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INVESTMENT CLIMATE ASSESSMENT
AND
PRIVATE SECTOR SURVEY

VOLUME TWO - PRIVATE AND PUBLIC SECTOR
OVERVIEW AND SUMMARIES

TECHNICAL SERVICES IN SUPPORT OF PRIVATE ENTERPRISE
AND INVESTMENT PROMOTION IN AFRICA

Prepared for:

USAID/Mauritania

and

Office of Private Enterprise (AFR/PRE)
Bureau for Africa

United States Agency for International Development

Contract AFR-0438-C-00-5037

August 1986

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ISLAMIC REPUBLIC OF MAURITANIA

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PREFACE

This Two Volume report is submitted in fulfillment of obligations under the terms of a contract between USAID AFR/PRE and International Science and Technology Institute, Inc. (ISTI). The contents of this report cover the tasks outlined in the Statement of Work for the Mauritania Private Sector And Investment Climate Assessment.

- Investment Climate Assessment
- Private Sector Development Program Recommendations
- Descriptive Profiles of The Productive Sector
- Sectoral Assessment of Agriculture-Agri-Businesses, Fisheries, Mining and Banking

The work was carried out in Washington and Mauritania over the period April 28-June 13, 1986. The team leader, Mr. Arnold F. Lessard, a senior international business consultant, lead a five man team of U.S. and Mauritanian consultants combining long experience in agriculture, commercial banking, and private sector development. All were broadly experienced in both public and private sector international development, and all had substantial previous experience in West Africa.

The findings and conclusions contained in this report are based on a thorough review of recently published reports on Mauritania, including those from USAID the Department of State, IMF, World Bank and agencies of the U.S. and Mauritanian Governments. Interviews were held in Washington and Mauritania with a broad spectrum of leading public and private sector executives in government, multilateral agencies, and the private sector. Field trips, plant visits and interviews were carried out in Nouakchott, Nouadhibou, the mining complex of Zouerate and in several cities and agricultural stations along the Senegal River.

The report has been prepared in two volumes. Volume One, Investment Climate Assessment and Recommended Private Sector Strategy, reviews the regulatory and political risk environment, and the basic economic and resource availability factors impacting upon the willingness of the private sector to make investments. The concluding sector of Volume I provides recommendations for the development of a USAID private sector strategy for Mauritania. Volume Two, Private and Public Sector Overview, reviews the growth and development of Mauritania's private sector and describes four segments of the economy in greater detail: Banking, Agriculture and Agri-Business, Mining and Fisheries.

EXECUTIVE SUMMARY

The stated objectives of this survey, Mauritania Private Sector and Investment Climate Assessment, are to assist the AID Mission Nouakchott and AFR/PRE to:

- Formulate programs which will help Mauritania improve the business climate and promote local and foreign investment
- Identify the capabilities of the Mauritanian private sector so that private enterprises may be effectively utilized.

The findings, conclusions and recommendations have been organized to address the four major tasks established in the Statement of Work:

- Investment Climate Assessment
- Mauritanian Private Sector Development Program Recommendations
- Descriptive Profile of the Productive Sector
- Assessment of the Agriculture-Agri-Business, Fishing, Mining and Banking Sectors

Each of these four tasks has been addressed in stand-alone - although tightly interlinked - sections of this report.

The report is based on an examination of Mauritania's political/regulatory and economic/business environments, a close look at the principal productive sectors, a review of the strengths and weaknesses of the banking and investment community, and detailed analysis of the composition and growth of private sector companies. A number of conclusions emerge from these investigations:

1. The Private Sector Already Dominates The Farming, Commercial And Business Life Of The Nation

The private enterprise sector is estimated to produce 63% of Mauritania's value added and generate 71% of total employment. An active privately-financed and managed Employers Organization has permanent offices and staff, and a membership of nearly 200 members. In addition, the informal private sector includes a broad range of handicrafts, repair shops, small flour mills, bakeries, wood and metal working and related micro-small businesses. There are approximately 12,000 such small enterprises in Nouakchott with an estimated 30,000 jobs.

2. The Number Of Mauritanian Public And State Controlled Parastatals Began To Decline In 1983

A total number of 46 such organizations were identified in 1983 - a rise from 14 in 1972. The number declined to 39 in 1985 and is scheduled to reach 36 in 1986.

3. The Mauritanian Government Is In The Middle Of A Major Liberalization And Restructuring Program In Response To A National Financial Crisis

Major debt problems and the near collapse of the banking system have forced a complete reappraisal of the Government policies and plans over the last two years. A key element is the encouragement of private sector initiatives in banking, commerce, agriculture and industry.

4. Mauritania Faces A Long Period Of Major Readjustment And Low Growth In Both Internal And Export Markets

There are virtually no short-medium term solutions to the problem of achieving real growth in consumer purchasing power - short of climatic changes and increases in world market prices of iron ore. The fisheries industry is the one expanding sector in terms of providing food for local consumption, earning important amounts of foreign exchange, and providing employment opportunities.

5. An Energetic And Risk-Taking Private Sector Faces An Improving Regulatory Climate But Essentially Stagnant Economic Growth

Very few opportunities exist for foreign investment. A fundamentally poor economic and market environment faces the domestic private sector.

- Small, fragmented and difficult-to-access markets
- A small cash economy
- Tight liquidity
- Lack of basic infrastructure
- An unrelenting drought
- Inability of the Government to deliver services
- Lack of local material inputs
- High cost of imported inputs due to high cost-low efficiency port and transport facilities

6. USAID Can Have A Limited But Tangible Impact On Private Sector Development Particularly In The Fisheries And Agricultural Input Sectors

Private sector strategies and policy guidelines are proposed for assisting the development of the Mauritanian private sector. Specific program proposals are also recommended. The key elements in the strategy are summarized below:

- Concentrate on a few priority programs primarily in the fisheries
- Focus on human resources development in trade skills
- Work with and through private sector mechanisms
- Make judicious use of pooled donor resources on specific cooperative projects
- Recognize the extremely limited nature of AID's staff resources
- Utilize funds available from existing human resources program budgets and PL 480 counterpart funds

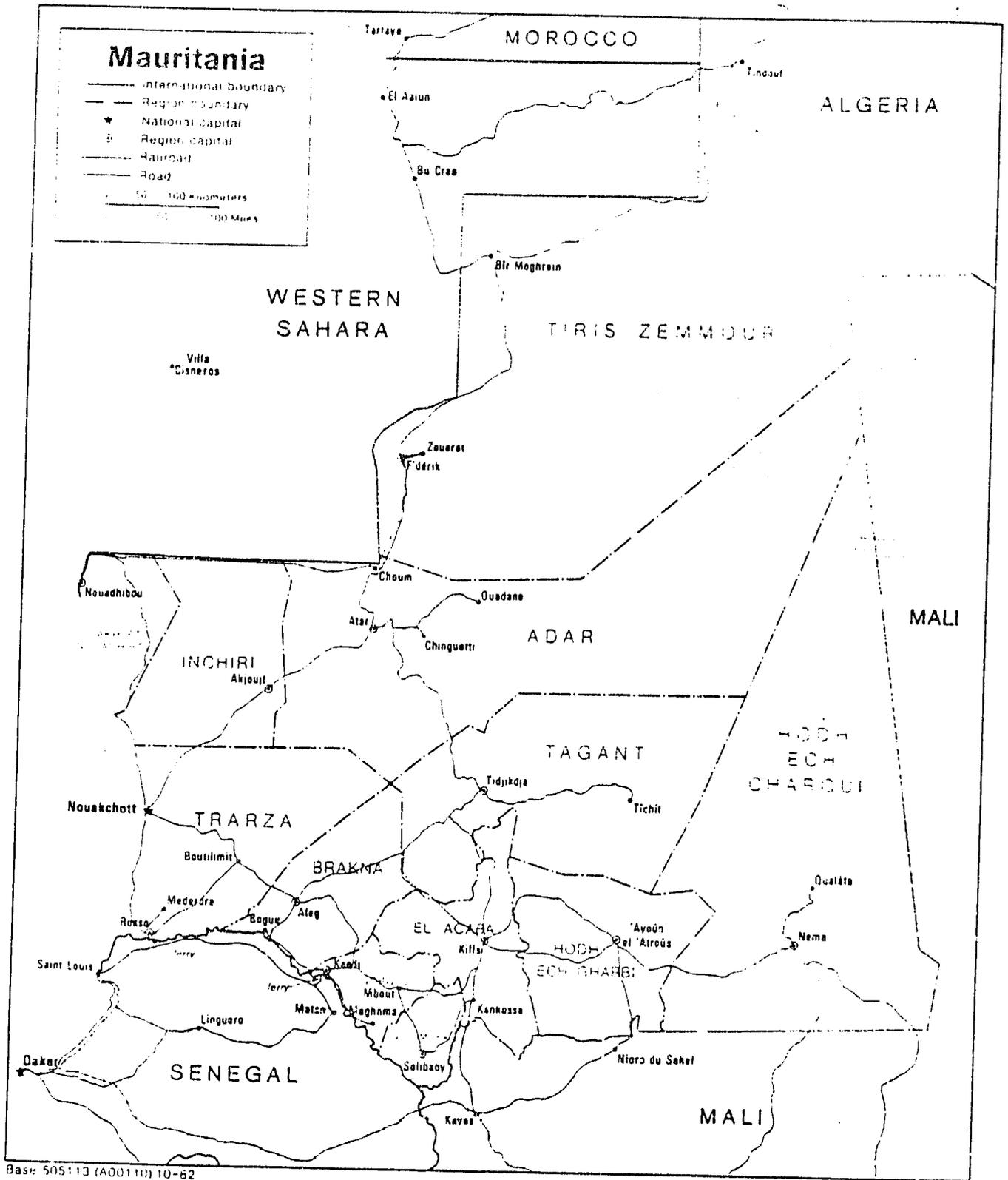
PREFACE TO VOLUME TWO

This is the second volume of a report submitted in fulfillment of obligations under the terms of a contract between USAID AFR/PRE and International Science and Technology Institute, Inc (ISTI).

The first volume, which is bound separately, assessed the regulatory and political risk environment and the basic economic and resource availability factors impacting upon the willingness of the private sector to make investments, and provided recommendations for the development of a USAID private sector strategy for Mauritania.

Volume Two, Private And Public Sector Overview And Summaries, reviews the growth and development of Mauritania's private sector and describes in greater detail four selected sectors of the economy - Banking, Agriculture and Agri-business, Mining and Fisheries. It consists of five sections:

- I. Private and Public Sector Overview which reviews the composition, location and growth of the private sector.
- II. Banking and Private Sector Finance which describes Mauritania's banking system with particular reference to private sector finance.
- III. Agriculture and Agri-Business which reviews the public and private sector roles in agriculture and identifies possibilities for USAID assistance to private sector development.
- IV. Mining which summarizes the predominate government role in this segment and suggests possibilities for privatization.
- V. Fisheries which stresses the need to develop private sector activity in both export fisheries and domestic artisanal fishing and recommends this segment as a major objective for USAID Mauritania's private sector strategy.



I. PRIVATE AND PUBLIC SECTOR OVERVIEW

1. Introduction and Summary

The private sector in Mauritania has by long tradition played an active role in the economy. The traditional economy composed of livestock, agriculture and trade was entirely in private hands until the wave of public enterprises created from the mid sixties onwards gradually began to dominate the economy. The great bulk of the economy, however, remained privately controlled up to the early seventies when the private sector iron ore industry was nationalized, and a local currency - the Ouguiya - was created taking Mauritania out of the 'Franc CFA' Zone.

The creation of the Ouguiya was accompanied by the takeover of banks and other financial services including insurance, and the creation of a number of public enterprises in important economic sectors. During the period 1979-1981, following new policy initiatives in the fisheries sector (Nouvelle Politique de Peche), several joint ventures between the Mauritanian Government and the Governments of the Soviet Union, Roumania, Libya, Algeria, Iraq were created to develop a national fishing fleet and fish processing units.

Despite this climate of heavy government involvement in commercial and production sectors and the severe impact of the drought on all sectors of the economy, the backbone of Mauritania's traditional economy - livestock and agriculture - remained essentially in private hands. The private sector continued, therefore, to play an important role in the traditional sector of the economy, while at the same time, it began to take initiatives in the modern sector, particularly in the fisheries and small import substitution manufacturing industries.

Today, the government is divesting and reducing the size of public enterprises and parastatals, and the private sector is increasing its share in the economy.

2. The Private Sector in the Mauritanian Economy

The private sector plays a very important role in the Mauritanian economy. Exhibit I-1 attempts to quantify its importance and shows that private enterprises produce 62.5% of the country's value added and generate 71% of total employment. These aggregate figures conceal disparities in the sectoral importance of the private sector. Privately owned and controlled units produce 87% of the value added of the primary sector (livestock, agriculture and fishing) but only 43% and 53% of the value added of the secondary and tertiary sectors respectively, (mining industries and services).

The total number of private enterprise members of the Employer's Organization (C.G.E.M.) is increasing as shown in Exhibit I-5. This number is currently nearly 200 enterprises up from 165 in 1983, a 20% increase in 3 years. On the other hand, the total number of public and parastatal enterprises is decreasing as shown in Exhibit I-3. Public organizations are down from a peak of 46 in 1983 to 39 at the end of 1985. This is due to the divestiture of a number of public enterprises, reflected in Exhibit I-12. Exhibit I-4 shows the evolution of the number of private enterprises in these two sectors has increased from 17 in each sector

in 1981 to 38 and 29 at present for the fishing and industrial sectors respectively. The number of private enterprises in the fisheries sector has more than doubled in 5 years while the number of private industrial enterprises has increased by 70% over the same period.

3. Sectoral Composition of the Private Sector

(1) Agriculture and livestock

The livestock subsector which represents 23.7% of the nation's Gross Domestic Product (Exhibit I-2) has remained totally privately owned and controlled. Despite the repeated droughts this subsector has made adjustments to the new climatic conditions.

Owners have moved their herds of camels, cows, sheep and goats to neighboring countries (Senegal, Mali) and have turned to the use of animal feeds and to a more intensive exploitation of the livestock. Poultry farms have been created around Nouakchott and other cities where a market exists.

The only public sector enterprise in the livestock subsector is SOMECOB - a livestock marketing company - which was created in the seventies and which is not operating at the present time. The traditional rain-fed, flood-recession, and oases types of agricultures, although severely affected by the drought, have remained private sector activities. On the other hand, irrigated agriculture in the Senegal River Valley has been developed by public initiatives although the private sector is moving rapidly to this subsector. Private irrigation perimeters are being developed along the Senegal River and the perimeters developed by public initiatives are cultivated by private cooperatives under public supervision. The private share of the agriculture subsector is estimated to be 60%.

Private agriculture and livestock activities are carried out mainly by individuals, families and cooperatives. A few modern private enterprises have been recently created to develop and exploit irrigated perimeters in the Senegal River Valley.

(2) Fisheries

The fisheries sector is composed of three distinct subsectors: "artisanal" river and coastal fishing, high seas fishing, and commercial fish processing. The private sector share of fish production value-added represents 60%, while its share of fish processing value-added represents 37.5%.

"Artisanal" fishing is almost exclusively a private sector activity. Individual fishermen or cooperatives of fishermen using traditional wooden boats, and increasingly small polyester glass reinforced boats, dominate this activity. A private enterprise called SPPAM in which the government is a minority shareholder was created in 1983 to commercialize the artisanal fish catch in the internal market and to supply the fishermen with boats, engines, nets and other supplies. High sea fishing is divided into "pelagic" or shallow-sea fishing dominated by Eastern Bloc fleet fishing in the framework of joint ventures with

the government, and deep sea fishing where the national private sector has a large share. The fish processing subsector is dominated by joint ventures between the government of Mauritania and other governments. The private sector is, however, present in this subsector and controls three fish processing plants out of the existing eight plants.

The list of private enterprises in the fishing sector is given in Exhibit I-6, and the list of fishing cooperatives is summarized in Exhibit I-7.

(3) Manufacturing industries

The manufacturing industries subsector is dominated by privately owned and operated enterprises. Many small and medium scale import substitution industrial units producing goods for the internal market have been created in the last ten years. Out of 32 industrial units in operation only 3 are parastatals. The 29 other units are owned and controlled by the private sector.

The list of private industrial enterprises is provided in Exhibit I-8.

(4) Mining

The mining sector is still exclusively in public hands. The heavy investments needed and the level of skills required exclude for the time being private sector initiative in this segment. There may exist, however, future possibilities for private sector entry into certain of the less capital intensive mining operations as the Government's disinvestment and privatization policies and programs become clear.

(5) Trade and transport

There are several public enterprises in this sector - SOMINEX, Air Mauritania, OPT, PHARMARIM, SMCPP, STPN, EMN AND PAN, which are respectively an import company for essential consumer goods (rice, sugar and tea), the national air line, the postal service, drug import company, a petroleum products import and distribution company, a bus company and two port authorities in Nouakchott and Nouadhibou. All other commercial and transport activities are privately owned and controlled.

The private sector is, however, a minority share holder in SONIMEX and Air Mauritania. PHARMARIM lost its monopoly for drug import and distribution in 1984 with the private sector moving in quickly to establish outlets. STPN lost its monopoly for bus operations in 1986, and SMCPP, which imports petroleum products with Mobil Oil and British Petroleum, is giving up petroleum products distribution to the private sector. The private sector currently controls 80% of trade and transport.

(6) Banking and other services

The private sector was a minority shareholder in the banking services segment from 1973 to 1985. In 1985 one of the existing 7 banks (BMAA) was privatized. A new private bank (BAMIS) was created in 1986. Two out of the seven existing banks, therefore, are at present privately owned and managed. The Central Bank, however, holds minority shares in both banks. The Government has indicated that it plans to privatize at least three of the remaining commercial banks during 1986.

Insurance services are still a state monopoly operated by SMAR. Health and education services are no longer a state monopoly; the private sector has been authorized to provide such services since 1983 and several private schools and physician consulting-rooms have opened their doors.

(7) Construction and public works

The construction and public works sector is almost completely owned and operated by privately owned enterprises. Exceptionally, there is one public firm that specializes in low income housing construction (SOCOGIM). About 20 private enterprises of which 6 are economically important generate more than 94% of the value added of this sector.

(8) Handicrafts and the informal sector

Handicrafts and the informal sector are wholly the domain of the private sector. They are often overlooked in economic analysis because of the lack of information on such activities.

An unpublished survey carried out in August 1985 by the Statistics Direction of the Ministry of Economy and Finance shows the importance of this sector. In Nouakchott alone 12,000 units generating nearly 30,000 jobs produce all kinds of goods and services. All are privately owned and controlled.

These informal economic units consist of maintenance and repair shops, leather goods and jewelry fabrication, cloth dyeing, bakeries, small flour mills, restaurants, typing services, barber shops, rug weaving, furniture fabrication, wood and metal workshops, retail stores, and a variety of similar small and micro businesses. The type and number of these units is given in Exhibit I-10.

4. Private Sector Profiles

Lists of all private sector enterprises in the industrial and fisheries sector, as well as a list of all the other private enterprises which are members of C.G.E.M., are given in Exhibits I-8, 6, and 9 respectively.

Profiles giving basic information have been prepared for 21 private enterprises (Exhibit I-13) of which 3 are in multiple activities, 4 are in fisheries and 14 in the industrial sector. These profiles provide summary data on a representative sample of private sector companies whose service executives were interviewed by the survey team.

5. Major Public Sector Commercial, Industrial and Service Companies

It has been estimated that public and parastatal enterprises contribute 20% to GDP and employ 25% of the labor force of the modern sector. The parapublic sector includes 22 industrial and commercial enterprises, 24 joint ventures with foreign governments and the private sector, in 6 of which the government is a minority share-holder, and 56 decentralized services in administration, research and education.

The list of the public industrial and commercial enterprises and the joint ventures is given in Exhibit 11.

During the two years 1984 and 1985 the government has divested 10 public enterprises as shown in Exhibit 12, and at least 3 other public enterprises are to be divested by the end of 1986.

Profiles giving basic information have been prepared for the five major public enterprises.

6. Conclusion

The private sector controls a large increasing share of the Mauritanian economy. The Government has ceased the creation of public enterprises and is currently engaged in a rehabilitation program for the public sector which includes divestiture of some of the existing public enterprises. Ten public enterprises have been divested since 1983. On the other hand, the number of private enterprises has been increasing at an annual rate of 7% in the period 1983-1986, while the number of private enterprises in the fisheries and industrial sectors has been increasing at an annual rate of 15% and 11% respectively for the period 1981-1986. The private sector totally controls livestock production and the traditional rainfed, flood recession, and oases agriculture, as well as an increasing share of the irrigated agriculture in the Senegal River Valley. Artisanal fishing and botcomfish fishing using freezer trawler vessels are predominantly private sector activities. The private sector has also a respectable share in fish processing and pelagic fishing. Small scale industries and construction and public works enterprises as well as handicrafts and informal activities are almost exclusively private.

While the private sector is still absent from the mining sector, it controls a large share of trade, transport, and services sectors.

ESTIMATED SHARE OF PRIVATE SECTOR
IN NATIONAL ECONOMY OF MAURITANIA

SECTORS	VALUE ADDED 1985 (MILLION UM)*		EMPLOYMENT 1985 (000)**	
	TOTAL	ESTIMATED PRIVATE SECTOR SHARE	TOTAL	ESTIMATED PRIVATE SECTOR SHARE
<u>Primary Sector</u>	<u>16,338</u>	<u>14,255</u>	<u>315</u>	<u>275</u>
Agriculture	1,233	798		
Livestock	10,909	10,909		
Fishing	4,196	2,518		
<u>Secondary Sector</u>	<u>12,078</u>	<u>5,233</u>	<u>39</u>	<u>17</u>
Mining	5,975	0		
Fish Processing	924	347		
Other Industries and Handicraft	1,803	1,713		
Construction, Public Works	3,376	3,173		
<u>Tertiary Sector</u>	<u>17,601</u>	<u>9,309</u>	<u>131</u>	<u>53</u>
Transport and Communications	3,881	3,105		
Trade and non- Government Services	7,755	6,204		
Government Services	5,965	0		
<u>TOTAL</u>	<u>46,017</u>	<u>28,797</u>	<u>485</u>	<u>345</u>
<u>PERCENT</u>	<u>100%</u>	<u>62.5%</u>	<u>100%</u>	<u>71%</u>

* For estimating private sector share of value added the public sector share of value added has been subtracted from total value added.

** For estimating private sector share of employment, it has been assumed that within each sector, employment is proportional to value added. This is equivalent to assuming the value added/labor ratio to be the same in private and public enterprises.

EXHIBIT I-2

MAURITANIA GROSS DOMESTIC PRODUCT

BY SECTOR OF ORIGIN (1976-1985)

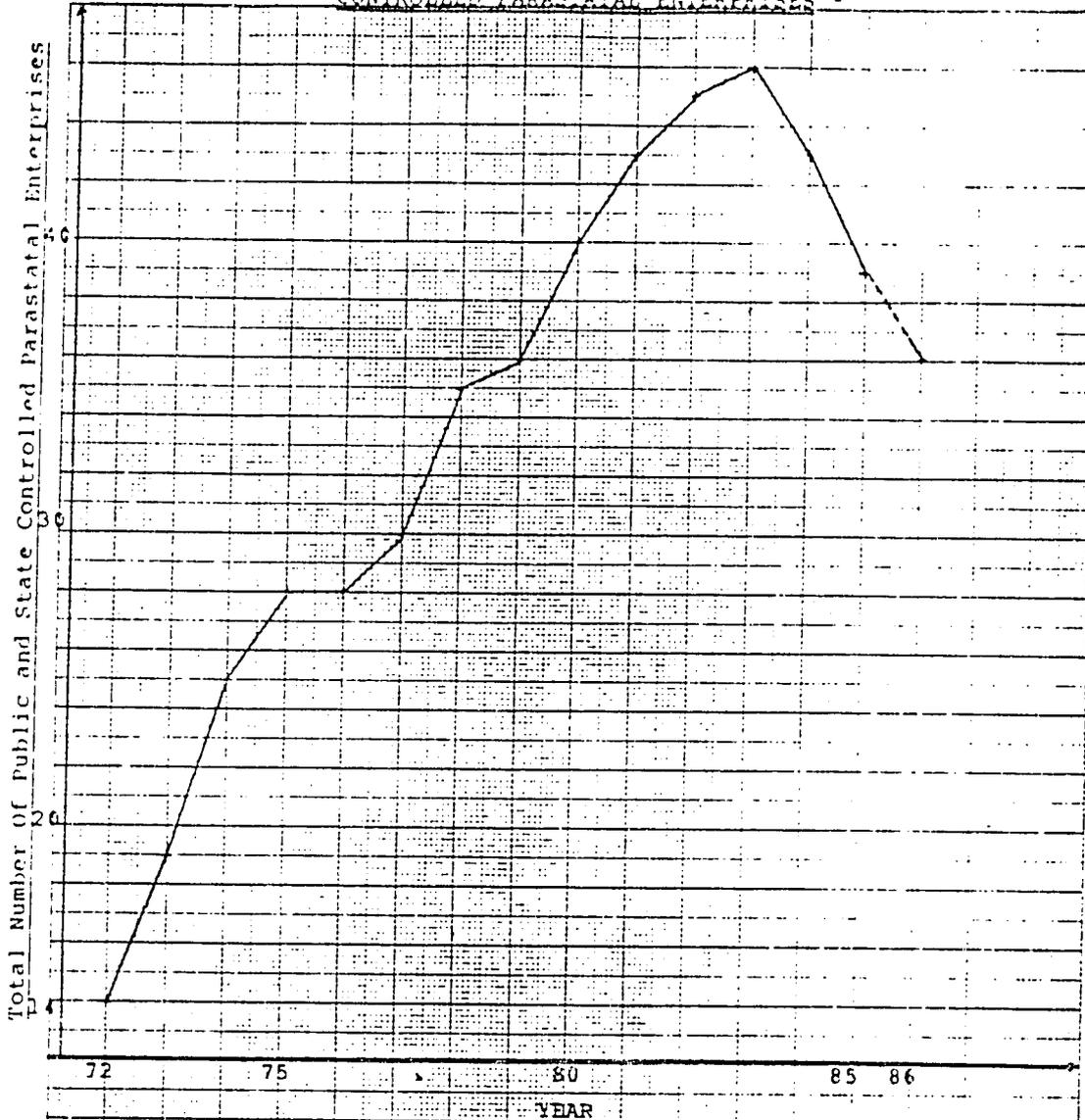
(CURRENT PRICES MILLION UM)

SECTOR	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
<u>PRIMARY SECTOR</u>	<u>6,023</u>	<u>6,556</u>	<u>7,159</u>	<u>7,811</u>	<u>9,285</u>	<u>10,601</u>	<u>11,657</u>	<u>13,035</u>	<u>13,886</u>	<u>16,338</u>
Agriculture	698	824	822	1,264	1,481	1,305	1,148	872	971	1,233
Livestock	4,674	5,044	5,459	6,305	7,116	7,619	8,768	9,078	9,603	10,909
Fishing	651	685	337	222	688	1,677	1,747	3,085	3,312	4,196
<u>SECONDARY SECTOR</u>	<u>7,163</u>	<u>6,688</u>	<u>6,082</u>	<u>7,916</u>	<u>7,941</u>	<u>8,712</u>	<u>8,228</u>	<u>8,188</u>	<u>10,930</u>	<u>12,078</u>
Mining	4,522	3,707	2,706	4,223	3,523	4,111	3,550	3,852	5,616	5,975
Fish Processing	231	271	399	454	610	626	535	761	729	924
Other Industries and Handicraft	837	1,009	1,052	1,310	1,494	1,249	1,255	1,351	1,543	1,803
Construction Public Works	1,573	1,700	1,925	1,929	2,314	2,726	2,888	2,224	3,042	3,376
<u>TERTIARY SECTOR</u>	<u>7,963</u>	<u>9,185</u>	<u>9,977</u>	<u>11,731</u>	<u>13,333</u>	<u>13,937</u>	<u>15,316</u>	<u>17,346</u>	<u>15,782</u>	<u>17,601</u>
Transport & Communication	1,368	1,742	2,010	2,392	2,609	2,735	3,035	3,454	3,432	3,881
Trade and Other non-Government Services	3,959	4,280	5,262	5,610	6,390	5,911	6,687	7,883	6,803	7,755
Government Services	2,636	3,163	2,705	3,429	4,334	5,291	5,594	6,009	5,547	5,965
<u>GDP(at FACTOR COST)</u>	<u>21,149</u>	<u>22,429</u>	<u>24,217</u>	<u>27,458</u>	<u>30,559</u>	<u>33,250</u>	<u>35,201</u>	<u>38,569</u>	<u>40,598</u>	<u>46,017</u>
Taxes -										
Subsidies	2,461	2,217	1,915	2,100	1,996	2,875	3,637	4,495	5,470	7,213
<u>GDP at CURRENT MARKET PRICES</u>	<u>23,610</u>	<u>24,646</u>	<u>25,132</u>	<u>29,558</u>	<u>32,555</u>	<u>36,125</u>	<u>38,838</u>	<u>41,064</u>	<u>46,068</u>	<u>53,230</u>

EXHIBITS I-1 AND 2

SOURCES: BCM, Rapport Annuel 1985, 1986
IBRD, Rapport d'Evaluation, Republique Islamique
de Mauritanie. Entreprises Publiques: Projet
d'Assistance et de Réhabilitation. Rapport
N° 5193-MAU, 1985
MEF, Note sur les Entreprises Publiques en
Mauritanie, 1984
IBRD, ISLAMIC Republic of Mauritania Country
Economic Memorandum, 1985

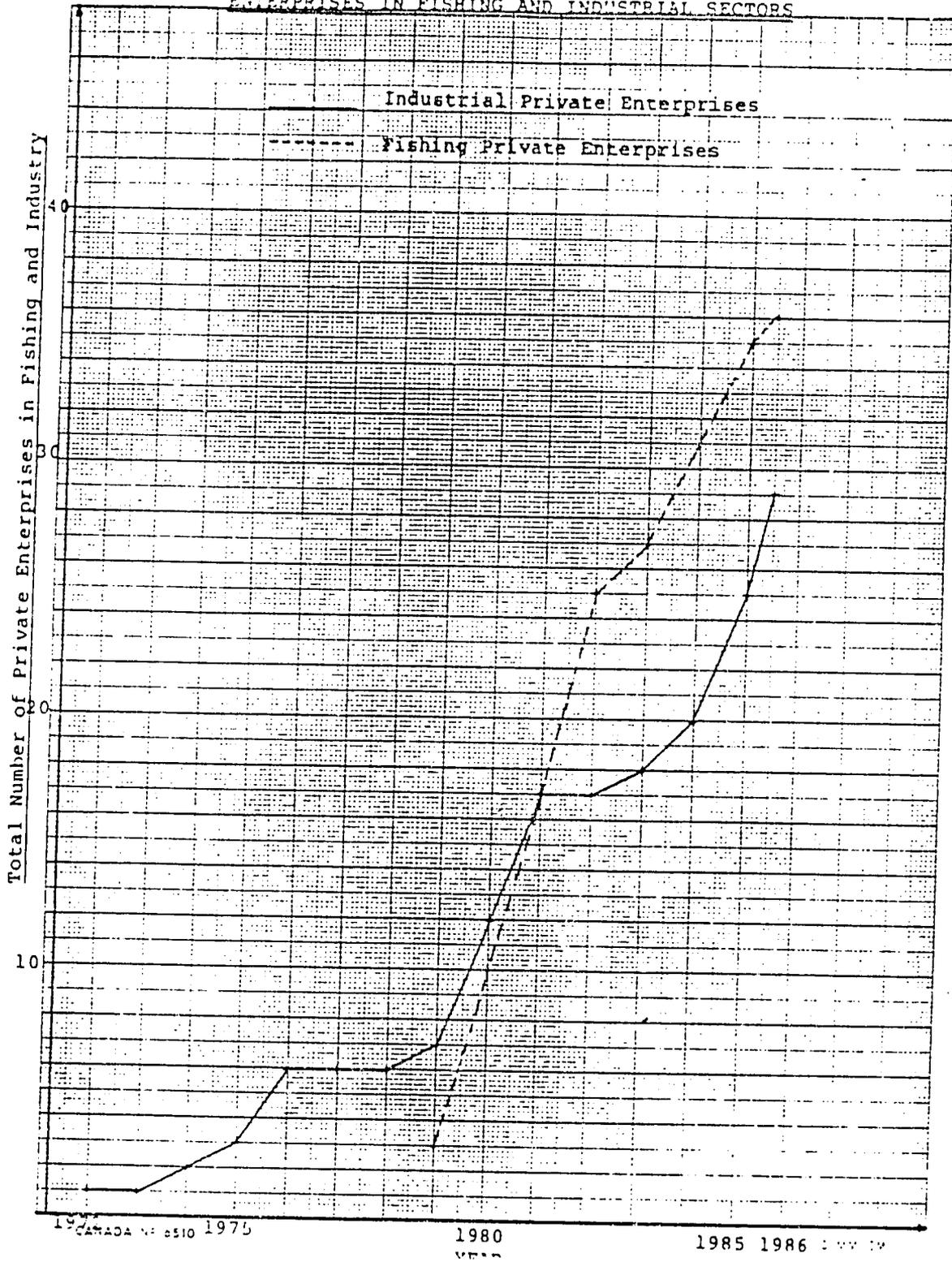
EVOLUTION OF THE NUMBER OF MAURITANIAN PUBLIC AND STATE CONTROLLED PARASTATAL ENTERPRISES *



* Only state controlled "Sociétés d'Economie Mixte (SEM)" and "Entreprises Publiques à Caractère Industriel et Commercial (EPIC)" have been considered in this exhibit. "Entreprises Publiques à Caractère Administratif et Professionnel (EPAP)" and enterprises where the state is a minority shareholder and which are privately managed have not been considered.

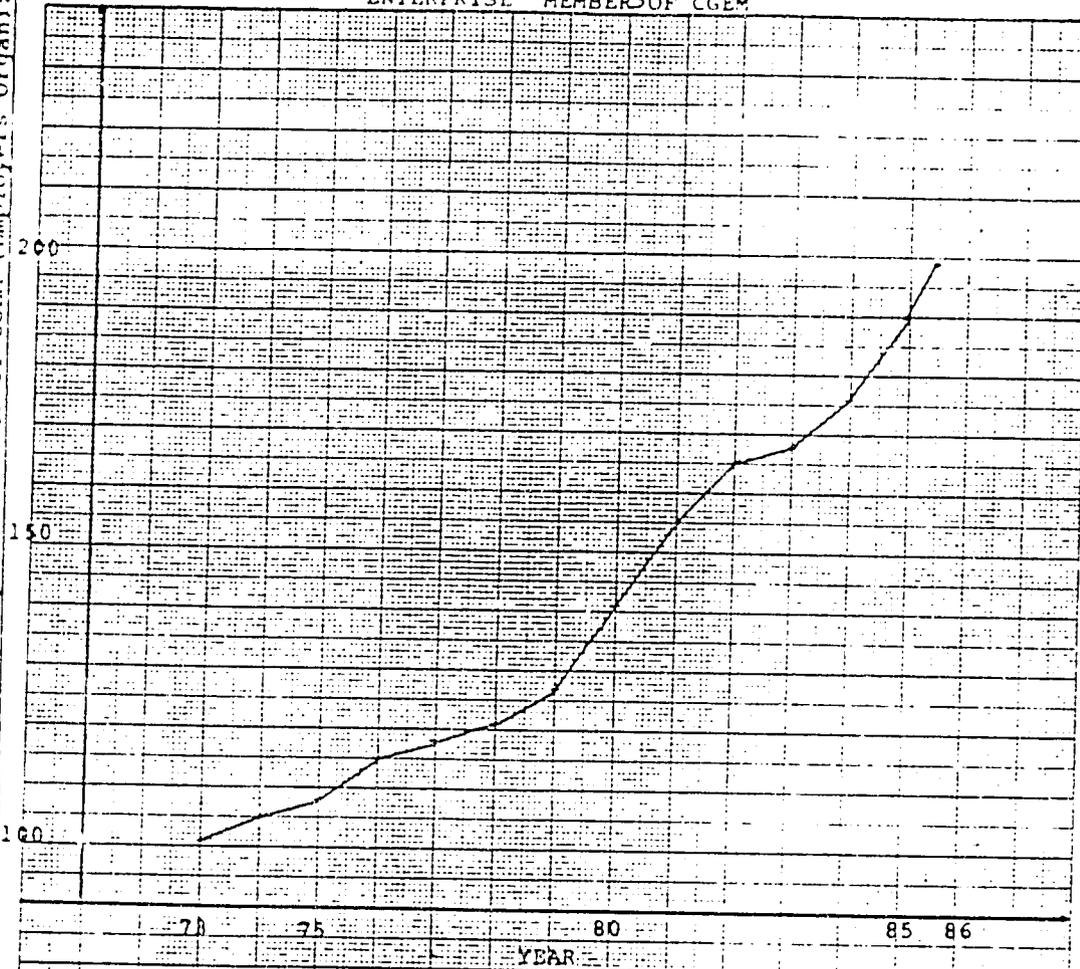
SOURCE: MEF, Cellule de Réhabilitation des Entreprises Publiques unpublished information on the public sector, 1986

EVOLUTION OF THE NUMBER OF MAURITANIAN PRIVATE ENTERPRISES IN FISHING AND INDUSTRIAL SECTORS



EVOLUTION OF THE NUMBER OF MAURITANIAN PRIVATE ENTERPRISE MEMBERS OF CGEM

Total Number of Private Enterprises Member of CGEM (Employers' Organization)



Sources for Exhibits 4 and 5:

CGEM, Index des Opérations Economiques Membres de la CGEM, 1983

CGEM, Liste des Opérations Economiques Membres de la CGEM par Secteur d'Activite, 1986 (unpublished)

PIAP, PIM, unpublished information on the member enterprises, 1986

PRIVATE FISHING AND FISH PROCESSING ENTERPRISES
MAURITANIA, 1986*

PRIVATE FISHING ENTERPRISES

NAME	NUMBER OF FISHING VESSELS OWNED
1. SMAIP	4
2. ARDALLAHI o/ BENNA	1
3. BAMBIA o/ SIDIBADI	1
4. DAH o/ DEIDA	1
5. ETS. MOHAMED o/ MARCOU	5
6. MOULAYE ABBASS	1
7. MOHAMED MAHMOUD o/ EBNOU	1
8. S.P.C.	2
9. MOHAMED o/ BOBA	1
10. SOMACOP	5
11. SIAC	4
12. SOFECHE	2
13. SPCM	1
14. COPAM	1
15. MAHANOVA	9
16. SOMATIG	13
17. AHMED SALEM o/ BOUNA MOKHTAR	1
18. PARIMCO	3
19. AHMED o/ SIDI BABA	1
20. SIPAC/SOMEPA	2
21. SOPPEINS	2
22. CGIE	2
23. FETEN o/ MOULAYE	2
24. BAHAYDA o/ CHEIKH SAAD BOUM	1
25. COMAR	1
26. CAP	1
27. SAP E.M.G.	2
28. MOHAMED o/ OUBEID	1
29. TALEB BOUYA	1
30. AZIZI o/ ELMAMY	1
31. RIMO PECHE	1
32. MOHAMED o/ KHAYAR	2
33. MOULOUD o/ KHOUEIRINA	1
34. SMPN	1
SUB TOTAL	78

PRIVATE FISH PROCESSING PLANTS

35. SIPECO	One fishing vessel; 50 Tons per day freezing capacity; 2,000 Tons cold storage capacity
36. COMACOPP	80 Tons per day freezing capacity; 8,000 Tons cold storage capacity

* This exhibit does not take into consideration joint ventures where the state is a minority shareholder even though they are privately managed (see Exhibit 11)

SOURCE: FIAP, Circonscription Maritime de Nouadhibou, unpublished information, 1986

MAURITANIAN ARTISANAL FISHING
AND FISH TRADING COOPERATIVES

NAME OF ORGANIZATION	LOCATION
1. Cooperative TIMERIS - Nouadhibou	Nouadhibou
2. Groupement Precooperatif des Pêcheurs de NOUAKCHOTT	Nouakchott
3. " " " " " CAP BLANC	Nouadhibou
4. " " " " " MHAIJRAT	Nouakchott
5. " " " " " BLEWAKH/ LEMCID	Nouakchott
6. " " " " " TABRAK	Keur Macene
7. " " " " " AWATIL	Keur Macene
8. " " " " " FOUUM GLEITA	Boghé

FISH TRADING COOPERATIVES

NAME OF ORGANIZATION	LOCATION
9. Groupement Precooperatif des Marayeurs	KAEDI I
10. " " " " "	KAEDI II
11. " " " " "	BOGHE I
12. " " " " "	BOGHE II
13. " " " " "	SELIBABY
14. " " " " "	M'BAGNE
15. " " " " "	ATAR
16. " " " " "	ACRAGORE (BRAKNA)
17. " " " " "	BABABE

SOURCE: MPEM, Direction de la Pêche Artisanale
unpublished information, 1986

MAURITANIAN PRIVATE INDUSTRIAL ENTERPRISES
IN OPERATION*, 1986

COMPANY NAME	PRODUCT
1. MIE. SA	Blanket weaving
2. SIPE CARTON	Card Board Production
3. SOMIGEM	Soap Production
4. SDIC	Plastic Bags and Pipes Production
5. FAMO-MAURITANIE	Pasta Production
6. SMCI	Paint Production
7. RECOGIM	Sponge Production
8. SOBOMA	Soft Drinks Production
9. SOMAM	Metal Sheet Dishes Production
10. COGITREM	Candy Production
11. MAPROMA	Beauty Products Production
12. IBS	Biscuits Production
13. TOLERIE ABDALLAH ET FRERES	Metal Sheet Works
14. COMAF	Office Supplies Production
15. SOMIC	Sandal and Leather Shoe Production
16. CIMENT DE MAURITANIE	Cement Packing Factory
17. ARM	Machine Shop
18. RECOM	Machine Shop
19. SABA	Car Batteries Production
20. SOMEB	Mineral Water Production
21. SOMIPEX	Fences Production
22. ETABLISSEMENT DRAME ET FRERES	Leather Shoe Production
23. SIRCA	Tiles Production
24. CIPROCHIMIE ET COMPAGNIE	Pesticides Production
25. SLAM	Dairy Plant
26. SOMADERE	Animal Feed Production
27. ITC	Ceramic Sanitary Products
28. SMGI	Oxygen and Acetylen Production

* This list includes only private industrial enterprises that are operational or expected to be operational in 1986

SOURCE: CGEM, List of member enterprises, 1986

ALL OTHER PRIVATE SECTOR MAURITANIAN

ENTERPRISE MEMBER OF C.G.E.M., 1986

GENERAL TRADE: IMPORTERS, DISTRIBUTORS, WHOLESALERS

1. SOCOMETAL
2. SNMPR (FIAT)
3. SLIM
4. ETS. JOUMANI OULD HAMDI
5. SOMAREM
6. ETS. ABDALLAI OULD NOUEIGUEDH
7. ETS. HAIMOUDA OULD MOHAMED FADEL
8. ETS. ABDALLAHI OULD ABDALLAHI
9. S.M.G.B.
10. SIRCOMA
12. ETS. AHMED CHERIF OULD MOURTADA
13. ETS. MOHAMED ABDERRAHMANE OULD OUMAR
14. SOGEMAC
15. ETS. SID'AHMED OULD HBIB
16. ETS. MOUNIR
17. SOGEM
18. COMEQUIP (ex-SIEMI)
19. ETS. MOHAMED OULD MOHAMED EL HADI
20. SOKIMET
21. SOMOCOR TM
22. ETS. ABDOU MAHAM
23. ETS. TEWFIK
24. ETS. SEJEAN
25. ETS. SIDI MOHAMED OULD ZEIDANE
26. ETS. SAKALY MELATNINE
27. ETS. BOUYA FRERES
28. ETS. MOHAMED SALEM OULD MOHAMED MAHMOUD
29. ETS. HAMAD DAHI
30. PAPETERIE DE L'ETOILE
31. IMPRIMERIE MUTUELLE
32. ELEMEL
33. NOSOMACI
34. BOUDIA FADEL
35. ETS. MOULAYE OULD ABASS
36. COMADIS
37. ETS. GEHA
38. ETS. MAHMOUD KHOUCHEIN
39. B.P.
40. ETS. GEORGES NASSER
41. AU POUSSIN
42. SORECOM
43. ETS. YEDALI OULD ABDALLAHI
44. ETS. SAKALY ABDEL HAYE
45. ETS. MAHMOUD OULD JOULY

46. ETS. EL HACEN OULD AHMEDOU
47. SIME
48. GRALICOMA
49. SOMAT
50. ETS. SIDINA OULD BEROU
51. MOHAMED AHMED OULD ALY OULD EL HADJ EL MOKTAR
52. ETABLISSEMENT MOHAMED LEMINE OULD EL MAMY
53. SOMACOGIR
54. ARIDIS
55. CEM
56. S.M.P.C.
57. GROUPEMENT COMMERCIAL
58. IMPRIMERIE DU MAGHREB
59. ETS. MOHAMED LEMINE OULD BRAHIM SALEM

CONSTRUCTION AND PUBLIC WORKS

60. E.C.T.
61. E.G.B.
62. PEREVET
63. SOMACO. TP
64. E.R.B.
65. EMAPE. TP
66. ECOMA. TP
67. SOMA. TP
68. ETS. MAREIGA
69. ETS. BECHJR OULD BEZEID
70. SOTRAF
71. SAADA
72. STR
73. ETS. MOHAMED OULD JEDDEMOU
74. ETS. BRAHIM OULD GHADOUR

SERVICES

75. SOGECO
76. SOMAVOT
77. MCI
78. SOGAPRESS
79. AMVT
80. ARASCO
81. VOTRA
82. SOPRAGE
83. MGH
84. HOTEL ADRAR
85. ARAF CONSULT
86. ATCM
87. HOTEL EL AHMEDI

TRANSPORT

88. ETS. MOHAMED ABDALLAHI OULD EL MOKTAR
89. NOSONATRAM
90. ETS. OULD AMAR CHEINE
91. ETS. MOHAMED ABDALLAHI OULD EL BAH
92. ETS. MOHAMED OULD ZEINE
93. ETS. MOHAMED LEMINE OULD EL BECHIR
94. ETS. CHEIKHANI OULD YAHYA
95. ETS. BECHIR OULD WEDADY
96. ETS. EZIZI OULD EL MAMY
97. ETS. SCW DEYNA
98. ETS. BABEYE OULD ELY SALEM
99. ETS. MOHAMED OULD MARCOU
100. ETS. MOHAMED EL MOKTAR OULD ABDI
101. ETS. MOHAMED EL HAFEDH OULD MOUJTABA
102. ETS. MOHAMED ABDALLAHI OULD EL MOUSTAPHA
103. ETS. AHMED OULD DAH HANCHI
104. ETS. AHMED OULD HABOTT
105. ETS. BRAHIM OULD DAHMANE
106. ETS. IDOUMOU OULD KHANTAR

FISHING RELATED SERVICES (SHIP CHANDLER
AND OTHER SERVICES)

107. COSONAV
108. MANUPOINT
109. MATEMA
110. MAOA
111. ETS. COUNDIO
112. SARIM
113. SOMARCO
114. REPASER
115. SOMARITIR
116. MAR
117. MAUMAR
118. EMAR
119. SMC
120. SNPA
121. MPC
122. ARASCO
123. CAP
124. SOREM KIMA
125. STCR
126. SIGP
127. CAM
128. NAVAL APPRO

SOURCE: CGEM, List of Member Enterprises, 1986

INFORMAL SECTOR ACTIVITIES IN AND AROUND NOUAKCHOTT, MAURITANIA - 1985

TYPE	NUMBER
<u>HANDICRAFT AND ARTISANAL ACTIVITIES</u>	
1. Tailor shops	1,156
2. Weaving	5
3. Leather goods	102
4. Clothes dyeing	52
5. Wood and metal work shops	199
6. Rugs weaving	21
7. Jewelry	320
8. Butchers	368
9. Small flour mill shops	135
10. Bakeries	43
SUB TOTAL	2,401
<u>INFORMAL SERVICES</u>	
11. Public "Hammam"	5
12. Typing services	22
13. Music shops	27
14. Laundry cleaning	486
15. Photograph studios	37
16. Restaurants	337
17. Barber shops	98
18. Movie theaters	6
19. Refrigerators and air conditioning repair shops	16
20. Car rental and driving schools	21
21. TV, radio and watches repair shops	152
22. Plumber shops	4
23. House renting agencies	4
24. Lawyer cabinets and private medical services	26
25. House building shops	2
26. Car repair shops	296
27. Drug stores	18
28. Cement blocs producing units	29
SUB TOTAL	1,586
<u>RETAILERS</u>	
29. All types of retailer stores	8,486
TOTAL ALL ACTIVITIES	12,473

SOURCE: MEF, Direction de la Statistique et de la Comptabilité
Unpublished survey of the informal sector in Nouakchott,
1985.

INDUSTRIAL AND COMMERCIAL PUBLIC ENTERPRISES (EPIC)

AND MIXED ECONOMY COMPANIES (SEM) - 1986

1. "ENTREPRISES PUBLIQUES A CARACTERE INDUSTRIEL ET COMMERCIAL (EPIC)"

NAME	SECTOR OF ACTIVITY	PERCENT OF CAPITAL OWNED BY STATE IN 1986	COMMENTS
1. Agence Mauritanienne de Presse (AMP)	Informations, news media	100	Will remain public
2. Agence pour la sécurité de la Navigation en Afrique (ASECNA)	Navigation security	100	Will remain public
3. Etablissement Maritime de Nouakchott (EMN)	Nouakchott Port authority	100	Management may be privatized
4. Ensemble National Artistique de la Jeunesse (ENAJ)	Youth artistic activities promotion	100	Management may be privatized
5. Laboratoire National de Travaux Publics	Constructions & public works	100	Will remain public
6. Ferme de M'Pourrier	Irrigated agriculture	100	Prime candidate for privatization
7. Office Mauritanien des Oghafs (OMO)	Religious organization	100	Management may be privatized
8. Office Mauritanien de Recherche Geologique (ORGM)	Mining research	100	Will remain public
9. Office des Postes et Telecommunications (OPT)	Post and Tele-communication	100	Will remain public
10. Office de Radio et Television de Mauritanie (ORTM)	National Tele- vision and radio	100	Will remain public
11. Port Autonome de Nouadhibou (PAN)	Nouadhibou Port Authority	100	Management may be privatized

NAME	SECTOR OF ACTIVITY	PERCENT OF CAPITAL OWNED BY STATE IN 1986	COMMENTS
12. PHARMARIM	Drugs import and distribution	100	Prime candidate for privatization
13. Société Nationale de Développement Rural (SONADER)	Irrigated agriculture developments	100	Some activities will be privatized
14. Société Nationale d'Eau et d'Electricité	Public utility	100	Management may be privatized
15. Société Mauritanienne de Commercialisation des Produits Pétroliers (SMCPP)	Petroleum products import and distribution	100	Prime candidate for privatization
16. Société Mauritanienne de Presse et d'Impression (SMPI)	Printing and editing	100	Prime candidate for privatization
17. Société Mauritanienne de Commerce de Bétail (SOMECOB)	Live stock Commercialization	100	Candidate for liquidation
18. Société Mauritanienne de Commercialisation de Poisson (SMCP)	Fish commercialization	100	Private sector interested. Government position not clear
19. Société Mauritanienne d'Assurance et de Réassurance (SMAR)	Insurance company	100	Candidate for privatization
20. Fonds National de Développement (FND)	Development bank	100	Will remain public
21. Banque Centrale de Mauritanie (BCM)	Central bank	100	Will remain public
22. Société de Transport Public de Mauritanie (STPN)	Bus company	100	Prime Candidate for privatization

2. MIXED ECONOMY COMPANIES - STATE IS MAJORITY SHAREHOLDER

NAME	SECTOR OF ACTIVITY	PERCENT OF CAPITAL OWNED BY STATE	COMMENTS
1. AIR MAURITANIE (MR)	National Air Line	60	Prime candidate for privatization
2. AlgeroMauritanienne de Pêche (ALMAP)	Fishing sector	51	Joint venture with Algerian Government
3. Banque Mauritanienne pour le Développement et le Commerce (BMDC)	Commercial and Development bank	76	To be privatized
4. Compagnie Mauritanienne de Navigation Maritime (COMAUNAM)	Shipping company	51	Joint venture with Algerian Government
5. Société Arabe Lybienne Mauritanienne de Ressources Maritimes (SALIMAUREM)	Fishing sector	50	Joint venture with Lybian Government
6. Société Mauritanienne Lybienne pour le Développement Agricole (SAMALIDA)	Rural development sector	51	Joint venture with Lybian Government
7. Société Arabe des Industries Métallurgiques (SAMIA)	Gypsum and other minerals transformation	51	Joint venture with Kuwait Government
8. Société Arabe des Mines de l'Inchirie (SAMIN)	Copper mining company	50	Joint venture with Arab public investors
9. Société Irako-Mauritanienne de Pêche	Fishing sector	55	Joint venture with Iraq Government
10. Société Mauritanienne de Transit et d'Accomodage (SAMMA)	Shipping	52.5	Privately managed
11. Société Mauritanienne de Banque (SMB)	Commercial bank	55	To be privatized
12. Société Nationale Industrielle et Minière (SNIM)	Iron ore mining Company	70.9	Will remain public
13. Société de Construction et de Gestion Immobilière (SOCOGIM)	Low income housing company	83.2	Will remain public
14. Société Nationale d'Importation et d'Exportation (SONIMEX)	Essential consumer goods import	69	Prime candidate for privatization

2. MIXED ECONOMY COMPANIES (continued)

NAME	SECTOR OF ACTIVITY	PERCENT OF CAPITAL OWNED BY STATE	COMMENTS
15. Banque Internationale pour la Mauritanie (BIMA)	Commercial bank	70	To be privatized
16. Société Mauritanienne d'Industrie du sucre (SOMIS)	Sugar cubes production	73	May be privatized
17. Société Mauritanienne Soviétique de Pêche (MOUSSOV)	Fishing sector	51	Joint venture between Mauritania and Soviet Union

3. MIXED ECONOMY COMPANIES - STATE IS MINORITY SHAREHOLDER

NAME	SECTOR OF ACTIVITY	PERCENT OF CAPITAL OWNED BY STATE	COMMENTS
18 Air Afrique (RK)	African Air line	7	
19. Société Mauritano-Roumaine de Pêche (SIMAR)	Fishing sector	15	Joint venture with Roumanian Government and national private investors
20. Mauritano-Scandinave de Pêche (MSP)	Fishing sector	42	To be liquidated
21. Société des Frigorifiques de Mauritanie (SOPRIMA)	Fishing sector	35.8	Privately controlled
22. Société de Promotion de la Pêche Artisanale en Mauritanie (SPPAM)	Artisanal fishing	35	Privately controlled
23. Société Mauritanienne Frigorifique (SMEF)	Fishing sector	11	Privately controlled

SOURCE: MEF, Cellule de Réhabilitation des Entreprises Publiques, unpublished information on the public sector, 1986

LIST OF DIVESTED PUBLIC ENTERPRISES

1. BMAA: Banque Mauritanienne Arabe Africaine. Commercial Bank privatized in 1985. The Central Bank of Mauritania holds 10% of the shares of the Bank.
2. CNEA: Centre National des Energies Alternatives. National Renewable Energy Center. Liquidated in 1984.
3. MAFCO: Mauritanienne de Frigorifique et de Conservation. A fish processing plant leased in 1984 to a private company, which the state holds 11% of the shares.
4. ONC: OFFICE NATIONAL DE CINEMA. Motion picture distribution company. Privatized in 1984.
5. OTM: Office du Tapis Mauritanien. Rug weaving center taken over by FND in 1985 to be rehabilitated and privatized.
6. SNC: Société Nationale de Confection. Garment factory taken over by FND in 1985 to be rehabilitated and privatized.
7. OCO: Office du Complexe Olympique. Sport complex turned over to the local community in 1984.
8. SOMIR: Société Mauritanienne d'Industrie de Raffinage. Oil Refinery. Liquidated in 1985. The refinery has been leased to the Algerian Government.
9. S.M.T.H.: Société Mauritanienne de Tourisme et d'Hôtellerie. Hotel management company liquidated in 1984.
10. SOMACAT: Société Mauritanienne de Connaissance d'Aconnage et de Transit has been merged with SOMIMEX in 1985.

SOURCE: MEF, Cellule de Réhabilitation des Entreprises Publiques, unpublished informations on the public sector, 1986

PRIVATE SECTOR PROFILE I

1. NAME OF ENTERPRISE ETABLISSEMENT MOHAMED ABDALLAHI
o/ ABDALLAHI

2. OWNERSHIP: Totally owned by Mr. Mohamed
Abdallahi o/ Abdallahi

3. SECTOR OF ACTIVITY: o General trade and transport
o Wholesale
o Mercedes dealer
o Agricultural inputs and
equipment importer
o Shareholder in many industrial,
fishing and construction companies

4. LOCATION: Nouakchott

5. YEAR OF CREATION: The 1960's

6. NUMBER OF EMPLOYEES: 132

7. SALES: 1985: Declared 470 Million ouguiya,
US \$ 6.5 Million. Actual sales higher
than this figure

8. GROSS PROFIT: Not available but estimated at
120 Million ouguiya (1.7 Million SUS)

9. ASSETS: Estimated at 1,000 Million ouguiya,
\$ US 13.9 Million

10. PROBLEMS: o Delays in imports operations due to
lack of hard currencies, inefficient
bureaucracy, etc..
o High level of taxation (customs and
revenue taxes)

PRIVATE SECTOR PROFILE 2

1. NAME OF COMPANY: SIRCOMA: SOCIETE D'INDUSTRIE DE REPRESENTATION ET DE CONSTRUCTION DE MAURITANIE
2. OWNERSHIP: Private sector Limited Liability Share holding company with 3 shareholders
3. SECTOR OF ACTIVITY:
 - o Building materials imports
 - o Wholesale distribution
4. LOCATION: Nouakchott - El Mina
5. YEAR OF CREATION: 1973
6. KEY EXECUTIVE: Mohamed Saleh o/ Abdallah
7. NUMBER OF EMPLOYEES: 22
8. SALES: 1985: 180 Million UM, US \$ 2.5 Million
9. GROSS PROFIT: 36 Million UM, US \$ 0.5 Million
10. PROBLEMS:
 - o Price control
 - o Government bureaucracy
 - o Frequent changes in regulations
 - o Delays in foreign exchange transfers

PRIVATE SECTOR PROFILE 3

1. NAME OF COMPANY: PARIMCO: PECHE ARMEMENT INDUSTRIE MAURITANIENNE ET CONSIGNATION
2. OWNERSHIP: Private Sector Limited Liability Share Holding Company. 7 shareholders
3. SECTOR OF ACTIVITY: Deep sea fishing using freezing trawler vessels
4. LOCATION: Nouadhibou
5. KEY EXECUTIVE: Ahmed o/ Sidi Baba
6. YEAR OF CREATION: 1980
7. PRODUCTION CAPACITY: 3000 to 3500 Tons of fish per year
8. INVESTMENT: Approximately US \$ 2.5 Million of which US \$ 0.5 Million in equity and US \$ 2.0 Million in suppliers credits
9. NUMBER OF EMPLOYEES: 125
10. SALES: 1985, Approximately US \$ 5 Million
11. GROSS PROFIT: Not available
12. PROBLEMS:
 - o Lack of skilled Mauritanian fishermen.
 - o High cost of Korean crews
 - o High cost of ship repairing due to lack of repair facility in Nouadhibou
 - o Fishing trawlers were bought second hand and need to be replaced.

PRIVATE SECTOR PROFILE 4

1. NAME OF COMPANY: COMACOP: COMPAGNIE MAURITANG-COBBENNE
DE PECHE
2. SECTOR OF ACTIVITY: Fishing and fish processing
3. OWNERSHIP: Private sector Limited Liability share-
holding company with 7 shareholders
4. LOCATION: Nouadhibou
5. YEAR OF CREATION: 1984
6. PRODUCTION CAPACITY:
 - o Freezing capacity: 80 Tons per day
 - o Cold storage capacity: 8000 Tons
 - o Ice production capacity: 70 Tons per day
 - o Ten small wooden boats
7. INVESTMENT: US \$ 10 Million of which US \$ 3 Million
in equity and US \$ 7 Million in suppliers
credits
8. NUMBER OF EMPLOYEES: 120
9. SALES: 1985: Approximately 210 Million UM,
US \$ 3 Million
10. GROSS PROFIT: Not available
11. PROBLEMS:
 - o Develop a fleet of small fishing
boats to reach a higher level of
plant capacity utilization
 - o Diversify activity towards fish
transformation
 - o Relief from high electricity rates

PRIVATE SECTOR PROFILE 5

1. NAME OF COMPANY: SIPECO. SA: SOCIETE DES INDUSTRIES DE PECHE ET DE CONSIGNATION
2. SECTOR OF ACTIVITY: Fishing and fish processing
3. OWNERSHIP: Private Sector Limited Liability Shareholding Company with 10 shareholders
4. LOCATION: Nouadhibou
5. YEAR OF CREATION: 1982
6. PRODUCTION CAPACITY:
 - o Freezing capacity : 20 Tons per 8 hours
 - o Cold storage capacity: 2,000 Tons
 - o Ice production capacity: 30 Tons per day
 - o One fishing boat
7. INVESTMENT: US \$ 5 Million of which US \$ 1.3 Million in equity and US \$ 3.7 Million in supplier's credit
8. NUMBER OF EMPLOYEES: 65
9. SALES: 1985: Estimated at 110 Million UM
US \$ 1.5 Million
10. GROSS PROFIT: Not available
11. PROBLEMS:
 - o Invest in fishing vessels to increase plant capacity utilization
 - o Diversify activity towards fish transformation
 - o Relief from very high electricity rates

PRIVATE SECTOR PROFILE 6

1. NAME OF COMPANY: SPPAM: SOCIETE POUR LA PROMOTION
DE LA PECHE ARTISANALE EN MAURITANIE
2. SECTOR OF ACTIVITY:
 - o Artisanal fishing/fish distribution
in the internal market
 - o Fishing boats, equipments and implement
import and distribution
3. OWNERSHIP:
 - Limited Liability Shareholding Company
 - o Private sector 55%
 - o State 35%
 - o Cooperatives of fishermen 10%
4. LOCATION: Nouakchott, Nouadhibou and other cities
inside the country
5. YEAR OF CREATION: 1983
6. KEY EXECUTIVE: Tijani Ben Al Houssein
7. INVESTMENT PROGRAM: 700 Million UM, US \$ 10 Million of
which 100 Million equity and 600
Million UM long term loan from
the Danish Government.
The investment program consists of:
 - o Fish freezing and cold storage
complex in Nouakchott
 - o Cold storage units inside the country
 - o Refrigerated trucks
 - o Polyester fiberglass reinforced
boat production
8. PRODUCTION CAPACITY: 2000 Tons of fish sold 1985
9. SALES: 120 Million UM in 1985
10. GROSS PROFIT: Not available
11. PROBLEMS:
 - o Price regulations
 - o Training of fishermen and technicians
 - o Financing

PRIVATE SECTOR PROFILE 7

1. NAME OF COMPANY: CIPROCHIMIE. COMPTOIR INDUSTRIEL DE
PRODUITS CHIMIQUES ET D'ENTRETIEN
2. SECTOR OF ACTIVITY: Pesticides, insecticides, and
detergents production
3. OWNERSHIP: Private Sector Limited Liability
Shareholding Company with 3 share-
holders
4. LOCATION: Nouakchott
5. YEAR OF CREATION: 1975
6. KEY EXECUTIVE: Hadia Diagana
7. PRODUCTION CAPACITY:
 - o Pesticides and insecticides: 10,000
Tons per year
 - o Detergents: 600 Tons per year
8. INVESTMENT: 85 Million ouguiya, US \$ 1.2 Million
9. NUMBER OF EMPLOYEES: 28
10. SALES: 30 Million UM
11. PROBLEMS:
 - o Internal market too small
 - o Lack of qualified workers

PRIVATE SECTOR PROFILE 8

1. NAME OF COMPANY: SOMIGEM: SOCIETE MAURITANIENNE
D'INDUSTRIE GENERALE DE MAURITANIE
2. SECTOR OF ACTIVITY: Soap production
3. LOCATION Nouakchott - Cinquième arrondissement
4. OWNERSHIP: Private Sector Limited Liability
Shareholding Company with 3 shareholders
5. YEAR OF CREATION: 1981
6. KEY EXECUTIVE: Mohamed Ahmed o/ Hamoud
7. PRODUCTION CAPACITY: 3,500 Tons of consumer soap products
per year
8. INVESTMENT: US \$ 2.5 Million of which US \$ 1
Million BMDC loan plus suppliers
credits
9. SALES: Not available
10. GROSS PROFIT: Not available
11. PROBLEMS:
 - o Needs financing for working capital
and for extension
 - o Requires technical assistance and
training

PRIVATE SECTOR PROFILE 9

1. NAME OF COMPANY: SDIC: SOCIETE POUR LE DEVELOPPEMENT INDUSTRIEL ET COMMERCIAL
2. SECTOR OF ACTIVITY: Plastic bags and pipes
3. OWNERSHIP Private Sector Limited Liability Shareholding Company. 7 shareholders.
4. LOCATION: Nouakchott - Ksar
5. YEAR OF CREATION: 1981
6. KEY EXECUTIVE: Mohamed Lefdel ould Bettah
7. PRODUCTION CAPACITY: 1,600 Tons per year
8. INVESTMENT: 95 Million UM, US \$ 1.3 Million
9. NUMBER OF EMPLOYEES: 25
10. SALES: 1985: 120 Million UM
11. GROSS PROFIT: 1985: 15 Million UM
12. PROBLEMS:
 - o Lack of qualified technicians
 - o Training of workers and staff

PRIVATE SECTOR PROFILE 10

1. NAME OF COMPANY: SIPE - CARTON: SOCIETE INDUSTRIELLE DE PRODUITS D'EMBALLAGE
2. SECTOR OF ACTIVITY: Cardboard for packaging boxes
3. OWNERSHIP: Private Sector Limited Liability Shareholding Company with 3 shareholders.
4. LOCATION: Nouakchott - Zone Foire
5. YEAR OF CREATION: 1976
6. KEY EXECUTIVE: Sidina ould Didi
7. PRODUCTION CAPACITY: 25 to 30 Million boxes per year
8. NUMBER OF EMPLOYEES: 30 to 45
9. INVESTMENT: 90 Million UM, US \$ 1.25 Million of which 60 Million UM, FND and BMDC loans
10. SALES: Estimated to be around 300 Million UM at full capacity
11. GROSS PROFIT: Not available
12. PROBLEMS:
 - o Technical assistance for equipment operation and maintenance as well as in the fields of management
 - o Training in same areas

PRIVATE SECTOR PROFILE 11

1. NAME OF COMPANY: MIE.SA: MAURITANIAN INDUSTRIAL ENTERPRISE
2. SECTOR OF ACTIVITY: Blanket weaving
3. OWNERSHIP: Limited Liability Shareholding Company.
BMDC: 701
Private investors: 301
Privately managed
4. LOCATION: Nouakchott, Zone du Wharf
5. YEAR OF CREATION: 1976
6. KEY EXECUTIVE: Ahmed ould Die
7. PRODUCTION CAPACITY: 200,000 blankets
3,000,000 plastic woven bags
8. INVESTMENT: 104 Million UM, US \$ 1.44 Million
9. NUMBER OF EMPLOYEES: 43
10. SALES: 1985: 150,000 Million, US \$ 2 Million
11. GROSS PROFIT: 15 Million UM
12. PROBLEMS:
 - o Financing for an extension
 - o Technical assistance

PRIVATE SECTOR PROFILE 12

1. NAME OF COMPANY: FAMO. MAURITANIE
2. SECTOR OF ACTIVITY: Flour milling and pasta production
3. OWNERSHIP: Joint venture between private Mauritanian and Moroccan shareholders 50%-50%
4. LOCATION: Nouakchott - Zone Foire
5. YEAR OF CREATION: 1981
6. KEY EXECUTIVE: Abeidy o/ Gharrabi
7. PRODUCTION CAPACITY:
 - o Flour: 80,000 Tons per year
Not in operation due to market prices for flour being less expensive than wheat
 - o Pasta products: 6000 Tons per year
8. INVESTMENT: 143 Million UM, US \$ 2 Million of which 64 Million UM equity, US \$ 0.89 Million; US \$ 1.11 Million BMDC and other bank loans
9. NUMBER OF EMPLOYEES: 65
10. SALES: 1985: 250 Million UM
11. GROSS PROFIT: 50 Million UM
12. PROBLEMS:
 - o Needs financing for extension of production capacity (80 Million UM)
 - o Lack of reliable information on the local consumption and the local market

PRIVATE SECTOR PROFILE 13

1. NAME OF COMPANY: SOCIETE LAITIAIRE DE MAURITANIE (SLAM)
2. SECTOR OF ACTIVITY: Agribusiness, milk factory from concentrated milk powder
3. OWNERSHIP: Private Sector Limited Liability Shareholding Company. 90% Mauritanian, 10% French, 7 shareholders
4. LOCATION: Nouakchott. Zone Wharf
5. YEAR OF CREATION: 1985
6. KEY EXECUTIVE: Bamba ould Sidi Badi
7. PRODUCTION CAPACITY: Starting test operation March 1986
Milk production: 10,000 l/day
Projection: 30,000 l/day
Trying to arrange financing to obtain additional equipment to raise production to 50,000 l/day
8. INVESTMENT: Around US \$ 5 Million from which US \$ 700,000 was loaned by BMDC/FND
9. NUMBER OF EMPLOYEES: 4 French technicians
96 local hires
10. SALES: 500,000 UM per day currently
2 Million UM per day projected
11. REVENUES: 10% profit on operation
12. PROBLEMS:
 - o Management
 - o Import of raw product
 - o Training of local workers
 - o Sales distribution

PRIVATE SECTOR PROFILE 14

1. NAME OF COMPANY: COGITREM: COMPAGNIE GENERALE DES INDUSTRIES DE TRANSFORMATION ET DE REPRESENTATION DE MAURITANIE
2. SECTOR OF ACTIVITY: Candy production
3. OWNERSHIP: Private Sector Limited Liability Shareholding Company with 7 shareholders.
4. LOCATION: Nouakchott - Zone Wharf
5. YEAR OF CREATION: 1982
6. KEY EXECUTIVE: Mohamed ould Bouamatou
7. PRODUCTION CAPACITY: 1800 Tons per year of different types of candies
8. NUMBER OF EMPLOYEES: 34
9. INVESTMENT: 51 Million UM, US \$ 0.7 Million of which 15 Million UM equity and 36 Million UM medium term loans from FND and BMDC
10. SALES: Not available
11. GROSS PROFIT: Not available
12. PROBLEMS:
 - o Illegal imports
 - o High taxes
 - o Poor or non-existent government services
 - o Lack of trained personnel
 - o Lack of qualified technicians
 - o Needs for training

PRIVATE SECTOR PROFILE 15

1. NAME OF COMPANY: IBS. SOCIETE INDUSTRIELLE DE BISCUITS
2. SECTOR OF ACTIVITY: Biscuit production
3. OWNERSHIP: Private Sector Limited Liability Share Holding Company with 7 shareholders
4. LOCATION: Nouakchott. Zone Wharf
5. YEAR OF CREATION: 1985
6. KEY EXECUTIVE: Abderrahman ould Attigh
7. PRODUCTION CAPACITY: 2600 Tons per year
8. INVESTMENT: 76 Million UM, US \$ 1.05 Million of which 19 Million UM equity and 57 Million UM FND and BMDC loans
9. SALES: Estimated at 200 Million UM, US \$ 2.8 Million
10. GROSS PROFIT: Not available
11. PROBLEMS:
 - o Illegal imports
 - o Lack of qualified technicians
 - o High taxes
 - o Poor government services

PRIVATE SECTOR PROFILE 16'

1. NAME OF COMPANY: ARM. SARL. ATELIER DE RENOVATION MECANIQUE
2. SECTOR OF ACTIVITY:
 - o Industry. Machine shop, equipment and engines maintenance and repair,
 - o Mechanical spare parts fabrication
 - o Fuel injection pump repair
3. OWNERSHIP: Private Sector Limited Liability Shareholding Company with 3 shareholders
4. LOCATION: Nouakchott. Zone West airport
5. YEAR OF CREATION: 1983
6. KEY EXECUTIVE AND SHAREHOLDER: Daffa Bakary
7. PRODUCTION CAPACITY: 3,000 hours of production for different machine - tools
8. INVESTMENTS: 13 Million UM. Self-financing
9. NUMBER OF EMPLOYEES: 31
10. SALES: 1985: 29.2 Million ouguiya
11. GROSS PROFIT: 1985: approximately 5 Million UM
12. PROBLEMS:
 - o Training of local workers in factory environment
 - o Lack of financial resources to expand and develop the activity

PRIVATE SECTOR PROFILE 17

1. NAME OF COMPANY: SOMIC S.A. SOCIETE MAURITANIENNE
D'INDUSTRIE ET DE COMMERCE
2. SECTOR OF ACTIVITY: Industry. Sandal and leather shoe
production
3. OWNERSHIP: Private Sector Limited Liability
Shareholding Company with 6-10
shareholders
4. LOCATION Nouakchott/Ksar Nord
5. YEAR OF CREATION: 1985
6. KEY EXECUTIVE: Ahmed Yahya Mhd Fadel
7. PRODUCTION CAPACITY: Company in start-up phase and not yet in
full production. Normal range of cutting,
sewing, heat treatment equipment.
Manpower intensive. Shift operations
possible. Cheap plastic sandal line in
effectively full production. Leather
sandal line still in start up and
building inventory.
8. NUMBER OF EMPLOYEES: Approximately 40 plus supervision
9. SALES: Not available. Start up in 1986
10. GROSS PROFIT: Not available. Start up in 1986
11. PROBLEMS:
 - o Training of local workers in factory
environment
 - o Lack of skilled sewing machine operators
and production supervisor
 - o Technical assistance in product
design, worker training and production
 - o Market development and distribution
channels

PART THREE - PRIVATE SECTOR PROFILE 18

1. NAME OF COMPANY: MAPROMA S.A. LA MAURITANIEENNE DE PRODUITS MANUFACTURES
2. SECTOR OF ACTIVITY: Industry. Soap, shampoo, toothpaste, cosmetics, nail polish, perfumes and assorted beauty products
3. OWNERSHIP: Private Sector Limited Liability Shareholding Company. 10-15 shareholders. Capital of 50 Million UM
4. LOCATION: B.P. 143. Nouakchott. TEL. 519-39
5. YEAR OF CREATION: 1985
6. KEY EXECUTIVE: Mhd. Mahmoud el Sidi Maouloud
7. PRODUCTION CAPACITY: Semi-automated bar soap production facility. Remainder of product essentially batch mixing and filling utilizing simple equipment. Plant has not yet run at full capacity.
8. NUMBER OF EMPLOYEES: 25-35
9. SALES: Not available for full year of operation
10. GROSS PROFIT: Not available for full year of operation
11. PROBLEMS:
 - o Normal business start-up problems of worker training, production line operations, supply and internal system development
 - o Key problems will continue to be market development to bring plant production up to plant capacity. Export markets will be essential but difficult. Need for developing awareness of product and brand recognition via advertizing and sales promotion will be a continuing draw on company's cash flow and management capability.

PRIVATE SECTOR PROFILE I-18B

- o A range of technical assistance in product formation, manufacturing, and marketing. A joint venture partner could be an answer and possibly provide product licensing possibilities
- o Financial assistance

PRIVATE SECTOR PROFILE 19.

1. NAME OF COMPANY: SCM. SOCIETE DE CIMENT DE MAURITANIE
2. SECTOR OF ACTIVITY:
 - o Cement import in bulk
 - o Cement bagging
3. OWNERSHIP: Private Sector Limited Liability Shareholding Company with 15 shareholders
4. LOCATION: Nouakchott. Wharf
5. YEAR OF CREATION: 1978
6. KEY EXECUTIVE: Ahmed Saleck
7. PRODUCTION CAPACITY: Bagging capacity 120,000 Tons per year
8. INVESTMENT: 202 Million UM, US \$ 2.8 Million
9. NUMBER OF EMPLOYEES: 60
10. SALES: Estimated at 350 Million UM, US \$ 4.9 Million
11. GROSS PROFIT: Not available
12. PROBLEMS:
 - o Financing for a clinker milling facility

PRIVATE SECTOR PROFILE 20

1. NAME OF COMPANY: SOMADERE SOCIETE MAURITANIENNE POUR
LE DEVELOPPEMENT RURAL ET L'ELEVAGE
2. SECTOR OF ACTIVITY: Agro-industry, animal feed for chicken,
cattle, camel, sheep, goats
3. OWNERSHIP: Private Sector Limited Liability
Shareholding Company with two
major shareholders
4. LOCATION: Nouakchott. Zone industrielle Ksar
5. YEAR OF CREATION: 1986
6. KEY EXECUTIVE: Boucheiba Brahim
7. PRODUCTION CAPACITY: 120 Tons per day. Actual production:
60 Tons per day
8. INVESTMENT: 100 Million UM, US \$ 1.4 Million
9. NUMBER OF EMPLOYEES: 42 to 74 depending on the production.
1 expatriate technician
10. SALES: 35 Million UM for 4 months
11. GROSS PROFIT: Approximately 3.6 Million UM for
4 months
12. PROBLEMS:
 - o Import of raw material from Senegal
 - o Transport of raw material
 - o Management
 - o Working capital financing

PUBLIC SECTOR PROFILE 21

1. NAME OF COMPANY: SOCIETE NATIONALE INDUSTRIELLE ET
MINIERE SNIM
2. SECTOR OF ACTIVITY: Iron ore mining
3. OWNERSHIP: Limited Liability Shareholding
Company under public management and
control: o State: 70.89%
o Foreign Investors: 29.91%
o Private Sector: 0.2%
4. KEY EXECUTIVE: Mohamed Saleck o/ Heyine
5. LOCATION: Nouadhibou - Zouerate
6. YEAR OF CREATION: 1975
7. NUMBER OF EMPLOYEES: 5,800
8. PRODUCTION CAPACITY: 12 Million Tons per year
9. INVESTMENT: US \$ 500 Million
10. SALES: 1985: 12,550 Million UM, US \$ 174
Million
11. PROFIT: 1985: US \$ 11 Million after tax
12. PROBLEMS:
 - o Exploitation of low grade iron ore
deposits which require concentration
 - o Falling world iron ore prices and
demand
 - o High production cost

PUBLIC SECTOR PROFILE 22

1. NAME OF COMPANY: SONIMEX SOCIETE NATIONALE
D'IMPORT ET D'EXPORT
2. SECTOR OF ACTIVITY: Import of essential goods. Monopoly
for imports of rice, sugar and tea
3. OWNERSHIP: Limited Liability Shareholding
Company. State: 69%
Private sector: 31%
4. LOCATION: Nouakchott and in all Mauritanian
cities
5. KEY EXECUTIVE: Moussa Fall
6. YEAR OF CREATION: 1966
7. SALES: 1985: o Tea: 969 Million UM
o Sugar: 431 Million UM
o Rice: 969 Million UM
Total: 2,369 Million UM
8. GROSS PROFIT: 1985: around 300 Million UM
9. PROBLEMS: o Very high prices for imported
goods
o Inefficiencies associated with
monopoly operations

PUBLIC SECTOR PROFILE 23

1. NAME OF COMPANY: SONELEC SOCIETE NATIONALE D'EAU ET D'ELECTRICITE
2. SECTOR OF ACTIVITY: Public utility
3. OWNERSHIP: Public enterprise totally owned by the state
4. KEY EXECUTIVE: Mohamed o/ Bouhedda
5. LOCATION: Nouakchott - Nouadhibou - and other cities
6. YEAR OF CREATION: 1975
7. PRODUCTION CAPACITY: 30 MW installed electric capacity with a production capacity of 130 GWh of electricity and 11.6 Million cubic meter of water. Actual production is half of the capacity.
Sonelec serves only 10% of Nouakchott population and 20% of Nouadhibou population
8. TURNOVER: 1985: 1,253 Million UM, US \$ 17.4 Million
9. GROSS PROFIT: Losses: 1984 (171) Million UM
1985 (63) Million UM
10. PROBLEMS:
 - o Facilities badly need repair, upgrading and replacement
 - o Technical losses are very high
 - o Accounting, billing and collection procedures are inadequate
 - o Financial performance ~~is~~^{is} very weak
 - o Overstaffing
 - o Lack of qualified technicians

Sonelec is being rehabilitated in the framework of the Public Enterprise Rehabilitation Program financed by the World Bank

PUBLIC SECTOR PROFILE 24

1. NAME OF COMPANY: SMCP SOCIETE MAURITANIENNE POUR LA COMMERCIALISATION DU POISSON
2. SECTOR OF ACTIVITY: State monopoly for bottom fish export
3. OWNERSHIP: Public enterprise totally owned by the state
4. KEY EXECUTIVE: Cheikh Al-Avia
5. LOCATION: Nouadhibou
6. YEAR OF CREATION: 1984
7. NUMBER OF EMPLOYEES: 50
8. SALES: 1985: 9,200 Million UM, US \$ 123 Million
9. GROSS PROFIT: 1985: Approximately 150 Million UM, US \$ 2 Million
10. PROBLEMS:
 - o Charge high commission of 2.5% of the value of fish exports
 - o Collects state taxes which may discourage producers ending up with 19⁴⁰/₁₀₀ to 24% less than the amount of their sales to SMCP
 - o Needs to diversify its foreign markets

PUBLIC SECTOR PROFILE 25

1. NAME OF COMPANY: SMCPP SOCIETE MAURITANIENNE POUR LA
COMMERCIALISATION DES PRODUITS PETROLIERS
2. SECTOR OF ACTIVITY: Petroleum Products import and
distribution
3. OWNERSHIP: Public enterprise totally owned by
the state
4. KEY EXECUTIVE: Sid'Ahmed o/ Babou
5. LOCATION: Nouakchott - Nouadhibou and other cities
6. YEAR OF CREATION: 1979
7. NUMBER OF EMPLOYEES: 130
8. SALES: 1984: 4,137 Million UM
9. GROSS PROFIT: 1984: deficit (28,5 Million)
10. PROBLEMS:
 - o Inefficient management
 - o Overstaffing
 - o Poor negotiating skills
 - o Large overhead costs

II. BANKING AND PRIVATE SECTOR FINANCE

This review of the banking and finance sector differs from the presentations on the agriculture, fisheries and mining sectors in that it is concerned with the ability of the banking sector to supply medium and long term loans, foreign remittances, trade finance, working capital loans and a variety of financial and business services to other private sector entrepreneurs and established business enterprises.

The Mauritanian banking sector is facing very serious problems and major and fundamental reforms and restructuring are currently underway with assistance and guidance from the IMF and the IBRD. It is not the intent of this presentation, therefore, to suggest ways in which USAID can take direct initiatives of its own in this highly technical and complex area. The objective is to provide an overview of the banking system and highlight the very real problems which the current grave crisis in the Mauritanian banking system poses for private sector development.

1. Introduction and Summary

The present banking system of Mauritania was established in 1973, following the country's exit from the French-dominated Monetary Union of West Africa and nationalization of the two French commercial banks. Since inception, it has operated in an environment with many problems.

- Very limited stock of human capital or physical infrastructure. The banking system lacks resources, qualified manpower, organizational structure and control needed for efficient credit extension and allocation of scarce capital.
- Government budgets and balance of payments plagued by deficits. Heavy reliance was placed on foreign assistance, especially for capital investment.
- Vulnerability to calamities: desertification, migration to urban areas and famine.
- Weak legal framework under which enforcement of loan covenants between lenders and borrowers has been difficult.
- A large national territory with a very small market to service. It is estimated that only 25 percent of potential users are currently using banking services.
- A cultural setting which discourages wealthy individuals from sharing information about their wealth. Some of these wealthy individuals are known to have borrowed from the banking system but keep their funds outside of the system. Some borrowers have no intention of repaying, counting on the apathy of the banks to protect them from recovery proceedings.

- A very small industrial sector dominated by parastatal and mixed companies and a number of small private sector companies engaged in manufacturing of nondurable consumer goods - textiles, soaps, matches, food and soft drinks - for local consumption. The manufacturing contribution to gross domestic product in 1985 was less than 20 percent. The sector consists mainly of import substitution industries.
- The overall banking environment is not favorable to the sound functioning of the banks. Interferences by the public authorities in management and lending decisions based on non-financial considerations; cursory analysis of risks; and the questionable large-scale use of overdrafts which are very often non-recoverable.

The Mauritanian Government is currently making efforts to build economic and social structures based upon free enterprise economic principles. More emphasis is now being put on the private sector's role in the economy. Private sector development, however, will take time, technical assistance, and capital. In-country discussions with Mauritanian Government officials, bankers, local and foreign business men, civic and labor leaders reveal the following about the current status of the Mauritanian banking system:

- The banking system is very young and ill equipped to meet and handle the credit needs of the private sector. Since 1980, the operations of Mauritania's banking system have in principal been governed by a generally restrictive monetary policy adopted in the context of the IMF enforced stabilization efforts. In practice, the banking system has served principally as a channel of resources to the Government and public enterprises, and has accorded little credit to the private sector.
- The system is presently facing serious financial difficulties which are hindering its sound operations. All banks interviewed, except the newly created bank, Bank Al Baraka Mauritanian Islamic, have a large percentage of their loan portfolio classified as non-performing. Additionally, they all face serious and chronic liquidity problems as well as high operating costs.

2. Overview of Financial Institutions

This section describes the institutional setting in which the banking sector operates, and then reviews the operations of the three most important public and private sector banks: BAMIS, BMDC and FND.

a) The Institutional Setting

Mauritania became an independent state and an Islamic republic on November 28, 1960, after 55 years of French rule. Initially, it belonged to the West African Monetary Union (Union Monetaire Ouest Africaine-UMOA), made up of francophone West African states. The UMOA is a multinational monetary organization which fixes a number of key monetary parameters that prevail throughout the member countries. The Union provides for a single currency circulating within the Union; a common central bank located in Dakar; centralized foreign exchange

reserves; free transfer of funds within the Union; common banking legislation; and a common interest rate structure. The currency used in member countries of UMOA is called the CFA franc (the franc of the African Financial Community) which has a fixed parity with the French franc with convertibility into French francs guaranteed by the French Treasury.

Mauritania left UMOA in mid 1973 and created its own monetary system, established a central bank (Banque Centrale de Mauritanie - BCM), and introduced a new currency, the Ouguiya (UM), whose parity is defined on the basis of a basket of foreign currencies: French franc, Italian lira, German mark, Spanish peseta, Belgian franc and US dollar. Following the creation of this new national monetary system, the two branches of French banks operating in Mauritania were nationalized by the Government and became an integral part of the present commercial banking system.

b) Mauritania's Central Bank System

The Banque Centrale de Mauritanie (BCM), was established in 1973 as the issuing bank of currency and notes. BCM is charged with the administration of the banking system. It functions as the banker and debt manager of the Government and enjoys the exclusive privilege of managing the country's foreign exchange reserves. BCM also has the power to influence the overall rate of expansion of the banking system through credit, reserves, exchange and interest rate policies. To this end, BCM reviews all credit applications over UM 2 million to be financed by the Mauritanian banks; sets a ceiling each year on short-and medium-term rediscounts available to each individual bank; regulates the terms and conditions of all bank credits to be financed by local resources; and sets financial ratios that the banks must observe. The paragraphs which follow and exhibit II-1 give an overview of the Central Bank's current regulations on rediscountable credits and interest rates.

The maximum amount of short-term credits that a bank can rediscount in a given year is the difference between the amount of projected short-term financing agreed on with BCM and the bank's permanent resources and short-term deposits. BCM, however, provides further support above the approved ceiling through temporary advances to the banks to finance credit to government monopolies for imports of essential goods and, in exceptional circumstances, for unforeseen short-term credit demands. In the first case, normal rediscount terms and conditions apply to the credit. In the second case, the temporary advance may not exceed 30 days and interest is charged at 4.5% p.a. above the normal rate.

BCM does not rediscount for terms exceeding 8 years. For Banque Mauritanienne de Developpement et de Commerce (BMDC) which provides both commercial and development banking services, the medium-term rediscount ceiling is defined by BCM as 150% of the sum of BMDC's net equity (equity minus fixed assets, equity investments and losses) and its long- and medium-term resources (minus non rediscountable term loans). For a purely commercial bank, the rediscount ceiling is defined as the sum of the bank's net equity as defined above plus its term resources (minus non rediscountable term loans) and 25% of its demand and short-term deposits. Medium-term credits guaranteed by the government are not included in the ceiling, although they are rediscounted by BCM on normal rediscount terms and conditions. BCM's rediscount rate is 4.5% on credit to agriculture and livestock and 6% on credit to all other sectors.

BCM regulates interest rates charged by banks on short and medium term credits whether they are rediscountable or not. The Central Bank also determines interest paid on demand and term deposits. Demand deposits can earn from 5% to 8% and term deposits from 5.25% to 9% according to the term and amount of the deposits. It is important to note that since the creation of the Mauritanian Monetary System in 1973, the interest rate structure has remained relatively unchanged. However, in 1985 the interest rate grid was increased uniformly by 2 percentage points so as to establish positive real interest rates. The change was required by the second IMF stand-by arrangement, and the BCM is now required to implement a more flexible interest rate policy. Refer to Exhibit II-1, interest rates charged to final borrowers.

c) The Commercial Banking System

Exhibit II-2 presents the list of the six deposit money banks in Mauritania as of the end of May, 1986. Mauritanian commercial banks are authorized to engage in short and medium term finance, international trade finance and deposit gathering activities.

Of the six commercial banks established in Mauritania, only BMDC and BAMIS have specialized operations. BMDC operates as both a development and commercial bank. BMDC's modus operandi will be discussed in detail under "Development Banking." BAMIS's operations are strictly in accordance with Islamic Laws and because of its unique operating method is described in some detail.

The Banque Al Baraka Mauritanienne Islamique (BAMIS) was established within the context of the Mauritanian government's policy to encourage Arab and Islamic investment in Mauritania as well as the development of socio-economic relations between Arab and Islamic countries. In this context, BAMIS has endeavored to promote economic development and progress in Mauritania in accordance with the following Islamic banking objectives:

- Operate as an investment and commercial bank, performing all banking operations, financing foreign and domestic trade, and undertaking foreign exchange operations.
- Attract investment capital and channel it to finance projects which are of value for the economy.
- Create a market for capital in the form of profit sharing certificates for either a specific project or a basket of projects and put them into circulation by buying and selling at the going rate through the open market system. This is done to facilitate the flow of capital from areas in which there is a surplus to places of need in order to benefit both the investors and the countries in which this capital is invested.
- Create trade centers to exhibit products, facilitate buyer-selling contacts, and make the necessary funding available to sellers, manufacturers, and buyers.
- Conduct organized investment of surplus funds with banks and financial institutions and present back-up and cover services for foreign payments as well as other bank services employing Islamic non-usury methods.

- Coordinate scientific and technical experience and direct it to serve the needs of the people of the Islamic World in the areas of food security and general well-being.

Both foreign and local deposits are used to finance joint partnership projects. These "participative" deposits may be specific to a project or an operation or non-specific, according to the choice of the depositor. In return, the depositor receives a pre-agreed share of the profits generated by that project or operation,

in the case of specific deposits. In the case of non-specific deposits, the depositor receives a pre-agreed share of the profits generated by the basket of projects in which his funds have been invested. Thus all BAMIS activities are conducted on a non-interest basis, in accordance with Islamic laws.

BAMIS performs all banking services both on its own behalf and on behalf of its foreign or domestic clients. The Bank receives funds in the form of entries into accounts and on the basis of compensating withdrawals and deposits. Deposits fall within the following categories:

- Call Deposits Accounts: Funds are deposited with the bank which is authorized to utilize them. The bank receives any profits and bears any losses. There are no conditions with regard to deposits and withdrawals.
- Non-Specific Deposit Accounts: Funds are deposited with the bank by depositors wishing to participate in its financing of economic activities. In return depositors receive a set percentage of net profits in accordance with the conditions of the account in which they are recorded.
- Specific-Deposit Accounts: Funds are deposited with the bank by depositors wishing to authorize the bank to invest in a specific project or for a particular objective. The depositor receives a share of net profit generated by each specific project.

The Bank provides cover services on behalf of other banks and also notifies and confirms credits. It finds suitable investment outlets for any surplus funds collected by itself or similar financial institutions, and provides over-the-counter services for the purchase and sale of foreign currency at the going rate. The Bank carried out all financial and investment services in accordance with the following procedures:

- MURABAHA: The bank purchases goods requested by the client, paying the seller directly on a cash basis, either in full or in part. In return, the client undertakes to purchase the same goods at a later period against a pre-agreed profit margin. MURABAHA financing extends to both foreign and domestic trade operations as well as to the procurement of supplies for industry. The repayment period is between 1 and 12 months.
- MUSHARAKA: The bank participates in the equity of companies on either a permanent or a degressive basis. If it uses Permanent MUSHARAKA it receives an annual share of profits in proportion to its rate of equity participation. However, if Degressive MUSHARAKA - in which the bank

participates as a financial partner, either in full or in part in a project with a given income forecast is used, an agreement is signed between the partner and the bank whereby the bank receives on top of its share of actual net income another pre-agreed proportion of this net income as repayment of the principal financed by the bank. The partner is entitled to keep the remaining amount. The partner eventually becomes the full owner.

- ° MUDHARABA: The bank grants all or part of the necessary funds to finance given operations, the work being carried out by another party. This is done on a MUSHARAKA basis, whether there is a profit or a loss, in accordance with conditions agreed upon by both parties.
- ° TAAJIR: The bank purchases the equipment required to implement industrial or real estate projects and leases it to the companies in question. This method of financing may be applied both to new projects and to projects already in operation. The leasing period varies from 3 to 5 years and may or may not include a grace period. A lease payment schedule based on the amount and term of financing is agreed upon with the leases.
- ° OTHER SERVICES: Shares and profit sharing certificates are issued and put into circulation by sale and purchase transactions. International investment and asset management services are provided including bills on hand, securities, and miscellaneous investment contract. Technical and investment studies are carried out to assess whether projects which others would like to implement are of value to investors and to the economy. BAMIS also provides specialized information in its particular fields of expertise.

d) The Development Banking System

Mauritania has two development banks: The Mauritanian Bank of Development and Commerce (Banque Mauritanienne de Developpement et de Commerce - BMDC); and the National Development Fund (Fonds National de Developpement - FND). Both institutions serve as Mauritanian Government vehicles for promoting economic development by carrying out lending activities which commercial banks do not address. These lending activities are designed to foster small and medium enterprises.

BMDC and FND have an institutional cooperation agreement which allows them to co-finance all industrial projects, with BMDC as the lead bank for projects costing less than UM 60 million, and FND for projects above this limit. Both institutions are expected to play major roles in the development and expansion of the private sector in Mauritania.

BMDC Banque Mauritanienne de Developpement et de Commerce (BMDC), was established in 1974 and is headquartered in Nouakchott. BMDC functions both as a commercial and development bank. It takes in deposits, and extends short, medium and term loans. BMDC is also permitted by the Central Bank to participate in credits that involve considerable economic, political and financial risks.

BMDC has a Board of Directors composed of ten Directors. The Mauritanian Government appoints eight Directors, the Central Bank and the Societe Tunisienne des Banques are each represented by one Director. The Director General is the Chief Executive Officer of the Bank. He is appointed to this post by the ten Directors. The Director General has a lending limit of UM 20 million. In terms of activities, the commercial department is the most important unit of the Bank. It is this department that coordinates all lending operations of BMDC.

At the end of 1985, BMDC had 183 employees. Out of this total, 22 were professionals of whom 13 had a university or equivalent education. See Exhibit II-3. The Fonds National de Developpement (FND), was established in 1980. Its principal objective is to give technical and financial assistance for the implementation of projects that can contribute to the economic welfare of Mauritania. FND is a government financial institution and presently employs about 60 people. Its equity capital of UM 400 million is subscribed by the State of Mauritania (50%), Central Bank of Mauritania (30%), Caisse National de Securite Social (15%), Societe Mauritanienne d'Assurance et de Reassurance (50%). FND's legal status is presently being amended in order to improve its capital structure and performance.

A number of major changes are expected in FND's policies. FND is expected to become a semi-public corporation so as to enable private individuals in Mauritania and foreigners to participate in its equity capital. In addition to operations carried out for its own sake FND will henceforth carry out operations for the State and its institutions. The draft statutes make provision for the elimination of restrictions fixing a ceiling on the loans granted and the shares acquired. FND is under the tutelage of the Ministry of Economic Planning and Finance. It has a Board of Directors made up of twelve directors. One of the twelve Directors represents the interests of FND's employees. Directors are appointed to the Board for a term of three years by the Ministry of Economic Planning and Finance. Changes are being introduced which will have some effect on the way that the Board is run. Once the capital of FND is offered to the Public, Directors will be selected on the basis of the proportions of their share holdings. Exhibit II-4 presents the organizational structure of FND.

The Director General is the chief operational officer of FND. He is appointed to this post by the Ministry of Economic Planning and Finance. In addition to the office of the Director General the organization chart includes four departments: Research and Operations, Agriculture Credit, Financial and Legal, and Administrative Departments.

The Research and Operations Department is responsible for the identification, appraisal and follow-up of all projects with the exception of agricultural projects. It has ten senior technical officers, one junior technical officer and an expatriate technical officer sponsored by FADES (Fonds Arabe Pour le Developpement Economique et Sociate - Arab Fund for Economic and Social Development). The staff is assigned to the Studies and Follow-up Division, the Appraisal and Identification Division and the FIRVA (Fonds d'Insertion et de Reinsertion dans la Vie Active - Fund for Integration and Reintegration into Active Life) unit, a special small loan unit for displaced government employees and school leavers who wish to start small businesses. Most of these officers have taken additional coursework abroad in development institutions. This department is headed by an industrial engineer.

The Agricultural Credit Department was established in November 1985. Its purpose is to finance agricultural credit for inputs, equipment and tools to rural farmers. At present it has three senior technical officers including the directors. In view of the intended increase in agricultural credits, as from 1986 the department will be reinforced with 5 agronomists, 17 junior technical officers and 21 support officers. FADES will provide for personnel expenses and capital expenditure required for the management of the agricultural loans program - UM 34 million annually for the next five years for personnel expenses and UM 124 million for the procurement of vehicles, office furniture and equipment.

The Finance and Legal Department is responsible for the keeping of accounts, the management of resources and loans and legal problems. It has 6 senior technical officers, 3 junior technical officers and 2 expatriate technical officers - a financial officer and legal officer - sponsored by FADES. The Department is headed by a Mauritanian chartered accountant. The staff is well qualified and adequate in number.

The purpose of the Administrative Department is to manage the bank's human and material resources. It has a senior technical officer, 5 junior technical officers and 7 other officers. It is headed by an economist. At present the number of staff is adequate.

The following table presents FND's financial summary for fiscal years ended 12/31/82-84 through 11/30/85.

FND
FINANCIAL SUMMARY (In millions of UM)

	<u>12/31/82</u>	<u>12/31/83</u>	<u>12/31/84</u>	<u>11/30/85</u>
Gross Income	22.8	22.0	23.0	34.5
Operating Expenses	29.0	28.7	29.3	34.2
Net Income (Net loss)	(5.0)	(6.7)	(13.4)	0.6
Current Assets	190.2	252.5	331.0	378.4
Loans	-	15.7	40.7	193.8
Capital	200.00	285.0	400.0	400.0
Total Assest	203.8	195.8	406.2	609.4

3. Financial Institutions and the Private Sector

This section begins with a global financial picture of a summarized income statement for each bank for the fiscal year-ended 12/31/84. The analytical method employed is commonly used in the analysis of bank financial statements.

The definition of the terms employed in the analysis follow:

DIFINITION OF TERMS

Interest Income:	Interest earned on loans.
Interest Expense:	Interest that banks pay to their own creditors, depositors, and on loans from the Central Bank and correspondent banks.
Net Interest Margin:	Interest income less interest expense divided by interest income.
Total Revenue:	Net interest income plus other income
Other Income:	Income generated by non interest income such as commissions and fees.
Non Interest Expense	Expense other than interest expense such as salaries
Return of Equity:	Net profit divided by equity capital.
Return on Earning Assets:	Net profit divided by loans.
Return on Total Assets:	Net profit divided by total assets.

The table below summarizes the source of revenues, the cost of funds used to finance loans, non interest expenses, and profitability.

EARNINGS SUMMARY PERCENTAGES
(As of 12/31/84)

	<u>BIMA</u>	<u>BMDC</u>	<u>BMAA</u>	<u>SMB</u>	<u>BALM</u>	<u>AVERAGE</u>
Interest Income	100.0	100.0	100.0	100.0	100.0	100.0
Interest Expense	73.3	54.3	82.4	43.3	82.2	67.6
Net Interest Margin	26.7	45.7	17.6	56.7	17.8	32.4
Total Revenue	100.0	100.0	100.0	100.0	100.0	100.0
Net Interest Margin	49.5	44.0	46.1	11.9	11.9	43.4
Other Income	50.5	56.0	53.9	88.1	88.1	56.6
Salaries	60.8	38.5	88.2	35.8	35.8	53.7
Return of Equity	4.0	21.3	-	16	17	7.0
Return on Earning Assets	0.3	2.4	-	0.5	1.3	0.5
Return on Total Assets	0.2	2.0	-	0.4	1.2	0.4

a) The Source of Revenues

All commercial banks operating in Mauritania derive the majority of their total revenue from "other income" - commissions and fees - rather than from the typical source of a commercial bank's revenue, interest from loans.

b) The Cost of Funds

The net interest margin for the entire banking system is very low, reflecting high cost of funds used to support the extension of credit. The cost of funds needed to support lending activities is high because of the liquidity problems, Central Bank regulations, and lack of a reliable deposit base.

The liquidity problems of the commercial banks in Mauritanian are severe and chronic. This has deterred depositors and severely restricted the bank's ability to support the normal credit requirements of the private sector. The problems have stemmed largely from lax operational practices on the part of the banks, inadequate credit analysis and recovery efforts in particular, and from a weak legal framework in which the banking system has operated in the past.

The Central Bank regulation of interest rates which commercial banks can charge on loans and pay on deposits has also contributed substantially to the cost of funds. The increase in interest rates by two percentage points in February 1985 has eased this problem somewhat. Additional funding costs are transferred to the banking system when BCM reviews credit applications over UM 2 million which require Central Bank approval.

The commercial banking system in Mauritania does not presently have a solid deposit base that it can count on for supporting the expansion in its lending activities. The problem of a reliable deposit base is made difficult by the interest regulations and the local culture.

Currently, interest paid to depositors ranges from 7% to 9% according to deposit amount and term. The structure of interest rates is such, however, that term deposits earn only 0.5% more than short-term deposits. The structure of interest paid on deposits does not encourage term deposits relative to demand deposits. It is also important to note that interest payments on deposits are not automatic. Customers must request them. The true return on funds, therefore, is between 2.5% to 4.5% which is too low to attract depositors in a banking system which is overloaned and starving for funds.

The problem of deposits is made worse by the cultural traditions which encourage many people to keep their savings outside the banking system for fear of making public their wealth. Poor depositor relations and uncertainty of the availability of funds when needed are also responsible for low banking deposits. It is estimated that only 25% of potential users are actually using banking services. Most people do not like to be paid by checks, which are accepted only when certified by the banks. Checking as a banking service is not widely used or accepted in Mauritania. The lack of a local cheap source of funds has forced commercial banks to have recourse to the facilities of foreign banks which are priced over floating prime rate.

c) Non-Interest Expenses

Non-interest expenses representing salaries are high either because the banking system is using more people than needed or is paying higher salaries than their operations can support. Over staffing appears to be the major problem. Employee training is urgently needed in order to improve productivity.

d) Profitability

Overall the banking system in Mauritania is not profitable. Three key ratios return on equity, earnings and total assets - are not higher than 6%. When reserves for nonperforming loans are set aside, the banking system is indeed losing money.

The consolidated balance sheet shown below clearly demonstrates a weak financial position. Total assets are estimated to be US 23 billion, with loans accounting for 78% of total assets.

Consolidated BALANCE SHEET: 12/31/84
(Significant Percentages)

ITEM	BIMA	BMDC	BMAA	SMB	BALM	AVERAGE
Cash	2.0	5.0	7.0	1.0	4.0	3.0
Loans	75.0	81.0	70.0	80.0	93.0	78.0
Fixed Assets	2.0	2.0	2.0	2.0	1.0	2.0
Total Assets	100.0	100.0	100.0	100.0	100.0	100.0
Total Deposits	22.0	55.0	45.0	53.0	30.0	38.0
Capital	6.0	9.0	5.0	3.0	7.0	6.0
<u>Ratios</u>						
Loans/Deposits	236.0	48.0	56.0	50.0	208.0	108.0
Liquid Assets/ Total Deposits	8.0	10.0	16.0	2.0	12.0	9.0
Total Equity/ Total Assets	6.0	9.0	5.0	3.0	7.0	6.0

Loans, the most important item on the asset side of a bank's balance sheet, are being supported 38% by deposits and 62% by borrowed funds. Outstanding loans are estimated to be UM 18.0 billion, of which 10.0 billion UM is classified as non-performing loans. It is believed that 25% - 2.5 billion UM - of these non-performing loans are unrecoverable debts. The banking system's total capital is

about 2.0 billion UM. Assuming that non-recoverable debts will be charged off against the banking system's capital, the capital of the banking system will be negative. Liquid assets of the banking system as measured by the ratio of liquid assets to total deposits are very low. This explains why some banks are unable to cash large denomination checks.

4. Conclusions and Recommendations

The objective of the study of the banking sector was to gain an understanding of the sector's operations and to assess the role that it can play in promoting the development of the private sector.

In practice, the banking system has served principally as a channel of resources to the Government and public enterprises, and has accorded little credit to the private sector. The private sector presently is in need of business advisory, venture capital, working capital, foreign remittances, trade finance, investment and trade promotion services. Most of these needs can only be marginally satisfied under the present banking system.

The deterioration of commercial bank liquidity in recent years is due chiefly to an accumulation of non-performing credits, which now constitute some 60 percent of commercial bank's potential earning assets. The growing scarcity of domestic liquidity has caused a considerable increase in the commercial bank's short-term external debt, now estimated at UM 2.2 billion.

The Mauritanian Government is very much aware of the catastrophic situation of the banking system. The Government, under the IMF stand-by arrangement concluded in 1985, has already implemented some corrective measures to improve the financial profitability of banks and encourage the accumulation of stable resources (savings) for medium- and long-term financing. The series of measure taken includes:

- Limitation of total domestic credit expansion to 5 percent, to be provided exclusively to the non-government sector which includes public enterprises, while maintaining net bank credit to the Government at its end-1984 level.
- Raising the interest rate structure by 2 percentage points.
- Strengthening of Central Bank monitoring of commercial bank activities.
- Completion of the study financed by the World Bank and the Arab Monetary Fund on the rehabilitation and strengthening of the banking system.

The Government is currently studying three proposals dealing with long term solutions to the banking crisis. The first involves selling all Government ownership of banks to private Mauritanian citizens and foreigners. The Government has already embarked on this road. Some banks have already seen a dramatic change in the ownership makeup of their capital. The second would combine all Government banks and create one large private bank and transfer the development loan portfolio of BMDC to FND. The third calls for systems which will ensure that nonperforming credits which can be collected are covered by protocols of agreement between the commercial banks and the debtors. It is expected that major decisions on these matters will be made by the end of June 1986, when the Mauritanian Government officials meet again with IMF representatives to review the current standby arrangement.

In the present political climate, it is doubtful if the banking system can significantly reduce non-performing loan balances. Collateral problems are enormous. Collateral assets were not properly valued and documented. In addition, there is no market in Mauritania in which banks can dispose of their collateral. The problem is rendered more difficult by the fact that, from a social point of view, it is not acceptable for friends to buy auctioned valuables belonging to one of their associates, friends or family members.

It is the general consensus that banks are over staffed by at least 25%. Banks often do not have control over operational costs, especially in the area of staffing. Most staff hiring is done by the Central Bank and the Ministry of Economic Planning and Finance. Banks cannot dismiss employees without a prior approval of the Central Bank and Ministry of Economic Planning and Finance.

The building of a banking system able to respond effectively to private sector developmental needs will involve much more than the short-term solutions of the current liquidity and structural problem facing the country's banking industry. Such a system will require long-term changes in the business culture and the underlying legal systems, continuing privatization, and training and development of human resources at all levels.

USAID Mauritania could attempt to develop a sectoral strategy and design specific projects to supply medium term funds to the private commercial banks on an on-lending basis targeted at specific private sector objectives; provide technical assistance to develop commercial banking capabilities in providing private sector business development advisory services; and sponsor in-country and overseas training and development of bank personnel. Many examples of such programs have been supported by USAID elsewhere in the past - and a recent on-lending program to the commercial banks in support of private sector development in Kenya is one of many such examples.

The survey team believes, however, that such an approach is not now warranted in Mauritania for a number of reasons:

- The banking system is undergoing a traumatic transformation in orientation, structure and operations.
- The IMF and the IBRD have in-country and Washington-based specialists assisting, advising and monitoring the program of change now underway.
- The private banking system - USAID's traditional delivery system for private sector on-lending programs - is essentially "new born" and has little or no branch penetration outside Nouakchott.
- The USAID Mission in Mauritania has little or no experience in the banking sector, and staffing constraints are not likely to provide any resident capabilities.

It is recommended, however, that USAID Mauritania support as it is able the leadership being provided by IMF/IBRD in banking system reform, in particular assistance in the development of FND's entry into small farmer agriculture and artisanal fishing credit operations.

Exhibit II-1

Interest Rates Charged to Final Borrowers
(Before interest rate grid's change)

By Industries	Rediscountable	Non-Rediscountable
	Medium-Term Credit	
	%	%
All services other than Transportation	10.0	14.0
Housing construction	9.0	14.0
Construction companies	8.0	13.0
Other Industries and Transportation	7.0	12.0
Agriculture and livestock	6.0	11.0
	Short-Term Credit	
All services except imports and Transportation		15.0
Private imports	10.5	14.0
Construction and Transportation Industry	9.5	13.0
	8.5	12.0
Government imports of essential goods	7.5	11.0
Agriculture and livestock	6.5	10.0

INTEREST RATES PAID ON DEPOSITS
AMOUNT OF DEPOSIT IN UM 000's

Term of Deposit	Amount of Deposits			
	0 - 50	50 - 1.000	1.000 - 3.000	Over 3,000
	%	%	%	%
Demand	0.00	5.00 - 5.50	7.50	8.00
Short-term (1 year)	5.25	5.50 - 6.00	8.25	8.50
1 - 2 years	5.50	5.75 - 6.25	8.50	8.75
Over 2 years	5.75	6.00 - 6.50	8.75	8.00

SOURCE: Central Bank of Mauritania

EXHIBIT II-2

MAURITANIA: LIST OF DEPOSIT MONEY BANKS, AS OF END-MAY 1986

Name	Shareholders	Year established	Capital (UM million)	Number of branches	Number of employees
Banque Al Baraka Mauritanienne Islamique (BAMIS)	Al Baraka Group-Jeddah: 50 percent Private Mauritians: 40 percent Banque Centrale de Mauritanie: 10 percent	1985	500	-	-
Banque Internationale pour la Mauritanie (BIMA)	Banque Internationale pour l'Afrique Occidentale: 9 percent Banque Centrale de Mauritanie: 91 percent	1961	500	6	183
Banque Arabe-Libyenne pour le Commerce et le Développement (BALM)	Mauritanian Government: 49 percent Banque Libyenne du Commerce Extérieur: 51 percent	1972	200	2	109
Banque Mauritanienne Arabe Africaine (BMAA) 1/	Banque Arabe-Africaine: 50 percent Private Mauritians: 40 percent Banque Centrale de Mauritanie: 10 percent	1974	300	5	176
Banque Mauritanienne de Développement et de Commerce (BMDC)	Mauritanian Government: 75 percent Banque Centrale de Mauritanie: 18 percent Société Tunisienne de Banque: 7 percent	1974	300	4	183
Société Mauritanienne de Banque (SMB)	Mauritanian Government: 55 percent Other foreign banks: 45 percent	1967	150	4	169

EXHIBIT II-3

BANQUE MAURITANIEENNE DE DEVELOPPEMENT ET DE COMMERCE

Organization Chart as of End 1983

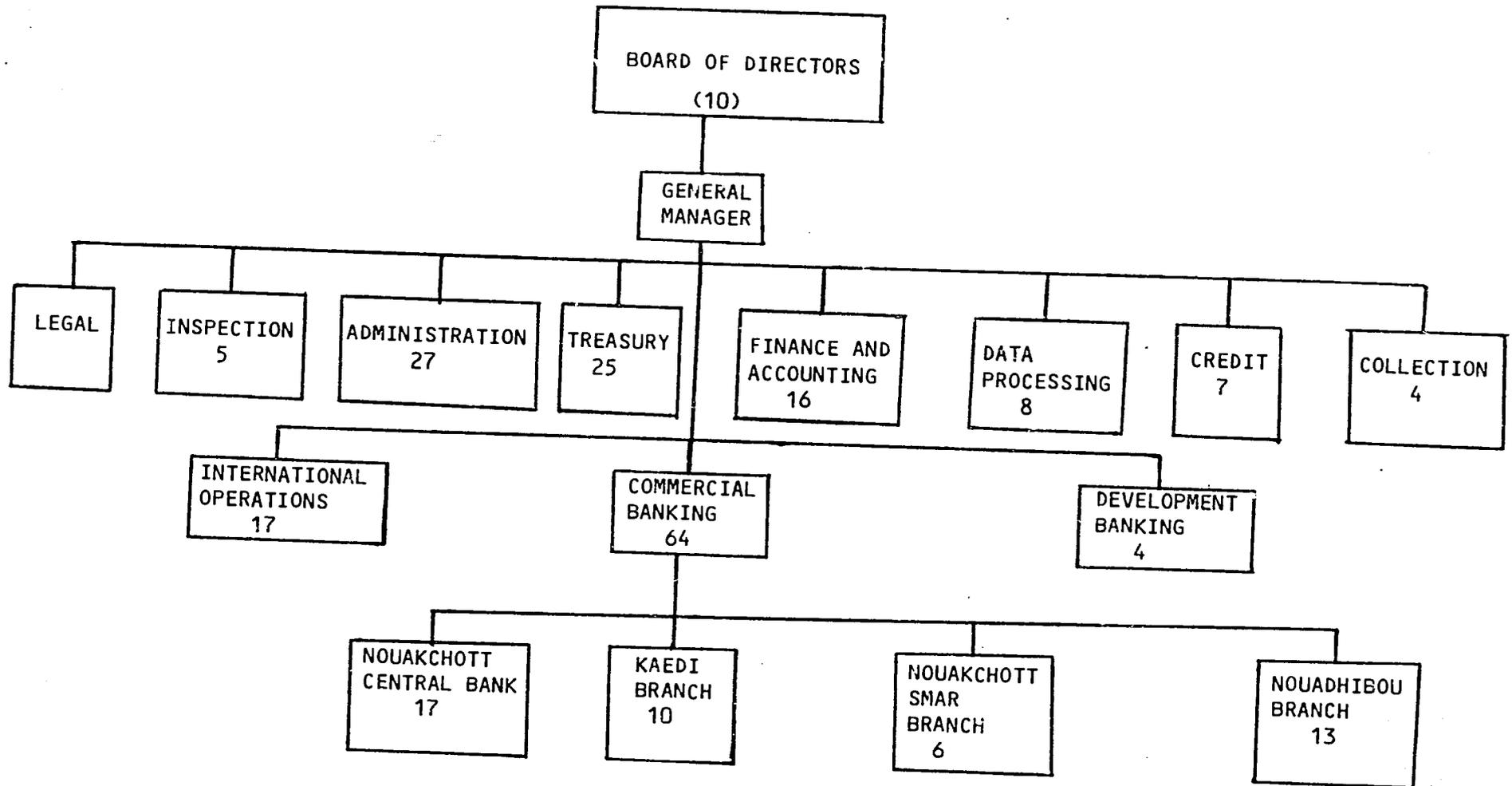
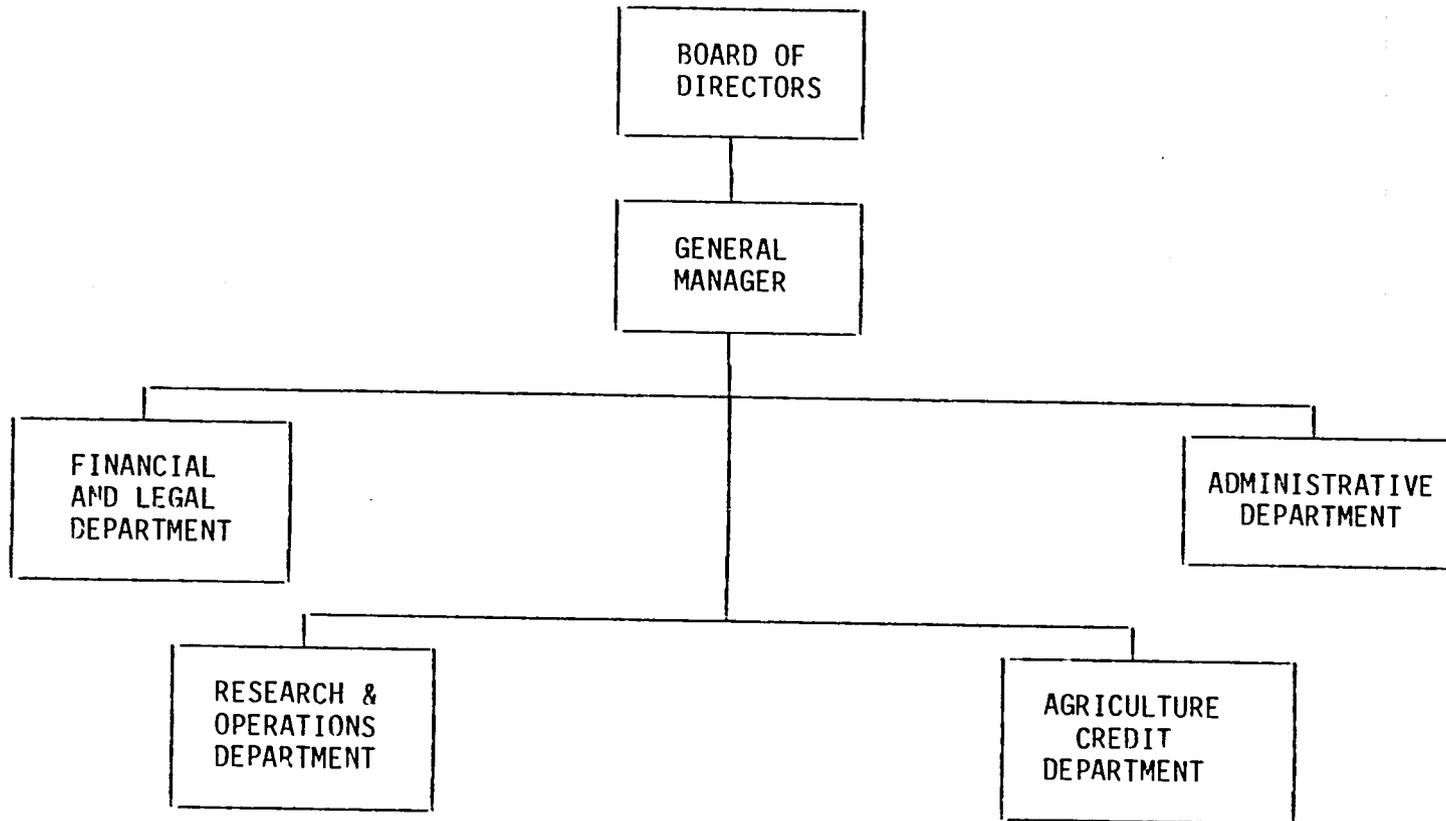


EXHIBIT II-4

FND ORGANIZATION CHART



- Project appraisal
- Project identification
- Project monitoring and follow-up
- General and sectoral studies
- Young & Retired Professionals Assistance Fund (FIRVA) unit

- Agriculture credit
- FND branches

III. AGRICULTURE AND AGRI-BUSINESS

1. INTRODUCTION AND SUMMARY

The serious problems confronting Mauritanian agricultural and livestock production can only be understood in terms of the devastating effects of the persistent and severe droughts on local food and meat production, desertification and sand dune encroachment. The exhibit which follows this page, Rainfall and Total Cereals Production, for example, is a graphic and compelling illustration of the direct linkages between rainfall and basic cereals food production. Domestic food production from rainfed agriculture will continue to be at the mercy of the vagaries of rainfall.

Mauritania, aided by very large amounts of financial and technical assistance from the international donor community, has taken a whole series of innovative approaches and difficult policy decisions in attempting to solve the food problem. Progress has been made: irrigated paddy rice production has shown excellent increases, while production of pulses and vegetables are showing an ability to maintain production levels even in the face of poor climatic conditions. But the fact remains that in the years 1981 to 1985 domestic cereals production contributed 28%, 13%, 5% and 9% respectively to total edible cereals consumed in the country.

These and other issues are discussed in this section on Mauritanian agriculture, including an overview of public and private sector participation in agriculture. This section concludes with a review of possible USAID initiatives to encourage further Mauritanian private sector entry into agriculture and agricultural input and services supply activities.

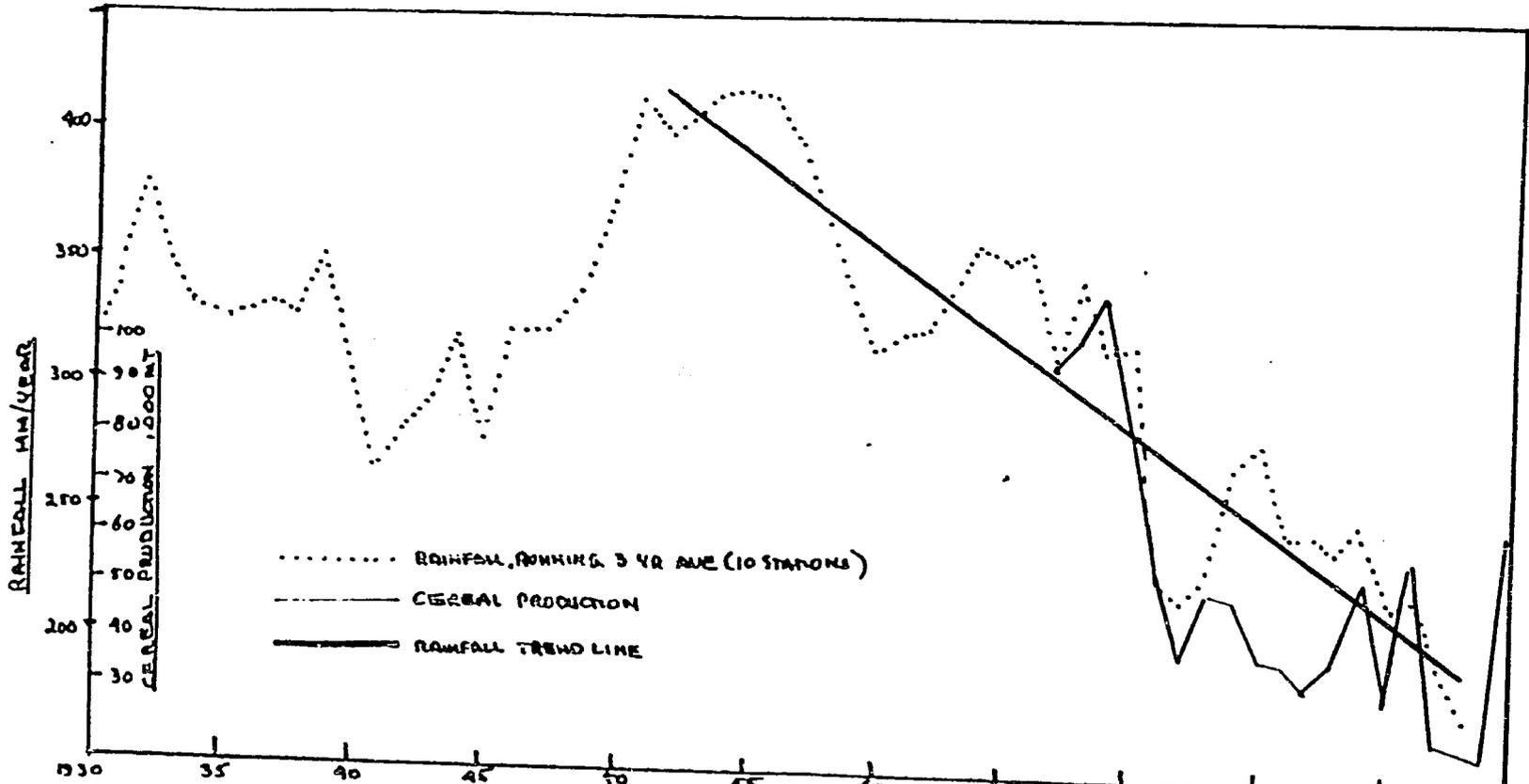
2. OVERVIEW OF THE AGRICULTURAL SECTOR

More than 65% of the Mauritanian population draws its main income from the agricultural sector - farming and livestock. Under pressure of the serious drought conditions, the contribution of agriculture to GDP has continued to decline, falling from 23.4% in 1975 to 20% in 1984. At current market prices, the total sector value-added was UM 12.1 billion in 1985, with livestock activities accounting for 90% and crops for 10%.

Both crops and livestock have been hard hit by the unprecedented droughts. Cereal production reached lows of about 30,000 tons in 1984 against a total estimated edible food supply - local production plus food imports - of 344,000 tons. The 1984 production can be compared to normal pre-drought production of around 90,000 tons. The cattle herd also suffered substantial

RAINFALL AND TOTAL CEREALS PRODUCTION

MAURITANIA
1930 - 1983



- ANNUAIRE STATISTIQUE VOL I 7/81
- PLAN D'ACTION DURANCE COMMISSION, 4/83
- FAO, 1/80
- ANNUAL REPORT 1984/85 OGD

reduction while natural pasturage was estimated to have shrunk by up to 50%.

(1) The Livestock Subsector

Livestock is an important source of meat, milk, skins and organic fertilizer - and a major form of "portable" wealth. While the herds are normally resistant to short dry spells, the 1968-73 and 1982-83 droughts led to major reductions in the animal population. By 1973, cattle herds dropped 55% over 1968, while the sheep and goat herds declined 13% over the same period. The important camel herd proved extremely resistant to the drought conditions.

The following table shows the evolution of the herd since 1968. While the goat and camel herds have shown great resistance to the drought, the cattle herd in 1985 is estimated to be 62% below its 1968 levels. Sheep are also estimated to have declined because of inability to adapt to changing climatic conditions.

EVOLUTION OF THE MAURITANIAN
LIVESTOCK POPULATION
(000)

YEAR	CATTLE	SHEEP GOATS	CAMELS
1968	2500	6700	720
1970	1800	6750	710
1973	1115	5850	670
1980	1195	7794	734
1981	1195	7724	734
1982	1300	7893	750
1983	1100	7200	760
1984	950	6500	780
1985	950	6500	780

SOURCES: VARIOUS: MIN. DU PLAN ET DES MINES, 1976;
MIN. DE L'ECONOMIE ET DE FINANCE, 1985;
BANQUE CENTRALE DE MAURITANIE, 1986.

The above figures, however, can only be indicative of changes in the Mauritanian livestock segment given the margin of error implicit in such census data and the difficult-to-assess size of the migration of the herds back and forth across the Mali-Senegalise frontiers in recent years.

An examination of the Mauritanian herd on the basis of "Tropical Livestock Units" which measures the total national herd in terms of animal weight differentials, shows a year-by-year build-up from 1974 through 1982, then falling to ten year lows as a result of the 1983 drought. Refer to the exhibit following this page, Estimated Livestock Population - 1973-1984.

Cattle exports in the past were an important income earner. Official statistics show that such exports today are virtually non-existent. While impossible to quantify, and equally difficult to control, there are estimated to be, however, substantial numbers of cattle unofficially exported "on-the-hoof," particularly to Senegal.

Severe livestock grazing pressure on the available forage and water supplies has been accentuated by practices aimed at maximizing the size of the herd, by a continuing neglect and abuse of the supporting environment, and by a proliferation of inadequately spaced water wells - and the consequent intense pressure of the herd on land resources in the immediate vicinity of these wells.

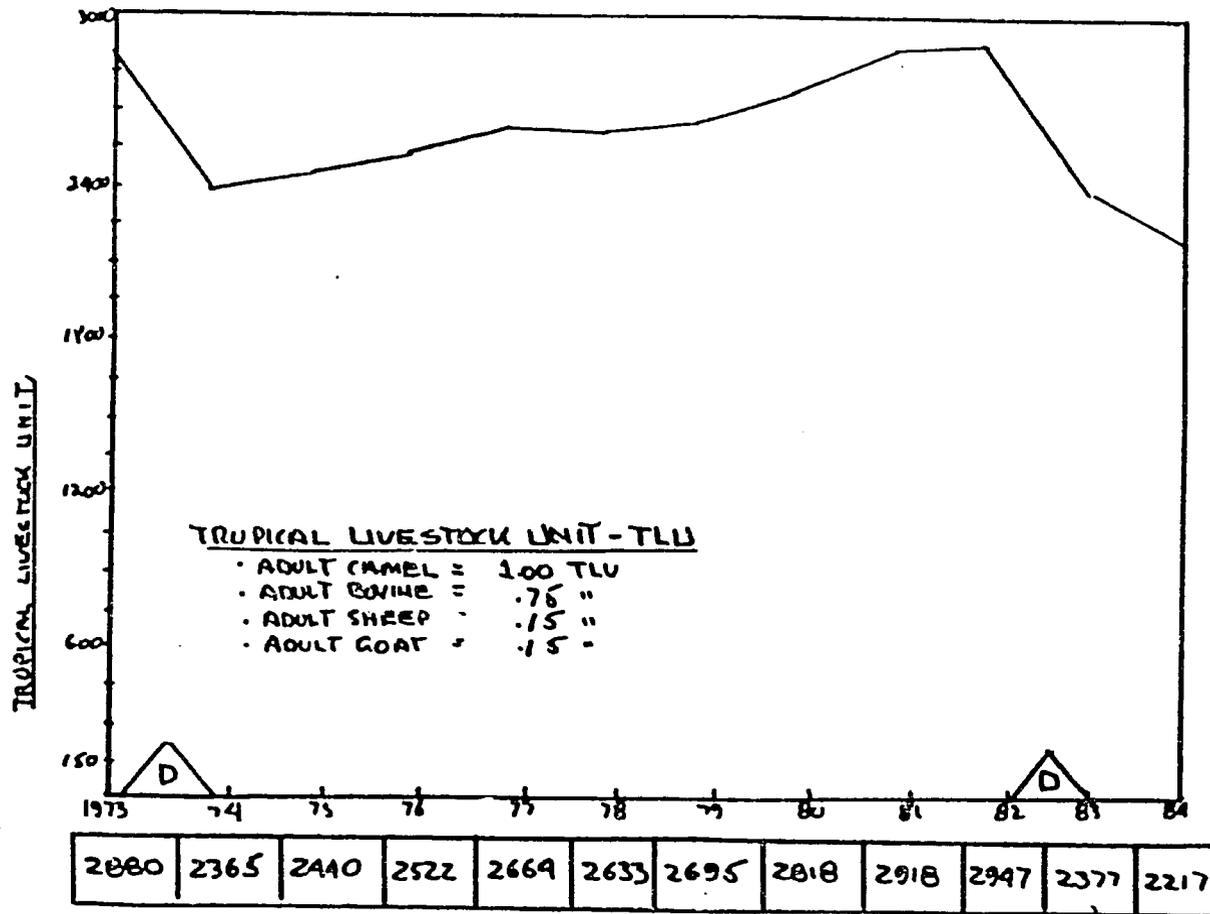
Land degradation is now particularly severe in peri-urban areas where herds purchased from traditional pastoralists are frequently stocked by urban-based investors and speculators.

The traditional nomadic life style persists but considerable changes have taken place. Pastoralists faced with the inadequacy of forage and water, the declining productivity of the herd and the risk of future losses tend to abandon the occupation of herding and to cash in on their herds. Those who resist are forced to proceed further south across the Senegal River into Mali and Senegal and to supplement grazing with use of animal feed. For the investor who buys the herds from pastoralists, livestock becomes a source of financial gain and foreign exchange upon eventual sales across the Senegal River.

The importance of the livestock subsegment should not be underestimated in the economic life of Mauritania. Livestock contributed 23.4% to the country's GDP in 1975, and even after the severe drought of 1982 was estimated to contribute 20% in 1984.

The change in livestock ownership - from traditional pastoralists to investors and speculators - has led to a change in herding

ESTIMATED LIVESTOCK POPULATION
• TROPICAL LIVESTOCK UNITS • 1973-1984 •



△ DROUGHT

SOURCE: LIVESTOCK DIRECTORATE, MINISTRY OF RURAL DEVELOPMENT

methods. A "modern livestock economy" based on animal feed and urban markets for milk and meat is developing in the suburbs of cities. Around Nouakchott alone more than 4,000 camels and cows are providing fresh milk for the market.

Despite the substantial decrease in the size of herds, the genetic adaptation of Mauritanian livestock to harsh conditions and the knowledge and experience of traditional pastoralists in exploiting the range efficiently remain assets which can yet yield employment and income for a significant share of the population.

Poultry farms are also being created. Five chicken farms are already in operation near Nouakchott and Rosso producing 250,000 chickens and 700,000 eggs per year.

(2) Rainfed and Irrigated Agricultural Subsector

The agricultural subsector contributes only a small percentage to the nation's GDP - ranging from 3.1 - 3.5 in recent years. The table shown below illustrates the enormous variability in year-to-year agricultural growth rates and compares agricultural contribution to GDP with the much more important livestock subsector.

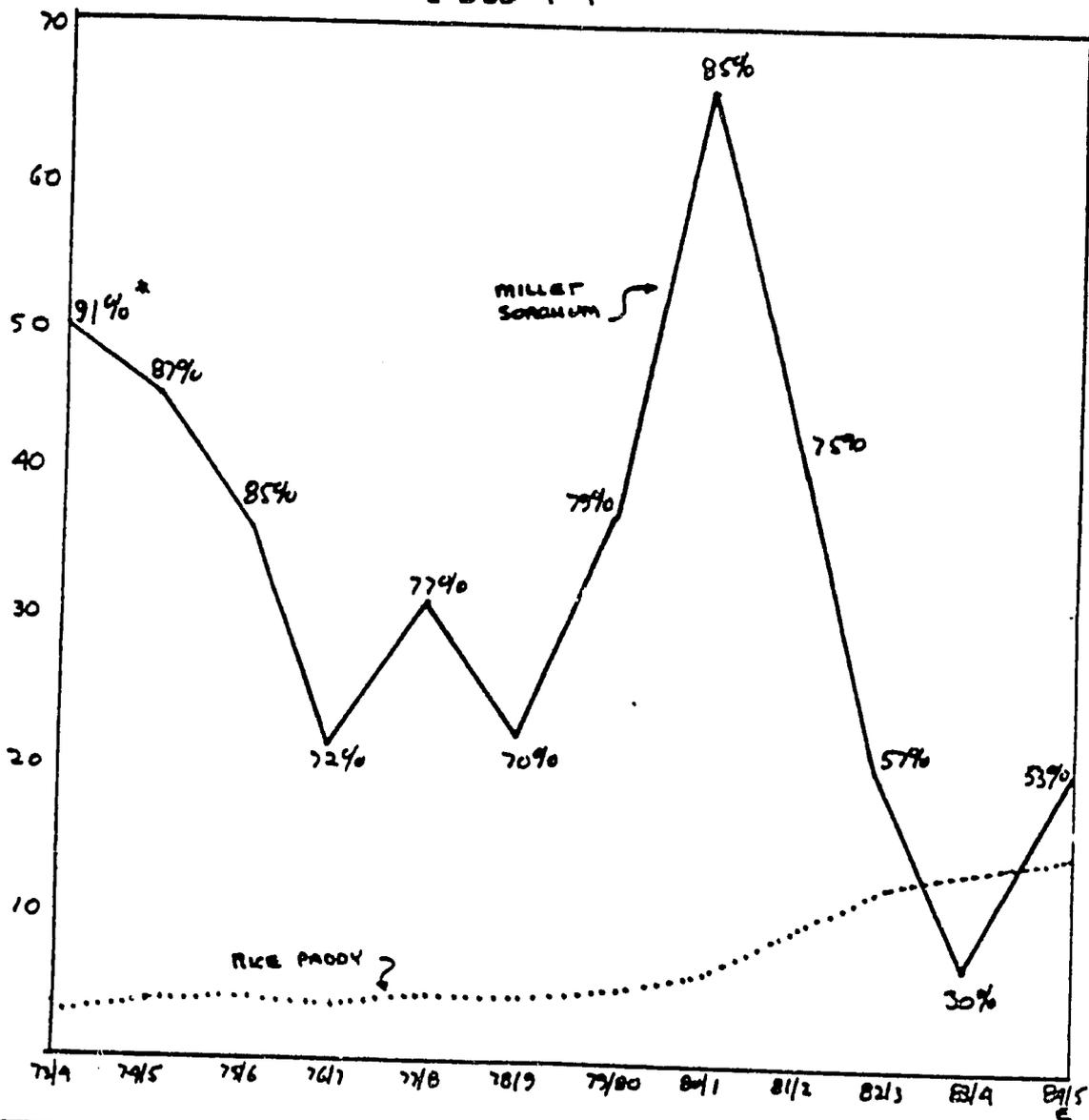
YEAR	ANNUAL o/o GROWTH IN CONSTANT 1982 PRICES				o/o OF GDP	
SUBSECTOR	79-81	82	83	84 E	75	84 E
AGRICULTURE	12.4	-14.	-26.1	33.8	3.5	3.1
LIVESTOCK	2.4	2.7	6.7	-22.1	23.4	20.
TOTAL	-	-	-	-	26.9	23.1

All indicators point to a "no growth" situation in the interlinked livestock and agricultural subsector. In the 1960's livestock and crops produced 35-40% of Mauritania's GDP - and they have not recovered production levels attained prior to the 1968-73 drought. What little expansion that has taken place has been slow and difficult due to:

- o Repeated dry spells
- o Outmigration of young male farmers
- o Degredation of former pasture lands

ESTIMATED AGRICULTURAL PRODUCTION - MALIRITANIA

(000 T)



MILLET SORGH.	50	45	36	21	31	21.2	36.6	66.1	40.	20	6.	19.
MAIZE	1.5	2.5	2.	4.	5.	5.	5.	5.3	3.4	31	2.	2
RICE PADDY	3	3.8	3.9	3.6	3.8	3.8	4.2	5.9	9.3	11.5	12.5	14.3
WHEAT BARLEY	.3	.3	.4	.5	.3	.4	.4	.6	.6	.6	.5	.5
TOTAL CEREALS	54.8	51.6	42.4	29.1	40.1	30.2	46.3	77.8	53.3	35.2	20.9	35.8
DUMPS OTHER	3.4	4.8	4.0	3.4	3.7	4.8	6.8	8.5	12.0	11.	9.	9.
DUMPS	10.4	10.	11.	12	12	12	13.5	12.0	10	11.	9.	9
VEG.	1.4	1.6	1.8	2	2	1.7	2.0	2.5	3	3.1	3	3

* MILLET SORGHUM AS % OF TOTAL CEREALS PRODUCTION

SOURCES: FMO, MRD, IBRD, USAID

Cereal crops have shown virtually no growth over the past ten years.

Irrigated paddy rice production has risen since the late 1970's to offset some of the decline in cereals production, but is still small in terms of national consumption of food - and in terms of imported rice tonnages. Consult the graphical presentation, "Estimated Agricultural Production - Mauritania" which follows this page.

The volume of foreign agricultural aid from the international donor community - food, equipment and technical assistance - has been impressive. The following table shows the amount of imports directly financed by overseas sources since 1979.

FOREIGN AND FINANCED IMPORTS - FOOD AND EQUIPMENT
(US \$ million)

1979	82	83	89	NET CHANGE 79-84
85	149	162	168	83%

SOURCE: IMF, IBRD, CENTRAL BANK

Note that after the 1982 drought the percentage of food needs distributed by the government reached 80% - with the percentage of that amount distributed free rose to 60%. It is apparent to policy makers that these levels of free food distribution can severely weaken - if not undermine - programs designed to promote local agricultural production.

Mauritania's annual cereals demand is currently estimated to be approximately 250,000 tons. Millet and sorghum production which in pre-drought years supplied 50% of the nation's needs has since 1980 provided no more than 36% in high harvest years to as low as 6-10% in poor years. While irrigated rice and maize production has tripled since intensive irrigated perimeter methods were launched, production covers less than 5% of national cereals demand. Refer to the exhibit following this page, National Cereal Supply, which compares domestic cereals production, imports of rice and flour, and food aid over the 1978-1985 period.

The World Bank has forecast 1984/85 and 1989/90 domestic cereals production - rainfed millet and sorghum and irrigated rice and maize - and has compared domestic production with estimates of demand for the same two periods. A projected gap of 225,000 and

NATIONAL CEREAL SUPPLY

- MAURITANIA -
EDIBLE GRAINS IN 000 TONS

ITEM	YEAR								
	78/79	79/80	80/81	81/82	82/83	83/84	84/85	85/86	AVERAGE 78/79 83/84
DOMESTIC PRODUCTION *	28.7	44.7	75.4	49.6	30.6	15.9	30	56.8	40.8
	18%	25%	36%	28%	13.5%	5.4%	9%		
IMPORTED MILLED RICE - SONIMEX	54.1	52.2	49.5	50.4	71.7	56	104	-	55.6
IMPORTED FLOUR PRIVATE	16	17	19	22	30	40	30	-	24.
FOOD AID	61	67	68	56	95	181	180	-	88
TOTAL EDIBLE CEREAL SUPPLY	159.8	181.4	211.9	178	227.3	293.	344	-	208
POPULATION	1,458	1,493	1,529	1,566	1,603	1,642	1,683	-	-
PERCAPITA SUPPLY - KG.	110	122	139	114	142	178	182	-	-

* MILLET, SORGHUM, MAIZE, RICE, WHEAT, BARLEY. ALSO AS % OF TOTAL EDIBLE CEREAL SUPPLY
SOURCES: IBRD, MDR, SONIMEX. "RAPPORT SUR L'EVOLUTION DE LA SITUATION AGRO-SUV. PASTORALE, 1985-1986."

208,000 tons of cereals is the resultant - which will have to be made up by government and private sector imports and substantial food aid programs. Cereals deficits in the past have been covered by commercial imports - 35% of total demand - and food aid programs - 40%, which represents the highest percentage level of food aid in West Africa.

The private sector is active in cereals foods imports - mainly flour. SONIMEX, the state trading monopoly imports and markets broken rice - and also holds the monopoly on tea and sugar imports. The table shown below indicates the value of such imports since 1973.

FOOD IMPORTS - 1973-83
(million ouguiya)

ITEM	YEAR									
	75	76	77	78	79	80	81	82	83	
TEA	270	70	350	348	269	872	335	504	885	
SUGAR	1160	1180	1090	639	1251	592	1466	1231	1496	
RICE	180	250	340	483	585	615	859	667	1157	
ALL FOODSTUFFS	2570	2490	3120	2809	3817	4272	5807	5034	6087	

The Government's increase in producer and consumer prices for cereals in recent years has brought prices for certain cereals close to import parity, and should provide some incentive to local cereals producers. Refer to the exhibit, Cereals Prices, which follows this page.

Proceeds from food aid sales managed by the Commissariat @ la Securite Alimentaire, CSA have increased significantly in recent years. These funds are to be used for rural development "food security" purposes. USAID funds are involved and could be used as a source for private sector development projects in the agricultural, livestock and fisheries sectors.

The exploitation of controlled water resources is the key to expanded domestic food production. The World Bank estimates that the completion of dams currently planned or under construction along the Senegal River will create a potential for 120,000 double-cropped hectares in Mauritania which will far exceed the land available and equipped for irrigated production. The combination of the use of such expanded water-controlled hectare-age coupled with the use of urea fertilizers - which can double productivity - could dramatically increase domestic cereals

CEREALS PRICES

- MAURITANIA -
(UM/K)

YEAR CATEGORY		1984				1985				1986					
		PRODUCER FLOOR PRICE	CSA WHOLESALE	MAX. TO CONSUMER		PRODUCER FLOOR PRICE	CSA WHOLESALE	MAX. TO CONSUMER		PRODUCER FLOOR PRICE	CSA WHOLESALE	MAX. TO CONSUMER			
COMMODITY				AVE	MAX			AVE	MAX			AVE	MAX		
		R	BROKEN			22	22			27	28			28.5	29
I	INTACT														
C	DE LUXE														
E	PADDY	12.5				14				18.5					
	SORG/MILLET		N 13	I 12	37	41		N 14	I 13	41	60	21	24	40	45
	CORN				33	35				37.5	40	21	24	35	35
	WHEAT		13	12	21	22		14	13	25	30	20.5	19.5	25	25

SOURCES: USAID, ARRÊTÉ # R048/MCT/DCICE, 25/3/86
ARRÊTÉ # R039/MFC, 3/9/85

AVE - MAX - AVERAGE AND MAXIMUM PRICES ON MONTHLY BASIS
N - I - NOURKHOFF / INTERIOR PRICES
WHOLESALE - MINIMUM OF 50 KILOS

production by the end of the century. Short term "miracles," however, are not in the offing. In fact, recent experiences with irrigated perimeters on both sides of the Senegal River are causing a fundamental review and reassessment of this form of capital intensive agriculture.

The Mauritanian Government has continued, however, to place priority on the development of irrigated agriculture over rainfed crops. The decision was initially justified by the variability and weakness of rainfed production and by the desire of the Government to assure a certain minimal level of food security. The possibilities for expanding rainfed agriculture (dieri) are extremely limited due to the rainfall patterns over the last few years which produced drought conditions. Production of flood plain crops on "walo" lands could be augmented by a more efficient use of fertilizer and other improvements. Unfortunately, the drought has reduced the potential of much of the walo lands by lowering the yearly flood levels of the Senegal River, thus limiting the cultivable hectares in the walo regions. Recent dam construction has also reduced flood levels in the Senegal River and, in time, the dikes along its banks may also reduce walo hectares available for cultivation.

The remaining opportunity for increasing crop or food production is within the irrigated agricultural sector. To facilitate this, the Government created SONADER in 1975 as a parastatal establishment with financial autonomy and a strong mandate to function in both industrial and commercial capacities, all under the control of the Ministry of Rural Development. Over the years, unfortunately, SONADER's achievements have fallen far short of expectations. In terms of areas under cultivation and yields, SONADER has had relatively little impact. Additional information regarding the activities of SONADER will be presented in the section, "The Role of Parastatal in Agriculture."

More than 80% of Mauritania is located north of the 200 mm isohyet, with the consequence that the majority of the 1.7 million population is concentrated on 15% of the land area. Only the southern margins adjacent to Senegal and Mali experience more than 200 mm of rainfall and provide a precarious base for rainfed cultivation. The extremely unfavorable climatic conditions have more than emphasized the fact that access to water is the key to food security.

The greatest potential for irrigation is along the Senegal River Valley where water resources are being developed under the auspices of the Organization pour la Mise en Valeur du Fleuve Senegal (OMVS). Mauritania, Mali and Senegal have signed agreements to jointly develop the Senegal River for the benefit of all three countries. The construction of the Diama dam located 26 km upstream from St. Louis will deter salt water

intrusions during the dry season, and will permit water to flow into Lake R'Kiz and the Aftout-es-Sahael depression for the development of 32,000 ha. of land. The recently completed four Gleita dam was originally planned to irrigate 36,000 ha. since reduced to 2,100 ha. Only 400 ha. have been developed along the Gorgol Noir, however, because of high costs. Mauritania has been unable to fund the high costs of irrigation infrastructure and has depended upon outside assistance primarily from France, the Peoples Republic of China, the World Bank, the Netherlands, and West Germany. High initial and recurring costs of large-scale irrigated perimeter development have caused the Government of Mauritania to review the feasibility of the ambitious investment and production plans originally established for irrigated agriculture. Successful private sector entry into irrigated agriculture - self and commercial credit financed - could make an enormous difference.

(3) The Oasis Subsector

Mauritania's oases are located in the sandy valleys of the "oueds" amidst the gritstone mountains in the regions of Adrar, Tagant, Assaba, and Affole, from North to South-East. In this particularly inhospitable environment, the oases constitute the only possible place for sedentary life, where the existing water tables, fed by occasional but heavy rains, have made it possible to grow date-palm trees and, to the extent possible, irrigated seasonal crops, such as cereals, pulses, vegetables and henna.

Available information indicates an uneven distribution of water reserves among the various regions, compounded by uneven exploitation through manually-operated wells, with artisanal equipment or with pumps. Taken as a whole, however, the available resources provide ample room for substantial production increases through rehabilitation and further development of the oases. A national program should focus on those areas where water resources do not constitute a physical constraint.

The oases production system is based on direct exploitation by land owners or by share cropping arrangements. Due to scarcity of labor in some areas maintenance activities are being abandoned, or oasis exploitation is limited to date-picking. Conversely, in other areas, new plantations are being created where water resources are easy to tap and where rural activities lack other potential under the prevailing drought situation.

Of the 230,000 people in Mauritania's oases, 55,000 depend on agriculture as their major source of income. This apparently low percentage of 24% reflects the growing importance of small towns in oasis regions which have attracted landless agricultural workers in search of better opportunities, as well as former nomads now turned sedentary due to drought and desertification.

The estimated average income per head does not exceed US\$ 140, with a large number of farmers well below that level.

The agricultural labor force in the oasis region is estimated at 23,000 adult workers of both sexes. Labor availability, at least potentially, may not be an insurmountable constraint, provided that proper incentives are created.

While the existing 350 oases are divided into small holdings of less than 0.5 ha. on average, statistical surveys show a relatively high concentration of the physical resource base of land and trees. Thus, 60% of small holders own only 20% of the trees, a situation which is a reflection of past social organization. However, the changing patterns of relationships within the traditional communities, combined with rural depopulation, have brought about significant changes in the organization of agricultural production, characterized by new forms of association contracts between land owners and sharecroppers.

In terms of agricultural support services, the Ministry of Rural Development (MDR) is represented in the area by the regional offices of the Department of Agriculture and the Department of Environmental Protection.

Cooperative organizations, created in the past for marketing purposes, have in general suffered from poor management, unequal motivation of participants, limited logistical means and difficult physical access to markets.

(4) A Farming Overview

Mauritania's farming population is involved in a complex mix of activities as it struggles to survive under the severe climatic conditions encountered in recent years. Depending on their location, farm families may earn their living from several sources.

- o Rainfed, recession and irrigated farming
- o Livestock raising - goats, sheep, cattle, donkeys and horses
- o Fishing
- o Charcoal production
- o Off-farm town employment, artisanal activities and remittances.

Farming is, however, the fundamental focus of the Mauritanian peasant.

There are several important cropping patterns practiced in Mauritania.

- o Rainfed agriculture producing peanuts, millet, sorghum and cassava.
- o Flood recession farming yielding vegetables, corn, sorghum, cowpeas, watermelons, potatoes.
- o Small and Commercial Irrigated Perimeters producing rice, vegetables, corn. Both large scale commercial and small farmer perimeters are farmed. See the exhibit following this page, Irrigated Areas - Senegal River Valley.

There are approximately 151 small scale perimeters along the Senegal River Valley that encompass 3,000 ha., mainly planted to rice and some maize. These perimeters are usually managed by village cooperatives with extension and inputs provided by SONADER. These perimeters utilize water pumped from the Senegal River.

Large scale perimeters are currently located at M'Pourie (1,652 ha.), Boghe (385 ha.), Gorgol (700 ha.), and Gorgol Noire (400 ha.). These large-scale schemes are managed by SONADER and have problems with land tenure disputes, high recurring costs, under-exploitation, and continuing disagreements between the farmers and SONADER. Due to the management and cost problems associated with large-scale schemes the Government of Mauritania is increasingly reluctant to commit to the construction of additional large-scale projects.

There are approximately 43 small-scale village cooperative perimeters along the Senegal River operating independently from SONADER. They farm a total of 1,462 ha. These farmers purchase their motorpumps from the private sector and usually do not use any ag-inputs.

There are 16 privately owned perimeters utilizing water pumped from the Senegal River. Approximately 15 of these farms are located in the vicinity of Rosso producing a variety of vegetables for the Nouakchott market. The owners of these private farms are either merchants, government officials and livestock owners, operating these schemes as profit oriented enterprises.

Field studies carried out in early 1986 confirm a number of general and specific constraints which exist in farming systems

IRRIGATED AREAS - SENEGAL RIVER VALLEY

SECTOR	NO.	HA
<u>ROSSO</u>		
o SONADER small perimeters	65	1282.0
o Small village cooperatives	38	1242.5
o Private perimeters-individual owned	15	909.6
o New SONADER perimeters - 1986	-	220.0
o Large SONADER perimeter-M' Pourie	1	1652.6
o Small gardens	3	14.0
		<u>5320.7</u>
<u>BOGHE</u>		
o SONADER small perimeters	23	496.0
o Private perimeters-individual owned	1	-
o Large SONADER perimeter-Boghe	1	385.0
o Small gardens	3	10.0
		<u>891</u>
<u>KAEDI</u>		
o SONADER small perimeters	42	962.9
o Small village cooperatives	5	119.0
o Private perimeters-individual owned	1	4.0
o Large SONADER perimeter-Gorgol	1	700.0
o New SONADER perimeters - 1986	-	300.0
o Small gardens	1	4.5
o Research Station (CNRADA)	1	57.0
		<u>2147.4</u>
<u>GOURAYE</u>		
o SONADER small perimeters	21	258.0
o New SONADER perimeters - 1986	-	192.0
		<u>450</u>
TOTAL LAND DEVELOPED		8809.1HA

SOURCE: SONADER, PROJECT MAJEURS, JAN. 1986

NOTE: West of Rosso, the Keur Massene area, there are a considerable number of privately owned perimeters, and no official records exist as to how many perimeters there are nor the total amount of ha under irrigation.

found along the Senegal River. These constraints and suggested approaches to eliminate or counter them are summarized in the exhibit following this page, Summary of Major Constraints and Requirements In Mauritanian Farming Systems.

Rainfed and flood recession farms are the first to suffer from drought conditions. Since these farms are the major producers of mass consumption cereals grains, major efforts and investments have been made to develop irrigated perimeters along the Senegal River and thus reduce dependence on rainfall.

Recent estimates place total farmed areas at 169,000 hectares made up as follows.

o Rainfed	88,000 hectares
o Flood Plain - Wadi Dam	75,500 "
o Irrigated	<u>5,500</u> "
	169,000 hectares

The country's potentially irrigable land area total 135,000 ha. The total possible area for flood plain crops is probably some 70,000 ha., 45,000 of them watered by the Senegal River and 25,000 by the Gorgal Noir. Crops dependent on wadi-dams could occupy 20,000 ha. instead of the current figure of 10,000 ha. As to rainfed crops, the potential area of 200,000 ha will clearly never be attained without a change in present climatic conditions.

The first modern irrigated perimeters in the Senegal River valley were developed by public initiatives in the early 1970's and are farmed by private farmers cooperatives under direct public supervision. The parcels size varies from less than 0.3 ha in the small village perimeters to 20 ha in the large scale perimeters.

The private sector has started to develop irrigated perimeters in the Rosso, Boghe and Kaedi areas. The private perimeters are usually larger than 20 ha. There is no data currently available which permits cost effectiveness comparisons to be made between private sector and public sector management of irrigated perimeters.

Despite the low yields of 400 kg. per ha and major climatic uncertainties, traditional dryland and irrigated oases farming are low-cost and make a major and essential contribution to family subsistence food supplies.

Modern irrigated agriculture, on the other hand, has yields of 3.5 tons per hectare, but it is very costly because of high

SUMMARY OF MAJOR CONSTRAINTS
AND REQUIREMENTS IN MAURITANIAN
FARMING SYSTEMS

<u>MAJOR CONSTRAINTS</u>	<u>REQUIRED ACTION</u>
<u>ENVIRONMENTAL DEGRADATION</u>	<ul style="list-style-type: none">o Reforestation and shelter beltso Watering points in pastoral areaso Leguminous forage cropso Dune fixationo Efficient wood-burning stoves
<u>ACCESS TO TRANSPORT</u>	<ul style="list-style-type: none">o Road building and improved maintenance systemso Agricultural input scheduling prior to rainy seasono Barge transport when dams are completed
<u>INADEQUATE MARKET INFRASTRUCTURE</u>	<ul style="list-style-type: none">o Transport facilities and serviceso Cash crops-vegetables and sesameo Regional transport cropso Village crops for credit, inputs and marketing
<u>ACCESS TO LAND</u>	<ul style="list-style-type: none">o Increase in size of farm family allocation of irrigated holdingso Water efficient crops and improved irrigated land managemento Reliable indicators of soil moisture to determine optimum planting timeso Animal traction/insecticides/fungicides/herbicides, bird and disease resistant varieties
<u>ACCESS TO APPROPRIATE TECHNOLOGY</u>	<ul style="list-style-type: none">o Extensiono Seed multiplication of improved seedso Diversification of cereal crops in seed research programso Private sector intermediaries for improved inputs

MAJOR CONSTRAINTS

REQUIRED ACTION

LACK OF EFFECTIVE
EXTENSION

- o Improved linkages between agricultural extension and research
- o capability of agents
- o Assistance to educational institutions training extension agents
- o Integration of Peace Corps volunteers

ANIMAL CROP DESTRUCTION

- o Fencing alternatives
- o Metal fencing on new perimeters
- o Live fencing on tree lots
- o Penalties against animal owners

OUTMIGRATION OF YOUNG MEN

- o Better distribution of irrigated parcels
 - o Community development funds
-

original development costs, use of imported inputs, and the need for substantial maintenance of both equipment and the perimeter canal systems. Experience on both sides of the Senegal river - Mauritania and Senegal - indicates that the development of the enormous potential of water which will be made available by the OMVS dam systems by means of construction of irrigated perimeters will be much slower and much more expensive than originally planned. Irrigated agriculture is proving to be a highly capital intensive farming system requiring use of sophisticated and expensive inputs and modern farm management techniques.

3. THE SPECIAL PROBLEM OF AGRICULTURAL INPUTS

There are a number of concerns relating to the agricultural input supply system. The input supply system concerns primarily seeds, fertilizer and agricultural equipment. Agricultural credit, research and extension services are also relevant to the extent that they influence input supply and agricultural production. The fundamental characteristics of agricultural input markets is the widespread presence of shortages.

The improved seeds available in Mauritania are insufficient in quantity and quality. There has been some effort to improve seed quality. The Centre National de Recherche Agronomique et de Developpement Agricole de Kaedi (CNRADA), created in 1974, has neither sufficient staff nor money needed to operate research stations in different regions. There is a particularly great need for seed varieties with short growing cycles more adapted to drought conditions.

Fertilizer imports are furnished by SONADER exclusively for the irrigated perimeters under their jurisdiction. Nevertheless, a parallel market has long existed which furnishes Mauritanian farmers with Senegalese fertilizer. The flow of Senegalese fertilizer has, however, recently dried up due to price increases, the reduction of subsidies and supply problems in Senegal.

Practically no fertilizer is applied to rainfed crops. First, Government supplied fertilizer for these crops is minimal. Secondly, demand is also very weak because producers consider such an investment to be too risky given the variability of rainfall. Fertilizer demand in particular and other agricultural input demand in general are also limited by the lack of financial resources among the producers - farmers have little or no disposable income. The effect of the recent drought has been to lower production levels and hence bring down marketed volumes and revenues, all of which leaves producers sorely strapped for

money. The problem, therefore, is not one of input supply which the private sector can easily address - but one of lack of financeable demand from farmers.

Agricultural credit is underdeveloped in Mauritania. The SONADER credit system is in reality a system of subsidies. The only credit available is the very limited and short term credit offered by private traders to producers. Though little studied, these credit arrangements are limited in volume.

SONADER has tried to make inputs more accessible through a policy of subsidization. Upon the establishment of a new irrigated perimeter, the producers receive all the piping equipment at no charge and pay only half the cost of the first group motor pump. When that pump wears out, operators receive a 33% reduction on a second. For subsequent pumps they are required to pay the full price. Furthermore, they receive without charge all consumable inputs needed to produce their first crop; i.e., seeds, fertilizers, fuel, lubricant and spare parts. For the following planting, fertilizer and seeds are subsidized at a 50% level.

These subsidies have aided the development of irrigated agriculture, but they are open to criticism on several counts.

- o Subsidies contribute to an inefficient allocation of resources because of the price distortions they create. They favor chemical fertilizer use, while organic fertilizer use is discouraged.
- o The financial burdens placed on the borrower - even with subsidies - will become intolerable if the planted crop in irrigated agriculture fails.
- o Subsidies are exclusively given by SONADER, which precludes the participation of the private sector involved with agricultural input supply. They also penalize the small perimeter producers around Rosso who do not have access to inputs subsidized by SONADER.

The permanent subsidization of input prices has, then, many negative effects. The positive effects of these subsidies on the growth of irrigated perimeters could be better achieved by increasing the producer price of cereals.

Due to donor pressure, the World Bank and the Caisse Centrale de la Cooperation Economique (CCCE) in particular, SONADER has proposed in its new four-year plan (1985-88) to reduce its subsidies. Under this plan, half of the cost of consumable inputs will remain free for the first planting season, and the other half will be granted on short-term credit to be reimbursed

after the harvest. Thereafter, fertilizer and seeds will be sold at cost price. This new system is to be introduced gradually, with the price of fertilizer rising by 25% in January 1985, 20% in January 1986 and a last adjustment in January 1987 taking it to full cost price.

The negative effects of the chronic shortage of inputs is increased by the late delivery of the few existing inputs. The consequences of this tardiness can be dramatic for irrigated crops, which are subject to a very precise agricultural calendar. If all the inputs are not available at the right time production suffers greatly. The typical example is the lack of fuel and spare parts for the group motor pumps just when irrigation of the cultivated parcels become necessary.

The weakness of agricultural extension and other rural institutions also worsen the input picture. The problem here is not the extension agent training stage, which is done at the Ecole Nationale de Formation et Vulgarisation Agricole de Kaedi. Rather, it is the shortage of materials and money which prevents extension agents from visiting the perimeters. The FAO and the United Nations Development Program (UNDP) are introducing a project aimed at improving extension efforts, but presently the only effective extension efforts are those financed by various non governmental organizations.

The rural institutions designed to bring producers together into groups are very poorly developed and hence not able to deal with input provision, or anything else. The cooperative movement is embryonic and lacks motivation as well as trained staff.

4. MAURITANIAN GOVERNMENT AGRICULTURAL POLICIES AND OBJECTIVES

A number of important and practical steps have already been taken by the Government in reaching its objectives of increased local production of crops and livestock, stabilizing and revising rural-urban migration, protecting the natural environment and providing incentives to encourage private entry into agriculture and agribusiness.

- o A \$20 million Oases development project jointly financed by the Arab Fund for Economic and Social Development (AFESD), the International Fund for Agriculture Development (IFAD), and the Government of Mauritania is designed to increase crop production in the Oases through better water control, extension services, inputs supply and agricultural credit.
- o A livestock development project financed by the International Development Agency (IDA) and the OPEC Fund focusses on protecting pastoralist ownership and ensuring

rational use of grazing land and water points through the promotion of local pastoralist organizations.

A number of policy issue measures are being taken to provide incentives for increased agricultural production.

- o The land tenure problems have been initially addressed by a new law introduced in 1984 which provides for the granting of agricultural land to private individuals and for the individualization of ownership.
- o Producer and consumer grain prices have been increased in 1985 and 1986 as part of a three year program to bring wheat and sorghum wholesale prices to CIF import parity. Producer prices for paddy rice have been increased since 1984 from 12.5 UM/K to 18.5 UM/K in early 1986. Broken rice prices were also increased in 1986. Producer prices for maize and coarse grains were maintained at 21 UM/K. The Government also plans to reduce free food aid distribution from 60,000 tons in 1985 to 50,000 tons in 1986, limiting free food to the truly needy.
- o Fertilizer subsidies were entirely eliminated in January 1986 to permit the private sector to enter agricultural inputs supply and distribution.
- o A decentralized agricultural farm credit system is being established by the National Development Fund (FND).
- o Agricultural equipment and implements can be imported duty free if the end user is registered as a farmer.
- o An agriculture and livestock investment code prepared by the FAO is now under review and is expected to be approved in 1986. It provides for incentives to investments in agriculture, agribusiness and livestock.

A number of comments follow on certain agriculture aspects of the Economic and Financial Recovery Program for 1985-1988

- o An increase of 40% in food grains production is extremely ambitious, and will not be achieved in view of the agricultural sector's past production records.
- o The Government should consider a slow down in new perimeter development in favor of an aggressive rehabilitation program of the present perimeters - land leveling, modification of irrigation canals, concrete-gated water control structures, and redesign of motor pump systems.

- o Major private sector initiatives should be encouraged in the implementation of new irrigated areas. The private sector has the necessary capital and with technical assistance and profit incentives could make a major contribution.

(1) The Role of the Ministry of Rural Development in Agriculture

The basic task of the Ministry of Rural Development (MDR) is to implement the economic and technical development of the rural sector. The Minister of Rural Development is responsible for agriculture, livestock and the conservation of natural resources. The Ministry provides administrative oversight over seven semi-autonomous public agencies.

- o CNRADA - Agricultural Research Center
- o Center National d'Elevage et de Recherche Veterinaire, CNERV
- o M'Pourie State Farm
- o SONADER - Parastatal Organization
- o ENFVA - Training Extension School
- o SOMECOB - Marketing of Livestock
- o SOMALIDA - Mauritanian and Libyan Company for Agricultural

The Secretary General of the MDR directly oversees the operations of the Ministry, and the regional development organizations, which are most directly charged with assisting farmers in a variety of ways. He is also responsible for the activities of one major parastatal, SONADER (Societe Nationale Pour le Developpement Rural) and all other organizations under the MDR authority. Refer to the organization chart which follows this page.

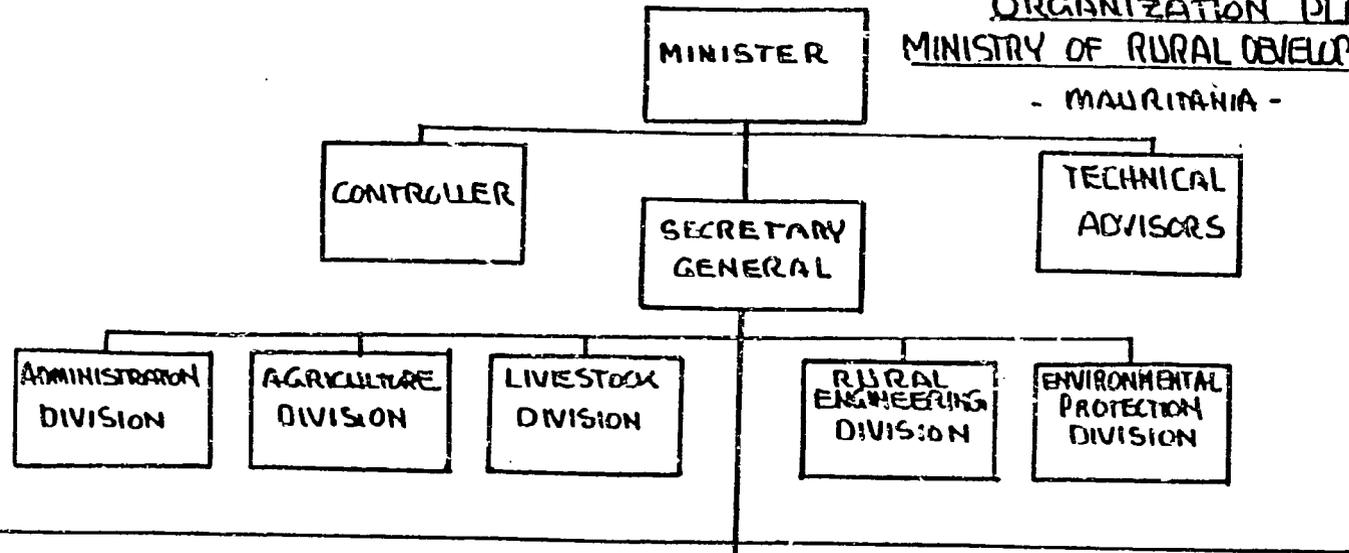
Within the Ministry there are four technical and organizational offices described below, which work closely with regional governors and the rural population, as well as in overseeing the activities of the parastatals involved in agriculture.

- o Agricultural Division (Direction de l'Agriculture)

The Agriculture Division has two principal functions directly related to food production: agricultural extension and plant protection. An agro-meteorological service gathers

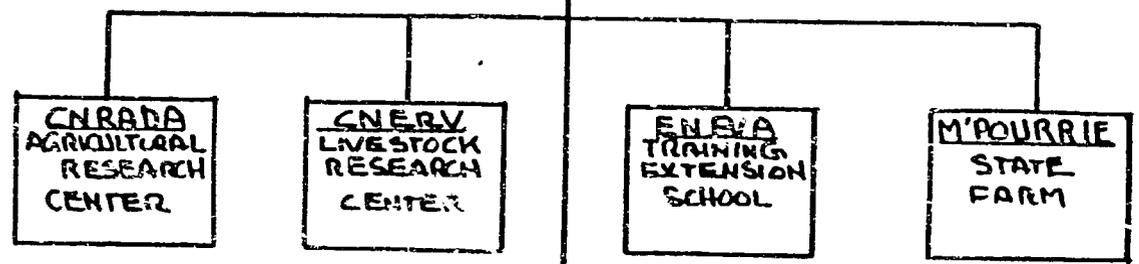
ORGANIZATION PLAN
MINISTRY OF RURAL DEVELOPMENT
 - MAURITANIA -

INTERNAL
MINISTRY
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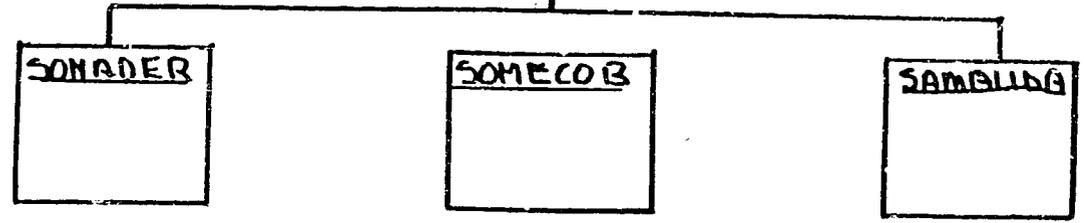


SEMI-AUTONOMOUS
PUBLIC AGENCIES

o RESEARCH AND TRAINING



o PARASTATAL OPERATING COMPANIES



-24A-

EXHIBIT III-6

meteorological data important to agriculture, and a Bureau of Studies and Development is responsible for various kinds of special studies and statistics. An Entomology laboratory is also under the Central Office.

Seven expatriate specialists in the Central Office include a hydrologist, meteorologist, three agricultural economists, an agronomist and an entomologist. There are nine regional offices each headed by a "Chef de Secteur." Each sector has personnel who are supposed to carry out agricultural extension programs, and plant protection activities. In addition to the Regional Offices, there once were eight functioning Agricultural Extension Centers (CERs). All were located in the main agricultural areas of the south-east and south, but due to the budget constraints only two now have staff and are still functioning. The CERs function during the crop planting "campaign," but are inactive during the remainder of the year.

The extension program is weak in scope and effectiveness because of budget restrictions, lack of specialists for planning and preparation of extension programs, and lack of adequate liaison with the research center. A three-year UNDP-financed and FAO-executed project was scheduled for August 1985. The major objectives of the program include an evaluation of MDR extension needs, and recommended training initiatives to effectively communicate appropriate techniques to traditional farmers.

Priority training needs were identified in the following areas:

- o Soil Science
- o Entomology
- o Livestock Production
- o Horticulture (fruits, vegetables)
- o Cereal Crops
- o Ag. Extension
- o Ag. Economics (ag. credit)
- o Ag. Machinery

Mauritanians are now being trained abroad for the Division in horticulture, entomology, plant pathology and agricultural machinery.

The first requirement of an effective agricultural extension program is a package of appropriate technology or practices suited to the needs of the farmers which will deliver economic increases in production. Such technology must be developed or verified by in-country applied research carried out by qualified research personnel. These training needs of CNRADA are to be met under an OMVS project. Short-term seminars and refresher courses

will also be organized and funded to strengthen the technical agents and agricultural officers on appropriate technology and agricultural policy planning issues.

Every Division Director of the MDR interviewed stated that specialized manpower was his greatest need. Middle and lower cadres are generally available, although admittedly of variable quality. Lacking are agricultural specialists to plan and monitor the implementation of production programs and other agricultural interventions.

- o Livestock Division (DNE) - The Livestock Division is responsible for Animal Health - field service and the annual rinderpest vaccination campaign - and Animal Production. DNE maintains its headquarters in Nouakchott and has 11 field centers in the regional centers plus 19 veterinary field stations, most of which are located in the southernmost third of the country. Each regional center is staffed with a senior livestock technician responsible for the supervision of the field stations in his region and for planning and executing the annual vaccination campaign. Drugs, however, are usually not available for budgetary reasons, and the conditions of infrastructure, the state of maintenance of the cold chain and vehicles, as well as staff motivation make vaccination against the major disease rinderpest and pleuropneumonia difficult. This problem is to be addressed directly by a proposed project, which is the second Livestock Project, IBRD.
- o Rural Engineering Division (Genie Rural) - The Rural Engineering Division is responsible for planning and constructing small dams and dikes which control and regulate the use of runoff water. The water retained by these structures may be used for crop production following recession of the retained water, livestock water or replenishment of ground water by infiltration. In 1983, crops were grown on an estimated 5,300 hectares of land flooded by small dams and dikes.

This Division also assists cooperatives in land preparation, and the installation of pumps and canals for irrigation of small perimeters of 10-20 hectares.

The Central Office has the following divisions: Dams and Construction, Topography, Hydraulics, Studies and Planning, and Programs and Evaluations.

For field work there are four mobile brigades each consisting a bulldozer, a front loader, one dump truck, a mechanic, and a

welder. Two workshops and two servicing stations are responsible for repair and service of equipment.

o Environmental Protection Division (Protection de la Nature)

This Division is responsible - in collaboration with other interested Divisions - for the application of measures to reduce desertifications, for soil and water conservation, protection of the vegetable cover, protection of wildlife and control of hunting. The Division is organized into two services: Reforestation, and Conservation of Soils and Rangeland.

Each of the nine regions has Environmental Protection Inspectors. They are usually middle-level personnel who supervise lower-level agents responsible for enforcing laws regulating the cutting of trees, hunting, and burning of rangelands. In theory, permits are required for tree cutting and charcoal production. Enforcement, however, is minimal due to an inadequate number of agents and an urgent need for fuel in towns and villages. An estimated 80 percent of the population depend upon fuel from wood. Other than a few projects financed by external sources, little reforestation is taking place because of budget restrictions and personnel limitations.

The Bureau of Soil Conservation and Rangelands is responsible for anti-desertification programs and for grazing controls. The continuing lower-than-normal rainfall and rising population is putting increasing pressure on land and vegetation resources. An obvious problem of serious proportions is sand invasion that is occurring in a large area south and east of Nouakchott where dunes are moving across main roads and destroying vegetation. Dune stabilization and reduction of soil blowing are undoubtedly the most difficult problems confronting the Division. Protection of rangelands from overuse - an area of 193,600 square meters - through controlled grazing is also a function of the Division.

o National School for Training and Agricultural Extension (ENFVA)

The ENFVA was established at Kaedi in 1967 to train middle and lower level agricultural extension agents. Initially, it was attached to the Ministry of Education, but in 1978 the school was placed under the Direction of the Ministry of Rural Development.

Graduates are assigned to appropriate Divisions of the Ministry of Rural Development: crop production, crop protection, animal husbandry and livestock health, rural engineering, or environmental protection. Some of the graduates may be assigned to SONADER and CNRADA depending upon need and availability.

Saudi Arabia has agreed to finance the cost of expanding the facilities and staff to handle 300 students and to include teaching in Arabic as well as French. This expansion will enable the school to graduate about 100 students each year instead of 30-40 the present number.

The curriculum is divided into the following sections: Plant Protection, Rural Engineering, Animal Husbandry, Agricultural Extension and Cooperation. Entering students are placed in either the "B" level curriculum for those with the Baccalaureate who enter directly from secondary school, or the "C" level which is open to students with a primary education plus two years of secondary school, and to lower "cadres" who have graduated from primary school and have three years of work experience.

(2) The Role of the Parastatals in the Agricultural Sector

In Mauritania, parastatals are semi-autonomous organizations with government participation which are not under the direct control of a particular ministry. The actual degree of autonomy of those parastatals is not entirely clear. They are usually free from most management regulations governing Ministry operations, such as salary structures and personnel practices. Their management autonomy varies considerably according to such factors as:

- o The importance of the enterprise to the national economy
- o The profitability of the enterprise
- o The capabilities and personalities of the director

The management autonomy of the parastatals is limited by the fact that the directors are appointed by the Council of Ministers. For parastatals in the agricultural sector, appointments are largely on the advice of the Minister of Rural Development. All parastatals "report" to an office of the MDR or the Secretary General.

Theoretically, parastatals were intended to be self-sufficient revenue-generating organizations designed to accomplish specific economic and social tasks which the government deemed to be in the national interest. The direct participation of the government was due to inadequacy of private capital, shortage of technical expertise and the fact that a governmental entity was required to coordinate and manage multi-donor programs of financial and technical assistance.

o National Society for Rural Development (SONADER)

SONADER was established in 1975 by government decree as a parastatal organization responsible for hydro-agricultural development in Mauritania including studies, planning, design, construction, and maintenance. It is also responsible for irrigated perimeters, training of farmers, agricultural inputs through credit in kind, and loan/debt collection from farmers.

The overall objective of SONADER is to carry out all activities required to replace flood recessional agriculture in the Senegal and other river valleys by controlled irrigation systems, and to train farmers as rapidly as possible in new improved production technology.

SONADER is a large organization with a central office in Nouakchott including an Administrative and Financial Management Division, a Technical Division, a Control and Management Office. Regional Divisions are located at Rosso, Kaedi, and Boghe. Some field activities are underway such as projects at Fom Gleita, Achram and Gouraye. Refer to the two exhibits which follow this page, Organization Chart - SONADER, and SONADER Professional Staff by Category.

Technical and professional staff in SONADER number 89 at headquarters and approximately 270 in the field divisions. Personnel in the central office represent 24 percent of the total number and those in the field 76 percent. Of the 34 expatriates funded by technical assistance programs, 14 are assigned to headquarters and 20 are in the field.

Some of SONADER's difficulties lie in factors beyond its control: the lack of infrastructure, producer prices which are sometimes below producer costs, and the lack of support from other institutions. The Fonds Nationale de Developpement a la Securite Alimentaire has not had much experience in the direct administration of the rice processing factories and the Centre Nationale de Recherche Agronomique de Kaedi has come up with few useful results.

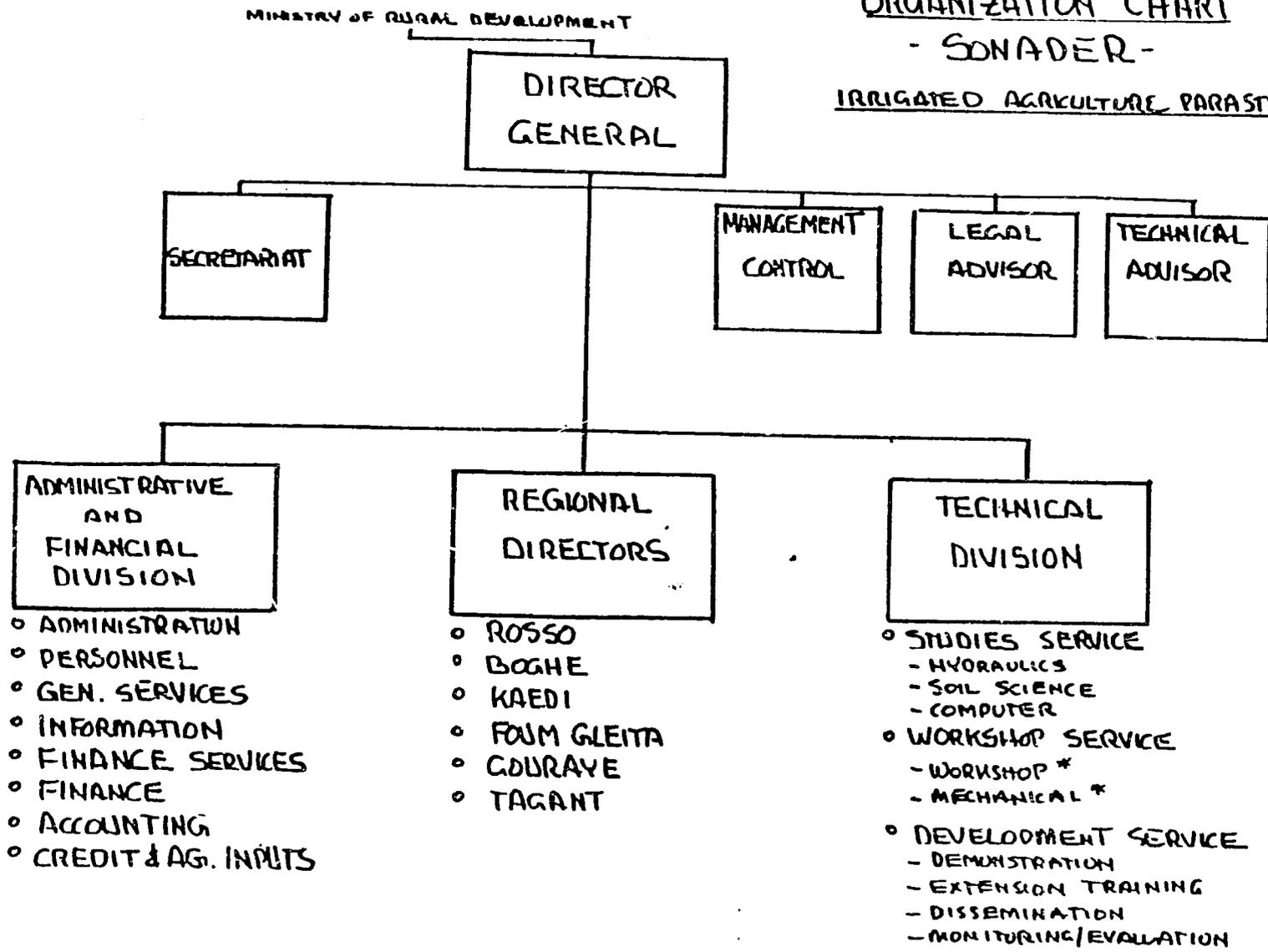
Most importantly, however, SONADER has been plagued by severe land rights problems. The development of irrigated agriculture is being constrained by land right structures based on sharecropping and serfdom. A first law on land tenure was passed in August 1960, but traditional law (Droit Naturel) has prevailed and Mauritania is still, in fact, divided up into a set of territories belonging to different groups and clans.

After many conflicts over land rights, particularly in the Gorgol project area, the Government began a land reform program with the adoption of an ordinance in June 1983 on landholding and estate reorganization. This ordinance was followed by a Decret d'Application in January 1984. The principal objectives sought by the reforms were the recognition by the state of private

ORGANIZATION CHART

- SONADER -

IRRIGATED AGRICULTURE PARASTATAL



* TO BE PRIVATIZED

SONADER PROFESSIONAL STAFF BY CATEGORY

LOCATION CATEGORY	HEADQUARTER	GOURAYE	BOGHE	KAEDI	ROSSO	TAGANT	R'KIZ
ENGINEERS	9	1	2	1	1	1	1
JURISTS ECONOMISTS	8	-	1	1	1	1	-
ACCOUNTS	6	2	1	1	2	-	-
TECHNICIANS	2	2	10	5	3	3	2
ADMINISTRATIVE AGENTS	14	2	6	8	3	7	1
GEOMETERS/ TOPOGRAPHER	5	-	5	-	-	1	1
SECRETARIES	8	-	4	2	1	1	-
LABORATORY ASSISTANT	6	-	-	-	-	-	-
MECHANICS/ ENGINE DRIVERS	7	3	28	16	6	7	-
EXTENSION WORKERS	-	2	15	7	6	3	-
OTHERS	24	4	45	17	7	23	-
TOTAL	89	16	117	58	30	47	5

property, the transfer of vacant plots to the state, the abolition of the traditional land tenure system, the granting of large plots only in certain cases - and then only if the legitimate interests of small holders could be safeguarded.

It is still too early to judge the impact of this reform. It should promote a more efficient use of the country's agricultural potential while at the same time reducing rural inequalities. By way of example, in the Gorgol project former landowners retained one-third of their original properties. The remaining two-thirds were distributed to new farmers.

SONADER has also contributed to its own problems. It has suffered from the "parapublic organization syndrome": shortage of qualified and motivated people, surplus of unqualified staff, bloated headquarters staff in relation to field staff, slow and complex administrative procedures and, finally, lack of administrative controls which encourages waste.

The lack of a clear definition of responsibilities has led SONADER to take up a multitude of functions and to disperse its efforts in a variety of ways. First, SONADER suffers from geographic dispersion since it intervenes in environments as diverse as Trarza and Hodh. SONADER's role is also technically dispersed given its goals of promoting not only large and small irrigated perimeters, but also hillside terraces and ridges. Finally, SONADER is functionally dispersed, as it is supposed to promote production, supply inputs and credit, and supervise irrigation and marketing.

The laying out of large perimeters at Boghe, Kaedi and Gorgol Noir has also contributed to SONADER's financial problems. The cost of developing one hectare of a large perimeter is on the order of one million UM compared with 120,000 UM for a hectare on a small perimeter. Furthermore, large perimeters require a higher level of technical support to maintain their extensive irrigation networks. Pumping stations, dikes and canals all become necessary. Local populations can hardly be expected to defray much of the costs of these often gigantic projects.

The fact that large perimeters have major defects doesn't mean that smaller ones are a panacea. The supply of "fonde" land - the sidebanks of the river - suitable for irrigation in small plots is practically exhausted. In addition, small perimeters are often too small to be profitable and their geographic dispersion makes extension and pump maintenance difficult and costly.

The priority given to rice has also been criticized. Besides the fact that it is less nutritious than millet, rice requires much water and is subject to a very precise calendar. On the other

hand, under good conditions, rice gives high yields and could in the long run substitute for imported broken rice.

In the face of these problems, SONADER has embarked on an important restructuring. Management has reduced the ratio of headquarters staff to total personnel from 46% in 1979/80 to 19% in February 1984. It also created a Bureau d'Etudes et de Controle des Travaux in October 1983 as well as an Entreprise de Terrassement et de Genie Civil open to private sector financing. SONADER will henceforth deal only with irrigation policy and projects.

As of January 1986, SONADER has embarked on a reorganization under which it will no longer support the programs of agricultural credit and agricultural inputs to the SONADER perimeters. The main reason for discontinuing these two operations are twofold: first, SONADER is not efficient in the management of these services, in particular the control of non-payment of loans by farmers which has caused large deficits; and second, SONADER's subsidies to farmers attracted many into the irrigated perimeter projects who are now unable to repay their debts. All assets, such as outstanding debts by farmers, cash reserves in banks, and lines of credit for perimeter development from foreign donors will be transferred to FND, the major state development bank. The entire credit organization including all remaining inventory such as motor dumps, agricultural inputs, and two warehouses, one in Rosso and the other in Kaedi, will be given to FND. Henceforth, SONADER will be concerned exclusively with overall planning and the preparation and supervision of individual projects. SONADER's management stated that the organization desires to privatize all its repair shops.

o C.S.A. (Food Security Commission)

The Food Security Commission was established September 22, 1982, by Presidential Decree 90-82. CSA has the rank of a Ministry and is placed directly under the tutelage of the Head of State. It is headed by a commissioner and two assistant commissioners. The C.S.A. represents the combining of two former institutions, the Mauritanian Cereal Office (O.M.C.) and the Food Aid Commission (C.S.A.).

The O.M.C. had been established in 1975 with the objectives of establishing a millet and sorghum purchasing and marketing organization capable of preventing unequitable and speculative grain distribution within Mauritania, particularly during a time of sparse and erratic annual rainfall. Although O.M.C. fully planned to purchase foreign grain for resale within the country, as SONIMEX does for rice, it lacked the funding to do so. With domestic production dropping to well below subsistence levels,

O.M.C. came increasingly to be simply a contractual supplier of services to the Food Aid Commission itself founded in 1979.

The Food Aid Commission (C.A.A.) was empowered to manage donor assistance grain. Originally designed as emergency drought relief, donor grain from a variety of sources, including the World Food Program (F.A.O.), P.L. 480 (USAID), and West Germany, has increasingly come to be relied upon by the Mauritanian population. According to F.A.O. sources, Mauritania at present only produces 6% of its yearly grain needs. Much of the balance is made up by food imports and aid and clandestine imports from neighboring countries.

The Food Security Commission (C.S.A.) is composed of four departments: Administration and Finance, Commercialization and Food Security, Emergency Aid, Logistic and Transport, and one transit office. The organization employs a total of 600 people in its various distribution points throughout the country.

The Food Aid and Marketing department (D.C.S.A.) is charged with the primary organizational mandate of defining food distribution policy, creating and managing food stocks throughout the country, and selling the grain at controlled prices and quantities to retailers. CSA also buys paddy rice from farmers, converts it into broken rice, and sells it to SONIMEX (see below) for marketing.

o SONIMEX (National Import-Export Company)

SONIMEX actually imports only basic staples, principally rice, sugar and tea, and exports only gum arabic. It also purchases domestic rice production from the Food Security Commission (C.S.A.) for distribution to its 122 sale points throughout the country. Founded in 1966, SONIMEX is a mixed company, owned partly by the State (61%) and partially by the Mauritanian private sector (39%).

The creation of SONIMEX reflects the concern of the Mauritanian government to stabilize price speculation on the basic staples of rice, sugar and green tea. Along with CSA, which has the monopoly on purchase and distribution of domestic and foreign-donor cereal grains, SONIMEX is instrumental in the distribution of price subsidized food staples throughout the country.

SONIMEX distributes its products through a network of 115 distribution agencies in the provinces and seven stores in Nouakchott. A fleet of 18 trucks carry the products from the port inland. In 1980 SONIMEX distributed 57,633 tons of rice, 19,706 tons of sugar, and 3,952 tons of green tea. It also imported in that year 3,338,000 meters of guinea cloth.

Exportation of gum arabic has fallen off greatly during the 1970's, dropping from 1,635 tons in 1975 to only 131 tons by 1980. This situation has not improved in recent years.

The drop in export receipts has contrasted greatly with a phenomenal increase in rice imports, the latter rising over 600% between 1975 and 1980. The trend, too, has continued over the last three years.

SONIMEX buys rice on the world market or from CSA's refined domestic production and sells it at a substantial loss to consumers. The loss, 4 UM in the case of domestic rice, is partly compensated by profits from sale of tea and sugar.

SONIMEX is widely criticized by the private sector for the very high prices at which it sells sugar and tea. Sugar, for instance, is sold at three times CIF costs. SONIMEX is considered a prime candidate for privatization.

Other public enterprises operating in the agricultural sector are:

- o SOMECOB - a livestock marketing enterprise not operating at present and a candidate for liquidation.
- o SAMALIDA - a Libyan Mauritanian enterprise for agricultural development which operates a poultry farm and an irrigated perimeter near Rosso.
- o END - a development bank responsible for agricultural credit.

5. THE ROLE OF THE PRIVATE SECTOR IN AGRI-BUSINESS

Mauritanian agricultural activities and medium and small scale manufacturing industry including agri-business are predominantly under private ownership and control.

The important livestock subsector is entirely in private hands. Two forms of animal breeding coexist - traditional pastoralist and "modern" livestock farming. In the traditional pastoralist system, the herdsmen are usually the owners, while for modern livestock farming the herds are owned by investors and speculators living in the cities while the herdsmen are hired employees.

The private sector controls all livestock-related activities such as domestic and export animal marketing; animal feed production, import and distribution; and milk, meat and hides distribution. The private sector also controls the still small poultry farming segment.

Oases, flood recession, rainfed and wadi dam agricultures are also entirely private sector activities. Crop production, collection, distribution and marketing in these segments are carried out by the private sector. In these agricultural segments farmers are landowners or they farm under share cropping arrangements. Traditional agriculture is based on direct exploitation by the landowner or by sharecropping arrangements. Parcel sizes are small - .5 ha. in the oases region and less than 5 ha. in the drylands areas.

The irrigated perimeters developed recently in the Senegal River Valley are mostly owned by private businessmen and merchants living in the cities. These perimeters are exploited by hired workers from the two sides of the river. An estimated total of 2,600 ha have been developed in the last three years. Paddy rice production from these perimeters is sold to CSA while other crops are collected, distributed and commercialized by private sector operators.

Agricultural inputs and equipment are supplied by the private sector. Traditional traders import and sell fertilizers, pumps, tractors and other equipment, implements and spare parts.

The market for these commodities is still small but developing. The private sector has sufficient financial resources and experience in the import of agricultural inputs and equipment to supply the internal market. The main obstacle to the development of this activity is market demand and agricultural credit. With a working agricultural credit system established by FND, a substantial increase in paddy-rice prices, and the end of fertilizer subsidies by SONADER, the internal market for agricultural inputs and equipment is expected to develop rapidly.

In agro business, at least eight industrial units - all privately owned and managed - are in operation. These units produce flour and pasta (FAMO), biscuits (IBS), candies (COGITREM), animal feed (SOMADERE), milk (SLAM), mineral water (SOMEB), Coca Cola (SOBOMA) and pesticides and detergents (CIPROCHIMIE). Profiles of six of these industrial units are presented in another section of this report.

These agro industries face a number of problems: high tariffs on imported raw materials, a small internal market, high taxes and utility costs, and substantial competition from non authorized and contraband imports of similar products on which duties are not paid.

These industries are managed by talented and ambitious young executives with the will to succeed and a clear understanding of the problems they face.

Nouakchott is the primary center for private sector activities in agri-business. There are a number of private traders who are basically commodity importers. Owners and managers of these trading organizations are astute and conservative businessmen of long experience. They do not carry large inventories for several reasons.

- o SONADER in the past has sold agricultural inputs to the farmers at subsidized prices, virtually eliminating private sector transactions.
- o Without written MDR authorization or Government tenders, private sector importers must pay duty on their imports.
- o Government controls on margins and prices have discouraged private sector inventory building and sales promotion.

Many private traders interviewed believed that the agricultural sector at the present time is not an attractive market. The trading community is well aware of SONADER's deficit operations due in large part to farmer default on loans running as high as 64.5% (SONADER Credit Division, 1986).

Small private sector farming operations are beginning to be established along the Senegal River basin. The completion of the Manantali Dam will provide regulated water flows and permit profitable double cropping systems.

Nouakchott traders state that they are currently supplying these new private sector agricultural enterprises. Unless the individuals involved are well known to the traders, however, most transactions are on a 25% down payment and payment on delivery basis. Some limited monthly installment payment plans were also noted. These credit transactions do not usually involve interest charges, but when installment payments are utilized a premium is added to the original selling price.

Traders importing against Government approved tenders - pumps or fertilizers, for example - normally import additional quantities for their own account for sale to private sector customers. Fertilizers are normally imported from Europe, with Belgium in the lead position due to normally lower prices. Imports of grain hammer mills from Denmark were noted, one trader reporting import of 400 such units per year and sold on a cash basis. One large trader imports English Lister-Goodwin pumps and Italian Capan-VM pumps and a variety of spare parts. His customers include SONADER, private sector farmers, Peace Corps, FND approved credits and the World Bank.

Traders are aware that the FND - which will guarantee loans made to farmers - is stepping in to fill the credit gap caused by SONADER's withdrawal from this field. They believe that there will be, as a result, a positive change in the credit situation and an expansion in private sector agriculture.

Private sector importers follow normal credit practices to obtain letters of credit and foreign exchange. Some importers operate against letters of credit opened by European banks with whom they have had long standing relations. No major problems were reported in securing import authorization for agricultural inputs.

6. OPPORTUNITIES AND CONSTRAINTS IN PRIVATE SECTOR DEVELOPMENT IN AGRICULTURE AND AGRIBUSINESS

Constraints to private sector development of agriculture and agricultural inputs are numerous.

- o Inadequate rainfall and harsh ecological conditions
- o Insufficient physical and institutional infrastructure
- o The lack of adequate training in modern irrigated agriculture
- o The high cost of water and agriculture developments
- o The high recurrent costs of irrigated agriculture
- o The lack of proper maintenance for pumps and agricultural equipment
- o Land tenure problems
- o Inadequate financial resources

The low yields in agriculture are also a constraint caused by a combination of some of the above problems. Low producer prices are also a disincentive for private sector development in agriculture.

With the new land tenure legislation, the recent substantial increases in cereal producer prices, and the establishment of an agricultural credit system within FND, some of the above constraints will be alleviated.

The construction of the Diama and Manantali dams on the Senegal River will allow a double cropping system which will increase the profitability of investments in agriculture.

The existence of irrigable land in the Senegal River Valley estimated at 135,000 ha. - of which less than 10,000 ha have been developed- presents a potential for greater private sector involvement in agriculture.

The repeated droughts have made traditional pastoralism a very high risk business, and reliance on animal feed, a costly solution for cattle raising. The development of ranch farms in the Senegal River Valley in which maize, alfalfa, sorghum and barley are grown to feed cows, sheeps, goats and camels is certainly a viable alternative and an opportunity for private sector development. There are other opportunities for the private sector.

- o The development of modern irrigated farms to grow rice, maize, vegetable and fruits.
- o The development of modern poultry farms.
- o The development of modern peanut and soja farms to supply an edible oil refinery coming on stream.
- o The development of dairy farms to supply SLAM.

In addition to these opportunities in crops and livestock production additional opportunities exist for the private sector in the following areas:

- o Agricultural inputs and equipment supply
- o Pumps and other agricultural equipment and implements maintenance and repair.
- o Irrigated perimeters development and maintenance. A private sector enterprise with adequate soil moving equipment and know-how can implement agricultural development projects for private investors.
- o Irrigated perimeters design and layout. A private consulting firm can specialize in agricultural project design and supervision.

A number of major constraints exist which will pose problems for private sector entry into agribusiness ventures.

- o Import Duties. The Government has imposed an import tax of 65% on spare parts and pesticides, whereas all other agricultural inputs and equipment are duty free. The 65% duty on spare parts is extremely high, and will impose a major constraint on development of the agribusiness and the agricultural sectors. With regard to parity, spare

parts exclusively designated for agricultural use should be duty free. The 65% duty on the importation of pesticides is for a manufactured product. However, the local pesticides firm in Nouakchotis importing raw material at 40% duty and an additional 10% sales tax on his manufactured product. These high import duties are usually passed on to the consumer, thus impeding the utilization of a product that at times is a vital necessity for crop protection. A study should be conducted with a view to the elimination of import duties on spare parts for agriculture and on the raw product for the formulation of pesticides.

- o Local Taxes. Consideration should be given by the Ministry of Finance to reduce the tax rate in the areas directly related to the agricultural sector: the private agri-business firms and agro-industries. These two sectors must be given some tax relief consideration, since the prices of commodities utilized in the agricultural sector is passed onto urban consumers and the farmer.
- o Price Control and Margins. A constraint to agri-business development in Mauritania is the Government's policies on pricing and margin controls. In many cases, controlled prices are set so low as to discourage private sector participation.

Similarly, low official prices can serve to depress production, divert sales to the black market, or result in losses for the enterprises.

- o Contraband Activities. The private sector traders are complaining that there are too many illegal imports. The private sector is paying import duties and local taxes, and they have no protection from products entering the market without payment of taxes and duties.
- o Inadequate Infrastructure. Infrastructure is a major obstacle to the further development of the agricultural sector. The often impassable secondary and even primary roads, can prevent extension agents from reaching the farmers, and inhibit the delivery of inputs, and the disposition of outputs. The truckers are reluctant to operate on the poorer roads and there is difficulty in hiring private truckers, when needed, to deliver inputs.

There are other important constraints: lack of specialist skills in agribusiness and technical services, insufficient supply of agricultural products for processing, and lack of credit.

Despite these difficult constraints opportunities exist for the private sector to invest in agri-business. The following projects are in an advanced stage of development. They all have feasibility studies. Some have already obtained the necessary financing, while others are being appraised by internal and foreign financial institutions.

- o An edible oil refinery in Nouakchott (SOMIA)
- o A tomato canning factory in Rosso (CMCIA)
- o A dairy farm in Rosso (SMIL)
- o A fruit juice and syrup factory in Rosso (MAG)
- o A soft drinks factory in Nouadhibou (BONAM)
- o A grain mill in Nouakchott (CONTINENTAL MILLS)
- o A number of poultry farms in Nouakchott, Nouadhibou, Rosso and Atar.

These projects are all promoted by the private sector and will be implemented over the coming three-year period.

Other investment opportunities for private sector in agribusiness are:

- o Rice mills
- o Sugar cane plantation and sugar refining
- o Cotton plantation and textile industries
- o Skin and hides tanning
- o Fertilizer production using the phosphate deposits near Kaedi
- o Meat production and export.

A highly interesting area for the private sector could be outreach farming. Mr. Karl Schakel's investment program for example, has obtained a US \$2.5 million AID loan for project identification and is an example of the type of outreach farming which should be encouraged. Successful examples of outreach farming have demonstrated the private sector's ability to support the participating small farmers with a demonstration farm, farmer loans, agricultural inputs, transportation and marketing.

7. RECOMMENDATIONS

USAID Mauritania can easily identify any number of valuable and timely initiatives for a private sector program - given funding, staffing and senior management involvement and support. USAID programming can consider at least four types of private sector projects.

o Policy_dialogue_issues

Influence the Government to make policy and program changes which will remove constraints and barriers to entry identified in this report and thus encourage private sector investments in agriculture and agri-business. Such efforts can be unilateral or in concert with the donor community.

o Financing_infrastructure,_training_and_development,_and_agricultural_credits

The private sector requires basic infrastructure, trained people and financing. USAID has supported a variety of such programs in West Africa with the objective of encouraging private sector investments.

o Direct_assistance_to_the_private_sector

There are, again, any number of possibilities for technical, marketing, financial and training assistance to the private sector. This report should provide many examples.

o Divestment/Privatization

While a difficult - and normally a highly political undertaking - the Government appears ready to abolish, run-down, reorganize, privatize or contract-out a number of typically private sector activities now in the hands of various parastatals.

A key element in any USAID private sector planning for Mauritania should be to let private sector programs "grow out" of past and on-going programs which provide the Mission with in-house experience and expertise.

An annex at the end of this section, USAID Agricultural Project Summaries, describes USAID Mauritania's current programs. Suggestions are made for private sector activities which can naturally grow out of these programs and projects.

A second annex, Agricultural Profiles, also contains examples of small and large agriculture projects seeking investment and technical assistance. The concluding portion of this section suggests several specific private sector-related project areas.

Three of the most important needs in the agricultural sector are probably not susceptible to private sector initiatives. Unless addressed by someone, however, these gaps will seriously retard even small improvements in agricultural production and food security.

- o Extension Training. A need to provide long-term training to agricultural agents of SONADER and the Agriculture Division of the Ministry of Rural Development. Survey team field trips identified the manifest weaknesses in the agent system and the high level of needs of farmers for advice.
- o Agricultural Credits. Credit to the predominantly private sector farming segment is a major problem. The FND is attempting to cover the needs resulting from SONADER's withdrawal from agricultural credits but is inevitably facing the usual problems of organization, staffing, training, and systems. Assistance - financial and technical - in the development of a financially sound agricultural credit institution will probably be essential if the FND is to succeed. Private sector solutions to the urgent problem of farm credit are probably not realistic in the medium term although private sector outreach farming including built-in credit approaches should be supported.
- o Road construction and repair. The USAID and the donor community should seriously consider continuing support for the further development of Mauritania's Senegal River Valley road system.

USAID should attempt to develop at least one private sector development project in agriculture or agri-business. Programs could consider utilization of PL 480 counterpart funds - on both donor-pooled or USAID stand-alone projects. Such projects should have little trouble qualifying for such funds since they will all directly or indirectly address "food security" objectives.

- o Build-in the Private Sector to Existing USAID Programs. Review current and proposed funding for agriculture to determine a possible private sector role. Construction and maintenance are good examples. The survey team has seen major construction and civil engineering projects successfully undertaken by private sector Mauritanian engineering and construction firms. Consideration should

be given to the use of such firms in road project design, project management, construction and maintenance.

- o Consider Funding "Old" Perimeter Rehabilitation Using the Private Sector. Many old irrigated perimeters are in need of rehabilitation in the Kaedi, Boghe and Rosso regions. USAID could award contracts for this much-needed work to local firms. The USAID Mission engineer and agricultural specialists could provide technical overview.
- o Provide Technical Assistance to Private Sector Agricultural Input Businesses. Examples of this approach include technical assistance to an insecticide producer, in the on-the-job training of agricultural extension agents in insecticide use and in supporting further private sector entry into supply and repair shops for pumps and heavy equipment.
- o Develop Private Enterprise Outreach Farming Pilot. The proposal of Mr. Karl Shakel, already supported by AID funding, should be pursued and an exploratory visit by Mr. Shakel scheduled.

The overwhelming importance of the livestock industry in Mauritania - and the impact of livestock raising on meat, milk and hides processing and distribution businesses - deserves special attention. The fact that this industry is currently undergoing a fundamental transition involving feed-lot practices is significant. USAID could undertake a private-sector oriented survey - possibly in collaboration with the donor community - to determine if meaningful opportunities exist for assisting in the private sector development of this vital food segment.

ANNEXES

ANNEX I AGRICULTURAL PROFILES

ANNEX II USAID AGRICULTURAL PROJECT
SUMMARIES

ANNEX I
AGRICULTURAL PROFILES

KEUR MESSANE AREA

Mr. Sidina Ould Cheikhani Ould

Mr. Sidina, a former Prefet of Keur Massene, has been instrumental since 1984 in the organization and start up of seventeen village cooperatives of 40-50 families each on a total hectarage of 800 ha. Other private sector perimeters have also been organized since 1984: large perimeters of up to 1000 ha; medium sized perimeters of 500 ha; and smaller enterprises of 200 ha. each. The fact that the Diama Dam backs up the waters of the Senegal River near Keur Massene has been an important incentive to the creation of private sector farms in the region. As many as 200 new private sector perimeters ranging in size from 20 ha. to 50 ha. have been started along the river during 1985 - 1986. These irrigated farms are mainly for rice production using broadcast pre-germinated rice seed. Mr. Sidina states that his first crop yield in 1985 was 2000 tons of paddy rice obtained from 500 hectares, a yield of 4 tons/ha. He claims a profit of four million UM.

Water from marigot sources starts in July and irrigation continues until mid-October. The crop harvest begins in mid September using hand labor from Senegal, and continues through mid December. Fertilizer is used on a one-time basis and is bought from public and private sources and trucked-in to his perimeter.

Mr. Sidina rents a grader from SONADER and does custom layout for other area farmers on a fee basis ranging from 10,000 to 30,000 UM/ha. depending on topographical conditions.

He employs approximately seven workers per hectare, a total of about 175.

Mr. Sidina's longer range plans include development of an equipment repair shop and purchase of modern equipment for his own and client farming operations such as plowing, leveling, and harvesting. He is currently attempting to negotiate an FND loan of 61.5 million UM on the basis of a self-financed portion of 50 million for heavy equipment purchase.

AGRICULTURAL PROFILE

FERME AGRICOLE A DARTOO - THIOUBALEL

BABABE VILLAGE PERIMETER

This is a private cooperative 15.5 hectare farm, located along the Senegal River between Kaedi and Boghe, growing a variety of crops for the Kaedi and Nouakchott markets: dwarf bananas, tomatoes, peppers, eggplant, mungo beans, melons, potatoes, onions, cassava and citrus fruits. The farm employs a double cropping pattern, also growing rice and maize during the rainy season.

The farm is one of the few highly productive and well managed farms in the area, and benefits from farm managers trained by the Chinese.

A Lister-Goodwin floating pump in the river supplies water via 8" diameter piping - all purchased from a private sector supplier in Nouakchott. The perimeter is fertilized and pesticides are applied by backpack sprayers.

The irrigation system is well designed. Pumped water is discharged directly into the main concrete canal, utilizing pump head pressure to move the water through the five concrete - gated water control structures.

The following table illustrates the variety of agricultural products cultivated on this form.

<u>PRODUCT</u>	<u>SQ. METERS UNDER CULTIVATION</u>
<u>BANANAS</u>	30,000
<u>FRUITS:</u> Lemons, oranges, mandarines, mango, dates	30,500
<u>VEGETABLES:</u> Eggplant, melon, tomatoes, potatoes, onion, beets, carrots, watermelon, peppers, cabbage	90,500
<u>CEREALS:</u> Rice, sorghum, corn	90,500

The financial forecast for the period July 1986 - July 1987 for a cropping which includes bananas, cereal and selected vegetables shows the following.

1. <u>Revenues</u>	
- Vegetables	1,835,000 UM
- Cereals	432,000 UM
- Bananas	2,775,000 UM

TOTAL	5,042,000 UM
2. <u>Cost_of_Production</u>	3,207,420 UM

3. <u>Net_Profit_Before_Depreciation</u>	1,774,580 UM
4. <u>Depreciation</u>	847,200 UM

5. <u>Net_Profit</u>	927,830 UM

Depreciation is based on invested capital of 6,511,000 UM for motor pumps, vehicles, cultivator, fencing, piping, site preparation, and farm buildings.

AGRICULTURAL PROFILE

WANE AMADOU FAMILY
GALLO KOLY GROUPEMENT
BABABE DEPARTMENT

This is a private project proposal which seeks financing for the creation of an extended family size cattle raising and farming venture. The objective is to produce meat and milk from a herd of 30 cows, 100 beef cattle, plus a sheep and goat herd, and grow and sell bananas and papayas utilizing a 10-12 hectare irrigated perimeter.

Market and cost studies have been prepared. Capital costs have been estimated.

1. Preparation of cattle areas	1,875,000 UM
2. Feed storage	450,000
3. Guard room	108,000
4. Farm and office equipment	172,500
5. Pumps, cultivator and trucks	4,250,000
6. Land preparation and irrigation installation	1,804,000

TOTAL INVESTMENT PLUS 15%	9,957,000 UM

It is estimated that 10,000,000 UM in operating funds will be required for a twelve month start-up operation cycle.

Forecasts indicate profitability in year one. Even with sales one-third less than forecast, the sponsors claim the project is viable.

Sponsors are seeking 12,500,000 UM in five year financing. Interest was calculated at 12% for the profitability analysis.

AGRICULTURAL PROFILE

CONTINENTAL MILLS
CONTINENTAL GRAIN CO.
Mr. Harry Ambrose
Senior Vice President
277 Park Avenue
New York, NY 10172

SOMA
Mr. Moulaye Ould El Hassen
Director General
Nouakchott, Mauritania

A 50-50 joint venture Mauritania company is proposed between Continental and SOMA. The objective is the creation of a grain receipt and storage facility and flour mill located at the new Nouakchott port for the mechanized receipt, silo storage and milling of imported wheat. The total project cost is estimated at \$9 million to be financed via debt, equity and supplier credits.

The proposed company would buy bulk wheat on the world market for local conversion, thus replacing current expensive imports of bagged flour. The mill is sized for first year production of 45,000 tons of wheat. The mill will produce bran as a by-product for local animal feedstock, and will partially replace imported brans and animal feeds.

The proposed venture will have full-line capability to buy, ship and store a variety of grains in bulk - including maize and soybeans. A working relationship is under discussion with SOMADER, a recently established Mauritanian animal feed production company.

The proposed company would employ approximately 85 people. A target date for plant start-up is 1988-89.

ANNEX II

USAID AGRICULTURAL PROJECT SUMMARIES

I. MAURITANIAN AGRICULTURAL RESEARCH PROJECT II (AGRES II)

A four and a half year project started in December 1985 to improve agricultural and farming systems in Mauritania's Senegal River Valley. The basic objectives are to raise living standards, increase food production, and arrest environmental deterioration. The project is managed by the University of Arizona working in cooperation with the Centre Nationale de Recherche Agronomique et de Developpement (CNRADA), the national agricultural research center in Kaedi.

AGRES II has a multi-faceted approach to realizing its objectives:

- o Institution building, centering on the Kaedi Research Center. This includes undergraduate and specialist training of Research Center personnel at the U of Arizona.
- o Improvement of cooperation and linkages among the various rural development, agricultural, education and research organizations.
- o Application of Farming Systems Research and Extension methodology (FSRIE), a multidisciplinary approach which uses the farm household as the focus for research and extension.

An ambitious research and on-farm trial and experimental program has been planned. This research will provide many answers of use to further development of private sector initiatives in the farming segment.

Selected subjects scheduled for research and field testing of interest to private sector program development include the following.

- o Survey of nomadic and sedentary herders.
- o Introduction of animal traction and small motorized inputs, land preparation, cultivation, water supply.
- o River valley survey of production, marketing, credit and savings, cash flows, material flows, labor uses and movements, insurance.

- o Pricing policies and market structure of grains, livestock and meat.
- o Stimulating farmer acceptance of new technology and transition to a market oriented rural economy.
- o Survey of techniques for increasing production of fuelwood and forage.
- o Use of rock phosphate to improve soil fertility.

II. UTILIZATION OF COAL AND PEAT RESOURCES OF MAURITANIA TO REPLACE WOOD CHARCOAL FOR DOMESTIC ENERGY

Coal and peat resources present an opportunity for private sector development of an indigenous energy source which could replace wood-based charcoal which is used for domestic energy, and which increasingly places a major environmental burden on shrinking forest resources.

A team from the U.S. Geological Survey has recently completed a preliminary survey to determine the existence of coal and peat in commercially exploitable quantities and qualities. The June 28, 1986 report concludes the following:

- o Two primary areas of lignite and sub-bituminous coal have been identified - one north of Nouakchott and east of Cape Timiris, and the second north of the Senegal River from Maghama to Rosso.
- o Extensive peat deposits occur along the Senegal River and the Atlantic Ocean. Ten million tons of peat were delineated - large enough to support a charcoal briquetting plant for 20 years and to serve as a possible soil additive source.

The survey team made the following action recommendations:

- o Undertake a reconnaissance coal exploration program to assess Mauritanian coal potential for replacing imported fuel oil and to be briquetted as a replacement for wood charcoal.
- o Conduct a coordinated agricultural and geological survey to determine suitability of local peat in briquetted form as a replacement for wood charcoal, and as a soil additive.

Laboratory samples are now being analyzed and a final report will be submitted. Three project proposals will be developed:

- o Assess alternative energy and agricultural mineral resources of the Gorgol Region.
- o Evaluate peat resources via an exploratory drilling program.
- o Delineate the extent, depth and quality of coal resources.

Should any of these studies indicate commercially exploitable deposits, USAID should give serious consideration to

supporting private sector initiatives in conducting pre-feasibility and feasibility studies, and providing management and technical assistance in developing coal and peat-based mining, processing and distribution ventures.

III. INTEGRATED WATER AND AGRICULTURAL DEVELOPMENT FOR ENHANCED SMALL FARMER PRODUCTIVITY ON THE DIROL PLAIN

Partnership For Productivity (PFP) has been carrying out a USAID funded agricultural operations research project in the Dirol Plain since March of 1985. The objective is to define a package of agricultural technologies, inputs and practices which will result in increased food supply, extension of the growing season, and management of drought and desertification.

The PFP is testing ten hypotheses which they believe are the critical elements in developing water resources, increasing grain and vegetable food crops, and fostering economic systems needed to support intensified modern agriculture. In their June 20, 1986 proposal for year three operations, PFP raise a number of interesting private sector possibilities growing out of their work in such areas as:

- o Certified seed multiplication and distribution
- o New well technology
- o Small machinery supply and services
- o Pump supply and maintenance
- o Drip irrigation systems
- o Agricultural input equipment, supplier, fertilizers, pesticides, and insecticides
- o Farm credit and business development

The table which follows summarizes these potential private sector development possibilities for which USAID support might be planned in the future.

TEN "HYPOTHESIS" UNDER FIELD TESTING

<u>OPERATIONS RESEARCH TEST AREA</u>	<u>PRIVATE SECTOR IMPLICATIONS</u>
<u>1. RECESSION AGRICULTURE AND IRRIGATION OF FIELD CROPS</u>	A strong demand is noted for selected and treated sorghum and cowpea seed. Once economic studies are completed, local private sector opportunities for multiplication and distributing certified seeds should be explored.
<u>2. NEW/REHABILITATED WELLS</u>	An improved well digging and lining technology has been developed which improves water yields 200%-300% for 20% increase in cost. Private enterprise well digging services are being considered. One private sector group of artisans has already been trained. If successful, USAID could sponsor training and financial assistance to private sector operators.
<u>3. SMALL MACHINERY (ROTOTILLERS)</u>	Rototillers are doing an excellent tillage job in vegetable and sorghum production. Possibilities appear good for private sector mechanized ploughing services. If viable, local, private services should be assisted. Other opportunities may exist for local fabrication of and repair services for simple hand and animal traction farm equipment.
<u>4. SMALL PUMPING PLANTS</u>	Major problem has been parts availability and local maintenance services. Local artisans need training in the pump services business. A private sector business opportunity may exist and, if so should be encouraged.

<u>OPERATIONS RESEARCH TEST AREA</u>	<u>PRIVATE SECTOR IMPLICATIONS</u>
<u>5. NEW IRRIGATION METHODS</u>	A successful drip irrigation system has been identified. A local private sector business in the sales, installation, and maintenance of drip irrigation systems may be possible.
<u>6. IMPROVED TROPICAL VEGETABLE PRODUCTION TECHNIQUES</u>	No apparent private sector implications.
<u>7. SERVICES TO FARMERS</u>	PfP is already developing a small network of agricultural input suppliers carrying pumps, rototillers, hand tools and mills. PfP also runs a mechanical shop and a marketing radio network. The objective should be to encourage transfer of all such services to private sector operators and assist in their development. Such businesses might be tied in to supply of fertilizers, fungicides, insecticides and other small agricultural equipment supply and repair.
<u>8. TROPICAL FRUIT TREES</u>	Too early to define private sector role.
<u>9. FORAGE AND REFORESTATION</u>	Activities not yet started. USAID could consider regional forage and reforestation project using private sector contractors which may grow out of PfP research.

OPERATIONS RESEARCH TEST AREA PRIVATE SECTOR IMPLICATIONS

10. GROUP CREDIT AND ENTERPRISE Pfp studying credit. If project goes ahead USAID should insist that Pfp build in or assist in the creation of private sector agricultural credit agencies as an alternative to Government farm credit programs. Started as a small scale regional credit business, there could be a viable private sector business.

The Pfp studies should be carefully monitored in this area to determine possibility of a stand alone and separately financed USAID farm credit project in the Dirol Plains.

IV. SENEGAL RIVER VALLEY DEVELOPMENT

This is a 1987 program obligation to introduce water control technologies for improving agricultural production in the Dirol Plain. The initial phase will enhance recession agriculture by the construction of one or two weirs on the Dirol Creek, and the diking of ridge gaps, creek runoffs and rainwater retention which would permit cultivation of twice the existing hectareage during the dry period.

The project could provide a model for changing traditional recession agriculture to improved and controlled flood recession agriculture, and finally to irrigated agriculture under full water control. The project life cycle - 1987-1991 - and the significant initial funding of \$5 million warrants careful consideration of the use of Mauritanian private sector contractors and project managers.

Should USAID determine that it will be essential to use a foreign project management firm, every effort should be made to encourage a joint venture with a Mauritanian engineering company. This project which is essentially low-medium technology could be used as a vehicle for developing local private sector capabilities as an alternative to either government/parastatal interventions or continued use of foreign contractors.

V. RURAL ROAD IMPROVEMENT PROJECT

This 1978 \$11 million project provided assistance in the development of an all weather section of Mauritania's Senegal River Valley road system. A basic objective was to link farm areas to sources of supply of agricultural inputs and to facilitate access of local agricultural products to major consuming centers such as Nouakchott. The basic project is now essentially completed.

An extension to the project for road maintenance is now envisaged. Such work is normally carried out by the Ministry of Transport.

Consideration should be given to the use of private sector contractors for the new maintenance project. There is private sector interest and capability.

Future USAID road construction/maintenance projects should attempt to build-in private sector involvement at project design stage in project management, road construction, and follow-on maintenance.

VI. HUMAN RESOURCES DEVELOPMENT PROJECT (Mauritania)

SAHEL HUMAN RESOURCES DEVELOPMENT PROJECT (Regional)

These two projects are designed to provide third country and U.S. training and development: the first has a "Food Security" focus, while the second has broader and more general objectives. Both projects might provide training and development assistance to the private sector.

Refer to the strategy and fisheries sections of this report for specific recommendations on support of a fisheries technical training institute at Nouadhibou targeted at meeting the trained manpower needs of the private sector fisheries industry - both artisanal and commercial. Funds available under the Human Resources Development Project could be utilized in support of this important initiative since there is a basic Food Security element involved.

IV. MINING

1. Introduction And Summary

The mining sector comprises at present two operating enterprises, both predominately government-owned. One is the Societe Nationale Industrielle et Miniere (SNIM) - the giant of Mauritanian industry - which exports iron ore from the northern part of the country. Annual production is currently around 10 million tons per year, and in 1985 this activity accounted for 14.5% of Mauritania's GDP and nearly half of its export earnings. The second, relatively insignificant in scale, is the Societe Arabe Mauritanienne pour l'Industrie et l'Acier (SAMIA) which operates a gypsum mine near Nouakchott producing plaster and plaster sheets for the local construction industry. It is hoped that exports of gypsum and gypsum products will be resumed when the new deepwater port at Nouakchott is completed in 1987.

Possible future mineral developments include reactivation of the copper mine at Akoujijt, which was in production until 1979. This concession, formerly a public enterprise, was sold to Arab interests who reputedly are investing more than \$US 100 million for the acquisition and development. Phosphate deposits in the southern agricultural region may also prove to be exploitable with minimum processing for local use as fertilizer, as well as eventually on a larger scale for export.

Otherwise, there is little prospect of significant new mineral developments over the medium term. Some traces of rare minerals - titanium, potash, and sulphur were considered by the April 1986 TDP/USGS mission as being worth further investigation. Offshore drilling for petroleum has been carried out by three U.S. oil companies - Mobil, Arco and Oxocol - but no favorable results have been reported so far. Peat and lignite deposits exist, and are currently under study by the U.S. geological Survey.

Despite the Government's predominate position in the mining industry, its declared policy is to entrust further development of this sector to private enterprise. SNIM, which was initially envisaged as the Government's vehicle for all kinds of minerals development, now restricts its activities to iron ore mining only. The recent "privatization" of the defunct copper-mining operation indicates that the Government is prepared to implement this policy. There may be potential for new private initiatives in developing phosphate deposits; and a major expansion in gypsum mining for export might offer another opportunity for private participation, if not complete privatization. Apart from these areas, the role of the private sector in mining is likely to remain very limited over the foreseeable future. The possibility of reprivatizing SNIM is not seriously considered here, for reasons to be explained below.

2. Overview Of The Mining Sector

a) Iron ore

The initial development in the early 1960s of iron ore mining facilities in Mauritania - the mine at Zouerate, the terminal and port facilities at Nouhadibou, and the 650 km. railway connecting them - literally boosted the new country into the 20th century. Before that, there were no significant sources of export earnings or Government revenues, and there could be little hope for the country's economic viability. The new mining operation quickly became the principal engine of economic growth and financial support for the Government.

The original development was undertaken by a French-dominated consortium, MIFERMA, in which the Government had only a token (5%) participation. During the 1960s and early 1970s, extraction of the best grades of ore at the mining site rose steadily, reaching a peak of nearly 12 million tons in 1974. The company was highly profitable. At this point, the Government decided to nationalize the operation, for which purpose it formed the present operating company SNIM which has 71% Government participation and the rest in Arab hands with a very small private Mauritanian ownership.

This event was the reflection of an upswing of economic nationalism and anti-French feeling at the time - the Mauritanian Government had become increasingly concerned over its dependence upon a single foreign enterprise - combined with euphoric expectations for the future generated by the start of huge inflows of Arab-OPEC funds. This was also the period when Mauritania withdrew from the CFA franc area, and constructed its most conspicuous "prestige projects" - the steel mill, the oil refinery, and the sugar refinery, none of which proved operationally viable. The shareholders in MIFERMA were compensated from Arab funds, and for a while the operation of the mine was little affected by the change in ownership.

The newly-nationalized company, however, eventually ran into increasing difficulties. "Mauritanianization" of the staff, by 1986 virtually completed, took place only gradually and has not, apparently, caused major problems. Nor was overstaffing the critical problem, although employment in SNIM did rise from 4,800 in 1974 to 6,100 in 1984, obviously causing some decline in productivity. Employment has since declined to 5,800 by early 1986. The difficulties arose mainly from the collapse of international iron ore prices, caused by recession in the industrial countries, and technical difficulties at the mine as the best grade ores approached depletion. There were also periods during the 1976-78 war when the ore trains were disrupted by attacks from Polisario guerillas - the railway runs for part of its length only a few miles from the Western Sahara border. The conclusion must be that the sharp drop in profitability of the operation after nationalization was due more to external factors than to the nationalization itself.

Since 1984, SNIM, in cooperation with the World Bank, has been implementing a major rehabilitation program which has done much to cut its operating costs and improve its efficiency. SNIM actually made an operational loss after taxes in only one year - 1984 - after which profits have been on the upswing. See Exhibit IV-1. This result has been assisted by a modest improvement in world iron-ore prices, the 1985 devaluation of the ouguiya, and, recently, declining fuel costs. During 1982-84 \$US 351 million was invested by IBRD and others for opening up new extractive facilities near Zouerate - the Guelbs project - and for installation of associated enrichment capacity, designed to restore the maximum output of the mine to 12 million tons per year of 65% Fe content ore through the mid 1990s. Since completion of this project, output has recovered from its low-point of 6.7 million tons in 1983 to around 10 million tons in 1985. SNIM officials hope to achieve close to the 12 million ton capacity figure during 1986, as the lowergrade Guelbs ores become fully exploited. Consult Exhibit IV-1 for summary statistical data on iron ore mining.

The prospects for the future, while heavily dependent upon world market developments, are generally considered by international observers such as the IMF and IBRD to be modestly favorable. With continuation of the recent improvements in

management and operations, the SNIM should remain in production at least for a further decade. SNIM is, however, an inherently high cost operation by world standards, especially since the Guelbs deposits are among the lowest-grade ores being exploited anywhere, and its profitability will always be marginal. Given this history and perspective, there would appear to be little interest in reprivatizing SNIM, which in any event would probably still be unacceptable to the Mauritanian authorities now, as it was in 1974, on grounds of avoiding foreign control over this vital national asset. In the present state of the world iron ore market, it is also unlikely that foreign private investors would have any interest in acquiring the enterprise.

b) Gypsum

There are large deposits of gypsum about 30 km north of Nouakchott. Until 1979, this material was exported to Senegal by road to a value of up to \$US 20 million annually. The rising cost of transportation eventually priced it out of that market and the mine was forced to close. The present operating company SAMIA was founded in 1974, with majority Government participation and the rest Kuwaiti, to take over the gypsum plant, the steel mill and various other non-ferrous mineral development projects. Now, however, gypsum appears to be its only operation. It has a total staff of 80 persons. There is a new German-built processing plant at the production site with a theoretical annual capacity of 100,000 tons. A part of this capacity - about 36,000 tons in 1985 - is currently being used to produce plaster sheet for the local market, and a tile factory is now under construction. SAMIA proposes to resume exports of gypsum and plaster to Senegal and other African markets as soon as the new port at Nouakchott is opened: an initial export value of \$US 3-4 million a year is envisaged.

c) Prospective future mining developments

o Copper

The production of copper concentrates at Akjoujt, about 25 km Northwest of Nouakchott, was suspended in 1978 as a result of the sharp drop in world copper prices. The mine was nationalized in 1975, at about the same time as the iron ore operation, after the previous private owners had decided to close it on account of deteriorating market conditions. More recently the Government became a minority participant again (38%) with the formation of the Societe Arabe des Mines de l'Inchiri (SAMIN), in which private Arab interests have invested a total of US\$ 106 million. The stated intention is to recommence production in 1987 when the new port at Nouakchott is opened. An annual production of 85,000 tons per year is envisaged. This will, however, require substantial additional investment to rehabilitate the Akjoujt-Nouakchott road and construct a loading terminal at the port, for which Government investment or guarantees will likely be called for. The World Bank says that the Government has renounced any direct or indirect support for the project, which if applied will probably rule out its further development at the present time on a purely commercial basis. In addition to a pessimistic market outlook, there are problems with the ore, which has a high arsenic content and consequently is in limited demand at a discounted price on the world market. The promoters believe that extraction of gold, which is also present in the ore, may render the whole operation viable; the World Bank, however, forecasts heavy losses if the project goes ahead.

° Phosphates

For some time the existence of large and good quality deposits of phosphate rock near Kaedi, along the Senegal River, has been known. A prefeasibility study conducted by SNIM in 1983 identified reserves of more than 100 million tons. Large-scale exploitation for export would require heavy investments in processing and evacuation facilities - the current thinking in government is that this could best be done by constructing a pipeline all the way to Nouakchott. The World Bank considers that investment on the scale required would not be justified under current and prospective conditions in the world market, and there have been no indications of any recent private investor interest in this project. The very recent TDP/USGS Mineral Project Feasibility Mission of April 1986 strongly supported the more modest idea of immediately using the phosphate resources for direct application to agricultural land in the surrounding Senegal River basin area. According to the Report of Dr. Greenwood dated May 4, 1986, "Such local utilization would greatly increase agricultural productivity with very low marginal costs. Processing of phosphate rock is simple, requires little capital investment, modest expertise, and is suitable for small private sector enterprise." Several years of experimentation would probably be needed to ascertain the effectiveness of direct application. This more limited development of phosphate resources would seem to offer much promise within the context of a private sector development program such as is being recommended here. Further USAID support to field testing of direct phosphate application should be considered.

° Other Minerals

A number of other minerals are known to exist in Mauritania, but at present these require extensive further investigation before the prospects for commercial exploitation can be assessed. Sulphur is found underground in association with the gypsum deposits, and potash, peat and lignite are also present in the country. The TDP/USGS study recommended followup visits by specialists for each of the above-mentioned minerals. In addition, titanium and other rare metals have been found in black sand deposits along the coast, and are described by Dr. Greenwood as "...the most attractive identified target for exploration in Mauritania." Follow-up of this possibility by USGS is in progress. Some or all of these minerals may eventually become the subjects of commercial exploitation, and U.S. assistance could be instrumental in hastening the necessary investigations.

° Petroleum

The chances of finding petroleum resources are being assessed by three U.S. companies which have exploration permits. These are Mobil, Arco and Oxaco. Mobil conducted extensive offshore test drilling during 1985, the results of which seem to have been inconclusive. As is usual in the petroleum industry, definite information is not available on the prospects for further development of the deposits - and will probably not be forthcoming.

3. The Role Of Government In The Mining Sector

Apart from its direct majority participation in the two existing operational mines, as described above, the Government's role is at present mainly confined to studies, research, and project formulation which could lead to further development of mineral resources. According to official statements made to the survey team and to IMF, IBRD and other international agencies, the Government's policy is that any further mineral developments should be entrusted to the private sector. However, nowhere in the National Economic and Financial Recovery Program 1985-88 document is this policy clearly enunciated, and it is probable that the role of Government in this area will in practice be determined on a case-by-case basis as the need arises.

The Directorate of Mining and Geology is generally responsible for minerals prospecting and research, maintaining a data bank on the country's mineral resources, and drafting legislation covering mining and geological activities. It issues the permits for petroleum exploration. The Office Mauritanienne des Recherches Geologiques (OMRG) carries out minerals research and development of projects to the point where private investors can be expected to become interested. The precise division of these overlapping functions between the two agencies is not altogether clear. The recent TDP/USGS Mineral Project Feasibility Mission recommended a substantial strengthening of OMRG so as to allow it to effectively follow-up the possibilities identified by that mission.

4. Opportunities For The Private Sector In Mining

The operation of mining ventures per se appears to offer little current immediate prospect for new private investment. The most likely prospects identified above would seem to be in the expansion of gypsum mining and the resumption of copper mining for export. In both these areas Arab interests are already involved and it seems probable that new private investment, if any, would come from those sources. There remains the interesting possibility of small-scale development of the phosphate deposits near the Senegal River for use in local agriculture, which would well be undertaken by the private sector. Further research is necessary on the feasibility of this project, from both the mining and agricultural points of view. Among other things, it remains to be determined whether the Senegal Valley soils need this kind of fertilization. The possibilities for exploitation of other minerals and petroleum also depend on further exploration and research, but early opportunities for private investment do not seem likely.

A more immediate prospect is that of privatizing some of the non-mining activities now undertaken by SNIM at Nouhadibou and Zouerate. These include bus and aircraft transportation, housing services, commissary outlets, repair and maintenance facilities, etc., all of which could in principle be operated on a private basis. The SNIM, which is under heavy pressure to keep its operating costs down so as to maintain financial viability, is favorably disposed to turn these functions over to private enterprise whenever opportunity offers, and has already had internal discussions of the possibilities. The main problem, they report, is finding private entrepreneurs who are capable of guaranteeing the continuation of the services concerned at a high level of efficiency and reliability. This is a particularly acute problem at Zouerate because of its very isolated location. SNIM is also seeking funds for the construction of a sewage purification plant so as to improve the waste-water used to irrigate small private sector market-gardens.

The special case of SNIM's technical training center at Nouhadibou is discussed elsewhere in this report. Since SNIM no longer needs a facility of this size for its own purposes, it might well be encouraged to use it for training mechanics for the young and growing fishing industry based on the same area. Specific proposals for support of this project are contained in the first volume of this report.

5. Recommendations

At the present stage, USAID actions aimed at encouraging private involvement in the mining sector might be most effective in the following areas:

- a) Follow-up studies of new mineral development possibilities. In reporting on its recent mission, the USGS offered to provide experts for 2-3 week visits to further assess a number of promising mineral prospects, including black sands, potash, sulphur, peat, coal and rare earths, several of which are potentially suitable for private development. USAID should liase with USGS to expedite these studies.
- b) Feasibility testing of local phosphates for agricultural use. Development of the proposed small-scale phosphates project now requires testing of the material as a fertilizer under local soil and agricultural conditions, which might be a useful USAID-sponsored project.
- c) Training. As recommended elsewhere in this report, USAID support for the SNIM's technical training school at Nouhadibou might help to provide a supply of skilled workers for other sectors of the economy particularly in fishing, but also including any possible future development of other mining activities.
- d) Services to SNIM. SNIM should be encouraged to privatize some of its peripheral service activities, but no direct USAID action seems feasible here.

EXHIBIT IV-1
IRON ORE MINING SUMMARY

	1981	1982	1983	1984	EST. 1985
Production - MT	8.5	7.7	6.7	9.0	9.9
Exports - MT	8.9	7.1	7.4	9.5	...
Change in Stocks - MT	-0.4	0.5	-0.7	-0.4	...
Contribution to GDP %	11.0	9.2	9.3	14.1	14.4
Value of Exports - MO	8,143	6,987	7,209	9,186	...
Net Taxes Paid to Government - MO	339	290	207	459	790
SNIM profit or loss (-) - MO	1,025	707	-119	112	...

MT = Million Tons

MO = Million Ouguiya

SOURCES: IMF, IBRD

V. FISHERIES

1. Introduction and Summary

Mauritania's fishing industry is the country's most dynamic private sector segment, and the country's fastest growing export industry. In 1984, fisheries represented 9% of GDP, 43% of total exports and 5% of budget revenues. Significant increases were registered in 1985.

The Government's development policies and programs for the industry have been highly successful, and private sector businessmen express confidence that the policies are sound and are obtaining positive results.

Many problems remain. The industry is not yet achieving its full potential in terms of its contributions to the economy. Major investments are still required in modernizing the fleet, building port infrastructure and training and developing personnel at all levels.

Fisheries should be a major target for USAID and other private sector donor initiatives, primarily in the human resources development and infrastructure development areas. Specific program recommendations are summarized at the conclusion of this section.

2. Overview of the Fisheries Sector

The Mauritanian coast borders on one of the world's highly endowed fishing grounds which extend along the northwest coast of Africa. The unique offshore water conditions sustain the coexistence of a wide variety of fish species which can be harvested both by surface and deep water fishing techniques.

The Mauritanian fishing industry is regulated, and production and export statistics are gathered, on the basis for four major fish categories:

- a) Pelagic or Surface Species, which represent 76% of the total tonnage catch and 40% of the FOB export value in 1985. Species represented are large (tuna), medium (mullet), and small (sardines and anchovies). Such fish have lower unit values than other species.
- b) Demersal or Bottom Fish, which represented 13% of the 1985 tonnage catch and 16% of FOB export value. Species represented are dorade, merou, sole and raie.
- c) Cephalopods, which represented 11% of the tonnage catch and 41% of the FOB export value in 1985. This category includes the highly valued squid and octopus species.
- d) Shellfish, which represented less than 1% of the tonnage catch and 3% of the FOB export value in 1985. This category includes lobster and shrimp.

Mauritania also exports fish meal and oil produced aboard the offshore "factory" ships, and small quantities of salt/dried fish. Fish meal is the most important item in this category and accounted for 9.6% of all exported fish and processed fish tonnages and 6% of of FOB export value in 1985. Refer to Exhibit V-1, Mauritanian Fish Product Exports.

The annual potential of Mauritania's catch has been variously estimated in the range of 500,000 T to over 700,000 T. The official Government estimate is 525,000 T, a figure which is only slightly below the annual catch of Senegal's fishing industry, West Africa's largest.

Fish exports have increased dramatically since 1979. Exports in that year were estimated at 14,600 tons. By 1985, exports had risen to 372,000 tons. Refer to Exhibit V-2, Fish Exports - 1979-1985.

Fish prices increased in 1985 for common pelagic varieties which raised the unit export price by an estimated 18%. Very large unit price export increases, however, were registered in the highly demanded cephalopod products which rose 62% over 1984. Refer to Exhibits V-3 and V-4 for supporting data.

The primary export market for Mauritanian fish products is the USSR which in 1984 was the purchaser of record for 36.5% of total export production which included large fishmeal exports processed aboard Soviet factory ships. The Ivory Coast, Spain, Iraq, Rumania and Japan are important buyers. Refer to Exhibit V-5, Fish Exports by Importer of Record.

3. The Role Of The Government In The Fisheries Sector

The significant rise in Mauritanian export production since 1979 can be attributed to the Government's new fisheries policies of 1978 (Code de la Marine Marchande et des Peches Maritimes, Law 78,430, February 28, 1978). This law, which set territorial zones at 70 miles and economic exclusivity zones at 200 miles, reserved these fishing areas for Mauritanian ships or ships of other registry operating under special accords. Fishing licenses were abandoned in favor of authorized joint venture companies with local partners - state or private - with the following specific obligations:

- a) 51% Mauritanian ownership
- b) Development of land installations in Mauritania for treatment, freezing, and storage
- c) Mandatory physical unloading and transformation of high value demarsal and cephalopod species
- d) Employment of Mauritanian sailors
- e) Payment of prescribed taxes

The effect of this law was to cut down unauthorized fishing of a fleet estimated at 300 vessels representing 20 foreign registeries operating out of Las Palmas in the Canary Islands. Up to 90% of the production of this fleet was processed, frozen, stored and transhipped at sea. Only about 10% was unloaded at Nouadhibou for processing. Mauritania, as a result, received royalty payments in effect based on 10% of the estimated value of the annual catch.

The success of the Government's policies can be seen in the 1985 results. A total of 372,000 tons of fish was exported with an FOB value of UM 17,387,686,000 (\$238 million at UM 73/1\$), on which the Government collected UM 1,854,000,000 (\$25,397,000) in taxes. Statistics for 1984 indicate that the fisheries segment represented 9% of GDP, 43% of total exports and 5% of current budget revenues. When compared with the industry's impact on employment and the size of the net foreign exchange transfers abroad for loans, foreign repair services and supplies, the net contribution to the economy is still small. Mauritania has, however, in a short period secured control of major foreign exchange receipts generated by the industry.

The Ministry of Fishing and Maritime Economy is the primary policy making, planning and regulatory agency of the Government for the fisheries industry. Ministry spokesmen are open and frank in their assessment of the ground already gained as well as the formidable problems which still exist. They stress the need to address several issues:

- a) Develop logical and clear strategies and policies for the industry which will gain the confidence and support of international lenders and buyers.
- b) Correct major deficiencies in infrastructure, training and development of human resources, and communications with foreign buyers, suppliers and investors.
- c) Develop greater expertise and experience in and direct access to foreign markets.
- d) Review relevancy of the export taxation system.
- e) Establish basic research and laboratory facilities.
- f) Increase coverage and effectiveness of foreign fleet surveillance to eliminate unlicensed trawler fishing.
- g) Seek improved terms for overseas ship purchases.
- h) Integrate industrial and artisanal fishing and private internal distribution and consumption of fish products.
- i) Develop a highly competitive private sector owned and operated fleet of modern ships.

A state corporation operating under the general supervision of the Ministry of Finance was created in 1984 to provide a central international marketing board function for fish products entering Nouadhibou under mandatory unloading laws. This company, Societe Mauritanienne de Commercialisation de Poisson (SMCP), is credited by private sector operators as having restored much-needed order into fish markets, although there is a general concern that the SMCP has not yet mastered its responsibilities and is still relatively inexperienced in negotiating commercial contracts in world fish markets.

The Government appears to be serious in its efforts to achieve the goals of an efficient and profitable private-sector driven fishing industry. A provisional document dated August 1985, Long-Term strategy for Development of the Fisheries Sector in Mauritania, recommends soundly researched developmental goals, and short, medium and long-term strategies. A ten man consulting team of Crown Agents' specialists, financed by the IBRD and the Kuwait Fund, completed its field work in May 1986 and will submit in late 1986 a detailed action and investment program required to attain Mauritania's policy objectives in the fisheries segment. Key members of this delegation were interviewed by the survey team.

4. The Role Of The Private Sector In The Fisheries Industry

The underlying policy of the Government is to support and prepare the Mauritanian private sector for ever-increasing control over both industrial and artisanal segments of the country's fishing industry - in terms of ownership, direction, employment and day-to-day operational responsibilities.

The strategic program for the accomplishment of this major privatization effort is already apparent:

- a) Replace fishing by foreign interests operating under Government license with Mauritanian controlled joint ventures owned by the State, Mauritanian private sector businessmen and foreign shareholders.
- b) Encourage the formation of majority-owned Mauritanian private sector companies.
- c) Privatize on a gradual basis the existing joint venture fishing and marketing companies in which the State has a significant share holding.
- d) Organize and expand artisanal fishing under a private sector operating company providing financing services and internal marketing for private fishermen organized as cooperatives.
- e) Provide Government assistance to the private sector in planning, specification, financing and acquisition of a modern mixed fleet of freezer and wet fish trawlers and artisanal intermediate-technology vessels to replace the current fleet over a ten year period.
- f) Encourage foreign partner diversification to include a range of processed fish products: fishmeal; canned, salted and dried products; oil; and frozen fish fillet specialities.
- g) Support the organization and financing of local private sector marine repair, overhaul, maintenance and supply services.
- h) Encourage international, regional, national and private sector approaches to the training and development of fishing and marine industry specialists at all levels.

The private sector policy and program initiatives will be built from the base of existing Mauritanian and foreign owned operating and service companies which have demonstrated an ability to respond to what is perceived by the Mauritanian private sector as an important opportunity to develop profitable fisheries-based companies. While the private sector is encountering major organization, staffing, operating, maintenance and profitability problems, there is in evidence among private sector operators in Nouadhibou a spirit of enterprise and optimism for the long-term future of the industry.

Private sector growth in the fisheries section has been rapid. Refer to Exhibit I-4, Evolution of the Number of Private Enterprises in Fishing and Industrial Sectors. Of the total of 115 Mauritanian owned ships registered as of March 1986, 39 were added to the fleet since January 1984. The foreign fleet - both those chartered to operating companies and those operating for their own account - totalled 110. Refer to Exhibit V-6, Mauritanian Fishing Fleet.

This national fleet consists primarily of older ships purchased second-hand after they had become excess to world needs. Many are very large vessels which can operate for long periods at sea and have internal fish processing, freezing and storage capacities. Such large freezer vessels are not suited to the needs of Mauritania whose long-term policy is the landing of catches at Nouadhibou for land processing, freezing, storage and reexport. The ready availability and low investment costs of such vessels, and the high cost of more modern replacements, however, would indicate that such vessels will continue to dominate the fleet for some years to come.

Efforts are underway, however, to add smaller and more efficient vessels to the private sector fleet. There is close cooperation between private fleet operators and the Government - led by the National Development Fund (FND) - to establish standard specifications, seek competitive bids for a number of vessels on an international basis, secure advantageous long-term low interest financing, standardize equipment and on-board operating practices, and ensure operational training of Mauritanian crews. Bids for such long-term procurement on behalf of the private sector have been received from many interested countries and are currently being evaluated. Financing terms will figure importantly in contract award.

The private sector also dominates the freezing and cold storage operations at Nouadhibou. Plant and equipment are modern and well maintained. Many of these facilities are linked to internal fish cleaning and packing operations. Operators clean, pack, freeze, store and deliver dockside for their own account and also offer fee-based services to both industrial and artisanal fishermen. One estimate places installed freezer capacity at Nouadhibou as being equal to 28% of total registered frozen fish exports - the balance being frozen aboard factory ships. Refer to Exhibit V-7, Fish Freezing and cold Storage Facilities - Nouadhibou.

The Government's policy for the development of the artisanal fishing sector is also private sector oriented. The implementation of this policy is reflected in the creation of The Company For The Promotion of Mauritanian Artisanal Fishing (Societe Pour la Promotion de la Peche Artisanale en Mauritanie - SPPAM). SPPAM's shares are held 55% by 22 private shareholders, 10% by fishing cooperatives of private artisanal fishermen, and 35% by the Government.

SPPAM estimates that there are approximately 1900 artisanal fishermen - 1300 in the southern coastal and riverain areas of Mauritania and 600 operating along the northern shores. These fishermen are organized into "pre-cooperatives" and cooperatives and their catch is primarily for local consumption, although some artisanal production moves through Nouadhibou freezing facilities and is exported. SPPAM officials provide the following estimates of the local market - currently confined primarily to Nouakchott and the Senegal River basin:

◦ Total Potential Domestic Demand	15,000 T
◦ Total Accessible Domestic Demand	12,000 T
◦ Currently Provided by SPPAM	2,000 T
◦ Total Estimated Potential Artisanal Production	40,000 T

SPPAM's long range operational objectives are reflected in the company's organization chart, Exhibit V-8. The company will develop central fish processing and cold storage facilities at Nouakchott linked to an internal network of distribution and cold storage plants. SPPAM will carry out central marketing and sales of fish products, and procure, sell and service equipment and supplies if required by the cooperatives. The company will also be responsible on a national basis for repair and maintenance of trucks, vehicles, and freezing-cold storage facilities.

SPPAM is actively studying means for improving "pirogue" type fishing utilizing traditional wooden boats which have limited range and storage. Fiberglass pirogues of Japanese manufacture have been successfully introduced, and consideration is being given to local construction under license of such craft. This project is currently receiving UN donor assistance.

The major project now under development by SPPAM is the construction of a national refrigerated storage network. This \$8.3 million project, scheduled for a June 1986 start, is being financed under terms of a Danish loan which provides for a 25 year repayment, 7 years grace period on a no-interest loan basis.

For a detailed discussion of the long range investment strategy and priority development projects consult the April 1984 study, "Artisanal Fishing Development To Cover The Needs Of The Population For Fish Products," available from SPPAM.

An important organization in the development of Mauritania's industrial and artisanal fisheries industry is the active trade association based at Nouadhibou, the Federation of Fisheries and Fish Processing Industries (Federation des Industries et d'Armements de Peche - FIAP). FIAP is a permanent organization of private sector ship owners, fishing companies, supply and ship stores operators and artisanal fishing groups, and has permanent offices and a full-time Secretary General. Leading private sector businessmen participate actively in the Federation's activities, and are a major force in representing industry points of view in continuing policy dialogue with the Government. The views of the Federation are clearly articulated and are based on the view that private sector and Government policies and actions must be harmonized and coordinated to secure the objectives sought for orderly development of Mauritania's fishing industry. Federation spokesmen state that the Government considers the Federation as the private sector spokesman for the industry, and that major improvements have been made in achieving "policy stabilization" via continuing industry-Government dialogue. The Federation believes that national fisheries policies are "...now moving in the right direction."

5. Constraints And Opportunities For The Expansion Of The Private Sector Fishing Industry

There is a general agreement among all participants in Mauritania's fishing industry - Government, private sector operators, industrial and artisanal spokesmen, and domestic and multilateral lending institutions contacted during this survey - as to the problems and constraints facing the profitable development of Mauritania's private sector fishing industry.

Briefly stated it is that private sector initiative, in making the large investments required in ships must be accompanied by major efforts and investments on the part of all concerned in development of human resources and supporting infrastructure.

- a) Human resource training and development is essential in the long range expansion of the industry. Efforts to develop sailors, technicians and managers for the industry have been almost totally unsuccessful. Foreign operators are perceived to have actively discouraged such training. Mauritanian nationals are placed on employment rosters to satisfy legal requirements, but are often paid to stay ashore. Measures so far taken to train nationals "...have been timid."

The long standing problem of integrating nationals into the industry is not viewed from a nationalistic point of view by industry spokesmen. Foreign seamen and officers are costly to recruit, are highly paid in foreign exchange, present difficult communication problems and are reluctant to pass on their knowhow.

A small, non-specialized and poorly equipped school for sailors exists in Nouadhibou, but it has no capabilities for technical training. A regional maritime training facility is under construction in Nouadhibou and will provide live-in, long-term training on a multi-country basis.

This regional center, however, will provide a university-level program of studies for higher level professional and management level positions in the industry. Efforts are underway to further develop an existing maritime technical training institute and land is being sought. FIAD officials state that Portugal has been the only country which has offered to train Mauritians in the fisheries disciplines.

Donors have a major and specific opportunity for assisting in the training of technicians for the Mauritanian fishing industry. An example of such an opportunity is described in the Recommendations section which follows.

- b) The lack of repair and supply facilities at the port of Nouadhibou is a major constraint to profitable development of the industry. Nouadhibou serves a fleet of highly diversified and old ships which have major needs for repair, spare parts and supplies. The port, however, has only minimum repair facilities, irregular and costly supplies of spare parts, equipment and fuel, poor communications and freight services and inefficient port operations. While a number of the priority needs can

only be met by making substantial investments - up to \$30 million has been proposed for a major repair facility - appropriate incentives and credit to the private sector could go far in encouraging the development of small and medium sized enterprises in ship chandlery, radio, marine and refrigeration equipment and repair, and related industry services. The extent of the possible market for repair and supply services can be measured by the estimated \$US 16 million authorized by the Central Bank for transfers abroad, principally for repair services delivered in Las Palmas and Dakar. One businessman estimated that these remittances were equal to 70% of the industry's private sector earnings. The loss of fishing time required to effect these repairs abroad - normally up to 15 days - is also an important economic factor.

- c) There is a lack of real value-added fish processing operations at Nouadhibou. The major investments of the 80's were made in freezing facilities which add little real value since most large operators find it easier and cheaper to freeze and onload at sea. The current facilities at Nouadhibou, therefore, represent a warehousing capability to hold raw fish products prior to export - currently operating at 50% of capacity. Possibilities exist for development of value-added fish processing to produce fish flour, smoked/dried fish and fish fillets.
- d) The port of Nouadhibou is situated in a remote and isolated location. Land access to Nouadhibou in a commercial sense is virtually impossible. The city - which is Mauritania's only natural port - is essentially a fishing and mining industry enclave which can be directly accessed only from the sea. The isolation of Nouadhibou has resulted in a lack of qualified specialists and training facilities, difficulty in obtaining spare parts, lack of communication facilities and navigational aids, irregular and expensive supplies and fuel, and very limited community and recreational amenities. The climate and the accompanying dust and sand intrusions add to normal operational difficulties. While there is little that can be done to change this situation on a short to medium-term basis, the donor community should be aware of the formidable environmental problems facing major modernization efforts at Nouadhibou.

6. Recommendations For Private Sector Initiatives By The Mauritanian Donor Community

Agriculture and fisheries remain the two most important segments which should continue to receive major donor attention. Assistance to these segments will continue to address the critically important targets of food self-sufficiency, private sector employment, export earnings, and self-sustained growth.

It is strongly recommended that private sector initiatives of the donor community in the fisheries segment be developed with and lead by the two private sector entities which speak for both the industrial-export business community and the artisanal-domestic consumption sector. These organizations understand the problems facing fisheries development, have clear ideas of the long-term objectives they are seeking for the industry, and have already developed close working relationships and continuing policy dialogue with the Government:

- ° SPPAM - Societe pour la Promotion de la Peche Artisanale en Mauritanie
- ° ETAP - Federation des Industriels et Artisans de la Peche

SPPAM is still a young organization and faces major organizational, financial and management problems in the years ahead. It has reasonably clear ideas of its objectives and program priorities and has an organization plan which addresses these needs. It will need support in a number of areas:

- a) Financing. The member cooperatives of SPPAM will require financing for boats, nets and supplies. Discussions between the FND and SPPAM to develop a cooperative financing program appear to have stalled on the issue of FND's insistence that SPPAM provide guarantees for the borrowers which SPPAM is reluctant to do. A donor-sponsored guarantee program could be one answer to the problem.

SPPAM will also require continuing donor assistance as it builds its national network of freezer, storage and refrigerated transport services. The advantageous financing terms under which it is currently building its freezer capability can serve as a model.

The SPPAM proposal to build in Mauritania the fiberglass "piroque", already in successful service, and to experiment with different configurations of such boats which will permit extension of their range and time at sea, should be supported. UNDP has already made a start and believes that an estimated demand of 800 of the new boats could support a private sector initiative.

- b) Technical Assistance. SPPAM will require a broad range of technical assistance as it develops and expands the artisanal fleet, increases its national processing, freezer and distribution network, provides for repair and maintenance services, and establishes central capabilities for sourcing, procurement and supply of equipment, spare parts, and supplies.
- c) Training. Both SPPAM and its member cooperatives will require technical and business training to establish and maintain the large and complex nation-wide operations envisaged in the company's long range strategic plans.

The private industrial fishing sector is the nation's number one priority in the development of a major export industry. Its needs are well known and the forthcoming report of the Crown Agents' consulting team will provide an objective plan of action for the industry. The donor community has a number of opportunities for assisting further development of the private sector fisheries sector.

- a) Ship Financing. Private sector fleet modernization is a major priority. The FND and private sector investors have agreed a vessel configuration which they believe is well suited both to national policy objectives for the industry and off-shore operating conditions: a 35 meter stern trawler with an 1100 h.p. engine, 400 cubic meters of fish storage and a 20 ton per day freezer capacity. Twenty-three responses to an international request for proposal for ten such vessels have been received by the FND which is coordinating the procurement and financing on behalf of private sector owners. Short list final tenders are due June 1,

1986. Shipbuilders are offering medium to long term credits with interest rates in the range of 6% to 9%. Bank guarantees covering 75% to 85% of the loans will be required. Attempts are now being made to form a bank consortium of Government and private sector banks. A donor supported guaranteed program could be envisaged.

- b) Port Facilities Financing. The Nouadhibou port facilities are extremely limited and can in no way respond to the ambitious objectives of national fisheries expansion. Needs range from additional dock space to major repair and overhaul facilities including haulage and dry-dock facilities. A number of reports detailing several possible options for development of the port exist. Donor support in realization of the chosen option is important.
- c) Technical Training. All private operators of both ships and on-shore facilities believe that the issue of manpower development has not been seriously addressed. The survey team suggests that an important step in meeting these needs can be taken utilizing the outstanding facilities of SNIM's technical training institute outside Nouadhibou. As explained elsewhere in this report, SNIM is under pressure to close this well equipped and staffed but under-utilized facility since the iron ore industry has little further need for the center. It is strongly recommended that donor initiatives be taken working through FIAP and SNIM to establish a live-in two to three year apprentice program and short term technicians training courses designed to meet the fishing industry's needs. The existing center is a major national asset and could very easily become the focal point for technical and management training at all levels of the fishing industry. The technical training needs of SPPAM could also be satisfied by such a facility.

EXHIBIT V-1

MAURITANIAN FISH PRODUCT EXPORTS

FISH EXPORTS BY TYPE 1982-1984

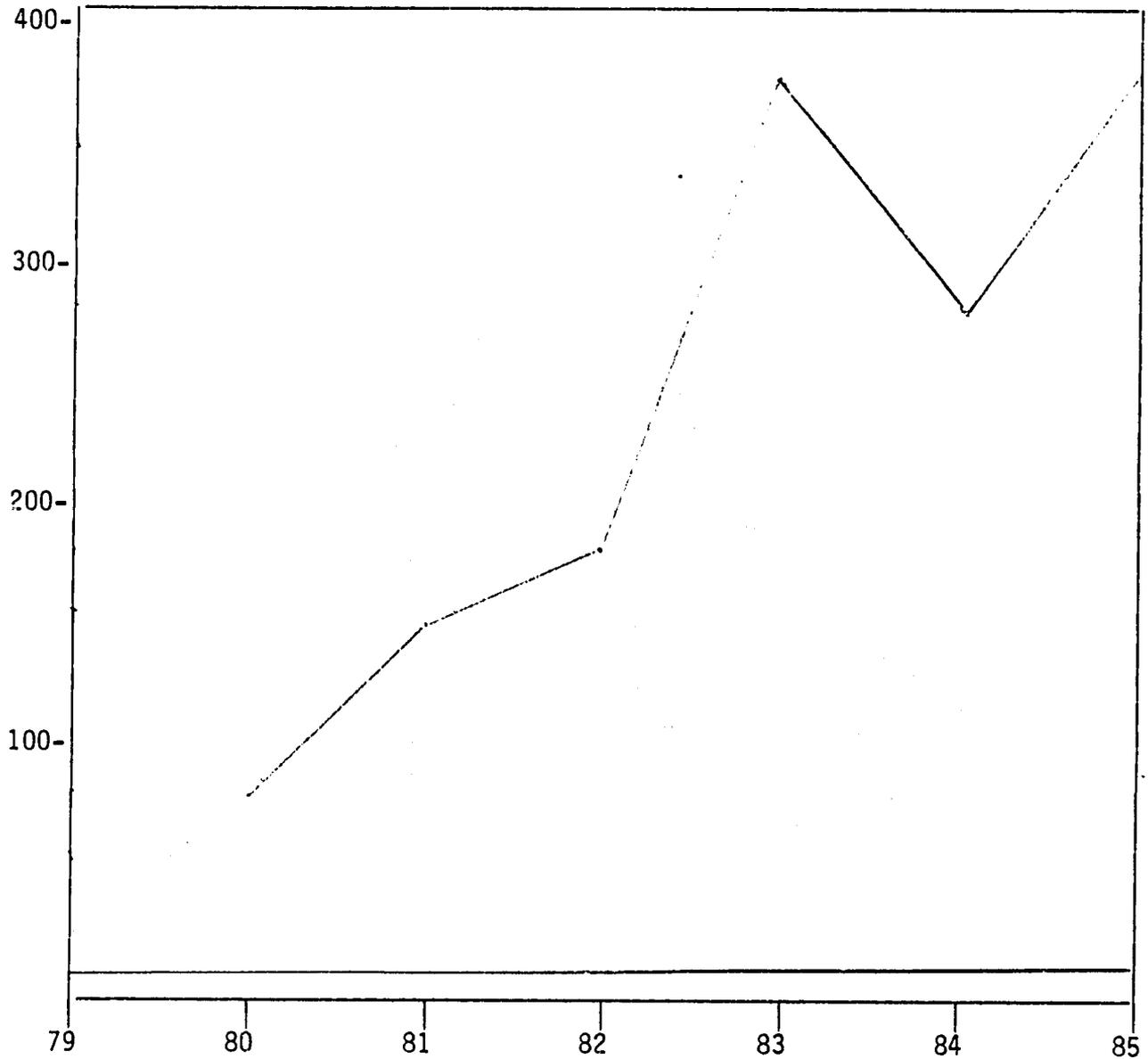
TYPE	YEAR			
	1982	1983	1984	1985
FISH-ALL TYPES	136.1	330.6	256.4	332.5
CRUST/MOLL/SHELL	2.7	1.9	2.1	.0
FISH MEAL	13.8	38.3	24.7	35.8
FISH OIL	1.0	2.4	1.9	2.5
DRIED/SALT FISH	.3	.5	.2	.4
CANNED			.6	.07
TOTALS	153.9	373.7	285.9	372.

FISH EXPORTS BY TYPE 1985

FISH TYPE	QUANTITY (000 KG)	FOB VALUE (MILLION UM)	FISHING FEES/TAXES (MILLION UM)
CEPHALOPOD	37,047	6,637	748
DEMERSEAUX	43,455	2,560	287
PELAGIC	251,907	6,442	670
SHELLFISH	942	513	14
SALT DRIED	378	30	1
FISH MEAL	35,754	1,072	72
FISH OIL	2,487	93	14
CANNED	7	0.5	0.04
CONFISCATIONS AND PENALTIES			18.
TOTALS	371,977	17,347	1,824

SOURCE: FEDERATION DES INDUSTRIES ET D'ARMEMENTS DE PECHE, NOUADHIBOU

EXHIBIT V-2
FISH EXPORTS 1979-1985



79	80	81	82	83	84	85
14,604	77,484	143,338	179,873	373,700	285,900	372,000

SOURCE: FEDERATION DES INDUSTRIES ET D'ARMEMENTS DE PECHE
SOCIETE POUR LA PROMOTION DE LA PECHE ARTISANALE EN MAURITANIE

EXHIBIT V-3

INCREASE IN UNIT EXPORT VALUE OF FISH 1984-1986

CATEGORY	TONS EXPORT	DECLARED VALUE (UM)	UNIT VALUE (UM)	% INCREASE 85/84
<u>CEPHALOPOD</u>				
1984	28,395	3,146,666,443	110,817	
1985	37,047	6,637,056,180	179,155	62%
<u>PELAGIC</u>				
1984	189,938	4,097,102,430	21,570	
1985	251,906	6,442,411,469	25,574	18%
<u>FISH MEAL</u>				
1984	24,676	633,803,080	25,684	
1985	35,754	1,071,789,047	29,976	17%

EXHIBIT V-4

FISH EXPORTS - TONNAGE, VALUE AND TAX REVENUE

YEAR	TONS	VALUE FOR NDB	EXPORT TAX AND FEE
1984	285,942	10,599,811,321	1,090,177,270
1985	371,977	17,387,686,543	1,853,999,972
% INCREASE 1985/1984	30%	64%	70%

SOURCE: FEDERATION DES INDUSTRIES ET D'ARMEMENTS DE PECHE

EXHIBIT V-5

FISH EXPORTS BY IMPORTER OF RECORD 1984

(000 T)

COUNTRY	TOTAL	% TOTAL
COTE D'IVOIRE	54.9	19.2
LIBERIA	1.4	.4
CONGO	.3	.1
GABON	.02	---
ZAIRE	.1	---
SIERRA LEONE	.6	.2
JAPAN	18.7	6.5
FRANCE	.7	.2
ITALY	5.3	1.8
GREECE	1.0	.4
SWITZERLAND	.4	.1
PORTUGAL	2.3	.8
CUBA	3.2	1.1
SWEDEN	9.0	3.1
USSR	104.2	36.5
RUMANIA	21.1	7.3
SPAIN	26.3	9.2
IRAQ	24.4	8.5
EGYPT	1.8	.6
ALGERIA	5.2	1.8
LYBIA	.4	.1
NIGERIA	4.6	1.6
TOTAL	285.9	99.5%

SOURCE: FEDERAL DES INDUSTRIES ET D'ARMEMENTS DE PECHE (FIAP)
NOUADHIBOU, MAURITANIA

EXHIBIT V-6

MAURITANIAN FISHING FLEET

MAURITANIAN OWNED FISHING SHIPS OFFICIALLY REGISTERED

1. NUMBER AS OF JANUARY 15, 1984	80
2. LOSSES	(4)
3. ADDED: JANUARY 15, 1984-MARCH 8, 1986	
◦ Up to 20 Meters 7	
◦ 20-40 Meters 7	
◦ 40-60 Meters 16	
◦ Over 60 Meters 1	
◦ Unknown <u>8</u>	39
4. TOTAL AS OF MARCH 8, 1986	115

FOREIGN OWNED SHIPS REGISTERED FOR OPERATIONS
IN MAURITANIAN WATERS

CHARTERED TO OPERATING COMPANIES	38
LICENSED TO OPERATE FOR OWN ACCOUNT	72
TOTAL	110

SOURCE: FEDERAL DES INDUSTRIES ET D'ARMEMENTS DE PECHE
NOUADHIBOU, MAURITANIE

EXHIBIT V-7

FISH FREEZING AND COLD STORAGE FACILITIES - NOUADHIBOU

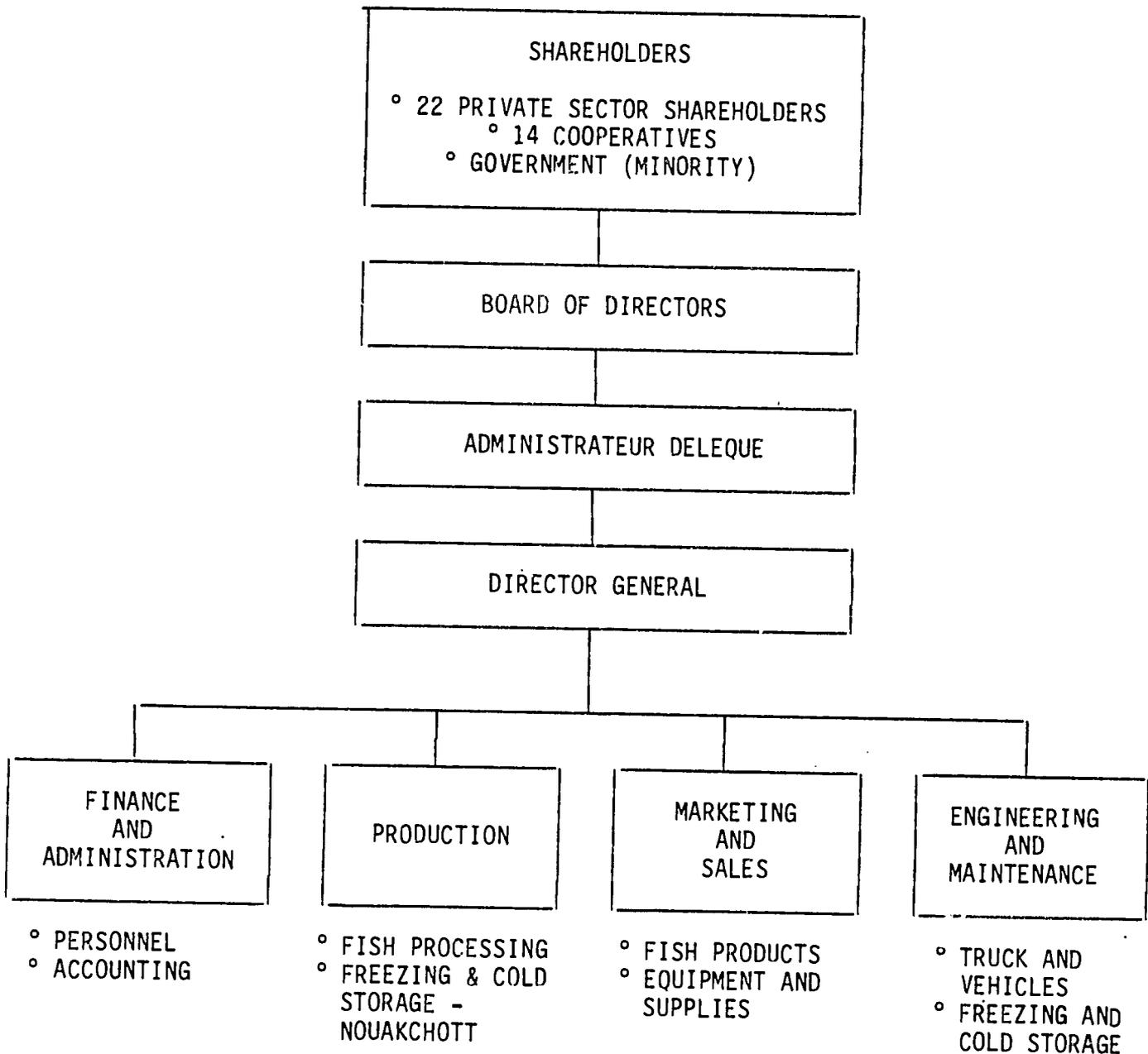
COMPANY	FREEZING CAPACITY (TONS/DAY)	COLD STORAGE CAPACITY (TONS)
SOFRIMA	30	2,000
SIPECO	50	2,000
SMEF	--	3,000
SIMAR	60	1,800
MSP	45	1,500
SALIMAUREN	50	4,000
COMACOP	50	4,000
MAUSOV-SEV	--	3,000
ALMAP	NA	NA
SAMIP	NA	NA
TOTALS	285 Tpd* 104,000 Tpd at 365 days	21,300 T

* INSTALLED FREEZING CAPACITY EXTIMATED TO EQUAL 28% OF FISH EXPORTS

SOURCE: FEDERATION DES INDUSTRIES ET D'ARMEMENT DE PECHE, NOUADHIBOU

EXHIBIT V-8

ORGANIZATION STRUCTURE - SOCIETE POUR LA
PROMOTION DE LA PECHE ARTISANALE EN
MAURITANIE - SPPAM



SOURCE: SPPAM