Term T.A. 100 days/yr. x \$15 x 100 x 2 x 4 yrs.	12
	<u>191</u>

Sub-Total Local Hire and Per Diem \$191

6. Special Studies

1) Pharmaceutical Study (Pharmacist)	3 pm x \$12	36
2) Epidemiological Studies and Community Surveys (operating expenses only)		40
3) Nutrition Study (o.e.o.)		3
4) Operations Research Studies		
- recurrent cost study	2 pm x \$12	24
- community financing study	2 pm x \$12	<u>24</u>
	Sub-Total Studies	<u>\$127</u>
	AID Sub-Total	\$4,000
	Inflation (15%)*	600
	Contingency 10%	<u>400</u>
	TOTAL AID	<u>\$5,000</u>

* Inflation factor applied to all project costs to project mid-point of January 1986 (i.e. 2.5 years) @ 5%/year for U.S.; 7.5%/year for 935 countries and 5% for Mauritania. This provides additional margin as most procurement and special studies will take place prior to project mid-point.

B. <u>Mauritanian Inputs</u>	(UM 000)	(\$000)
A. <u>EPI Teams (ten during LOP)</u>	(\$1 = 53 UM)	
1) 3 Infirmiers d'Etat	540	
2) 1 Infirmier Brevete	120	
3) 1 Chauffeur	<u>70</u>	
	730/year x 5 years x 10 Teams	
	UM 36,500	= 689

B. <u>Other</u>		
1) Project Director 90%	459/year	
2) 2 Chefs de Service 50%	480	
3) Director of Health 10%	48	
4) 11 Infirmiere d'Etat 100%	1,980	
5) Others	<u>200</u>	
	3,167 x 5 years	
	UM 15,835	= <u>299</u>
	Base MOH Salaries	988
	Overhead (50%)	<u>494</u>
	Total Salaries	\$1,482

C. <u>Rent and Utilities</u>		
1) 9 Regional Training Centers (periodic)		55
3 years @ 108,000 UM/year x 9 = 2,916,000 UM		
2) 10 Regional EPI Depots @ 48,000 UM/year x		45
5 years x 10 = 2,400,000 UM		
3) Project/Commission Offices @ \$20,000 x 5 years		<u>100</u>
Total Rent and Utilities		\$200

D. Community Contribution

- CHW Compensation		
a) 250 CHW @ 1,500 UM/month (150 x 5 years; 100 x 3 years)		356
b) 120 TBA @ 50 b/year x 20 UM/birth x 3 years		7
- Drug Resupply		
2 Times/year x \$100 (150 villages for 5 years; 100 for 3 years)		210
		<u> </u>
	Total Community Contribution	\$ 573
	Sub-Total	\$2,255
	Inflation	<u>293</u>
	Total Mauritanian Contribution	\$2,548
	Mauritanian Contribution as a percentage of total project cost	30%

C. Other Donors

1. UNICEF (Vaccine) Est. \$42,500/year x 4		170
2. WHO		
a) Epidemiologist	2 pm x 12	
b) Financial Analyst	2 pm x 12	48
Total Other Donor		218
	PROJECT TOTAL	<u>\$7,766</u>

2. Estimated Expenditures by Project Year (\$ 000)

ITEM	AID					GIRM					TOTAL	
	Years 1	2	3	4	5	1	2	3	4	5	AID	GIRM
	7/83	7/84	7/85	7/86	7/87	7/88	7/83	7/84	7/85	7/86	7/87	7/88
A. Commodities												
1. <u>Central Project Headquarters</u>												33
a) Office/Cleaning Supplies	10	2.5	2.5	2.5	2.5							20
b) Generator	10											10
c) Fuel		1	1	1								3
2. <u>EPI Central Depot</u>												26
a) Generator	11											11
b) Cold Chain Equipment	10											10
c) Office Cleaning Supplies	2.5		2.5									5
3. <u>EPI Regional Depots</u>												49
a) Furnishings	6	3										9
b) Cold Chain Equipment	37											37
c) Misc. Office/Cleaning Supplies		.75	.75	.75	.75							3
4. <u>MCH/EPI Fixed Centers</u>												26
Cold Chain Equipment	26											26
5. <u>EPI Mobile Teams</u>												39
a) Camping Equipment	18.3	2.7										21
b) Cold Chain Equipment	18											18
6. <u>CHW Kits</u>	6.25	4	6	3.75								20
7. <u>TBA Kits</u>	1.5	1										2.5
8. <u>Dispensaries</u>	17.5			8.5								26
9. <u>Vehicles</u>	400											400
10. <u>Vaccine</u>												204
a) Vaccine	12.5	12.5	12.5	12.5								50
b) Related Supplies	12	11										23
c) Vaccination Cards and Stationery	131											131
11. <u>Teaching Materials and Related</u>	10	65	45									120
12. <u>Sub-total</u>	739.55	103.45	70.25	29	3.25							945.5
13. <u>Shipping and Insurance</u>	211.3	29.10	20	7	1.1							268.5
14. <u>Total Commodities</u>	950.85	132.55	90.25	36	4.35							1,214

K.2. Estimated Expenditures by Project Year (\$000)

B. Technical Assistance

Long Term	50	285	310	285	310	1,240
Short Term	24	108	36	12	36	216

1,456

C1. Training

Community Health Committees	1.4	2	3.4		3.2	10
CHW/TBA In Service		10	5	10	15	40
CHW/TBA - Initial		12.5	12.5	12.5	12.5	50
Trainers - Initial		1		1		2
EPI Mobile Nurse	3.8	2.6	2.6	2	2	13
EPI/MCH Nurse/Midwives	6			6		12
PHC Nurse/Supervisors	.1	.5		.5		2
Trainers - In Service		1.5	2	1.5		5

134

C2. Workshop/Seminars

PHC Integration Seminars		6	7	7	8	28
Health Education		1	1			2
Pharmaceutical Wksh.		1				1
EPI Seminar	2					2
Nutrition Education		1				1

34

C3. 3rd Country

PHC Program Development		12		12		24
WHO/CDC, EPI Training		10	5	5		20
PHC/CHW Training (Lome)	8	8	8			24
PHC/EPI Conferences	4	4	4	4	4	20

88

C4. Long-Term

Total Training	25	73	51	62	189	144
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400

D. Vehicle and Equipment Maintenance + Fuel

Butagas + Kerosene		26	26	27	28	107
Vehicle Fuel	17.2	38.9	38.9	38.9	38.8	173
Vehicle Maintenance	28	74	72	72	72	318
Refrigerator Maintenance		3.5	3.5	3.5	3.5	14

612

1. Current PHC Activities in Mauritania

a. Rural Medical Assistance (RMA) (AID: 682-0202) - This project has assisted the GIRM to improve rural health care services through the development, implementation, and evaluation of a pilot, affordable community-based primary health care delivery system in the Trarza Region. 192 community health workers have been selected by village committees, trained and supervised by regional health personnel, and supported by their respective communities. Lessons learned are described throughout the Program Elements section of this paper.

b. Health Representative (Delegue Sanitaire) in Adrar Region - This program was established in 1976 by the Adrar MOH Regional Health Center to train village health agents in basic health care techniques and general sanitation activities. Approximately 60 health representatives have been trained to date. It originally trained only health agents around the city of Atar but extended its training to all of the departments. The representative, often a school teacher, is chosen by the village and sent to a two week training course. The course is taught in Hassaniya at the Atar health center with practical training given at the hospital and neighboring dispensaries. Upon completion of training, he receives a village medical kit, consisting of 14 medicines. Every two years, an in-service training is offered to the health agents. In 1982, these agents began training village health agents to work in several of the primary schools. In 1981 after a regional workshop health personnel tried to revise the training to include more of a preventive approach.

Lessons learned: Community awareness and sensitization has been minimal. Emphasis has been on curative techniques rather than on the integration of curative and preventive health care. There has been no training of trainers, although one of the project staff attended a Trarza-based trainers course. The EPI mobile team has provided some supervisory efforts; otherwise supervision has been minimal. CARITAS Mauritania has in the past paid for the three months supply of medicines and recently is paying for additional supplies. There seems to be evidence of little community support, either for drug resupply and agent remuneration.

c. Project Satara - This project financed by UNICEF through the Ministry of Planning is in response to a heavy rural to urban migration, Satara is a slum area just outside of the town of Rosso in the Trarza Region. It is a basic social services project that will address housing, sanitation, water, health and environmental needs of an urban slum area. This project is in the planning stages and includes a health component which will train approximately 20 health agents for the Satara area. The GIRM regional medical officer will be responsible for the coordination of this project. It is planned that the training will be done by the Trarza project staff, possibly adapting part of the project's training curriculum. Supervision will

most probably be done by the regional health center, given its close proximity to the Rosso hospital. Training will be minimal most likely two weeks.

d. Red Crescent Society - CRM began in 1970 in Mauritania under the same guiding principles as other Red Cross societies. It functions as elsewhere in the world as a relief, public welfare and social service organization. Over the last few years, the Red Crescent Society of Mauritania has shown great interest in the training of first aid workers in rural areas. Lutheran World Federation has assisted CRM in financing a 10 day training series for 157 first aid workers in the Assaba Region. Upon completion of training, they have received a village first aid kit which is restocked by project staff in Kiffa free of charge. CRM expects to begin a new series of training sessions in the Guidimaka Region in September 1983. The training period will be extended to 15 days since previous evaluations have shown the need for more in-depth training.

Lessons learned: There has been minimal sensitizing of the community and little community participation in financing the support of the first aid worker. Much of the villagers attention to Red Crescent input is linked to the idea of the distribution of food and clothes, one of the other functions of the RCS. Training received is basic and extremely elementary, consisting of only 10-15 days. Trainers have no health background but are for the most part school teachers. The program is quite autonomous and does not seem to be integrated with the existing health care system.

e. Traditional Birth Attendants (TBA) - This program began in 1977 by the MCH Service within the Ministry of Health and has been financed and supported by UNICEF. The GIRM has trained over 300 traditional birth attendants in 10 regions. It is only the northern regions that the government has not yet been covered given the large nomadic populations. In-service training (IST) has been conducted in six regions, 3 to 5 years after the TBA was originally trained. Almost 100% of the original TBAs trained returned for the IST. Initially, the training of regional and departmental staff for the TBA training program was held in Nouakchott. Since 1980 the MCH Service has revised the training from a theoretical orientation to a more practical one conducted in the region where work will be carried out. The nurse/midwife, regional nurse and a member of the EPI mobile team are responsible for a certain zone within the specified region. they visit each village, informing the community of the program and requesting that they select a traditional birth attendant to receive intensive training. A list of potential candidates is submitted to the national office, where geographic location and experience are considered in making the final selection of the allotted number of TBAs to be trained. UNICEF awards training scholarships for the TBAs. During the last week of the training, health personnel from each of the local areas are included in the course in order to build up a continuity of contact throughout training, follow-up training, and supervision for the TBA. The head trainer, regional nurse/midwife, is assisted by an additional person from the national office.

The MCH Service has a strong commitment to primary health care and has tried over the last few years with assistance from UNICEF and UNFPA to have regional nurse/midwives trained in the community health care course at the Lome WHO Training Center. Like the Trarza project, a personnel file has been developed on each of their TBAs in which they mark dates of training, experience, performance during training, etc. Recently, a random sample survey was conducted on the practices and beliefs, of their trained TBAs in the area of maternal and infant care and on their future training needs. There seems to be interest on the part of the TBAs for further information on birth spacing.

Lessons learned: Training and in-service training seems to be adequate and well received. Supervision is the missing element. Given the constraints in numbers of personnel available for supervisory trips and the lack of transport, supervision occurs rarely. It is difficult to assess the degree to which the TBAs are adequately reimbursed. Restocking of some of their basic midwifery supplies has also been a problem.

f. Gorgol Region - the MCH Service of the MOH in collaboration with UNICEF plans to construct a mini-training center for paramedical personnel. They also intend to start a pilot integrated program using traditional birth attendants and community health agents. The start-up date for this program is still being determined.

g. Guidimaka Region - In 1981, the GIRM regional medical officer set up a small demonstration program, training 15 village health workers. Selected villages chose a representative from their community to attend a 3-6 month training course at the regional medical center. They received classroom teaching as well as practical training in the hospital, dispensary, and PMI. No in-service training has been offered to date. Little is known about the actual curriculum used. Supervision seems to be minimal at this point in time. There is little structure given to mechanisms for restocking of the village pharmacies, although they have received a few supplies from the dispensary. Other medicines are obtained through PHARMARJM.

2. Donor Health Programs

This section briefly summarizes other donor programs in the health sector of Mauritania including multilateral, bilateral and private voluntary organizations.

a. Multi-Lateral

(1) World Health Organization (WHO)

- serves as coordinating body for all donor health activities in Mauritania
- provides technical assistance to existing health programs, with particular emphasis on health education and sanitation;

- trains in-country personnel through academic scholarships, workshops, conferences, etc.

UNICEF (1982-86 total funding: \$928,000)

Provides financing and technical support for:

- training of health agents, in particular auxiliary and traditional birth attendants;
- development of primary care services, expansion of preventive care and health education through the strengthening of maternal and infant care centers (PMI);
- fixed center (PMI) renovation and construction;
- operational funds for training PMI staff;
- support for Expanded Program of Immunization (EPI) through assistance in cold chain equipment, vaccine, transport and seminars;
- continued campaign, focussing on malaria and schistosomiasis control programs as well as other communicable disease activities targeted to mothers and children.

(3) UNFPA - trains personnel in maternal and infant care service, in WHO training center (Lome).

(4) UNDP - provides technical assistance to the National Center for the handicapped.

b. Bilateral

(i) Third Country:

. People's Republic of China - personnel, equipment, medicines; hospital-based medical teams; construction of and technical assistance for National Hygiene Center in Nouakchott.

. U.S.S.R. - medical personnel.

. Kuwait - medical personnel, infrastructure and construction, tuberculosis hospital in Nouakchott.

. Canada - materials, supply and personnel assistance to National School of Public Health.

. Iraq - construction of dispensaries.

. Arab League and Arab Health Ministers Council - health infrastructure/construction; medical personnel and assistance to hospital.

. European Development Fund (FED) - facility expansion of National Hospital and expansion of National School of Public Health in Nouakchott.

. France - Fonds d'Aide et de Cooperation (F.A.C.) - health and medical personnel and construction of Maternal/Infant center in Nouakchott.

. African Development Bank (B.A.D.) - training over next 10 years for medical and paramedical personnel.

. Other - contributions from other countries have been received: medicines, vaccines, supplies on sporadic basis.

(ii) U.S. Government

. USAID Health Sector Projects

USAID in Mauritania Health Sector has focused its efforts in the health sector on strengthening the GIRM Ministry of Health's primary health care delivery system. The majority of these activities have concentrated on rural populations, primarily those involved in food production, who have had no previous access to health care services. Key objectives for the USAID/M Health Sector are as follows:

1. Improve planning and management capabilities of GIRM health personnel involved in the development of PHC programs;

2. Assist GIRM personnel in analyzing and establishing priorities for the GIRM health sector. In particular, encourage GIRM's development of policies affecting integration of health into overall rural development programs, demographic analysis, population and family planning programs; low cost impact primary health care coverage; reduction of recurrent costs by promoting selected and more consolidated health care interventions; management training and institutional development; and coordination among donors in health sector planning.

3. Assist GIRM in implementing an on-going system for development of health programs, with emphasis on technology transfer through training, AID technical assistance, and coordination of other technical assistance resources with collaborating agencies.

4. Assist GIRM in examining the feasibility of private sector enterprises in the health sector.

Listed below are the various bilateral, regional or centrally funded health programs and components within development projects that are currently being implemented or have been developed:

Rural Medical Assistance Project (682-0202)

Began in 1980, having as its primary goal to provide a primary health care delivery system in the Trarza Region with referral

capability to cover larger portions of the populations. AID has assisted the GIRM's MOH to train and equip 192 rural Community Health Workers (CHWs) in basic preventive and curative techniques. CHWs have been supported by their communities, which are responsible for financial supply of medicines. MOH personnel have been instructed in the training and supervision of CHWs in order to integrate this PHC system into existing services.

Expanded Program of Immunization (625-0937)

Began in 1980; it has implemented a nation-wide preventive health care program of immunization aimed at reducing the incidence of six communicable diseases (tuberculosis, measles, diphtheria, whooping cough, tetanus and poliomyelitis) in children 0-5 years and pregnant women (tetanus) through maternal and child health clinics and mobile teams.

. Regional and Centrally Funded Projects

INTRAH (central funding) has proposed to Mauritania a series of in-country training opportunities in family health/family planning for nurses, midwives, etc. The proposal is still under negotiation with USAID. GIRM has requested technical assistance specifically in these areas. Short-term training has been provided under INTRAH to a number of nurses, including the Director of the Maternal and Child Health Service.

JHPIEGO - (central funding) - Johns Hopkins has received 8 physicians and several nurses from Mauritania to be trained in reproductive health. A laparoscopy service was established in the National Hospital in Nouakchott.

Sahel Demographic Data Collection Project (central funding) has conducted a demographic data analysis within GIRM's Ministry of Economy and Finance. Computer equipment has also been provided.

Integrated Population Development Planning Project (central funding) has provided several consultative visits to Mauritania since 1980. It has assisted the Ministry of Plan to analyze demographic and population needs.

OMVS Integrated Development Project (682-0621) has a health component that might involve the National Hygiene Center in providing health surveillance around irrigated perimeters and provide long-term training in epidemiology. It is still under negotiation.

Strengthening Health Delivery Systems (SHDS) (central funding) has provided training and technical assistance as follows: trained RMA Project nurses in Lome; trained EPI managers; provided training in a health management course in Dakar; developed health surveys for RMA Project; adapted PHC training materials for use in RMA Project; and provided consultation for disease surveillance studies.

Peace Corps/Mauritania

Historically Peace Corps Mauritania's (PC/M) heaviest involvement has been in the health sector. In 1977 PC/M and USAID began working with the Ministry of Health's (MOH) Maternal and Child Health (MCH) centers. USAID provided \$150,000 to fund vehicles for outreach services as well as certain medical supplies for the MCH centers. PC/M provided volunteers, e.g. nurses and social workers, to help improve the skills of Mauritanian counterparts working in these centers. Peace Corps Volunteer recruitment between 1977 and 1980 reflected the MOH's priorities on filling personnel shortages and improving preventive services already in place. During these years, PC continued to provide specialized volunteers to the MCH centers, and responded to additional requests from the MOH by providing laboratory technicians. It initiated the recruitment of volunteers to serve as health educators in the MOH/USAID/PC Rural Medical Assistance (RMA) project.

Since 1980, the MOH has succeeded in training a number of mid-level health personnel. At the Ministry's request PC/M no longer supplied nurses or highly skilled health volunteers, PC involvement in both the RMA project and the laboratory technician programs were phased out at the end of FY82. PC/M continues, however, to recruit and train Volunteers to work with the MCH program. In 1981, in response to MOH priorities for primary health care and health education, PC/M began recruiting generalists. These volunteers were trained in the fundamentals of primary health care, nutrition, health education, needs assessment, etc. PC/M has placed Volunteers and will continue to place volunteers in villages with existing MCH centers, and where centers are planned or under construction. The major activities of these volunteers are health education and preventive health. Moreover, PC encourages volunteers to develop secondary projects using appropriate technologies.

In 1981, PC/M proposed to both the Director of Public Health and the Director of the MCH centers that volunteer placements not be limited to only those sites having existing or planned MCH centers; viable placements could also be made in those villages with small health units and limited personnel. Volunteer activities will be the same as MCH volunteers, and will be consistent with the Government's five year plan to extend primary health services/education to rural populations.

In 1982 in order to experiment with this idea, the MCH and PC/M placed two volunteers in an established MCH center to act as health educator/extension agents in an outreach program designed to extend MCH services to the rural areas adjacent to the center. This program appears to be working well and has formed the basis of PC/M's new program of community health education due to begin in the fall of 83. If this program is successful, it will open up additional sites in rural areas where the need is greatest. The potential volunteer input in this program could be from 5 to 15 volunteers per year from FY83 to FY87.

c. Private and Voluntary Organizations

(1) Lutheran World Federation (LWF) - LWF began its program in Mauritania in 1974 with special emphasis on relief and rehabilitation of drought victims seeking refuge in Nouakchott. With the persistent drought situation, the program moved from an urban-oriented activity with emphasis on relief, towards a more developmental-oriented rural program. It functions through the intermediary of the Mauritanian Red Crescent Society (CRM) and other agencies of the GIRM. Project activities have included: a reforestation program in Nouakchott, a market gardening project, construction of a dispensary and an urban socio-medical center with maternity, self-help food production efforts, a sand dune stabilization project, and a rural development program. Two warehouses and a vehicle repair shop were built for the CRM. The Socio-Medical Center has been operational since 1979, targeting its services to a Nouakchott settlement area of approximately 70,000 persons. Over the last two years, 1980-82, close to 10,000 women have delivered at the maternity (an average of 10 deliveries per day). Total staff of the center is 80, with trainees from the midwifery school receiving practical training here. A child welfare clinic has an attendance of 60 children per day. A nutrition rehabilitation center has also been established. For LWF involvement in primary health care services, see Red Crescent Society description under section entitled "PHC activities in Mauritania".

(2) Catholic Relief Services (CRS) - From 1975-78 Catholic Relief Services (CRS) functioned primarily as a food relief service. In 1980 it began its technical food and nutrition program. Over the last three years CRS has established a regular program working with a network of 23 existing health centers, 5 of which are in Nouakchott. CRS collaborates with the Office of Nutrition within the Maternal and Child Health Service of the Ministry of Health and with the Red Crescent of Mauritania (CRM).

CRS currently has designated three categories as receiving highest priority for FY 84 in its operational plan: food distribution and nutrition education to others and children age 0-5 years; supplemental child feeding to severely malnourished, through the PMI, CRS centers and hospitals; and feeding to hospitalized patients delivered through social services.

A total of 65,100 recipients will be targetted in 1984 with 2,000 children receiving food aid in 34 day care centers and 3,100 patients benefiting from distribution through the hospital system.

The CRS focus on combatting child malnutrition through food and nutrition programs, seeks to do the following:

- distribute food supplements which improve nutrition while saving households money;

- monitor the child's health through a monthly weighing and growth surveillance system;

- provide health and hygiene education for the prevention of malnutrition;

- encourage mothers to use the available health services and to vaccinate their children against diseases;

- involve participating mothers in some kind of income-generating or developmental activity.

The MOH has recently launched a program to develop community-based feeding centers (Centres d'Alimentation Communautaire - CACs) for the rehabilitation of the moderately malnourished and CRS has been providing small quantities of commodities for these centers.

The GIRM believes that the present CRS program does not effectively reach malnourished children, because food is taken home and distributed to all members of the family and not given just to the malnourished. A recent nutrition seminar in Mauritania recommended that the CRS/CRM/PMI nutrition program be re-oriented to rehabilitate severely and moderately malnourished children incorporating the following measures:

- better and more appropriate training;
- change from fixed centers to more mobile approach, based on community contact and participation;
- creation of national food and nutrition commission.

A recent evaluation of the CRS program recommended that the following areas required significant improved efforts over the near future:

- selection and implementation of the most appropriate growth surveillance system;
- restructuring of the educational component;
- development of standardized and relevant programs for pre-service and in-service training of auxiliaries, volunteers, and midwives;
- institutionalization of smoothly functioning operations in all centers;
- experimentation with community feeding centers (CACs);
- integrated national food and nutrition policy planning.

(3) Red Crescent Society (CRM) - see description in section entitled other PHC Programs in Mauritania.

(4) Caritas Mauritania - furnishes food and medicines, (often times through Red Crescent Society); implements integrated rural development programs; and provides medicines for PHC program in Adrar Region.

(5) Raoul Follereau Foundation - provides assistance in the area of leprosy.

(6) Oxfam - programs in rural development, water and sanitation in Hodh el Gharbi Region. Assistance to National Center for the handicapped.

(7) Medecin Sans Frontieres - Two-year contract to provide curative and preventive health care through mobile teams in the Region of Hodh El Gharbi. Conducting nutrition and epidemiological surveillance.

Implementation Schedule - Key

M-3

<u>Action</u>	<u>Date</u>	<u>Agent</u>
A. <u>General Project Management</u>		
1. <u>Documentation/Evaluation</u>		
a. Grant Agreement Signed	7/83	AID/MOH/MOP
b. PIL # 1 Re: CPs Issued	8/83	MOH/USAID
c. CPs Met	12/83	USAID
d. Mid-project Evaluation, PIO/T to AID/W	10/85	AID/MOH/WHO/TA
e. Mid-project Evaluation	2/86	AID/MOH/WHO/TA
f. Mid-course Corrections	2-3/86	AID/MOH/TA
g. EOP Evaluation, PIO/T to AID/W	4/88	AID/MOH/TA/WHO
h. EOP Evaluation	7/88	AID/MOH/TA/WHO
2. <u>Financial</u>		
a. SRFM TOY Re: POF, PIL # 2	9/83	AID/SRFM/MOH
b. Project Accounting System Installed	9/83	AID/SRFM/MOH
c. PIL # 2 on POF Issued	10/83	AID
d. Time phased Quarterly Budget	12/83 and on	MOH/AID
e. Request for Funds	12/83 and on	MOH
f. Separate Project Bank Acct.	12/83	MOH
g. First Advance to POF	1/84 and on	AID/MOH
3. <u>Other</u>		
a. National PHC Commission Decree	1/84	MOH
b. Half Local Hire Staff Hired	1/84	MOH/AID
c. 2nd Half Local Hire Staff Hired	8/84	TA/MOH
B. <u>Technical Assistance</u>		
1. <u>Long-Term Selection/Contracting</u>		
a. Scope of Work Finalized	7/83	AID/MOH
b. PIO/T Signed - to AID/W	8/83	AID/MOH
c. RFP Issued	9/83	AID/W
d. Proposals Received - Nouakchott	11/83	AID
e. Evaluations Completed, TA Selected	1/84	AID/MOH
f. Negotiations Completed, Contract Signed	3/84	AID
g. Housing Arranged	5/84	AID/TA
h. TA Team In-Country	7/84 and on	AID
2. <u>Long-Term Management</u>		
a. Annual Work Plan Due	9/84 and on	TA/MOH/AID
b. Semi-Annual Report Due	12/84 and on	TA/MOH

<u>Action</u>	<u>Date</u>	<u>Agent</u>
3. <u>Curriculum Development</u>		
a. Participants/Scope/Logistics - Health Education	7/84 and 2/85	TA/MOH/AID
b. Curriculum Development TA Arrives - 2 p.m.	10/84 and 2/86	
c. Health Education Workshop	8/84 and 4/85	TA/MOH
d. Curriculum Recommendations Considered	10/84 - 2/85	TA/MOH
4. <u>Cold Chain Maintenance</u>		
a. Participants/Scope/Logistics	8/84 and 7/86	TA/MOH
b. TA Arrived	9/84 and 8/86	TA/MOH
5. <u>Visual Aids Specialist</u>		
a. Participants/Scope/Logistics	1/85	TA/MOH
b. TA Arrives	2/85 - 4/85	TA/MOH
6. <u>Mass Media Specialist</u>		
a. Participants/Scope/Logistics	6/86	TA/MOH
b. Mass Media Arrives - 2 p.m.	8/86	TA/MOH
7. <u>Disease Surveillance</u>		
a. Baseline Studies PIO/T - to AID/W	8/83	AID/MOH
b. Baseline Enumerators Selected	9/83	MOH
c. Baseline TA Arrives - 1 p.m.	11/83	TA/MOH
d. Baseline Data Collection	12/83 - 2/84	MOH/TA/AID
e. Info. Sys. - Parts./Scope/Logis.	12/83	MOH/AID
f. Info Syst. TA Arrives - 1 p.m.	1/84	MOH/AID
g. Baseline - Parts./Scope/Logis.	12/84	TA/MOH
h. Baseline TA Arrives, 2nd Visit, 1 p.m.	2/85	TA/MOH
i. Info., 2nd Visit, Parts./Scope/Logis.	6/86	TA/MOH
j. Info., 2nd Visit, Arrives - 1 p.m.	8/86	TA/MOH
8. <u>Community Survey</u>		
a. PIO/T Approved - to AID/W	9/83	AID/MOH
b. Participants/Scope/Logistics	11/83	AID/MOH
c. TA Arrives - 1 p.m.	12/83	AID/MOH

<u>Action</u>	<u>Date</u>	<u>Agent</u>
C. <u>Commodity Procurement</u>		
1. <u>Vehicles</u>		
a. Spec., Source and Origin Finalized	7/83	AID/MOH
b. Proprietary Waiver Signed	9/83	AID
c. Negotiations Completed, Award Made	12/83	AID
d. Vehicle Use/Maintenance Sched.	12/84	MOH
e. Periodic Maintenance Contract	2/84	MOH/AID
f. Vehicles Arrive Nouakchott	5/84	AID
g. Vehicles Clear Customs	6/84	MOH/AID
h. Vehicle Outsitting	7/84	MOH
2. <u>Imported Commodities</u>		
a. Lists Finalized (See Draft Procurement Lists and Expenditures by Project Year)	9/83	AID/MOH
b. PIO/Cs to AID/W for UNICEF Equipment	11/83	AID
c. Commodities Shipped from U.S./ UNIPAC	5/84	AID/W/UNIPAC
d. Commodities Arrive Clear Customs	9/84	MOH/AID
e. 2nd Batch UNICEF, PIO/C - to AID/W	6/85	AID/MOH/TA
f. 2nd Batch UNICEF, Shipped	2/86	AID/UNIPAC
g. 2nd Batch UNICEF, Arrives, Clear Customs	6/86	MOH/AID
3. <u>Vaccine and Related Supplies</u>		
a. Agreement for UNICEF Vaccine Signed	8/83	MOH/UNICEF
b. Lists Finalized 1st Q PIO/C to AID/W	8/83, 8/84, 8/85, 8/86	AID/MOH
c. One Quarter Order Arrives, Clears Customs	7/84, 7/85, 7/86, 7/87	MOH
4. <u>Local Commodities</u>		
a. Local Commodities Requirements Finalized/Bid	1/84	MOH
b. Local Commodities Ordered	2/84	MOH
c. Request to AID for Excess Furniture	3/84	MOH
d. Butagas Contract Negotiated	4/84	MOH/AID
e. Local Commodities Delivered	7/84	MOH
f. Office/Cleaning Order Placed	6/85, 6/86	MOH
g. Office/Cleaning Supplies Received	8/85, 8/86	MOH

	<u>Acti :</u>	<u>Date</u>	<u>Agent</u>
5.	<u>TA/Teaching Commodities</u>		
	<u>a. Audio Visual/Visual Aids</u>		
	1) One-third of Allowable - PIO/C or Purchase Order Issued	3/84	AID/MOH
	2) One-third of Allowable - Arrives, Clears Customs	11/84	MOH/TA
	3) Rest of Audio Visual PIO/C	3/85	TA/AID
	4) Visual Aids Material Ordered	5/85	TA/MOH
	5) Final Audio Visual and Visual Aids Arrives	11/85	MOH/TA
	<u>b. Mass Media Material</u>		
	1) Contract Issued for Local prod.	6/86	MOH/TA
	2) Produced Material Ready	9/86	MOH/TA
	<u>c. Curriculum Material</u>		
	1) Drafts Approved, Reprod. Ordered	5/85	MOH/TA
	2) Reproductions Arrive, Clear Customs	12/85	MOH/TA
	<u>d. EPI Materials and Drug Manuals</u>		
	1) PIO/C Prepared, to AID/W	2/84	AID/Knebel/MOH
	2) EPI Materials Clear Customs	9/84	MOH/AID
	<u>e. Health Education Resources</u>		
	1) Health Education Resource Center Material ID'd	5/85	TA/MOH
	2) Health Education Resource Center Material, PIO/C	6/85	TA/AID
	3) Mini-Resource Center Material, PIO/C	6/85	TA/AID
	4) Mini + Health Education Resource Materials Arrive and Clear Customs	12/85	MOH/TA
	5) Mini-Resource Centers Open in Trarza and Guidimaka	12/85	TA/MOH
	6) Mini-Resource Center Opens, Region X	1/87	TA/MOH
D.	<u>Special Studies</u>		
	<u>1. Nutrition Study</u>		
	a. Scope Finalized	12/83	AID/MOH
	b. Study Conducted at 2 p.m.	3/84	
	<u>2. Pharmaceutical Study</u>		
	a. Scope of Work Finalized	8/83	AID/Knebel/MOH
	b. PIO/T to AID/W, Coord. with WHO	9/83	AID/MOH/WHO
	c. Study Conducted at 2:5 p.m.	1/84	AID/MOH/WHO
	d. Pharmaceutical .5 p.m. workshop	9/84	AID/MOH

<u>Action</u>	<u>Date</u>	<u>Agent</u>
3. <u>Operations Research</u>		
a. PIO/T to AID/W	11/83	AID/MOH
b. Initial Study 1 m	3/84	AID/MOH
2. <u>Other Significant Actions</u>		
a. CRS - PMI Assessment Begins	11/83	CRS/MOH/AID
b. EPI/CHW Integration Begins - Trarza	1/84	MOH/AID
c. EPI Vehicle Outfitting	7/84	MOH/AID
d. EPI Mobile Team Activities	On-going	MOH/AID
e. CHW Supervision/Retraining, Trarza	On-going	MOH/AID

ANNEX N:

SECTION 121(D) CERTIFICATION AND

THE PROJECT OPERATING FUND (POF)

ACTION MEMORANDUM FOR THE DIRECTOR, USAID/MAURITANIA

FROM: Barry MacDonald, PDE *B. MacDonald*SUBJECT: Mauritania Rural Health Services Project (682-0230);
FAA Section 121(d) Certification

Problem: Section 121(d) of the Foreign Assistance Act of 1961, as amended, precludes any obligation of Sahel Development Program funds for disbursement by a foreign Government until the Administrator has determined "that the foreign Government will maintain a system of accounts with respect to those funds which will provide adequate identification of and control over the receipt of those funds". A 121(d) determination is required concerning the subject project.

Discussion: In anticipation of this requirement, the Africa Bureau, at the beginning of FY 1982, initiated a process of "Certification Review" and "Certification" by Mission Directors and AID/W office heads. This review is designed to establish the adequacy of host country accounting systems. Certification criteria were prepared by the office of Financial Management which established for the Bureau the minimum standards for host country accounting systems which must be met prior to certification.

To meet the Section 121(d) requirement, the USAID engaged the services of a retired former Controller and Area Auditor General to examine the system of accounts maintained by the Ministry of Health under predecessor Projects No. 682-0202, Rural Medical Assistance, and No. 625-0937, Expanded Program of Immunization. Based upon his review, he has proposed installation of an accounting system for Project No. 682-0230, Rural Health Services, which, when fully operative, will provide adequate identification of and control over the receipt of project funds. Until such time, funds will be deposited into a separate commercial bank account and jointly managed under a revolving fund mechanism by a U.S. person with 100 percent of documentation in support of disbursements submitted to the USAID Controller for reimbursement.

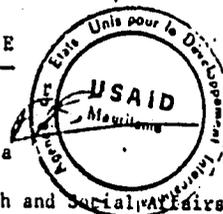
Recommendation: That you determine that the requirement set out in Section 121(d) of the Foreign Assistance Act of 1961, as amended, has been met.

Approved: *Peter B. ...*

Disapproved: _____

Date: 11 June 1983Clearances:G. Westlake, CONT *GW*B. Brown, OGD *BB**CB*
CB:mcl: 6/6 /83

30 JUN 1983

A I D E M E M O I R E

From: Peter Benedict, Director, USAID/Mauritania

To: Mohamed Mahmoud Ould Dah, Minister of Health and Social Affairs

Subject: Rural Health Services Project N° 682-0230;
Proposed Accounting System

Background: USAID has engaged the services of an American accounting expert to review accounting operations conducted under the two predecessor projects (682-0202, Rural Medical Assistance (RMA) and 625-0937, Expanded Program for Immunization (EPI)).

Based upon his review of the two projects (Trarza and EPI), the American expert has devised an accounting and reporting system to be installed for the new Rural Health project. This system will conform with acceptable accounting standards for recording, reporting and internal control tailored to the project. The proposed system calls for the proper recording, classifying, summarization and reporting of financial transactions. It will enable the MOH to plan, control and appraise its own performance and incorporates the following features:

- accounting documentation will meet acceptable standards.
- the records will provide information needed to adequately identify obligations and funds due under the budget, as well as receipts and expenditures of AID funds authorized for local costs of the project according to approved budget categories.
- entries in the accounting records will refer to supporting documentation appropriately filed so that they can be readily located.
- it will be possible to trace each transaction underlying accounting reports through available records and back to source documents so that all funds expended can be accounted for to determine whether actual project expenditures have been authorized.
- internal controls will be established to (a) safeguard project assets; (b) check accuracy and reliability of accounting data; (c) promote operational efficiency; and (d) assure adherence to prescribed managerial policies.

Summary of Proposed Implementation Plan: The following steps are contemplated in the implementation of the financial plan for the project:

1. USAID designates Project Manager and MOH designates Project Director; Director will authorize and Manager will approve all individual disbursement vouchers.
2. The budget will be jointly established by the Minister of Health and AID. Both parties will have access to all information required to verify that funds have been expended in conformity with project objectives. Joint accounting could also be maintained by both parties. If necessary a PIL will be prepared establishing the budgetary limitations by line item.
3. USAID will furnish MOH with the expert's recommended accounting system for the Project and, upon approval, this will be the basis for budgeting, accounting, recording and reporting under the Project.

4. Prior to release of funds under the project, MOH will submit to USAID the accounting procedures and the management system to be followed and a list of the authorized functional personnel at all level. This system will be adopted through exchange of PIL between the two parties after review by USAID.
5. MOH will establish records for property and materials/supplies provided for the project (in kind or purchased from LC or dollar funds).
6. USAID Controller upon presentation by the Project Director of a quarterly budget approved by the Project Manager and request for funds will advance the money.
7. Upon quarterly completion, the Project Director will submit required documents, reports and request for funds to the USAID Controller for reimbursement accompanied by the Project Manager's certification.

Proposed Counterpart Training: Subsequent to the release of funds, the USAID Controller proposes to assign a representative to work with the Project accountant on a regular basis for the first month. He will assure himself that all documentation meets acceptable standards, posting to the required accounting records is kept up-to-date and that accounting controls (authorizations, approvals, supporting documentation) are in place. At the end of the month, he will check accounting records to see that they are in balance. At the end of the quarter, records will be totalled and balanced and required quarterly financial reports prepared therefrom, at which time the Controller's representative will check reports against records to assure conformity, with particular emphasis on the bank reconciliation.

During the second quarter, the Controller's representative will visit the project accountant two or three times per month, to test check postings to the records and, at month and quarter endings, ensure himself that accounting records are in balance. Quarterly reports will be carefully reviewed in the same manner as indicated for the initial quarter ending.

Unless there has been major difficulty, subsequent to the second quarter, the USAID Controller should be able to monitor reimbursement requests and review budget submissions on a desk audit basis predicated upon the quarterly financial reports submitted, with occasional and irregular sampling of end-use for major commodity components, cash count of petty cash and similar techniques in accordance with sound auditing practices.

Approved:

4 JUL 1983

Minister of Health and Social Affairs.

Date

A I D E M E M O I R E

De : Monsieur Peter Benedict
 Directeur de l'USAID en Mauritanie

A l'attention de : Monsieur Mohamed Mahmoud Ould-Del
 Ministre de la Santé et des Affaires Sociales

Objet : Projet Services de Santé Rurale N° 682-0230
 Proposition d'un Système Comptable

Historique : L'USAID a fait appel aux services d'un expert comptable américain afin qu'il revoie les opérations comptables effectuées au cours des deux projets précédents 682-0202 Assistance Médicale Rurale (AMR) et 625-0937 Programme Elargi de Vaccination (PEV).

Sur la base de l'examen de ces deux projets (Trarza et PEV), l'expert américain a trouvé un système comptable et de rapports devant être utilisé pour le nouveau projet de Santé Rurale. Ce système sera conforme aux normes comptables acceptées pour l'enregistrement, les compte-rendus et le contrôle interne se rapportant au projet. Le système proposé demande un enregistrement, une classification, un résumé et un compte-rendu des transactions financières. Il permettra au Ministère de la Santé de planifier, de contrôler et d'évaluer ses propres réalisations ; il contient les caractéristiques suivantes :

- La documentation comptable doit répondre aux normes standard acceptables.
- Les enregistrements fourniront les informations nécessaires pour identifier de manière adéquate les obligations et les fonds dûs dans le cadre du budget, ainsi que les recettes et les dépenses des fonds de l'AID autorisés pour les coûts locaux du projet selon les catégories budgétaires approuvées.
- Dans les enregistrements comptables, les entrées seront appuyées par des pièces justificatives classées correctement, ce qui permettra de les situer rapidement.
- Il sera possible de suivre chaque transaction sur la base des rapports comptables des enregistrements et des documents d'origine ainsi tous les fonds dépensés pourront être comptabilisés pour déterminer si les dépenses actuelles du projet ont été autorisées.
- Des contrôles internes seront établis pour (a) sauvegarder les actifs du projet ; (b) vérifier la justesse et la véracité des données comptables ; (c) promouvoir l'efficacité opérationnelle ; et (d) assurer que la procédure de gestion prescrite est respectée.

Résumé du Plan d'Exécution Proposé : Les mesures suivantes sont envisagées pour l'exécution du plan financier de ce projet :

1. L'USAID nomme un Responsable de Projet. Le Ministère de la Santé nomme un Directeur National du Projet. Le Directeur National autorisera tous les bons de décaissement individuels et le Responsable les ordonnera.
2. Le budget est conjointement établi par le Ministère de la Santé et l'USAID. Chacune des 2 parties pourra disposer de l'ensemble des informations lui permettant de vérifier si les fonds ont été utilisés conformément aux objectives du projet. Un contrôle conjoint pourra également être fait par les 2 parties. Une lettre d'exécution du projet peut être rédigée dans ce sens.
3. L'USAID proposera au Ministère de la Santé un système comptable recommandé par l'expert de Projet et, une fois approuvé, ce système servira de base à la budgétisation, à la comptabilité, à l'enregistrement et aux compte-rendus financiers dans le cadre du Projet.

4. Avant le déblocage des fonds dans le cadre du projet, le Ministère de la Santé soumettra par écrit à l'AID, les procédures comptables et les systèmes de gestion, qui seront retenus ainsi que le personnel qui en sera responsable à tous les niveaux. Ce système sera adopté par échange de lettre d'exécution entre les deux parties après étude par les services financiers de l'USAID.
5. Le Ministère de la Santé établira un inventaire des biens et du matériel/fournitures pour le projet (en nature ou achetés avec les fonds en monnaie locale ou en dollars).
6. Le Responsable du Service des Finances de l'USAID avancera les fonds sur présentation, par le Directeur National du Projet, d'une demande de fonds et d'un budget trimestriel approuvé par le Responsable du Projet.
7. Pour les remboursements, le Directeur National du projet soumettra à la fin de chaque trimestre, au Responsable du Service des Finances de l'USAID les documents demandés, les rapports et la demande de fonds accompagnés de la certification du Responsable du Projet.

Formation Proposée pour l'Homologue : Après la libération des fonds, le Responsable du Service des Finances de l'USAID propose un représentant qui travaillera régulièrement avec le comptable du projet pendant le premier mois. En collaboration avec le comptable, ils s'assureront que toute la documentation répond à des normes acceptables, que les enregistrements comptables demandés sont à jour et ils procéderont à des contrôles de comptabilité (autorisations, approbations, documentation à l'appui). A la fin du mois, ils vérifieront les enregistrements comptables. A la fin du trimestre, les enregistrements seront totalisés et soldés, les rapports financiers trimestriels demandés seront faits à partir de ces données : à ce moment-là, le représentant du Responsable du Service des Finances comparera les rapports aux enregistrements pour s'assurer qu'il y a conformité, il fera particulièrement attention à ce que les transactions bancaires concordent.

Au cours du second trimestre, ce représentant rendra visite au comptable du projet, deux ou trois fois par mois, pour vérifier et à la fin du mois et du trimestre pour s'assurer que les enregistrements comptables sont équilibrés. Les rapports trimestriels seront soigneusement revus selon la manière indiquée pour la fin du premier trimestre.

A moins qu'il n'y ait de sérieuses difficultés, après le deuxième trimestre, le Responsable du Service des Finances de l'AID devrait pouvoir contrôler les demandes de remboursement et revoir les soumissions budgétaires sur la base des rapports financiers trimestriels fournis avec une justification de l'utilisation finale des principaux volets d'équipement, avec un compte de liquidités de la petite caisse et des techniques similaires en conformité avec des pratiques d'audit.

Approbation

Ministre de la Santé et des Affaires Sociales

4 JUL 1983

Date

VZCZCNET *
 RR RUEHC
 DE RUEHOK #2867 163 **
 ZNR UUUUU ZZH
 R 120954Z JUN 83
 FM AMEMBASSY NOUAKCHOTT
 TO SUCSTATE WASHDC 6122
 EI
 UNCLAS NOUAKCHOTT 02867 ✓

CLASS: UNCLASSIFIED
 CHRGF: AID 6/09/83
 APPRV: AID/DIR: PFENNEDICT
 DRFTD: PDE: SBARANSON: MPC
 CLEAR: 1. PDE: CSMOCLUSKY
 DISTR: AID-5 AMB DCM
 JAO ECON CHRON

AIDAC

E.O. 12356: N/A

SUBJECT: RURAL HEALTH SERVICES PROJECT, 682-0230;
 SECTION 121 (D) DETERMINATION .

1. REQUEST AID/W INITIATE SUBJECT DETERMINATION WITH
 LANGUAGE AS FOLLOWS, BEGIN PROPOSED TEXT:
 SUBJECT: RURAL HEALTH SERVICES PROJECT 682-0230
 REF: DELEGATION OF AUTHORITY NO. 144
 PROBLEM: SECTION 121(D) OF THE FOREIGN ASSISTANCE ACT OF
 1961, AS AMENDED, PRECLUDES ANY OBLIGATION OF SAHEL
 DEVELOPMENT PROGRAM FUNDS FOR DISBURSEMENT BY A FOREIGN
 GOVERNMENT UNTIL THE ADMINISTRATOR HAS DETERMINED QUOTE
 THAT THE FOREIGN GOVERNMENT WILL MAINTAIN A SYSTEM OF
 ACCOUNTS WITH RESPECT TO THOSE FUNDS WHICH WILL PROVIDE
 ADEQUATE IDENTIFICATION OF AND CONTROL OVER THE RECEIPT
 OF THOSE FUNDS UNQUOTE. JANUARY 6, 1982, THE ADMINIS-
 TRATOR DELEGATED THE AUTHORITY TO MAKE THIS DETERMINATION
 TO YOU IN DELEGATION OF AUTHORITY NO. 144. A 121(D)
 DETERMINATION IS REQUIRED CONCERNING THE SUBJECT PROJECT.
 DISCUSSION: IN ANTICIPATION OF THIS REQUIREMENT, THE
 AFRICA BUREAU, AT THE BEGINNING OF FY 1982, INITIATED A
 PROCESS OF QUOTE CERTIFICATION REVIEW UNQUOTE AND QUOTE
 CERTIFICATION UNQUOTE BY MISSION DIRECTORS AND AID/W
 OFFICE HEADS. THIS REVIEW IS DESIGNED TO ESTABLISH THE
 ADEQUACY OF HOST COUNTRY ACCOUNTING SYSTEMS.
 CERTIFICATION CRITERIA WERE PREPARED BY THE OFFICE OF
 FINANCIAL MANAGEMENT WHICH ESTABLISHED FOR THE BUREAU THE
 MINIMUM STANDARDS FOR HOST COUNTRY ACCOUNTING SYSTEMS
 WHICH MUST BE MET PRIOR TO CERTIFICATION.
 TO MEET THE SECTION 121(D) REQUIREMENT, THE USAID ENGAGED
 THE SERVICES OF A RETIRED FORMER CONTROLLER AND AREA
 AUDITOR GENERAL TO EXAMINE THE SYSTEM OF ACCOUNTS MAIN-
 TAINED BY THE MINISTRY OF HEALTH UNDER PREDECESSOR
 PROJECTS NOS. 682-0202, RURAL MEDICAL ASSISTANCE, AND
 625-0637, EXPANDED PROGRAM OF IMMUNIZATION. BASED UPON
 HIS REVIEW, HE HAS PROPOSED INSTALLATION OF AN ACCOUNTING
 SYSTEM FOR PROJECT 682-0230 RURAL HEALTH SERVICES WHICH,
 WHEN FULLY OPERATIVE, WILL PROVIDE ADEQUATE IDENTIFICATION
 OF AND CONTROL OVER THE RECEIPT OF PROJECT FUNDS. UNTIL
 SUCH TIME, FUNDS WILL BE DEPOSITED INTO A SEPARATE
 COMMERCIAL BANK ACCOUNT AND JOINTLY MANAGED UNDER A
 REVOLVING FUND MECHANISM BY A U.S. PERSON WITH 100 PER
 CENT OF DOCUMENTATION IN SUPPORT OF DISBURSEMENTS
 SUBMITTED TO THE USAID CONTROLLER FOR REIMBURSEMENT.
 RECOMMENDATION: THAT YOU MAKE A FINDING THAT THE
 DETERMINATION SET OUT IN SECTION 121(D) OF THE FOREIGN

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NOUAKCHOTT 02967

ASSISTANCE ACT OF 1961, AS AMENDED, HAS BEEN MET. END
PROPOSED TEXT.

2. REQUEST FINAL APPROVAL BE HELD PENDING OUR CONFIRM-
ATION BY IMMEDIATE CABLE THAT NEGOTIATIONS WITH GIRM HAVE
BEEN SUCCESSFULLY CONCLUDED. USAID WILL ADVISE SOONEST.

FECK

BT

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ACTION AID 5 INFO AME DCM ECON JAO CHROM

ZCZCOUAC23DAD868EHV114
PP RUFHOK
CF RUEHC #5597 1830951
ZNR UUUUU ZZH
P 0205597 JUL 83
FM SECSTATE WASHDC
TC AMEMEASSY NOUAKCHCTT PRIORITY 3283

UNCLAS STATE 185597 ✓

AIDAC

I.O. 12356:N/A

TAGS:

SUBJECT: FY '83 CYB

REF: (A) NOUAKCHOTT 02928; (B) STATE 164187

STATUS OF FY '83 PROJECTS AS FOLLOWS:

A. 682-0230 - RURAL HEALTH SERVICES -121(D). DETERMINATION SIGNED BY ACTING AA/AFR JUNE 27. BUDGET ALLOWANCE REQUESTED. CN IN CLEARANCE. WILL-ADVISE RE SUEMISSION TO BILL AND EXPIRATION DATE.

B. 682-0231 - SECTION 0206 PROGRAM SUPPORT - 121(D) DETERMINATION SIGNED APRIL 7. BUDGET ALLOWANCE REQUESTED. --CN IN CLEARANCE. WILL ADVISE RE SUEMISSION TO HILLAND EXPIRATION DATE.

C. 682-0232 - USAID/PEACE CORPS SMALL PROJECT ASSISTANCE. 121(D) APPROVED JUNE 16. CN HAS CLEARED HILL. BUDGET ALLIOWANCE SENT JUNE 14 (REF B). ADVISE RE OBLIGATION. DAM

DIR		X
DD		
PDE	X	
MGT		
OGD		X
FA		
SMO		
CON		X
PER		
TRV		
DLE	DATE 7/7	
AWL		

05 JUL 83
TOR: 1011
CN: 14188
ACTION: AID