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1. Project/Subproject Number: 938-0702

2. Contract/Grant Number: OTR-0000-C-00-7232-00

3. Publication Date:

4. Document Title/Translated Title: FOOD NEEDS ASSESSMENT : MAURITANIA

5. Author(s)
1.
2.
3.

6. Contributing Organization(s)

7. Pagination: 28p.

8. Report Number:

9. Sponsoring A.I.D. Office:

10. Abstract (optional - 250 word limit)

11. Subject Keywords (optional)
1.
2.
3.
4.
5.
6.

12. Supplementary Notes

13. Submitting Official: DINA TOWBIN

14. Telephone Number: 703-237-9303

15. Today's Date: 6/16/90.

DO NOT write below this line

16. DOCID

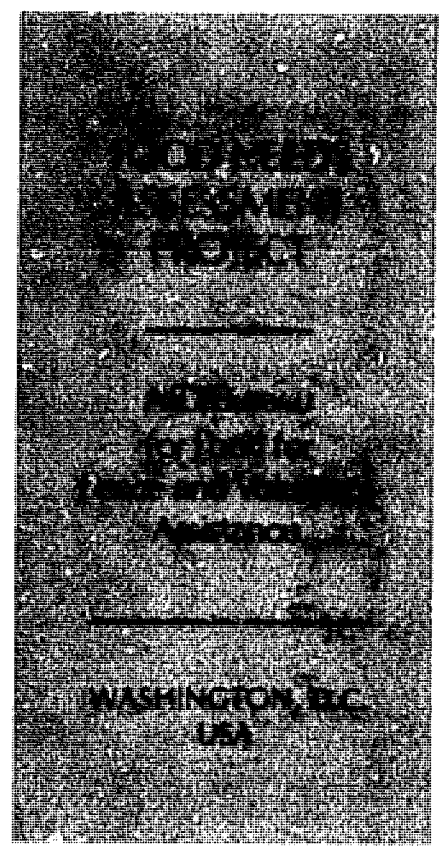
17. Document Disposition: DOCRD [ ] INV [ ] DUPLICATE [ ]

AID 590-7 (10/88)

PN-ABF-664
67259

FOOD NEEDS ASSESSMENT: MAURITANIA

October 1989



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MAURITANIA: FOOD NEEDS ASSESSMENT (1989/90)

October 17, 1989

Melanee Lowdermilk

MAURITANIA

FOOD NEEDS ASSESSMENT: 1989/90

I. SUMMARY:

A food needs assessment was conducted in Mauritania September 14 - 28, 1989 covering six commodities: wheat, rice, sorghum, millet, maize, and niebe. The assessment for 1989/90 shows deficits for wheat, rice, and millet. Surpluses, albeit small, were apparent for sorghum, maize, and niebe. The magnitude and commodity composition of deficits/surpluses were estimated prior to food aid; when 1989/90 food aid commitments are included the deficit for wheat is reduced to 47,138 MT (unmilled), while the rice deficit is almost completely covered. For 1989/90, per capita cereal consumption/availability was estimated at 178 kilos (unmilled)/person/year. The total consumption requirement used in the assessment is based on average per capita availability over the past five years, adjusted for current population. It should be noted that 1989/90 production estimates are preliminary and should be updated as data becomes available in October/November. Tables 1 and 2 present the 1989/90 national level food balance situation by commodity. Food aid commitments for 1989/90 are shown in Table 3.

The base case presented in this assessment uses average per capita availability over the past five years to estimate the national cereal consumption requirement. An alternative method used by the Government of Mauritania and various donors is based upon a food consumption survey conducted in 1980: consumption is estimated at 165 kilos/person/year. For comparative purposes, the current year balance is calculated using the per capita consumption figure of 165 kilos. Please see Section IV.1 below for a discussion of the assessment results when using different per capita consumption estimates.

II. METHODOLOGY

1) Base Period of Analysis:

Five years of national level data on the food supply and utilization situation was collected to provide a base period reference and to generate trends. The period of analysis for the assessment includes the years 1984/85 to 1988/89. The 'consumption year', identified as November 1st through October 31st, covers the principal harvests of rainfed, flood recession, and irrigated crops.

MAURITANIA:

TABLE 1:

FOOD NEEDS ASSESSMENT: 1989/90

	WHEAT	RICE	SORGHUM	MILLET	MAIZE	NIEBE
FOOD DEFICIT	72138	8843	-4894	3234	-365	-1835
- FOOD AID COMMITMENTS:	25000	8333	3000	0	0	0
UNCOVERED FOOD DEFICIT:	47138	510	-7894	3234	-365	-1835
X MILLING EXTRACTION RATE	0.72	0.60	0.85	0.85	0.82	0.95
UNCOVERED FOOD DEFICIT: MILLED	33939	306	-6710	2749	-299	-1743

*: A NEGATIVE (-) FOOD DEFICIT IS A SURPLUS

NOTES:

A) ALL QUANTITIES IN METRIC TONS

B) ALL QUANTITIES IN UNMILLED TERMS UNLESS NOTED

C) BASE PERIOD: 1984/85 - 1988/89

YEAR: NOV/OCT

D) PER CAPITA CONSUMPTION: AVERAGE PER CAPITA AVAILABILITY OVER THE BASE PERIOD

E) NON-FOOD USES:

	RICE	WHEAT	SORGHUM	MILLET	MAIZE	NIEBE
SEED	0.03	0.00	0.02	0.02	0.02	0.03
FEED	0.00	0.00	0.07	0.00	0.00	0.00
WASTE/LOSSES	0.20	0.00	0.15	0.15	0.15	0.10
MILLING EXTRACTION RATE:	0.60	0.72	0 85	0.85	0.82	0.95

F) POPULATION BASED ON 1988 CENSUS WITH 2.8% GROWTH RATE PER YEAR, (CEDES).

G) WHEAT FOOD AID DOES NOT INCLUDE 7,350 MT (WFP) DESIGNATED FOR THE REINSERTION PROGRAM.

MAURITANIA

TABLE 2:

FOOD NEEDS ASSESSMENT: 1989/90

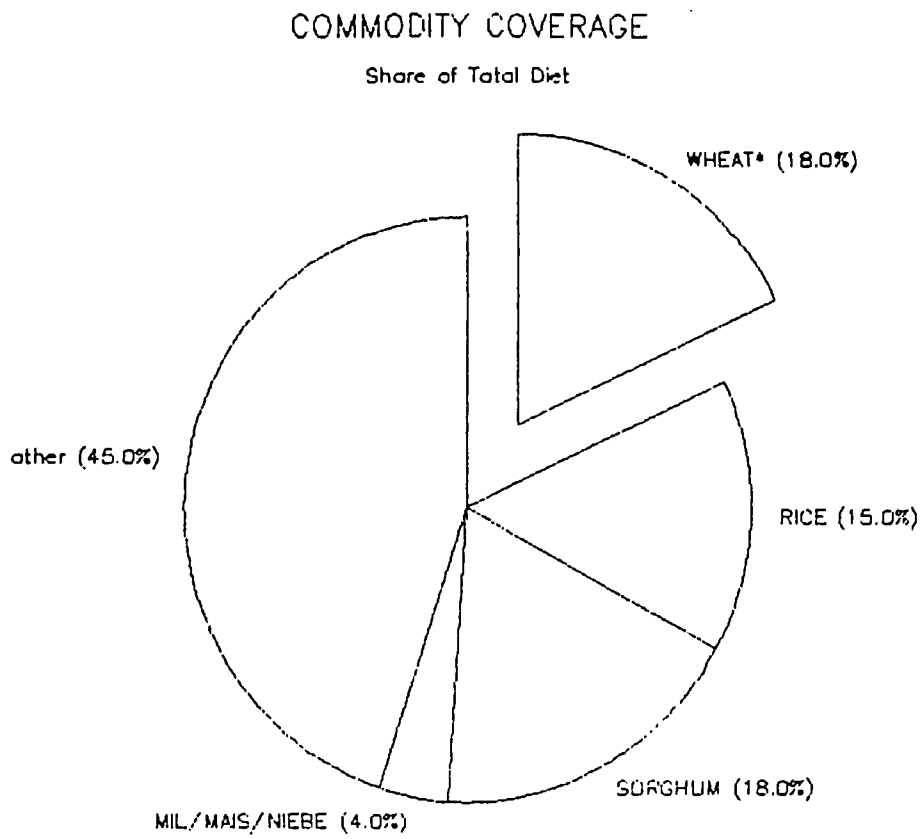
	WHEAT	RICE	SORGHUM	MILLET	MAIZE	NIEBE
PER CAPITA CONSUMPTION (UNMILLED KG/YEAR)	65.5	69.3	35.0	4.7	3.1	3.3
X POPULATION (THOUSANDS)	1879	1879	1879	1879	1879	1879
= TOTAL CONSUMPTION REQUIREMENT	123082	130226	65803	8771	5836	6152
GROSS DOMESTIC FOOD PRODUCTION	0	43300	108260	6670	7470	9180
- TOTAL NON-FOOD USE	0	9959	25982	1134	1270	1193
= NET DOMESTIC FOOD PRODUCTION	0	33341	82278	5536	6200	7987
NET DOMESTIC FOOD PRODUCTION (FROM ABOVE)	0	33341	82278	5536	6200	7987
- NET CHANGE IN STOCKS	-4555	-818	11580	0	0	0
- TOTAL FOOD EXPORTS	0	0	0	0	0	0
= DOMESTIC FOOD SUPPLY	4555	34159	70698	5536	6200	7987
TOTAL CONSUMPTION REQUIREMENT (FROM ABOVE)	123082	130226	65803	8771	5836	6152
- DOMESTIC FOOD SUPPLY (FROM ABOVE)	4555	34159	70698	5536	6200	7987
= IMPORT REQUIREMENT	118527	96066	-4894	3234	-365	-1835
- TOTAL COMMERCIAL FOOD IMPORTS	46389	87223	0	0	0	0
= FOOD DEFICIT (UNMILLED)	72138	8843	-4894	3234	-365	-1835
X MILLING EXTRACTION RATE	0.72	0.60	0.85	0.85	0.82	0.95
= FOOD DEFICIT MILLED	51939	5306	-4160	2749	-299	-1743

NOTES:

ALL QUANTITIES IN METRIC TONS UNLESS NOTED

A NEGATIVE (-) FOOD DEFICIT IS A SURPLUS

FIGURE 1:


COMMODITY COVERAGE
Share of Total Diet
WHEAT* (18.0%)
RICE (15.0%)
SORGHUM (18.0%)
MIL/MAIS/NIEBE (4.0%)
other (45.0%)

2) Commodity Coverage:

Wheat, rice, sorghum, millet, and maize represent the primary cereals in the Mauritanian diet. In contrast to previous assessments, this analysis disaggregates coarse grains by commodity: deficits/surpluses where separately estimated for sorghum, millet, and maize. Officials at the Minstere du Developpement Rural note that significant production/consumption levels of fonio exist in certain regions of Mauritania, particularly the Guidimaka. However, due to data limitations this aliment sauvage was not included in the analysis. Unlike past food needs assessments, the commodity coverage has been extended to include niebe, (haricot local). In caloric terms, cereals and niebe account for approximately 55% of the Mauritanian diet.(1) Figure 1 presents the percentage contribution to daily caloric intake by commodity: wheat (18%), rice (15%), sorghum (18%), millet (2%), maize, (1%), and niebe (1%).

3) Adjustments for Feed, Seed, and Losses:

The MDR:SSA (Ministere du Developpement Rural: Service des Statistiques Agricole) uses a comprehensive 'loss' estimate of 40% for rice and 15% for all other cereals. Apparently, seed and feed requirements are not subtracted from gross production; in addition, there appears to be some confusion over non-food uses for rice (losses attributed to milling versus losses due to pests, transport, storage, etc.) For the purposes of this assessment, adjustments were made to gross production to account for post-harvest losses, seed requirements, and animal feed. In addition, a milling extraction rate was applied to all commodities: deficits/surpluses are thus presented in both milled and unmilled terms. Table 4 presents technical coefficients by commodity.

4) Population:

The population estimates used in this assessment are based upon the 1988 Census with an annual growth rate of 2.8%. These figures are lower than those used by the FAO and members of the donor community to estimate cereal consumption requirements. For comparative purposes, the deficit/surplus situation by commodity is presented in Annex 1 using the higher population estimate based on the previous census (1977), factoring in a 2.8% growth rate. Given a larger consumption requirement, the size of the deficits increase for rice, wheat, and millet; conversely, surpluses are reduced.

There are two issues of concern regarding current population estimates in Mauritania: (i) the likelihood of significant bias in the 1988 census due to non-inclusion of the Southern agrarian

population and over-estimation of nomadic peoples, and (ii) the uncertainty on the actual number of people forced to leave Mauritania versus returnees from Senegal. In estimating the 1989/90 food balance, no adjustment was made to account for the Mauritania/Senegal exchange of populations since estimates are uncertain at this time. A census of the repatriate populations in both Mauritania and Senegal is currently underway, however, and results should be available in the near future.

5) Data Sources:

Data on the food and agricultural situation was collected from a number of organizations in Mauritania. Principal data sources for the 1989/90 assessment include: MDR/SSA (Ministere du Developpement Rural/Service des Statistiques Agricoles), CSA, (Commissariat a la Securite Alimentaire), SONIMEX, WFP, and the Banque Centrale de Mauritanie. On September 26, 1989 the MDR/SSA released preliminary estimates for this year's harvest. These preliminary figures indicate a substantial increase in production for all crops, thus surpassing the 1988 record harvest. Discussions with government officials and various donors, however, suggest a less optimistic scenario this year: total production leveling off for all crops except irrigated rice which should experience some drop in total area cultivated. Keeping in mind that an FAO Crop Assessment mission will release revised production estimates later in October, this analysis assumes a fall in irrigated rice production with other food crops stabilizing at last year's level. (Annex 2 presents the 1989/90 food balance situation using the higher MDR/SSA production estimates).

Please see Annex 3 for a complete list of data sources, individuals contacted, and FNA training sessions.

III. FOOD AND AGRICULTURAL SITUATION: GENERAL

1) Crop Production and Prospects:

Agricultural production in Mauritania is concentrated in the Southern one third of the country along the Senegal River. Of the arable land, over 90% is cultivated in traditional rainfed and flood recessional crops: sorghum, millet, maize, and niebe. Irrigated rice, sorghum, and maize together accounts for only 6% of hectares planted in 1988. (Table 5 shows 1988 production by type of cultivation: rainfed, recessional, and irrigated).

Production of cereal crops has improved steadily since the drought years of the early 1980's, from a low of 20,000 MT in 1984/85 to a high of 173,349 MT in 1988/89. Immediately following the drought, net cereal production covered only 7% of the national

consumption requirement. Improved rainfall conditions in subsequent years and development of irrigation systems along the Senegal river, however, brought about a strong recovery in cereal production with 1988/89 noting a record harvest. Although the agricultural situation has been characterized by adequate rainfall, losses arising from pest infestation (locusts, grasshoppers, birds, and rats) have posed a significant threat to food crop production in recent years.

Official estimates of the aggregate 1989/90 harvest are preliminary; the GIRM maintains that given adequate rainfall, cereal production will increase by 15% over last year's harvest. Indeed, preliminary estimates released by the Ministere du Developpement Rural indicate a 19% increase. Increases in production, however, will be tempered by: (i) the April/May expulsions of farmers in the regions bordering the river, and subsequent resettlement of abandoned villages with 'urbanite' returnees from Senegal, and (ii) possible crop losses due to localized infestations of grasshoppers.

2) Structural Food Deficit:

Even in periods of adequate rainfall and relatively high crop production, Mauritania experiences a substantial food deficit. Over the past 5 years, net cereal production on average covered only 30% of the national cereal consumption requirement. Commercial and food aid imports of cereals to meet domestic demand have become an integral part of the food availability picture. In addition, rapid rates of urbanization and the influx of food aid in recent years have resulted in a shift in food consumption patterns away from traditional coarse grains towards wheat and rice. Table 6 shows net production as a percentage of the national cereal consumption requirement for the period 1984/85 - 1989/90.

III. SITUATION BY CROP:

1) Wheat:

Per Capita Availability/Consumption: Although some wheat is produced domestically in Mauritania, no data is available on actual quantities. For the purposes of this assessment wheat production is assumed to be negligible. Over the base period, per capita availability of wheat has averaged 65.5 kilos (unmilled)/person/year. In the Mauritanian diet cous-cous forms the staple of the evening meal, and is usually served with a sauce of meat and vegetables. Increasingly, cous-cous made from wheat has replaced traditional cous-cous prepared from sorghum, particularly in urban areas. Demand for wheat has largely been

met through commercial imports and food aid: over the past five years total wheat imports averaged 114,308 MT, (unmilled). Wheat imports have been of two kinds (i) food aid imports of wheat (grain) used primarily to make cous-cous, and (ii) wheat flour imported by the private sector used to make bread and pate.

Food Balance: Assuming a level of wheat flour imports equal to that of last year and a drawdown of CSA (Commissariat a la Securite Alimentaire) stocks of 50%, the wheat balance situation is one of deficit in 1989/90. If average consumption levels over the past five years are to be maintained, the total wheat deficit is substantial at 72,138 MT (unmilled). When food aid commitments for 1989/90 are taken into account the wheat deficit is reduced to 47,138 MT (unmilled). It should be noted that in estimating the above deficit wheat (grain) and wheat flour were combined into 'wheat equivalents'. A detailed breakdown of the deficit on a straight tonnage rather than wheat equivalent basis is presented in Table 7. The disaggregated wheat deficit situation after food aid for 1989/90 is thus: 27,421 MT (grain) and 14,196 MT (flour).

2) Rice:

Production: Since the drought, rice production has shown a dramatic increase, rising from 10,960 MT (1984/85) to 50,949 MT (1988/89). The development of irrigated perimeters in the Trarza, Brakna, Gorgol, and Guidimaka regions has resulted in a nearly fivefold increase in rice production over the base period. Since 1986/87 yields for irrigated rice have averaged 4.5 MT/hectare. Area cultivated over the same period increased from 6,600 hectares in 1986/87 to 12,230 hectares in 1988/89.

The outlook for this year's rice harvest is uncertain due to the expulsions of April/May 1989 and ensuing unrest along the Senegal river. The loss of skilled labor and the re-population of abandoned villages with Mauritanians from Senegal -- primarily urbanites with little experience, expertise, or volonte in farming -- has resulted in downward estimates of irrigated production by as much as 50%. Preparation and planting of irrigated crops has been late this year; in addition, reductions in area planted by SONADAR (Societe Nationale du Developpement Rural) in the Gorgol could result in a substantial fall in production.(3). In certain regions there may also be a shift in the composition of crops from irrigated rice to sorghum/millet/maize as farmers attempt to minimize overall production shortfalls. To date, estimates on the reduction of 1989/90 irrigated crop production vary markedly. For the purposes of this assessment a 15% reduction in irrigated rice production over last year's harvest is used to estimate the current year balance. This figure should be revised as more reliable data becomes available.

Food Balance: Over the past five years per capita availability of rice has averaged 69.3 kilos (unmilled)/ person/year. In recent years, availability has been augmented due to substantial increases in commercial imports and higher domestic production. Rice food aid levels, however, have shown a decline since the early 1980's. Over the past 5 years commercial rice imports have averaged 45,000 MT (milled) compared to food aid imports of 9,000 MT (milled). Given commercial imports of approximately 52,000 MT (milled) and a drawdown of CSA stocks by 50% the food balance situation for rice in 1989/90 is one of deficit. Food aid commitments of 5,000 MT (milled) of rice, however, will nearly cover the shortfall.

3) Sorghum:

Production: Given adequate rainfall, sorghum production has shown a marked increase in the past five years reaching a high of 108,262 MT in 1988/89. Approximately 75% of arable land was allocated to sorghum cultivation last year; traditional rainfed cultivation, dieri, accounted for nearly half of total production, followed by bas-fond and walo. Irrigated cultivation, although small in terms of hectares planted and total production, averages yields more than two times those of traditional techniques: irrigated (1.8 MT/hectare) versus traditional (.82 MT/hectare).

Rainfall has been well above average levels this year, and heavy rains in certain regions have required successive planting of rainfed crops. Preliminary estimates issued by MDR suggest that dieri production of sorghum will be close to that of last year's harvest. Flood recessional cultivation of sorghum, in contrast, has been revised upwards by MDR surpassing last year's production figures by 9,400 MT. Recessional or walo cultivation is dependent on the level of the Senegal river and subsequent inundation of lands along the river. River levels are high, but the extent of the flood is not known at this time; the uncertainty is due in part to the Manantali Dam becoming operational and its impact on water control/regulation.(4) As for irrigated production, the outlook for walo crops this year is conditioned by the expulsions of farmers in the regions bordering the river. Pending the FAO crop assessment mission in October, this assessment assumes stable production levels for sorghum for 1989/90.

Food Balance: Of the coarse grains, sorghum dominates both consumption and production in Mauritania. Annual per capita availability over the past five years has averaged 35 kilos (unmilled) compared with 8 kilos per year for millet and maize combined. Sorghum traditionally has been used to make cous-cous and bouillie (a breakfast porridge). In certain regions -- the Trarza and the Brakna -- a thick dough made from sorghum flour

mixed with milk (el'aich or gateau) is used to replace cous-cous as the staple of the evening meal.(5) In Nouakchott, market prices for sorghum range from 25 UM/kilo for red sorghum (U.S. food aid) to 35 - 40 UM/kilo for locally grown Richne and Taghalit. Informal interviews with Mauritanians suggest that consumers prefer local over imported red sorghum for a number of reasons: (i) red sorghum is harder and more difficult to mill than local varieties, (ii) red sorghum requires longer cooking time and hence higher fuel costs to prepare than domestic sorghum, and (iii) taste and color preferences: consumers dislike the color of red sorghum which 'resembles dirt or sand' when prepared as cous-cous. Given per capita consumption of 35 kilos (unmilled/person per year, the food balance for 1989/90 shows a surplus for sorghum of 4,894 MT (unmilled).

4) Millet:

Millet has shown some variation in production over the base period, averaging 9,191 MT/year. Overall production is thus quite low relative to the principal cereal sorghum. Per capita availability is likewise low at 4.7 kilos (unmilled)/person/year. If average availability/consumption over the base period is to be maintained, the food balance situation for millet is one of deficit: 3,234 MT (unmilled).

5) Maize:

Production estimates for maize show some increase over the past five years, with the 1988/89 harvest reaching a high of 7,467 MT. Given per capita availability of 3.1 kilos (unmilled)/year a small surplus of 365 kilos (unmilled) is evident for 1989/90.

6) Niebe:

Since 1984/85 niebe has exhibited steady increases in production, stabilizing last year at approximately 9,200 MT. Niebe -- haricot local or cowpeas -- is eaten as a meat substitute in the Mauritanian diet, and is mixed with rice or cous-cous. Stable production and a per capita availability figure of 3.3 kilos (unmilled)/person/year in 1989/90 result in a niebe surplus of 1,835 MT.

IV. ISSUES RAISED:

1) Per Capita Consumption Requirement: Cereals

In the above analysis average per capita availability over the base period was used to estimate the national cereal consumption requirement. Per capita availability was measured in unmilled terms, (i.e. rice measured as paddy and all other cereals in unprocessed form).

Previous assessments in Mauritania have used a set per capita consumption figure of 165 kilos/year to estimate the cereal balance. Consumption was divided as follows: wheat, (40 kilos), wheat flour (20 kilos), rice (milled: 45 kilos), sorghum/millet/maize (60 kilos). The 165 kilo estimate of cereal consumption is based on a study of the food and nutrition situation conducted in 1980, (Rural Assessment and Manpower Surveys: USAID/Nouakchott). If one breaks down the 165 kilos by commodity and converts it into unmilled terms, cereal consumption is actually 203 kilos (unmilled)/person/day. Table 8 presents the food balance using this higher per capita consumption figure. Given a higher cereals consumption requirement, deficits increase for wheat, rice, and millet, while sorghum and maize show deficits prior to food aid.

The figure of 178 kilos used in the current assessment reflects average per capita availability over the base period, and is lower than what was previously used by donors and the Mauritanian government. The results of the food consumption component of the 1988 Living Standards Measurement Study for Mauritania (LSMS: World Bank) should be forthcoming in the near future. It is recommended that the 178 kilos cereal consumption figure be revised based on the findings of the LSMS survey.

2) Cereals Policy Reform:

In past years the Mauritanian government has played an active role in setting cereals prices, both producer and consumer, and in regulating cereals marketing. Government regulation of pricing and marketing has been primarily through the Commissariat a la Securite Alimentare (government agency handling food aid) and SONIMEX (public sector agency with a monopoly on commercial rice imports). Since 1987 the GIRM has been committed to the liberalization of the cereal sector, with the aim of encouraging participation of the private sector in cereals production, processing, and marketing. On June 15, 1988 the Council of Ministers reaffirmed its commitment to liberalization. A subsequent government decree (No. 93056) issued in March 1989 outlines the case for improved incentives for agricultural production and participation of the private sector in cereals production, collection, milling, and marketing.

Following the March 1989 decree, the coordination of food aid donors in support of cereal sector liberalization became manifest in the Programme d'Appui au Secteur Cerealier (PASC). As part of the PASC, a technical committee was established to oversee the programming of food aid and counterpart funds generated by local sales: Commission Technique Paritaire du Comite de Programmation Alimentaire. Patterned after the Cereals Market Restructuring Project in Mali, the PASC aims to coordinate donor activities in support of cereal policy reform. Members of the technical committee include representatives of the principal food aid donors, (WFP, USAID, EEC, the Federal Republic of Germany, and France). Two issues relevant to reform of the cereal sector are currently on the technical committee's agenda: (i) the restructuring of CSA, and (ii) the GIRM request to donors for 45,000 MT of cereals to serve as a security stock in 1989/90. Negotiations on these issues recommence in October when members of the donor community meet with Mauritanian authorities.

3) Need for Collection of Stock Data:

Information on stock build-ups or drawdowns is necessary to estimate the amount of food available for consumption in a given year. A scarcity of data on the net variation in cereal stocks -- closing minus opening stock levels -- exists in Mauritania. There is clearly a need for systematic collection of stock data. The variable of interest is the 'net variation in stocks' over the year rather than the actual levels at specific points in time. USAID/Mauritania currently monitors CSA food aid stock levels. Synthesizing this information to estimate the net change over the consumption year, November - October, would be useful for future assessments. In addition stock data should be collected for the following commodities:

i) Commercial Rice Imports: SONIMEX
ii) Wheat Flour: Private Sector

NOTES

(1) FAO, Food Supply Situation and Crop Prospects in Sub-Saharan Africa: Special Report, (FAO/GIEWS: Global Information and Early Warning System on Food and Agriculture, June 1989), FAO, Food Balance Sheet: Mauritania, (FAO: 1984), and RAMS, The Food and Nutritional Situation in Mauritania, Ministry of Economy and Finance, Directorate of Studies and Programming, (Nouakchott: 1980).

(2) Ministere du Developpement Rural: Service des Statistiques Agricoles, (Nouakchott: September 1989).

(3) Denise Daly, Mauritania: Preliminary Estimates for the 1989/90 Growing Season, FEWS: USAID/Mauritania, (Nouakchott: September 19, 1989).

(4) Ministere du Developpement Rural: Service des Statistiques Agricoles, (Nouakchott: September 1989).

(5) Discussion with Aicha Limam. USAID/Mauritania, September, 1989.

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MAURITANIA: FOOD AID IMPORTS/COMMITMENTS AVAILABLE FOR CONSUMPTION IN 1989/90

TABLE 3:

FOOD NEEDS ASSESSMENT: 1989/90

COMMODITY	METRIC TONS	ARRIVAL DATE IN PORT	DONOR		
WHEAT					
	15000	Sept-Oct 1989	USAID		
	4000	Nov-Dec 1989	SPAIN		
	7350	Nov-Dec 1989	WFP/Reinsert.		
	6000	Nov-Dec 1989	EEC		
				WHEAT TOTAL	32350 Metric Tons
RICE					
	5000	Nov-Dec 1989	ITALY		
				RICE TOTAL	5000 Metric Tons
SORGHUM					
	3000	?	WFP/VCT		
				SORGHUM TOTAL	3000 Metric Tons
MILLET					
				MILLET TOTAL	0 Metric Tons
MAIZE					
				MAIZE TOTAL	0 Metric Tons

DATA SOURCES: CSA, WFP AND USAID/MAURITANIA

NOTE: 15,000 MT wheat food aid (USAID), available for consumption as of November 1, 1989.

MAURITANIA:

TABLE 4:

FOOD NEEDS ASSESSMENT: 1989/90

TECHNICAL COEFFICIENTS:

COMMODITY	CALORIES/ UNMILLED KILO	MER	SEED USE	FEED USE	POST HARVEST LOSSES	INDUST PROCESS	% SHARE OF DIET
WHEAT	3320.00	0.72	0.00	0.00	0.00	0.00	0.18
RICE, (PADDY)	3530.00	0.60	0.03	0.00	* .20	0.00	0.15
SORGHUM	3450.00	0.85	0.02	0.07	0.15	0.00	0.18
MILLET	3410.00	0.85	0.02	0.00	0.15	0.00	0.02
MAIZE	3570.00	0.82	0.02	0.00	0.15	0.00	0.01
NIEBE	3420.00	0.95	0.03	0.00	0.10	0.00	0.01

*: Estimate

SOURCES:

Coefficients: Etude de la Filiere Cerealiere en Mauritanie, (Ministere du developpement rural: Cellule de Planification), Rapport provisoire, Septembre 1986.

Bilan Cerealier 1988/89, CPA (Comite de Programmation Alimentaire)

FAO, Food Balance Sheet: Mauritania, (FAO: 1984).

Percentage Share of Diet: FAO, Food Supply Situation and Crop Prospects in Sub-Saharan Africa: Special Report, (FAO/GIEWS: Global Information and Early Warning System on Food and Agriculture, June 1989), FAO, Food Balance Sheet: Mauritania, (FAO: 1984), and RAMS, The Food and Nutritional Situation in Mauritania, (Ministry of Economy and Finance, Directorate of Studies and Programming, (Nouakchott: 1980).

MAURITANIA:

TABLE 5:

FOOD NEEDS ASSESSMENT:

PRODUCTION BY TYPE OF CULTIVATION: 1988/89

	RICE	SORGHUM	MILLET	MAIZE	NIEBE
DIERI	--	48753	6671	508	1613
BAS FOND	--	33246	--	3242	1413
WALO	--	19581	--	2418	6150
DECRUE (SONADAR)	--	5242	--	--	--
IRRIGATED	50949	1440	--	1300	--
TOTAL	50949	108262	6671	7468	9176

DATA SOURCE: MINISTERE DU DEVELOPPEMENT RURAL: SERVICE DES STATISTIQUES AGRICOLES

MAURITANIA: FOOD NEEDS ASSESSMENT: 1989/90 TABLE 6:

Melanee Lowdermilk

NET CEREAL PRODUCTION AS A PERCENTAGE OF CONSUMPTION REQUIREMENT:

YEAR	NET CEREAL PRODUCTION	TOTAL CONSUMPTION REQUIREMENT	NET CEREAL PRODUCTION AS % OF CONSUMPTION REQUIREMENT
1984/85	15530	224269	0.07
1985/86	77885	326308	0.24
1986/87	112708	363300	0.31
1987/88	127960	256032	0.50
1988/89	133244	371084	0.36
1989/90 *:	127355	333717	0.38

*: Estimate

NOTES:

1) Data Sources: Gross domestic production, 1984/85 (IMF) and 1985/86 - 1988/89 (MDR:SSA)

Total consumption requirement, (per capita availability * population) CSA, SONIMEX, BCM, WFP, and CEDES

2) All Quantities in UNMILLED Metric Tons, (MT)

3) Net Production = Gross Production - (Seed, Feed, and Post-Harvest Losses).

4) Production as a % of Total Cereal Requirement:

Average over Base Period = 0.30

5) The total consumption requirement in 1987/88 is lower than in previous years due to:

(i) a build up of rice and sorghum stocks; and

(ii) unofficial exports of rice.

MAURITANIA: FOOD NEEDS ASSESSMENT (1989/90)

TABLE 7:

WHEAT AND WHEAT FLOUR BALANCE:

	WHEAT (GRAIN)	WHEAT FLOUR
PER CAPITA CONSUMPTION (UNMILLED KG/YEAR)	30.3	25.3
X POPULATION (THOUSANDS)	1879	1879
= TOTAL CONSUMPTION REQUIREMENT	56976	47539
GROSS DOMESTIC FOOD PRODUCTION	0	0
- TOTAL NON-FOOD USE	0	0
= NET DOMESTIC FOOD PRODUCTION	0	0
CLOSING STOCK LEVEL -	4556	0
OPENING STOCK LEVEL	9111	0
= NET CHANGE IN STOCKS	-4555	0
NET DOMESTIC FOOD PRODUCTION (FROM ABOVE)	0	0
- NET CHANGE IN STOCKS	-4555	0
- TOTAL FOOD EXPORTS	0	0
= DOMESTIC FOOD SUPPLY	4555	0
TOTAL CONSUMPTION REQUIREMENT (FROM ABOVE)	56976	47539
- DOMESTIC FOOD SUPPLY (FROM ABOVE)	4555	0
= IMPORT REQUIREMENT	52421	47596
- TOTAL COMMERCIAL FOOD IMPORTS	0	33400
= FOOD DEFICIT	52421	14196
- FOOD AID COMMITMENTS:	25000	0
UNCOVERED FOOD DEFICIT:	27421	14196

ALL QUANTITIES IN METRIC TONS UNLESS NOTED

TABLE 8:

1989/90 FOOD BALANCE:

CEREALS PER CAPITA CONSUMPTION: 203 KILOS (UNMILLED)/PERSON/DAY.

Food Needs Assessment

CURRENT YEAR FOOD BALANCE Current Year: 1989									MAURITANIA
Commodity	WHEAT	RICE	SORGHUM	MILLET	MAIZE	CEREALS ALL	NIERE	TOTAL	TOTAL BCE
Per capita consumption (UNMILLED kg/yr)	67.8	75.0	49.2	6.6	4.2	202.8	3.3	206.1	213.4
x Population (thousands)	1,879	1,879	1,879	1,879	1,879	1,879	1,879	1,879	1,879
= Total consumption requirement	127,396	140,925	92,447	12,401	7,892	381,061	6,201	387,262	400,913
Gross domestic food production	0	43,300	108,260	6,670	7,470	165,700	9,180	174,880	182,878
- Total non-food use	0	9,959	25,982	1,134	1,270	38,345	1,193	39,539	41,348
= Net domestic food production	0	33,341	82,278	5,536	6,200	127,355	7,987	135,341	141,530
- Net change in stocks	(4,555)	(818)	11,580	0	0	6,207	0	6,207	6,608
- Total food exports	0	0	0	0	0	0	0	0	0
= Domestic food supply	4,555	34,159	70,698	5,536	6,200	121,148	7,987	129,135	134,921
Total consumption requirement (from above)	127,396	140,925	92,447	12,401	7,892	381,061	6,201	387,262	400,913
- Domestic food supply (from above)	4,555	34,159	70,698	5,536	6,200	121,148	7,987	129,135	134,921
= Import requirement	122,841	106,766	21,749	6,865	1,692	259,913	(1,786)	258,127	265,992
- Total commercial food imports	46,389	87,223	0	0	0	133,612	0	133,612	139,129
= FOOD DEFICIT (UNMILLED)	76,452	19,542	21,749	6,865	1,692	126,301	(1,786)	124,515	126,862
x Milling extraction rate (m.e.r.)	72%	60%	85%	85%	82%		95%		
= FOOD DEFICIT (MILLED)	55,046	11,725	18,487	5,836	1,387	92,481	(1,697)	90,784	92,461

1989/90 FOOD BALANCE: HIGH POPULATION SCENARIO

(1,978,000)

ANNEX 1 :

Food Needs Assessment

24-Sep-89

CURRENT YEAR FOOD BALANCE

Current Year: 1989.90

MAURITANIA

Commodity	WHEAT	RICE	SORGHUM	MILLET	MAIZE	CEREALS ALL	NIEBE	TOTAL	TOTAL BCE
Per capita consumption (UNMILLED kg/yr)	65.5	69.3	35.0	4.7	3.1	177.6	3.3	180.9	187.1
x Population (thousands)	1,978	1,978	1,978	1,978	1,978	1,978	1,978	1,978	1,978
= Total consumption requirement	129,567	137,087	69,270	9,233	6,143	351,300	6,476	357,776	370,068
Gross domestic food production	0	43,300	108,260	6,670	7,470	165,700	9,180	174,880	182,838
- Total non-food use	0	9,959	25,982	1,134	1,270	38,345	1,193	39,539	41,349
= Net domestic food production	0	33,341	82,278	5,536	6,200	127,355	7,987	135,341	141,530
- Net change in stocks	(4,555)	(818)	11,580	0	0	6,207	0	6,207	6,609
- Total food exports	0	0	0	0	0	0	0	0	0
= Domestic food supply	4,555	34,159	70,698	5,536	6,200	121,148	7,987	129,135	134,921
Total consumption requirement (from above)	129,567	137,087	69,270	9,233	6,143	351,300	6,476	357,776	370,068
- Domestic food supply (from above)	4,555	34,159	70,698	5,536	6,200	121,148	7,987	129,135	134,921
= Import requirement	125,012	102,928	(1,427)	3,697	(57)	230,152	(1,510)	228,641	235,146
- Total commercial food imports	46,389	87,223	0	0	0	133,612	0	133,612	139,129
= FOOD DEFICIT (UNMILLED)	78,623	15,704	(1,427)	3,697	(57)	96,540	(1,510)	95,029	96,017
x Milling extraction rate (m.e.r.)	72%	60%	85%	85%	82%		95%		
= FOOD DEFICIT (MILLED)	56,609	9,423	(1,213)	3,142	(47)	67,913	(1,435)	66,478	67,065

ANNEX 2:

Preliminary Production Estimates: MDR/SSA
September 26, 1989

Food Needs Assessment

CURRENT YEAR FOOD BALANCE
Current Year: 1989.90

Commodity	WHEAT	RICE	SORGHUM	MILLET	MAIZE	CEREALS ALL	MIESE	TOTAL	TOTAL BOE
Per capita consumption (UNMILLED kg/yr)	65.5	69.3	35.0	4.7	3.1	177.6	3.3	180.9	187.1
x Population (thousands)	1,879	1,879	1,879	1,879	1,879	1,879	1,879	1,879	1,879
= Total consumption requirement	123,082	130,226	65,803	8,771	5,836	333,717	6,152	339,869	351,545
Gross domestic food production	0	60,298	117,806	19,505	8,420	206,089	23,659	229,748	240,261
- Total non-food use	0	13,869	28,273	3,316	1,442	46,899	3,102	50,001	52,277
= Net domestic food production	0	46,429	89,533	16,189	7,038	159,190	20,757	179,947	187,984
- Net change in stocks	(4,555)	(818)	11,560	0	0	6,207	0	6,207	6,602
- Total food exports	0	0	0	0	0	0	0	0	0
= Domestic food supply	4,555	47,248	77,953	16,189	7,038	152,983	20,757	173,740	181,385
Total consumption requirement (from above)	123,082	130,226	65,803	8,771	5,836	333,717	6,152	339,869	351,545
- Domestic food supply (from above)	4,555	47,248	77,953	16,189	7,038	152,983	20,757	173,740	**181,385**
= Import requirement	118,527	82,978	(12,149)	(7,419)	(1,203)	180,734	(14,605)	166,129	**170,160**
- Total commercial food imports	46,389	87,223	0	0	0	133,612	0	133,612	139,[illegible]
= FOOD DEFICIT (UNMILLED)	72,138	(4,245)	(12,149)	(7,419)	(1,203)	47,122	(14,605)	32,517	31,341
x Milling extraction rate (m.e.r.)	72%	60%	85%	85%	82%		95%		
= FOOD DEFICIT (MILLED)	51,939	(2,547)	(10,327)	(6,306)	(986)	31,773	(13,875)	17,898	16,670

MAURITANIA: FOOD NEEDS ASSESSMENT, (1989/90) ANNEX 3:

Melanee Lowdermilk

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1) FAO:

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2) WFP: WORLD FOOD PROGRAM

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3) WORLD BANK:

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Denise Daly, (FEWS)
William Thomas, (ARD: Locust Control)
Tim Fontaine, (RSP: Returnee Support Program)

5) MDR: SSA, (MINISTERE DU DEVELOPPEMENT RURAL: SERVICE DES STATISTIQUES AGRICOLES)

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6) CSA: COMMISSARIAT A LA SECURITE ALIMENTAIRE

Mohamed Ould Babetta, (Commissaire adjoint).

7) SONIMEX: SOCIETE NATIONALE D'IMPORTATION ET D'EXPORTATION

Wane Abdoul Aziz, (Directeur adjoint, Commercial)

8) BCM: BANQUE CENTRALE DE MAURITANIE

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Mohamed Lemine Ould El'Hadj Sidi, (Chef: Service publication).

9) MINISTERE COMMERCE ET TRANSPORT

Mohamed Lemine Ould Pegib, (Chef: Division des etudes et la programmation).

II. TRAINING IN FNA METHODOLOGY AND TEMPLATE/SOFTWARE:

1) USAID/MAURITANIA:

Date: September 21, 1989

Participants: Thiam Amadou Tidiane, (FFP)
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2) MDR: SSA, (MINISTERE DU DEVELOPPEMENT RURAL: SERVICE DES STATISTIQUES AGRICOLES)

Date: September 24, 1989

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3) WFP: WORLD FOOD PROGRAM

Date: September 25, 1989

Participants: Willem van Milink-Paz, (Assistant Representative).
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4) CSA: COMMISSARIAT A LA SECURITE ALIMENTAIRE

Date: September 26, 1989

Participants: Ahmed Ould Abdel Fettah, (Cadre Cellule VCT/CSA)
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5) MINISTERE DU PLAN ET DE L'EMPLOI:

Date: September 27, 1989

Participants: El-Mahmoud de Nema, DR/CAH (Direction de la Reinsertion: Cellule de l'aide humanitaire).
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Baye Ould Mohamed Abdallahi, (Ingenieur: Ministere du developpement rural).
Aicha Limam, (USAID/Mauritania, FFP)

III. ADDITIONAL DATA SOURCES:

CPA: COMITE DE PROGRAMMATION ALIMENTAIRE

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BCM:	BANQUE CENTRALE DE MAURITANIE
CEDES:	CENTRE D'ETUDE DEMOGRAPHIQUES ET SOCIALES
CPA:	COMITE DE PROGRAMMATION ALIMENTAIRE
CSA:	COMMISSARIAT A LA SECURITE ALIMENTAIRE
MDR/SSA:	MINISTERE DU DEVELOPPEMENT RURAL: SERVICE DES STATISTIQUES AGRICOLES
SONADER:	SOCIETE NATIONALE DU DEVELOPPEMENT RURAL
SONIMEX:	SOCIETE NATIONALE D'IMPORTATION ET D'EXPORTATION