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# **FOOD AND AGRICULTURE SECTOR ASSESSMENT**

**ANALYSIS OF ECONOMIC, SOCIAL,  
INSTITUTIONAL AND MANPOWER ISSUES**

**prepared by**

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**ECONOMIC ISSUES**

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## ECONOMIC ISSUES

### 1. The Quality of Quantitative Information

An analysis of the Mauritanian economy on the basis of quantitative measurements or indicators is quite futile. Only very rough approximations exist even for such fundamental variables as crop acreages and volume of crop and livestock production, labor force, the movements of goods across land frontiers and the catch of fish in the territorial waters claimed by the nation. Price series are non-existent or full of gaps and unreliable.<sup>1/</sup> Data on actual (as distinct from budgeted) public expenditures are suspect and almost impossible to come by. Even census data are not believed to be very close to the mark.

There are virtually no surveys or case studies on which to base meaningful analyses of such measures as costs of production and net returns, incomes and consumption. RAMS made a valiant effort to plug some of the gaps but could obviously not advance very far during the project's limited duration. Its surveys suffer from probably inevitable methodological flaws that make it impossible to base any aggregations on the data and even make it doubtful that they are either true reflections of reality at the household level or, if they were, representative at any level of generalization. This should be borne in mind in all references to RAMS surveys, even though the caveats may not be reiterated.

The reasons for the primitive state of quantitative information are fairly obvious; they are but one reflection of the country's poverty, sparse and partly highly mobile population and the resultant institutional underdevelopment. Not only are there few qualified statisticians and analysts in the central administrations; there are no trained data gatherers in the field and there is little or no confidence among the rural population in the motives of public employees (or foreign researchers) asking questions about land, production, livestock numbers and ownership, incomes and consumption.

The significance of this backward state of statistical information for development planning is that it makes a mockery of well-intentioned estimates, projections and calculations that are meant to support the specific dimensions of a particular program or project in terms of (1) needs, (2) impact, (3) cost and (4) benefits. All such presentations should be prima facie suspect unless they are appropriately qualified and/or based on ad hoc primary data developed and produced for the specific purpose under controlled conditions. Beyond this, the analysis of development problems and the design of new programs and projects should concentrate on qualitative factors, using quantifications (except, of course, for financial input data) only to indicate general magnitudes and to illustrate probable outcomes.

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<sup>1/</sup>The only existing consumer price index, for example, is for Europeans' market basket in the capital.

These problems will become clearer when the reader becomes acquainted with some of the peculiarities of the structure of present Mauritanian society and economy.

## 2. Peculiar Characteristics of the Mauritanian Economy

Perhaps the most useful generalization that can be made about the Mauritanian economy is that there really is no such thing--at least not yet:

(1) the nation, artificially carved out of a much vaster economic, social and political system (of which it had been the stepchild) is only about 20 years old;

(2) almost the entire population of less than two million is concentrated in the artificially created capital (upward of 10%) and in a narrow band along the northern shore of the Senegal river. The rest of the country's rural areas--with "normal" annual precipitation of less than 100 mm--are virtually uninhabited in a sedentary sense;

(3) that part of the "economically active" population which is not nominally engaged in primary activities (agriculture, herding, fishing and mining) is "employed" in the tertiary sector (an estimated 47 percent: half of them in the public sector);

(4) the high risk of non-survival imposed by the hostile environment has led the rural population to diversify its income sources to a degree that is unrivaled in most other underdeveloped economies;

(5) cross-border ethnic affinities, the nature of nomadism and the long frontiers of the south with Senegal and Mali combine to produce a lively, albeit unrecorded and largely uncontrolled, movement of goods and people back and forth across these (to the people concerned) artificial frontiers; except for one (important) north-south artery and one (only lightly used) west-east road, there are no improved roads connecting the main farm production areas with Mauritanian and neighboring markets and supply sources.

These characteristics (some might be tempted to call them "basic constraints" for analytical purposes) are aggravated by the following events:

(1) Mauritania's withdrawal in the early 1970's from the CFA zone and the creation of an inconvertible -- and presently overvalued -- currency, the ouguiya;

(2) The devastating effect in Mauritania of the succession of sahelian drought years beginning in the late 1960's, which has meant that less than ten years after the declaration of political independence the new country is more heavily dependent on the benevolence of the outside world than the region was under colonial rule; moreover, the droughts have produced convulsions in the traditional settlement and migration patterns;

(3) a costly war over control of the former Spanish Sahara that resulted in a net economic loss to Mauritania because the nation now has to support a large military establishment for which it no longer receives external financing;

(4) sharply declining world prices for copper -- and a less sharp decline in the price of iron ore -- the country's main exports, and the approaching exhaustion of the high-grade deposits;

(5) a series of largely unproductive public investments in industry during the 1970's when enormous funds were lavished on Mauritania by wealthier Arab countries in the misguided political belief that the country was capable of rapid industrialization; thus, precious capital was withheld from the rural areas and from the building of institutions to cope with rural problems, and a series of public enterprises as well as a swollen, unproductive public bureaucracy and labor force have to be subsidized each year from the scanty government revenues;

(6) politically short-sighted and/or greed-motivated actions are effectively preventing the country from cashing in on its only remaining natural advantage -- the plentiful fish resources of its territorial waters.

### 3. Foreign Dependence of the Mauritanian Economy

As was indicated above, Mauritania is at present - and for the foreseeable future - highly dependent on official external assistance merely to help its population to survive. The country's capability to produce foodgrains is estimated by the GIRM to be only 30 percent of its total consumption during a "normal" rainfall year; estimated production has dropped as low as 17 percent of consumption during the worst drought years. The total estimated grain production for the past <sup>1</sup>/<sub>six</sub> years has been equivalent to only 25 percent of total consumption. Therefore, Mauritania has had to make substantial commercial imports of foodgrains to meet about half of the perennial deficit. The rest is made up by "food aid". The World Food Program and the U.S. P.L. 480 together account at present for about one-half of total external food donations, which have averaged about 54,000 tons annually during the last six years, valued at about \$22 million; this is equivalent to four percent of the country's GDP.

Beyond food aid, the country is also completely dependent on external donations and highly concessional credits for its capital investments in economic development and social infrastructure, as well as for recurrent government expenditures. Only 15 percent of public investments disbursed in recent years has been financed from GIRM budget. Moreover, fully 40 percent of central government operating expenditures have been provided by official external donations and loans during the 1976-80 period (entirely grants during 1976 and 1977, mostly loans by 1980). Central Government revenues amounted to only 6.5 billion UM (about 135 million

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<sup>1</sup>/<sub>Perhaps</sub> "disappearance" is the more appropriate concept in Mauritania because there are sizeable, if unmeasured, two-way leakages of grains across the borders with Senegal and Mali.

dollars), -- 18 percent of GDP -- in 1981, made up mostly from import duties, fishing royalties and penalties, and taxes on income and profits, in that order.

All open economies are, of course, to a greater or lesser degree, dependent on foreign economies, in the sense of formal export and import trade. Mauritania, as was indicated earlier, has a less formal but perhaps more crucial dependence on the resources and markets of neighboring Senegal and Mali, especially as regards its nomadic livestock herders but also for its riverine sedentary population. The inconvertibility and overvaluation of the ouguiya and a series of legal restrictions that -- though difficult to enforce -- must nevertheless be effectively circumvented, combine to subtract a substantial volume of traffic from recorded channels and official exchange transactions. The system has developed its own ad hoc exchange rates that change in accordance with fluctuations in supply and demand but are always unfavorable to the ouguiya in terms of its official valuation. It is immaterial to ask which nation benefits more from these informal flows; what matters is that the populations concerned evidently benefit in the aggregate because the system tends to exploit those natural comparative advantages that governments often attempt to negate through legal artifices.

The informal cross-border economy takes the form not only of livestock moving seasonally to greener pastures and/or better markets and grains and of consumer goods being exchanged, valued at tens of millions of dollars annually. It has of late been perhaps even more important as a safety valve for unemployed and underemployed Mauritians who find jobs or small business opportunities in neighboring countries and beyond and who send back substantial remittances to their households of origin. There are no estimates of the exact magnitude of this phenomenon. RAMS surveys indicate that as much as 16 percent of the average rural household income came from interregional and international financial transfers in 1980, and the study points out that:

"in contrast to what happens in other countries, transfers are made from urban areas and foreign countries into the rural areas." (RAMS, AS 6, pp. 17-19)

L. Colvin estimates that there were 110,000 Mauritians abroad during 1976 (quoted in SOW, 1981, p. 77); if the average inward remittance were only \$1,000 annually per person, the total annual remittances would be about \$100 million per year. The Central Bank of Mauritania figure for official inward remittances during 1981 was only \$7 million.

#### 4. The Rural Sector: Macro-Economic Aspects

Another peculiarity of the Mauritanian economy is the relatively small role played by the rural primary sector in the country's GDP, in accordance with the official estimates. While the rural sector is of overwhelming importance (69%) in the employment picture, agriculture, livestock and "forestry" are officially estimated to have produced about UM 5.2 billion (115 million dollars) in 1979, or only about 20 percent

of the country's total GDP. Mining (11%) and the tertiary sector including construction (56%) account for almost all the remaining domestic product. Artisanal marine fisheries and industrial deep-sea fishing contribute an estimated UM 503 million, or nine percent, the latter largely in the form of royalties and penalties collected from foreign fleets, as mentioned above.)<sup>1/</sup>

Some observers believe that the rural GDP is substantially underestimated because, it is felt, rainfed grain yields are much higher than generally reported and because the estimated value of livestock production does not account fully for the value of production of milk by cows, goats and camels. On the other hand, basic estimates of both crop acreage and livestock numbers are utterly unreliable and one does not know what portion of the assumed livestock production (slaughter, sales and herd increase) to attribute to the Mauritanian or to the Malian GDP, in view of the strong currents of transhumant migration of herds and the reportedly heavy sales by Mauretanian herders in Mali.

The structure of the rural GDP (not including fisheries) follows that of land use: for 1979, 88 percent is estimated to have come from the livestock subsector (of which about 40% is home-consumed milk) versus only 10 percent for crops; forestry accounted for only two percent of the rural GDP. (A rough estimate by a member of the assessment team indicates that milk production may be substantially underestimated).

The absolute and relative dynamics of the rural GDP have been heavily influenced by the drought, on the one hand, and by the fluctuations in the volume and prices of mining output and the growth of the tertiary sector, on the other.

As late as 1969, crop and livestock production still accounted for one-third of GDP according to the accepted data, compared to the present 20 percent.

As a result of the succession of droughts, total rural sector GDP grew at an annual rate of only five percent between 1973 and 1979, following an average annual decline of six percent between 1969 and 1973 (MPAT, 1982). This means that by 1979 total rural output had barely recovered to its 1969 level. With population increasing during that time at an estimated rate of 2.7% per year, there appears to have been a 2.7% per capita decline in rural production during the same period, i.e., per capita production in 1979 was only three-fourths what it had been ten years earlier.

That pauperization of the rural population did not reach disaster proportions was due largely to the reportedly rapid rate of recovery of the livestock economy in 1973-79. An average annual growth rate of 10 percent in those six years followed an average 11 percent decline in 1969-73. Thus, estimated livestock output in 1979 was 11 percent above 1969, a per capita decline of "only" 15 percent.

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<sup>1/</sup> Data sources: RAMS AS 4; MPAT, 1982 and Carr, 1982.

Crop production, on the other hand, dropped an average of 23 percent per year in 1969-73 and five percent in 1973-79, for an average annual decline of three percent during the decade. This works out to a per capita annual decline of 5.7 percent, which in turn means that average availability of crops (i.e., grains) from domestic production for each Mauritanian in 1979 was only 56 percent of the level ten years earlier.

As indicated earlier, the food grain shortfall has been largely offset by foreign multilateral and bilateral donations and by commercial imports. But the utterly depressing effect on the incomes of the rural households that depend essentially on dryland grain could not be remedied. In fact, these households suffered doubly in that they were deprived of the small marketable surplus that they had been able to produce and at the same time had to draw on other sources of their thin but diversified income base (including emigration and its remittances) in order to finance the purchase of imported grain, luckily available at highly subsidized prices.

According to the 1977 census there were at that time 1.032 million people living in rural areas, of whom almost exactly one-third were listed as "employed". The employment figures include only a small number of women, although it is known that in nearly all ethnic groups women participate to a more or less important degree in production and marketing, as distinct from conventional "household" activities. (The latter, as in so many other countries, of course, also figure importantly in the "processing" of crude foodstuffs for household consumption, such as the pounding of sorghum and millet.) Thus, the rural labor force may well be as much as one-third higher (on a male full-time equivalency basis) than the census figure.

The census also purports to show the following breakdown of the "employed" rural population (RAMS AS-4, Table II-6)

	<u>Thousands</u>
Sedentary	179
Farming	103
Herding	36
Other <sup>1/</sup>	40
Nomadic	147
Farming (incl. oases)	23
Herding	116
Other <sup>1/</sup>	8

These data seem to indicate that a total of 126,000 rural people were engaged in crop farming and 152,000 in livestock herding, a ratio of 1:1.2. However, it would be highly misleading to base any economic calculations or assumptions on such a statistical construct. It is probably quite correct to assume that the 116,000 nomads listed as herders have nothing at all to do with farming (although one is not sure what to make of the 23,000 "farming nomads"). On the other hand, the

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<sup>1/</sup> Presumably engaged in forestry or in other than primary activities.

separation of sedentary population into farmers and herders is quite artificial because (1) a very high percentage of sedentary households also own or manage some or all species of productive livestock, and (2) the separation of duties within households is, of course, neither clear-cut nor invariable.

At this point a common misconception about recent population dynamics must be cleared up. If the 1977 census is compared with the previous one (1965), it appears that the nomadic population declined from 65% to 36% of the total (RAMS AS 3, p. 21). However, an examination of census instructions reveals that the definition of a nomad had changed very significantly from one census to the next and had become much more restrictive in 1977 (ibid., p. 22). Thus, while the successive droughts undoubtedly had a certain sedentarization effect on nomads, it is highly unlikely that the rural living pattern changed as drastically as the census data imply.

With the exception of a few pockets of vegetable and fruit growers in the irrigated Senegal valley and in the oases, crop growing in Mauritania means grains, more specifically sorghum and millet (depending on soil moisture) and a little cowpeas in the dryland areas, and rice and some sorghum and maize in the irrigated "perimeters". Production estimates during the critical past decade vary widely (at times, wildly) because there is no systematic, objective basis for evaluating either area or yields. For example, Enger (USAID/Mauritania, 1981 (I), Annex F, Table 9) lists nine different estimates for total grain production for 1976 and 1977, ranging, respectively, from 21,000 to 69,000 tons and from 21,600 to 54,000 tons. What is surprising is that there is no agreement on the quantities of (ostensibly recorded, i.e., not including informal border trade) grain imports (ibid., Table 10). Yet when all is said and done, it seems that as a result of the combined commercial, food aid and informal imports, there has been, on the other hand, no starvation in Mauritania nor is there any indication that unsalable stocks were accumulated at any one time.

Most sources conveniently avoid discussing the subject of market surplus of domestic grain production.<sup>1/</sup> All that can be said on the subject on the basis of available information and opinion is that (1) there appear to be slight market surpluses of sorghum and millet during years of "normal" rainfall, (2) there is virtually no market surplus of these grains during drought years, and (3) a considerable proportion of the rice produced in the Senegal valley is marketed. (Available sources do not even indicate the total amount of rice bought by government agencies.)

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<sup>1/</sup> Martin (1982) in a footnote to Annex Table 17, on page 146, attributes to a 1981 FAO study on food security an estimate of around 20%, which appears to be, in turn, based on RAMS data. The table contains 1976/77 and 1978/79 data but it is not explained to what production level the 20% factor should be applied. The marketing estimates in the table are absurd because they indicate a 25% marketing factor for the 1976/77 drought year but only 18% for the following, normal year, when estimated production was nearly doubled.

### The food gap

Official and unofficial reports and studies on the Mauritanian food situation are unanimous in forecasting that the country will not be able to close its food gap before the end of this century, if at all, in view of the projected population increase and the probable trends in agricultural output. (RAMS, USAID, 1981 (I), Martin, 1982, etc.) This pessimism is founded on the following reasoning:

(1) Even if rainfall should return to a more "normal" pattern (i.e., the 1940-60 average), there is no possibility that the combination of larger acreage and yields would allow the country to produce the quantity of sorghum and millet it consumes even at the low assumed per capita level (see below), let alone the increasing demand for wheat induced in large measure by food aid programs;

(2) Despite the estimated potential of irrigable land of perhaps as much as 200,000 hectares compared to a little over 3,000 hectares at present, experience during recent years shows that it is futile to project a rate of newly irrigated area beyond, at the utmost, 2,000 hectares per year under improved institutional and technical conditions and perhaps no more than 300. Even at the high rate, it would take ten years to fill the minimum projected 1990 food gap and more than 20 years to fill the gap projected under drought conditions (see below).

Indeed, most projections (see, for instance, USAID/Mauritania, 1981 (I), Annex F) assume that not only will Mauritania be unable in the foreseeable future to produce enough grain to satisfy its consumption requirements, but it will not earn enough foreign exchange from exports to get along without food aid until, at best, some time in the early 21st century.

Quantitative estimates of the food gap, as can be expected, vary wildly as a function of disparate assumptions regarding domestic production, population and per capita consumption trends. RAMS forecasts total import requirements by 1990, for example, as between 56,000 and 190,000 tons, depending on domestic production and assuming per capita consumption of 145 to 165 kg; Enger (USAID/Mauritania, op. cit., p. F-46), on the other hand, forecasts import needs of between 83,000 and 187,000 tons, on the basis of per capita consumption of 124.5 kg. Enger assumes that commercial imports will cover a uniform annual level of 80,000 tons (ibid, Table 25), leaving a margin, based on his other assumptions, of zero to 100,000 tons for food aid requirements in 1990, depending on the level of domestic production.

There is as much controversy about the level of per capita consumption of grains as about other variables. The latest donor-accepted, country-wide weighted average for planning purposes is 150 kg., considerably below that of neighboring countries. Previous, lower national averages had reflected mostly the low level of grain consumption among nomads (around 50 kg or even less).

As pointed out earlier, the proportion of nomadic population has been declining substantially owing to the droughts. Such scant consumption and nutrition studies as exist, including the RAMS surveys (see

below), point out that (a) there is no evidence of widespread sub-nutrition except from the weight-height ratios of growing children, and (b) while protein intake appears satisfactory per se, an unusually - even for sub-Sahara Africa - large proportion of the protein intake is assumed to be burnt up as energy because of the exceptionally low caloric value of the carbohydrate intake.

It is also being pointed out that, as in other African countries, grain consumption patterns are rapidly shifting away from the traditional sorghum and millet<sup>1/</sup> to rice and wheat, largely as a result of the growing importance of imports - especially of food aid - in the national diets. (In 1980-81, for example, about 90% of food aid imports were in the form of wheat -- see Martin, 1982, p. 281.) Most analyses of consumption and availabilities of food grains throw all cereals together, in the somewhat naive assumption that they are quite interchangeable. This assumption can be valid only in times of acute local shortages bordering on starvation. In point of fact, among the dryland rural population - sedentary and nomad as well as urban dwellers, - millet and white sorghum are by far the preferred foodgrains; rice and wheat are making sizeable inroads in the towns - especially in the capital - where the bulk of the imported grain is normally distributed.

A breakdown of average national availabilities of the different grains for the years 1975 to 1977 - attributed to a 1979 CILSS colloquium - is given by Enger (USAID/Mauritania, op. cit., p. F 60). It is quoted here, faute de mieux, even though the per assumed capita average for all grains is an extremely low 120.2 kg:

Millet and sorghum	69 percent
Rice (milled basis)	14 percent
Wheat (grain equivalent)	12 percent
Maize	5 percent

Counting rice imports (all commercial) and a small quantity of commercial wheat imports, sixty percent of the total tonnage of cereals imported during those years consisted of millet and sorghum. However, it must be borne in mind that almost all of the sorghum imports (little millet is imported) are of the red variety and that this type is much less appreciated by the Mauritanian consumer than the traditional white sorghum. In fact, there is a wide price margin between the two on the open market. Moreover, as will be discussed below, GIRM price policies call for the sale from GIRM stores of imported sorghum and wheat at virtually the same subsidized price; this constitutes a much more generous subsidy for the urban middle and upper classes, especially for those who have developed European-style consumption patterns, than for the low-income consumer.

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<sup>1/</sup>Owing to rainfall and soils, there is no traditional consumption of starchy roots and tubers (manioc, yams, etc.) in Mauritania, except for the most humid areas.

## Grain Prices and Price Policies

Mauritania is no exception to the pattern of negative grain price policies that are typical of sub-Saharan Africa (see World Bank, 1981; Eicher, 1982). In most other countries of this area price policies are perceived to distort consumption patterns at the same time that they prevent domestic production from rising to meet demand. Perhaps the most disturbing aspect of Mauritanian grain pricing is the uniformity of the prices for imported sorghum, maize and wheat, despite their differences in quality and preference. On the other hand, because there is no evidence to the contrary, it is contended here that, under present conditions, price policies tend to have little or no short or medium term effect on output in Mauritania, except perhaps on the small irrigated acreage.

### Official Pricing Versus the Market

A little more rationality has recently been introduced into the largely government-managed grains market, above all with the fusion of the Cereals Office (OMC) and the Food Aid Commission (CAA) into the new Food Security Commission (CSA), and with the assumption by the latter of all domestic grain buying, including rice which had previously been purchased by the irrigation development agency, SONADER. Also, official sale prices of grains from government stocks (which, of course, are almost entirely imported) have begun to increase; in principle they are to be allowed to rise to levels equivalent to CIF-plus distribution costs over the next few years.

The present differential of one UM per kg (about seven percent) between the price of sorghum and wheat sold in the capital and the price charged in the provinces (in favor of the latter)--as well as the previous 25% spread when both prices were lower--are ostensibly designed to help stem city-ward migration during the drought years. That the differential has been ineffective should not have surprised anyone because, during times of scarcity, ample availability surely outweighs small price differences in people's minds; besides, once the grain has been sold from government stocks, market prices tend to be higher in the countryside than in the capital precisely because there is always an assured supply at the official price in the city.

The price of rice--both domestic and imported--to the trade is also subsidized.<sup>1/</sup> From a fiscal point of view there had not been any explicit loss to the treasury until 1980 because the public agency that deals in milled rice--SONIMEX--compensated its losses on rice accounts with profits on "luxury" imports such as sugar, tea and cloth.

In a not uncommon attempt to please both producers and consumers, the GIRM has devised a comparatively complex, largely official, marketing system for rice. Market surpluses of domestic rice are purchased by the

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<sup>1/</sup> Martin (1982, pp. 192 and 193) estimates the subsidy on domestic rice at 5.8 UM per kg, and on imported rice at 4 UM at Nouakchott and 6.5 UM in the provinces.

CSA, at a fixed support price of 12.5 UM per kg (24 cents per pound) of paddy and resold milled to the official distribution agency, SONIMEX, at 24 UM per kg regardless of quality, after milling at one of two government owned mills (at a low average milling rate of 60%). SONIMEX resells the milled rice to merchants at 25 UM per kg; this represents a net loss of 5 UM per kg, including the milling charge of 3 UM. Small wonder that during the 1980-81 crop year, the public agencies bought no more than 1,000 tons of rice from local producers, against an estimated total production of about 6,600 tons including about 1,800 tons produced by the state farm at M'Pourié. The small balance of 3,800 tons can be assumed to have been home-consumed or privately traded, with negligible quantities available for the private domestic trade or for illicit sale across the borders to Senegal and Mali. At present price relationships, the incentive for such illicit trade is substantial. In 1981, "rice prices in Mali and Senegal (were) 70-100% higher than the SONIMEX sales price in Nouakchott. SONIMEX believes rice is leaving the country in substantial quantities as a result." (USAID/Mauritania, 1981, p. 51).

It should be noted that, as in Senegal, the Mauritanian rice market is conditioned by the fact that the population was originally introduced to rice in the form of imports of cheap (100%) broken grain from Asia which, inter alia, resembles couscous in its cooking quality. Even today the typical African consumer continues to demand broken rice (which domestic milling practices find it easy to supply).

The long-term economic implication for Mauritania's rice production from substantially expanded irrigation would seem to be a need for its rice to be produced at a cost competitive with imports of the same quality. The outlook for such competitiveness, as well as the effect of government price policies on the relative profitability of irrigated rice, maize and sorghum production, will depend on the rationality and uniformity of grain price policies to be adopted by the three OMVS nations.

There had not been any increase in the highly subsidized consumer prices for dryland grains until the last two years; there was also a substantial adjustment in producer prices in 1982. As of the end of September, 1982, all imported wheat, sorghum and maize (except, of course, free relief distributions) was sold at a uniform 13 UM per kg in the provinces and 14 UM in Nouakchott. The FOB quotations per metric ton for US origin grains for August, 1982 reported by USAID/Nouakchott were as follow:

Wheat	178 dollars
Maize	134 dollars
Sorghum	126 dollars

This is a spread of 41 percent between sorghum and wheat. (Besides, in the case of wheat, the GIRM sale price was estimated to be only two-thirds of the full CIF price plus local handling, storage and transportation.) If Mauritanian consumers were in fact beginning to have a preference for wheat over the imported, red sorghum (a question that no one seems to deem worth investigating), the GIRM's uniform pricing policy is doubtless producing a permanent dependency on wheat--and cheap wheat at that--which

could cost the government dearly one day in either financial or political terms. Moreover, the relatively unplanned, and not necessarily equitable, free food distributions reportedly tend to disrupt rural markets.

Are producer prices relevant to aggregate output targets?

The lack of a positive supply response to higher grain prices at the farmgate does not necessarily imply a negative response from farmers to government price policy. Neither does it rule out the existence of other constraining factors in the production process. However, given the low quality of the land resource base and the limited framework for economic activity in the rural areas one should expect a highly inelastic supply response for farm products. Unless there is evidence to the contrary, this seems to be the case in the agricultural sector of Mauritania.

Present technology on the family farms relies mostly on labor, with little or no capital inputs. Thus, any increase in aggregate production would have to come from expansions in the planted area. But such an expansion would not take place unless the supply of rural labor increased substantially. Given the large out-migration of labor from the rural areas that has been taking place, this is an unlikely scenario. Without more capital intensive technology the marginal productivity of farm labor, and hence returns to family labor and farm wages, will not rise and labor will continue to prefer the relatively greater stability and certainty offered elsewhere.

Indeed, in view of widespread reports of seasonal and permanent rural labor shortages--partly confirmed by informal observation--due to emigration, the labor shortage factor should not be eliminated as a partial explanation for the purported decline in output over the last decade or more. The traditional technology employed in dryland grain farming (and to some extent, in irrigated rice farming) is almost entirely dependent on human labor handling primitive tools during the critical planting time. It is thus entirely possible that a sudden massive withdrawal of laborers at critical times may leave potentially cultivable dryland or irrigated land idle. It is true, of course, that the basic cause for the scarcity of labor has been the succession of droughts that expelled the labor in the first place. But the lack of price incentives in the past may also have had something to do with encouraging the labor force to continue to stay away.

In cases where there is access to labor substituting inputs the problem may be one of the opportunity cost of capital. Given the high risk of Mauritanian agriculture it would not be surprising to find that the nominal cost of capital in the informal market, plus the transaction costs and the high risk of failure due to drought, make the use of capital intensive inputs an unattractive proposition.

In the short run, we assume that the planted--and, of course, the harvested--area is determined solely by the specific year's rainfall pattern within the constraints of the producer's capacity to marshal family (and perhaps some paid) labor. Thus, output and, hence, market surplus, is determined entirely by the weather, at least in the short

run. However, in the long run producers in the higher rainfall areas who have access to additional land might be induced by moderately higher prices to invest in labor-expanding capital such as oxen and ox-drawn equipment.

For a country whose per capita GNP is estimated to be around 400 dollars and declining in real terms, Mauritanian wage rates appear to be relatively high. (Eicher (1982) observes that the high wage rates of West African countries are partly responsible for making the costs of producing rice non-competitive with the prices of imports.) The official minimum wage of 150 UM per day has been generally used in recent years to indicate the opportunity cost of rural labor in Mauritania. (During a field visit to Selibaby in November, 1982, the team was told that it costs 250 to 300 UM plus meals to hire an agricultural laborer). This state of affairs is believed to stem from the above-mentioned large-scale labor emigration and from the low real value of the nominal wage in ouguiyas when compared with the cost of everything but subsidized food-grains and with the black market exchange rate of the officially over-valued and inconvertible ouguiya.

It is entirely possible that substantial areas of rainfed land are not cultivated because of the absolute labor constraint and/or because they are economically sub-marginal for hand labor cultivation at present peak season labor costs. If this hypothesis could be empirically verified it might lead to renewed efforts to introduce--or reintroduce--animal powered technology in specific areas, supplemented by such ancillary services as would be required to assure economic viability and sustainability, such as storage and marketing, credit and above all, availability of equipment and trained animals.

In any case, this highly controversial subject requires thorough field-level research and insight into current and potential land use and the dynamics of peasant household decisions, as well as careful economic and social analysis of the phenomena. Two important facts must be taken into consideration: the support price for domestic sorghum is now twice as high as the landed price of imported red sorghum (13 versus 6.5 UM), and towards the end of the consumption year the market price of domestic sorghum tends to rise sharply. Any further increases in producer prices might have a socially regressive effect at the consumer level or might encourage the GIRM to continue subsidizing consumer prices.

## 5. Micro-Economic Issues

### Income and consumption

Despite their lack of proven representativity, the average income and consumption data derived from the RAMS surveys can give an interesting insight into the economic dynamics of rural households.

What is most striking - as was briefly indicated at the beginning of the previous section - is the high degree of income diversification: overall, less than one-third of total household cash income came from farm production. (For reference purposes only, the mean per capita cash income in 1980 was 12,195 UM, or some \$100 less than average estimated

per capita national income.) Fully 22% of the overall average household cash income came from wages; one-third came from transfer payments and trading profits, evenly divided between the two.

Substantial differences were confirmed in the levels and patterns of cash incomes as between nomadic and sedentary households. The average income of the latter was 50% higher than among the nomads who, in turn, derived 60% of their cash income from livestock sales. Oddly, the sedentary households obtained a mere six percent of their cash income from crop sales; this would seem to confirm the important assumption, discussed above, regarding the marginality of crop marketings. In fact, even among the sedentary households, livestock sales brought in more than twice as much cash as crop sales.<sup>1</sup>

The occupational structure of incomes is given as follows (RAMS, op. cit., p. 18):

<u>Income Source</u>	<u>Sedentary</u>	<u>Nomadic</u>	<u>All Households</u>
	--- percent ---		
Production	23	70	31
Services	44	11	36
Transfers	33	29	33

These data, of course, underline the much greater access that sedentary populations have to wage labor and tertiary sector activities; they also indicate that in relative terms, both depend almost equally on remittances from household members who work and live elsewhere.

While the survey data seem, on the one hand, to belie the reported reluctance of herders to sell their stock, on the other hand they do confirm the nomadic herders' legendary propensity to save: the value of herd increase saved was two to three times as high as that of their total current cash income. (RAMS, op. cit., p. 21). Since their cash incomes were only one-third below those of the sedentary households, their total income was obviously higher if the increase in herd size is included.

Perhaps the total estimated value of per capita household consumption is a better measure for assessing and comparing welfare levels in Mauritania<sup>2</sup> because of the reportedly high degree of self-sufficiency of the rural household. Interestingly, the difference between per capita cash income and consumption is only 13% in the case of the sedentary households, whereas it is nearly 50% among the nomads, bringing the latter to within 11 percent of the sedentary consumption level. In other words, if the survey data can be believed in this sense, the nomad-herders derive one-third of their total consumption value from

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<sup>1/</sup> However, note observation on sample composition below.

<sup>2/</sup> Consumption and expenditure data from RAMS, AS 5.

their own livestock herds - mostly milk (see below). Moreover, the nomads purchased less than half of their consumption needs,<sup>1/</sup> versus 86% for sedentary people.

The overriding importance of food in the life of the average rural family is indicated by the finding that 82 percent of the sedentary households', and 86 percent of the nomads' consumer expenditure, was allotted to food. The food consumption pattern was found to be as follows (RAMS, AS 5, p. 18):

<u>Foodstuff</u>	<u>Sedentary</u>	<u>Nomad<sup>2/</sup></u>
Cereal	135 kg.	84 kg.
Millet/Sorghum	50%	
Rice	43%	
Wheat	6%	
Other	1%	
Fruit and Vegetables	24 kg.	5 kg.
Meat	33 kg.	5 kg.
Beef	47%	
Sheep	18%	
Goat	3%	
Camel	29%	
Poultry and Other	3%	
Milk and Dairy Products (milk equivalent)	29 l	166 l
Sugar	14 kg.	7 kg.
Wood for cooking	538 kg.	445 kg.

It is striking to what degree the nomads appear to compensate with milk the otherwise starvation level intake of meats, fruit and vegetables and cereals.

One result of the survey could be interpreted as either substantively significant or methodologically disturbing: only one-half of the sedentary households in the sample turned out to be cereal producers. Unfortunately, the RAMS report does not attempt to tabulate the two subgroups separately and does not indicate what the main source of income, ethnic or social status, etc. was for the non-cereal growing half. One can only speculate that (barring a sample design or execution problem) the sedentary rural population in 1980 depended even less on crop growing than is commonly believed. The report also does not indicate such key statistical measures as standard deviations, and it admittedly was unable to

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<sup>1/</sup>RAMS believes that this, in fact, reflects an underestimate of the degree of nomadic self-sufficiency.

<sup>2/</sup>No breakdown of cereals and meat consumption is given.

capture the large seasonal variations in consumption levels and patterns. The only indication of the great variability in the data are the regional and ethnic tabulations, although at those levels the sample increasingly loses statistical representativity. By way of example, suffice it to illustrate the variability with the range of average percentage of total value of food consumption for the main food groups for each class of food in the country's five regions:

Cereals	3% to 32%
Fruit & Vegetables	0% to 10%
Meat	0% to 27%
Dairy Products	17% to 95%

### Dryland farming

At the level of the household or farm as a producing unit, risk avoidance is doubtless by far the outstanding factor in decision making. This is probably much truer of the crop producing household - or of that part of the household enterprise devoted to crops - than in the case of livestock; yet, the observed preference for hoarding over marketing may well be rooted in risk aversion rather than in some kind of metaphysical tradition. In the Sahel, and in particular in most of cultivable Mauritania, the peasant's proverbial risk aversion is perforce extreme because it is the family's rock-bottom subsistence that is at stake and not just one year's income stream.

We have already seen one aspect of risk aversion, i.e., the diversification of income sources including the fact that two-thirds of the average sedentary income in the RAMS sample was "off farm" in conventional farm accounting terms. Among full or part time livestock herders, another form of risk spreading is species diversification; most herds are composed of more than one species wherever the natural habitat allows.

The risk averting phenomena that concern us most in this section are those found in crop farming, particularly among dryland farmers. They consist essentially of (a) choice of crops most suitable for family subsistence and at the same time resistant to drought and natural enemies and (b) choice of technology that implies little -- preferably no -- cash outlay for either investment or working capital. The results are that, (1) in addition to some niebe and insignificant quantities of a few other crops, the Mauritanian dryland farmer produces only millet and sorghum, depending on the location of his farm with respect to the expected rainfall pattern; (2) the area cultivated does not exceed the household's hand labor capacity for soil preparation and seeding and for harvesting during the limited time imposed, on the one hand, by soil moisture conditions and, on the other, by bird attacks; (3) crop yields depend entirely on the combination of the weather and the timeliness of the above operations, i.e., no fertilizer or pesticides are used.

As was indicated earlier, the succession of droughts may have permanently weakened the productive base of dryland agriculture not only from the point of view of soil moisture and fertility exhaustion but also through the withdrawal through emigration of a significant part of

the able-bodied labor force. Unfortunately, no data are available to support this and a number of other contentions related to the economics of the farm "enterprise". As in the case of income and consumption, the survey undertaken by RAMS is the only quantitative data base available, and the data, though they must be used carefully owing to methodological problems, give certain interesting insights into the dynamics of farm production.

The basic reason for the lack of a significant market surplus of dryland grains is the small size of the average "production unit's"<sup>1/</sup> farmland area: 2-3 hectares on oualo, dieri and rainfed land and less than two hectares on falo, fonde and oued land.

The yields determined by RAMS through field observations and surveys in the relatively favored southeastern rainfed area appear to give a theoretically satisfactory yield-to-seed ratio even in a "poor" year (40:1), a fair ratio (250:1) in a normal year, and a good one (500-600:1) in a "good" year. However, in terms of yield per unit of harvested area, and thus grain availability per production (=consumption?) unit, these yields work out in a poor year to only 100 kg, but to 625 kg and 1,250 kg per hectare, respectively, in average and good years; the RAMS survey shows an average/yield for the 1978/79 harvest (an "average" year) of 500 kg. per hectare. Thus, a household with 2.5 hectares would have produced about 1,250 kg gross which - barring major pest damage - would have sufficed for feeding eight persons at a (low) average consumption of 150 kg per year. In a poor year, the same acreage would produce the consumption needs of fewer than two persons.

Among some sedentary populations - notably the Soninke - risk insurance takes (or, at least, used to take) the extreme form of always keeping on hand a multi-year household-level "food security stock", in some cases reportedly up to three years' consumption needs. Sales are (were) allowed only when the stock has been duly replenished at harvest time.

In the oued floodland zone the RAMS study showed much lower yields for 1978/79: 275 kg per hectare for sorghum and 152 kg for millet, or food for two to three and one-half persons.

Summarizing, RAMS (SS 2, p. 63) shows the following typical ranges of yields, in kg per hectare, for the two main food crops in the principal ecological areas (though without indicating to what kind of year these yields pertain):

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<sup>1/</sup>Unless otherwise specified all data on dryland, irrigated and livestock farming are taken from RAMS SS 1 and SS 2. The report does not explain the meaning of "production unit".

	<u>Oualo</u>	<u>Dieri</u>	<u>Oued Rainfed</u>	<u>Floodland</u>
Sorghum	430		285-423	300-500
Millet		240-460	285-423	150-300

RAMS (*ibid.*, p. 76) explicitly states that "the size of cultivated plots per production unit is determined by ..... the labor force available" (in addition to physical factors). Labor requirements are reported (*ibid.*, p. 82) to range as follows, in total days per hectare:

<u>Valley</u>		<u>Rainfed</u>		<u>Floodland behind dams</u>
<u>Oualo</u>	<u>Dieri</u>	<u>Manual</u>	<u>Ox-drawn</u>	
85	70	70	58	89

Since the key operations must be carried out within a sharply circumscribed time limit, this does not mean, of course that, say, one person can cultivate four hectares; on the contrary, more often than not the inverse ratio is probably the rule. The existence of alternative employment is indicated by the non-availability of labor to cultivate all available land.

Despite the low degree of commercialization of the dryland crops, farm workers obviously value their labor at least implicitly in terms of its marginal productivity in food crop production at prevailing prices, compared to its opportunity cost if employed elsewhere. According to RAMS figures, dryland farming is quite non-competitive in that sense. Against an opportunity wage of at least 100 to 165 UM per day assumed at that time (the local cost of hired labor), the survey data indicate that dryland grain production (including allowances for niebe as an associated crop) could not produce an average net return to labor<sup>1/</sup> of more than about 80 UM per day of labor input with traditional technology, and that even ox-drawn cultivation could not increase labor earnings beyond about 100 UM per day (*ibid.*, pp. 89-95). Small wonder, then, that Mauritanian farmers are not particularly motivated to produce dryland food grains beyond their own immediate food security needs.

For lack of empirical data, the economics of ox-drawn dryland farming are not at all clear. RAMS claims, on the one hand, that introduction of this system allows households to expand the area cultivated two to threefold, but allows for only a very slight increase in yield per hectare. The Guidimaka IRD project, on the other hand, calculates a 50% rise in yield per hectare with a (very rough) "benefit/cost ratio" of 1.3:1 for one hectare, while it appears to ignore the area-expanding potential, perhaps because there is no suitable uncultivated land in the project area. RAMS feels that the benefits of ox-drawn cultivation are constrained by labor availability for weeding, which

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<sup>1/</sup> Land rent equivalent to 10-20% of the gross harvest value was imputed in all cases.

continues to be done by hand; yet, they report rental charges of 300 to 700 UM per day for a team of oxen with plow and driver, and a rental price in Nema of 250 kg of sorghum for a plow for one season.<sup>1/</sup>

With respect to the economics of large barrage dams, RAMS reports a 1979 estimate of investment costs of 150,000 to 170,000 UM per hectare of flood land for the 26 Hodh and Tagart dams. Amortized at only six percent for 40 years, the economic cost of this investment is equivalent to 760 kg of sorghum per hectare per year at the current producer price. (No financial cost is involved because farmers are not charged for the investment.)

With the sorghum floor price to producers already way above CIF prices of imported sorghum (see above), it could well be inferred that minimum yields would have to rise significantly before farmers will risk investing more of their prime time in dryland food grain farming. The question is, by how much must they rise, and what is the economic cost of the marginal output from given investments. There are no data that afford a meaningful answer to that question.

#### Irrigated farming

While irrigation is often touted as the panacea for all of Mauritania's problems, irrigated agriculture is subject to some of the same considerations as dryland farming, on the basis of experience to date. RAMS (SS 1, p. 14) estimates that 8,000 active, sedentary persons in the Senegal valley -- about seven percent of the valley's total active population which, in turn, amounts to about one-third of the national total -- farmed an estimated 4,300 irrigated hectares, for an average of 0.5 hectares. The irrigated area was probably overestimated (see "Crop Production") and the population underestimated; in fact, elsewhere in the report it is lamented that SONADER allots only about 0.1 to 0.2 hectares per family, rather than the half hectare that RAMS considers desirable. (SONADER's present average allotment is said to be 0.2 - 0.3 ha.)

Neither the RAMS survey nor any other existing source of data is deemed to reflect with any degree of reliability the economics of irrigated farming in the various types of perimeter in a highly variable environment. There is considerable uncertainty about average yields and about the replicability and sustainability of top farm-level yields, about the off-farm opportunity cost of labor and about the trade-offs between family labor input on irrigated and non-irrigated land. On the other hand, there is some unanimity about certain aspects, e.g., that per household allotments of irrigated land are too small, that the present official purchase price for rice is more-or-less at the upcountry equivalent of the frontier price, and that potential economic returns per unit of irrigated land and of water will have to rise substantially

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<sup>1/</sup>RAMS states that there has not been a survey of ox-drawn farming since 1972, but the report estimates that there were no more than 2,500 ox-drawn plows in service in 1980 (with some families owning up to ten plows).

above present levels in order to (1) maximize labor input by farmers and (2) produce a positive economic rate of return to the investments and operating costs. Much research will need to be done before the appropriate combination of possible farm management changes - higher yields and double cropping of rice as well as introduction of higher value crops and perhaps even partial mechanization - can be suggested to this end. Alternative crops would include not only vegetables (the market for which in the medium run would be sharply limited) but also foodgrains other than rice, such as sorghum and maize.<sup>1/</sup> Some observers are of the opinion, for example, that at present price and yield relationships, white sorghum is a more profitable irrigated crop than rice.

The provision of inputs on a timely and reliable basis would seem to be a sine qua non of a viable irrigation farming system. Many of the current problems of the perimeters are a result of physical and institutional barriers to input provisioning: lack of all-weather access, lack of private competition with the rather inefficient SONADER input distribution and pump repair system, and inadequacy of SONADER's somewhat informal credit system. These external inefficiencies produce a vicious circle at the farm level that results in low land use intensity, low labor input, low yields and hence low financial returns; this, in turn leads to credit delinquency, which automatically disqualifies the entire group concerned for further input supply, thus aggravating the situation further. It may well be that diverting the public funds now spent on subsidizing one-half of the market price of fertilizer to improving the distribution repair and credit system would not only be of objective benefit but would also be perceived as such by farmers. The recently created Fond National de Developpement (FND) is about to create a mixed-capital subsidiary that is designed to accomplish certain reforms in this sense and at the same time relieve SONADER of responsibilities for which it never did feel qualified.

## 6. Conclusion

A summary conventional judgment regarding the economics of agricultural development in present-day Mauritania cannot help being harsh, if it is honest. In terms of returns to capital - the bottom line of modern economics - any investment in agriculture would seem to be doomed from the outset, largely because of the outrageous costs entailed by the infrastructural constraints and the institutional inefficiencies. The fact that external donors continue to enter into new rural development ventures in Mauritania indicates that they have decided to overlook the conventional benefit-cost relation (even though the staffs continue the game of pro-forma economic analysis). Perhaps new formulae are required to place a monetary value on national economic independence - provided that is indeed a feasible objective - and making adequate a priori allowances for high, but perhaps declining, structural and institutional inefficiencies during the intervening years.

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<sup>1/</sup>At that point, price policy for grains other than rice would become relevant for agriculture.

**THE SOCIAL ASPECTS OF THE MAURITANIAN  
RURAL SECTOR**

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## INTRODUCTION

This paper is divided into four sections. The first section will be a presentation of the historical factors that have shaped Mauritanian Society as well as a very brief description of the socio-economic organization that characterizes the main socio-ethnic groups.

The second section will deal with the main factors of social change that have contributed to the evolution of the rural sector, such as colonization, the Sahelian drought of the early 1970's, and the migration patterns. The separate presentation of each of these factors of change should not hide the fact that we are dealing here with complex interacting social processes.

The third section will focus on an analysis of social issues which could become constraints if they are not properly identified and dealt with prior to development interventions in the rural sector.

The fourth and final section of the paper will deal with some general recommendations that will be applicable to the implementation of technical interventions in the Mauritanian rural sector.

The RAMS sociological reports were the main data base. Other sociological studies drawn on are listed in the bibliography. Discussions with social scientists working in Mauritania were also put to use, as well as a five day field trip to the eastern part of the country (the Assaba, Hodh and Tagant regions) and previous field experience in the Senegal River Basin.

The main problem encountered with all the social studies is the lack of reliable quantitative data. Thus, statements tend to be qualitative value judgments rather than documented analysis. The approach adopted here consists in examining social phenomena on which most sources agree and pointing out contradictions or issues where the existing data are not sufficient to back up an analysis.

### Main Factors That Have Shaped Mauritania Society

Although the different environmental zones of Mauritania may appear to be the sole factor in the determination of production systems and the occupation of space by the different rural groups, historical, political and cultural factors have also had a marked influence on the life styles that characterize the rural areas of Mauritania (Hervouet, 1975, p. 109).

The cultural diversity that characterizes the population of Mauritania can be partly explained through historical factors. Thus, the Moors trace their origin to the Arabo-Berber tribes of Morocco, and the black Africans to ethnic groups in Senegal and Mali (RAMS AS-9, p.6).

From prehistoric times to the 13th century Berber populations settled in the Western Sahara and were definitively Islamized after the Almoravid conquests at the end of the 11th Century. The preexisting

population was reduced to slavery or driven southward (RAMS AS 7-2, p.5). In the 14th Century the Arab Hassan tribes led a series of waves of conquest. Once again, the former inhabitants became vassals of the Moors, slaves, or moved to the South (RAMS AS 9, p. 9).

The Moors established a way of life based on trans-Saharan caravan trading and transhumant livestock raising. Agriculture was practiced by their vassal groups in the oases and in the flood recession plains of the Senegal River Basin. The warrior tradition of the Moor tribes was also kept alive through raids against the sedentary people of the South, mainly for economic motives. This contributed to the emergence of centralized political units: the Emirates of Trarza, Brakna and Adrar (RAMS AS 9, pp. 10-12).

The people of the Senegal River Basin also trace their origins to waves of migration and conquests tied to the succession of centralized states. The Toucouleur, the majority of the basin population on both sides of the River, and Peulh, are part of a larger ethnic group, the "Halpoularen," meaning "those who speak Poular." The Soninke are spread over south-eastern Mauritania, Senegal and Mali. The Wolof (the dominant ethnic group of Senegal) settled in the northern Delta area of the Senegal River Basin. All these groups were sedentary cultivators except for the Peulh whose main occupation was livestock raising (mostly cattle). Peulh groups (Fulani) are found in most West African countries. In Mauritania they occupy the area just north of the Senegal River Basin (RAMS AS 7-1, pp. 6-7).

Contacts with the Europeans were established in the 18th Century, mostly through the French traders of St. Louis. These initial commercial links were based on the exchange of slaves and gum arabic from Mauritania for manufactured goods from France (RAMS AS 8-4). However, it was only after 80 years of "pacification" -- 1850 to 1933 -- that the French were finally able to impose themselves as a colonial power. French colonialism had a much greater impact on the sedentary populations of the River Basin than on the transhumant herders of the North (RAMS AS 9, p. 7).

The successive waves of conquests, the migrations of different groups of settlers, the trans-Saharan trade, the spread of the religious brotherhoods, and the search for independence of the servile groups are all factors that have contributed to the establishment of a long tradition of mobility which cuts across the ethnic divisions (RAMS AS 9-3, pp. 3-25).

### Sociological Profiles

The diversity of cultural backgrounds and systems of production that characterize the people of Mauritania imposes a division along ethnic lines for analyzing the main features of the social structure. In spite of this diversity, some socio-economic features are shared by the different ethnic groups:

- through the influence of the brotherhoods and sects, Islam was a very important factor of unity in shaping Mauritanian society, in creating links between the major ethnic groups, and in favoring mobility within and outside of Mauritania (RAMS AS 9, p. 7 and AS 7-2, p. 96).

- a feature shared by many Sahelian societies is that each ethnic group is characterized by a very formal social and political structure organized through a hierarchy of nobles, artisan castes and servile classes within a network of well-defined social, political and economic relationships (RAMS AS 9, p. 8).

### The Moors

In the rural areas, the Moor economy is based chiefly on animal husbandry of the transhumant type<sup>1/</sup> and on agriculture practiced in the oases, on the dry lands, in the flood recession plains, as well as in dam-irrigated lands (RAMS AS 7-2, pp. 20-41).

Only a vassal fraction of the Moor, the Imraguen, practised coastal fishing. The Moors neither fish, nor eat any fish (RAMS 7-2, p. 100), although there have been some incipient changes in the consumption pattern recently (see Fisheries Assessment).

Moorish society is divided into three main groups in a strict hierarchial order:

- The nobles or beidane (of Arab descent) form the ruling class. They can be subdivided into the "Warriors" and the "Marabouts".<sup>2/</sup> The Warriors had built their power on the conquests and raids that were a permanent feature of the traditional Moor way of life. The Marabouts, the priestly class, not only carried out functions related to religion and religious education, but also went into commerce. They owned most of the livestock and the wells, as well as the arable land. Livestock raising, and ownership, was traditionally reserved for the noble groups (RAMS AS 7-2, pp. 83-91).
- The artisans and griots make up the second group. Artisans and griots were attached to noble families for whom the artisans reserved their crafts while the griots were in charge of reciting the glories of the family or the tribe in social gatherings. Most of the artisans have by now turned to the craft of jewelry making, since the traditional styles are still in demand. The griots have often turned to--in modern terms--parasitic patron-client relationships with the families to which they were formerly attached (RAMS AS 7-2, pp. 101-102).
- The subject groups constitute 44% of the total "Moor" population. They can be subdivided into the vassals (Aznaga -5%), the

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<sup>1/</sup> Camels and goats formed the bulk of the herds at the time of caravan trading. Cattle acquired more importance with the opening up of urban markets in the neighboring countries in the beginning of the colonial era.

<sup>2/</sup> Together, the Warrior and Marabout groups constitute 51 percent of the total Moor population (15 percent and 36 percent, respectively) (SEDES Study 1965, cited in RAMS AS 7-2, pp. 84, 88).

cultivators (Haratine -26%), and the household slaves (Abid -13%). Although slavery was officially abolished at the time of independence (1960), and again in 1980 (RAMS AS 9, p. 19), the dependency and the low status of the subject groups is still an important factor in Moorish society. This dependency is expressed through the various fees and labor services that these groups owe to the noble families to which they were traditionally tied. The recent drought and a desire to break those ties has led this group to seek independence through migration to the urban centers (RAMS AS 7-2, p. 103).

The basic social unit of rural Moors is the nuclear monogamous family which lives in an autonomous residence, the tent. Each tent is part of a settlement (campement) whose composition can vary. Each Moor family is part of a section (fraction). A number of sections form a tribe which refers to a common ancestor. The tribe was the economic and political unit around which traditional life was ordered (RAMS AS 7-2, pp. 71-77).

The traditional Moorish land tenure system can be summarized as follows:

- Land ownership originated through conquest, gifts, or first clearing of land. It was defined along social lines through the tribe. The nobles owned the land and the Haratine worked it under various rights of usufruct or land rentals. The fees paid by the cultivators to the noble class were usually set in sharecropping contracts by which the Haratine turned over one-tenth to one-half of the crop to the noble land owners.
- Land was inalienable.<sup>1/</sup> In the oases, where arable land was scarce, a special status (Habous) was often found where descendants of the landowner had only usufruct rights so as to prevent excessive partitioning of the fields (RAMS AS 8-2, pp. 6-13).

### The Black Africans

The four major ethnic groups of the Mauritanian bank of the Senegal River are the Wolof in the Delta, the Toucouleur in the middle valley, and the Soninke in the upper part of the basin. All of them are sedentarized cultivators who also practice some livestock raising. The Peulh, whose main occupation is livestock raising,<sup>2/</sup> also practice some agriculture, mostly in the dry lands.

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<sup>1/</sup> While occasional land sales do occur, these are limited to the oasis areas and, usually, to members of the same group (Accelerated Impact Project in Land Tenure, USAID Nouakchott April 1981, p. 9).

<sup>2/</sup> The Peulh controlled 75% of the large cattle herds before the drought (RAMS AS 7-1, p. 30).

Although there are notable environmentally determined differences in the socio-economic organization of these ethnic groups, enough resemblances do exist in their social structures and systems of production to make some generalization possible (RAMS AS 9, p. 15):

The extended family, village, lineage and clan constitute the social network which defines the privileges and obligations of an individual in relation to the community (RAMS AS 7-1, p. 19). The head of the lineage usually represents the community in relation to the outside world. The polygamous extended family is located within a residential unit, the compound. It is made up of several nuclear families, except for the Peulh whose nomadic life style is characterized by smaller residential units. For the Toucouleur and Wolof, the basic budgetary unit is the nuclear family. The Soninkes' basic socio-economic unit is the extended family. In all these groups, the power of decision making lies with the head of the extended family, the oldest man. His power extends also to the management of the land owned by the family and to the allocation of fields to individual members of the family (RAMS AS 7-1, pp. 18-20, 33, 46, 63).

Like the Moors, the black African societies of the Senegal River Basin are characterised by a strict social stratification based on position within the power structure: freemen, artisans, slaves and the specialized occupations such as fishermen, craftsmen, etc. All these groups practice agriculture but some of them--former slaves and artisans--are excluded from land ownership. The ruling class is either the priestly class responsible for the initial introduction of Islam (Toucouleur), or the warrior noble class, among the Soninke. It should be noted that the internal discipline typical of Soninke society has been responsible for the maintenance of their strict social hierarchy.<sup>1/</sup> In the other groups, more flexible patterns of relationships have emerged. As for the Peulh, the homogeneity of their life style has not allowed such strict social differentiations (RAMS AS 7-1, pp. 21-25, 35, 47-48, 63).

The land tenure system in the river basin varies according to the agricultural value of the different types of land. Thus, the rainfed drylands are practically free of appropriation rights since there is no pressure on them. Fields belong to whoever cultivates them. This varies in the Guidimaka, where, because of the heavier rainfall, some of the drylands located near the villages are more highly valued.

Strict land tenure systems are applied mostly in the flood recession lands (walo) where production is considered to be more secure.<sup>2/</sup> All walo land is considered to be the common property of the lineage.

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<sup>1/</sup>A sample of four villages in the Guidimaka shows that an average of 60% of the population is "nonfree" (from War on Want Study, cited in RAMS AS 7-1, p. 48).

<sup>2/</sup>In recent years the levee along the river basin (fondé) has acquired some value through the introduction of irrigated agriculture on the village perimeters.

The head of the extended family controls the distribution of land. Land ownership is limited to the ruling groups, but there are also inalienable rights of usufruct that give rise to sharecropping agreements with the land owners. The landless (craftsmen, foreigners, former slaves) have to resort to several forms of land rentals. Land is considered inalienable and indivisible although there are a few isolated cases of land sales (RAMS AS 8-2, pp. 13-22).

### Factors of Social Change

This section examines the response--mainly in terms of migration--of the rural population of Mauritania to some of the major external pressures to which they have been subject: colonization and the drought.

#### Colonization

The impact of French colonialism was felt differently than in most of West Africa.

As regards the Moors, the "customary payments" that were made to the tribal rulers were used as a political tool to aggravate conflicts between the different groups and as an economic strategy for the introduction of new consumption patterns geared towards manufactured goods (RAMS AS 7-2, p. 15).

In the livestock sector, the demand for meat by the growing urban centers, as well as the needs of the herders for cash, caused a southward movement of the herders and provoked the Moors' interest in cattle raising. Furthermore, the colonial rule destroyed the traditional capacity for territorial management of pastures by promulgating the principle of "freedom of pasture" (RAMS AS 8-3, pp. 9-11).

In the Senegal River Basin, the initial effect of colonization was a period of peace which brought about the opening up of new farm land as well as an increase in population (RAMS AS 8-3, p. 16). However, this trend was subsequently reversed and was followed by a period of stagnation from which the basin economy never really recovered because the bulk of the agricultural investments made by the French were devoted to the development of the groundnut basin in Senegal, while at the same time, people's cash needs increased because of the colonial taxation policy, and the large-scale introduction of imported manufactured goods. This led to the abandonment of subsistence farming and to rural exodus in search of wage labor in the urban centers or as agricultural laborers in the groundnut basin (RAMS AS 9, p. 14).

#### The Drought

According to the RAMS studies, the Sahelian drought has brought about a major upheaval in the rural production systems. According to census data, the proportion of nomads to sedentarized population was reversed in 13 years--from 65% nomads - 35% sedentary in 1964, to 36% nomads - 64% sedentary in 1977 (RAMS AS 8-1, p. 1); see also below). The magnitude of this demographic phenomenon is open to question because

of the drastic change in the definition of a "nomad" between the two censuses, but there is no doubt that accelerated sedentarization of nomads has taken place.

The herders were forced to sell their remaining animals in order to survive, and ownership of many herds passed into the hands of traders and civil servants while many pauperized nomads became salaried herders for the new livestock owners or migrated to the urban centers (RAMS AS 9, p. 23); AS 8-2, p. 54).

The drought has also greatly accelerated the tendency of the servile classes of the different ethnic groups to break away from the dependency which tied them to the ruling groups, mostly through migration to the urban centers. In the rural areas this has brought about much tension as the ruling groups see their privileges, i.e., the customary fees and tithes from the cultivators, melt away. The exodus of the labor force has obliged some landowners either to work the land themselves or to ease the terms of the sharecropping arrangements (RAMS AS 8-2, pp. 30-32).

In the livestock sector, the drought has brought about an accentuation of the tendency of the Haratin to break away from their role of herders for the Beidane livestock owners, in order to settle as cultivators in the South, and through migration to the urban centers. The loss of qualified labor, coupled with the loss of animals during the drought, has obliged livestock owners to seek alternative patterns of organization to adapt to this new situation, such as hiring Peuhl herders or taking care of the animals themselves with children guarding them.

As for the Peuhl, even though their skills as herders have helped them to survive the drought, they have been affected by the diminution of the barter trade of milk products for grain from the farmers because of the shortage of marketable grain. They have had to sell their milk products and buy their grain in nearby urban markets, or in neighboring countries, depending on the locations. Some Peuhl groups, seeking a more secure type of farming than dryland agriculture, have encountered difficulties in gaining access to flood recession or irrigated agriculture because of the <sup>1/</sup>greater general demand for these lands in a post drought situation.

### Migration

The importance that international migration has acquired for the Mauritanian budget as a whole, as well as for individual household budgets, is illustrated in the following paragraph:

"The authors of the IDEP study estimated that monetary transfers linked to migration for the whole of Mauritania in a recent year totalled one million dollars, 450 million CFA or 290 million UM. This same study showed that this figure is higher than

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<sup>1/</sup>Based on field observations with SONADER in the Kaedi and Boghe regions from 1978 to 1982.

the average annual aid in loans and grants received by Mauritania<sup>1/</sup> in the years 1963-68." (War on Want, 1977, p. 54).<sup>1/</sup>

The RAMS Study (AS-6) estimates that remittances, mostly from immigrants, make up 20% of the rural household budgets. This proportion probably varies in accordance with fluctuations in crop production.

Although migrations have drastically increased in the past few decades, mobility has always been an important feature of Mauritania's traditional economic and social organization (RAMS, AS 9, p.32). The mobility of the Moorish population was tied to transhumant herding within the country's borders, but also to the pastures and urban markets of Senegal, and to a lesser extent of Mali. These movements were also linked to the diffusion of religious sects and to commercial enterprises in the urban centers of the neighboring countries. For the farming populations of the south, mobility was manifested in successive waves of settlements, and in politico-religious movements such as that led by El Hadj Umar (RAMS AS 8-3). Seasonal migrations in search of cash were also customary.

The appearance of a modern sector (administration, mining, construction) and the growth of national urban centers contributed to the acceleration of migratory movements. Nevertheless, the drought of the late sixties and the socio-economic crisis that followed helped spread the phenomenon of migration throughout the country, and to all social groups within each ethnic group (RAMS AS 9, p.34).

The main characteristics of this new type of migration are:

- In cases where reliable employment is found, the men often move their families to the cities, settling there on a permanent basis (RAMS AS 9, p. 35);
- Nouakchott seems to be a main pole of attraction (the population of the city is said to have quadrupled within a few years) for obvious economic reasons, but also because the urban version of the traditional patron-client relationships of rural life seems to function most effectively in the capital city (RAMS AS 9, pp. 34, 37).

The Soninke have a long tradition of temporary overseas migration, mostly to France. The strong collective organization that characterized Soninke society has helped them to withstand the adaptation to difficult conditions. Nevertheless, the restrictions imposed by France in recent years may upset this kind of migration pattern (RAMS AS 9, p. 39).

In the past, migration revenues were used mostly for discretionary and prestige purposes: consumer goods from Europe, contributions to Mosques, house building, jewelry, etc. However, the food deficit brought about by the drought has resulted in the increasing use of remittances

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<sup>1/</sup> Cited in Smale, 1980, p. 56.

for grain purchases and for financing farm production, such as hiring farm labor or buying inputs for irrigated agriculture as has been the case in the Guidimakha village perimeters.<sup>1/</sup>

### Development Issues

The foregoing brief overview indicates that development efforts in Maritania today must deal with strongly hierarchical social groups closely tied to specific production systems, but that both the social hierarchy and the rigidity of the production systems are beginning to break down under the impact of the droughts and their derived effects.

In an environment where risks are high, various groups have developed strategies to control the resources which they needed so as to ensure their survival. Furthermore, they relied on some type of mobility.

Each of these production systems had to overcome specific constraints to ensure its survival. Thus, the Moors had to extend their political control through tributes over large areas of different ecological zones including rangelands and farming areas. In the river basin area, the Toucouleur controlled access to the valuable flood recession lands through a religious hierarchy. The Soninke production system was based on the control of labor through a military nobility in an environment where more land was available because of the higher rainfall.

### Land Tenure

The land tenure problem has been identified as one of the most important sociological constraints that will have to be dealt with in order to implement development interventions in the Mauritanian rural sector (RAMS AS 8-2, p. 3). Two attempts have been made to deal with the quality of land ownership and land use that characterizes the traditional land tenure system:

- In 1928 the French tried to impose a landownership act that would recognize owners only after registration of the land. This had very little impact on customary laws. However, some owners who had registered land through the colonial system are using this law to claim ownership of land whose value has recently been increased through irrigation.
- In 1960, the newly independent government enacted a new land ownership law which is considered very vague. It does not address the relationship between ownership of land and its use. Furthermore, it does not make allowance for the diversity of customary laws (RAMS 8-2).

Thus, although acute land tenure problems have arisen in most agriculture development interventions including barrages, oases and irrigated agriculture, the question of how to ensure the accrual of benefits

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<sup>1/</sup> SONADER field observations.

to all groups concerned will have to be resolved in order to ensure maximum participation (RAMS AS 8-2, pp. 23-27), as well as for reasons of social equity.

Related to the issue of land tenure is that of the agricultural labor force. Since a considerable portion of the agricultural work is done by servile groups, the availability of labor will be affected by the massive exodus of these groups to the urban areas in their search to break the social and economic ties in which they were bound. In the rural areas themselves, a considerable amount of tension is exemplified by the cases of R'kiz where, in 1972, the Haratine actually refused to cultivate the land in opposition to the heavy land use fees (RAMS 8-2, p. 32), or of the Magta Lahjar area, where land whose value had been increased through the construction of dams by Haratine cultivators was claimed by Beidane landowners.

In the livestock and environmental protection sectors, the lack of an appropriate land legislation has manifested itself as a constraint to development interventions such as the Guidimaka Integrated Project:

"Interventions involving range management are not likely to be effective without a stronger national policy on access to, and control of grazing lands."

"The lack of legislation or regulations limiting pasture use between residents and nomads has dampened the motivations of people nearby to carry out major improvements such as planting trees or leguminous species."<sup>1/</sup>

In several case studies (RAMS AS 8-2, pp. 31-36), the RAMS sociological team asserts that, beyond the problem of social equity, the land tenure issue can have negative effects on production itself. The problems encountered by SONADER in the development of irrigation in the Senegal River Basin is a good illustration of how the production results from a project involving very high investments can be much lower than expected owing to unresolved land issues (ibid. pp. 69-70).

An AID project is underway in that field through the technical assistance of the Land Tenure Center of the University of Wisconsin. It will apparently be limited to the training of a few Mauritanian law students in the area of resource and land tenure administration. A preliminary study made some innovative proposals (Manzardo, 1981), based on the premise that most land tenure problems in the RIM are not within groups, but are between groups competing for a single set of resources. Based on this assumption, the author proposes a land tenure legislation similar to the hema system of Syria whereby traditional land control rights were recognized by the Government and the management of these resources was turned over to the local communities, which were set up as

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<sup>1/</sup>"Interim Evaluation", Guidimaka Integrated Rural Development Project, May 1982, pp. 15, 30.

cooperative groups. Such measures may be quite effective in relation to livestock raising and environmental protection.<sup>1/</sup> But their application to cultivated land would probably not diminish the tensions within the different social groups for the control of the products of farming.

Although the land tenure issue is politically very sensitive, the Mauritanian government recognizes it as a serious problem:

"Aucune solution n'est encore en vue pour trancher les problèmes fonciers qui freinent la mise en valeur agricole et nuisent à la poursuite de l'objectif d'auto-suffisance alimentaire. De ce fait, les terres cultivables ne peuvent être aménagées et livrées aux activités de production intensive. La gestion des parcours est rendue difficilement organisable, ce qui nuit à l'amélioration de l'élevage. Dans la mesure où ils ne jouissent pas de l'usufruit de leur travail, les paysans et éleveurs n'ont pas la motivation nécessaire pour leur libération économique. L'absence de solution au problème foncier est l'élément principal de stagnation du secteur rural."<sup>2/</sup>

In the past, several national commissions have been set up to study the land tenure issue and come up with solutions, but they have had little success. The Ministry of Interior presides over the latest of those commissions, which has been given the task of elaborating a new land tenure legislation.

### Livestock

In the livestock sector, the major social issue related to development efforts has to do with the so-called sedentarization of nomads about which there seems to be a lot of confusion. In the RAMS sociological reports (e.g., AS 8-1, p.1), there are repeated references to the "disintegration of the traditional nomadic lifestyle". However, these statements seem to be in contradiction to the question raised in the RAMS livestock report (AS 1) about the reconstitution of the animal population to its pre-drought level.

In spite of the lack of available data, several hypotheses can be advanced to explain the apparent contradiction:

- because of the more restrictive definition of nomadism in the 1977 census (see above) the proportion of livestock herders to sedentarized population may have been underestimated;

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<sup>1/</sup> A World Bank Project in livestock is getting under way in the southwest, in which the traditional rights of communities on rangelands will be recognized and herders will be organized in associations with legal status.

<sup>2/</sup> "Situation Socio-économique de la Mauritanie" Direction des Etudes, Ministère du Plan et de l'Aménagement du Territoire, November 1982, p. 10.

- the composition of the herd may have changed after the drought so as to include more small ruminants who need less care than cattle;
- the reported concentration of livestock ownership may also imply that fewer salaried herders are taking care of larger herds.

Although no data are available, it is assumed that the concentration of herd ownership in the urban middle class must have had a significant effect on the distribution of traditional wealth, at least among the Moors. However, in the Fulani groups there are traditional forms of redistribution, such as animal loans, under which the borrower may keep the animals for long periods and benefit from their products.

Another issue related to the post-drought situation of livestock herding has to do with what Manzardo refers to as the massive movement of the herders to the south as a result of the drought and the ensuing conflicts with the farmers of the south. On closer examination, the situation may not be as dramatic as it would seem. Thus, for instance, according to RAMS (AS 1, p. 133) the drought brought about a shift of animals away from the more degraded agro-pastoral areas of the south-west into the less affected southeastern rangeland. But Cheikh Abdel Whedoud<sup>1/</sup> points out that competition for land and water occurs in limited areas such as near the most recent dams where the newly cultivated land was previously devoted to pasture.

This type of problem will certainly come up in development projects such as the construction of the Gorgol Noir dam and a 2,500 hectare irrigated perimeter (a multi-donor intervention) in a region devoted traditionally to livestock herding.

### Agriculture

For rainfed agriculture RAMS (AS 4, p. 60) recommends the use of fertilizer, but there is no indication regarding its acceptance by farmers. Field experience indicates that farmers would probably be very reluctant to make monetary investments in this type of agriculture where the outcome is uncertain because of the rainfall pattern.<sup>2/</sup>

The experience encountered by SONADER and by most of the agencies involved in rural development projects in Mauritania indicates that farmers may be very reluctant to specialize in a single agricultural activity. The economic uncertainties tied to most of the activities that they can undertake explains the risk spreading strategy that most of them have adopted. Hence, diversification of regional and household

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<sup>1/</sup> IMRS Sociologist, personal communication.

<sup>2/</sup> Recent evidence (limited field observations, Cheikh Abdel Whedoud, IMRS) seems to indicate that, because of the succession of dry years, farmers are concentrating their efforts on the types of agriculture whose outcome is more secure, such as flood recession and irrigated agriculture. The proliferation of new earthdams in the Magta Lahjar region is another illustration of this phenomenon.

activities is the rule and specific production systems must be analysed through an integrated approach where activities such as farming, livestock raising, trade and seasonal wage earnings are all interdependent components of the household. (See OMVS socio-economic study for further information on this point.)

The development of irrigated agriculture in the Senegal River Basin has brought out social issues that will have to be taken into consideration in the future. They deal with the uncertainties of ownership of the irrigated plots, the top-down approach in which little initiative is left to the farmers, the limited size of the plots, the high cost of the inputs, and the maintenance of the infrastructure. (RAMS AS 8-2, pp. 69-78.)

### Participation

The outstanding social issue related to farmer or herder participation in development interventions concerns generation of maximum participation in a very hierarchical society where most producers are isolated, dependent on government initiatives, and not trained to deal with the technical and organizational problems that arise with the implementation of rural development projects.

In the livestock sector, the setting up of herders' associations has been identified as the most effective way to deliver services to the herders and to serve as a vehicle for the organization of interaction between the government and the herders in sahelian countries (Aronson, 1982). Two livestock projects which are about to start in the southwest (World Bank) and southeast (FED) regions of Mauritania are aiming at organizing herders' associations and improving range management practices through the recognition of traditional territorial rights of those groups.

However, in Mauritania only the most powerful Moor factions have undisputed territorial rights over areas that are large enough to make range management viable, and have sufficient internal homogeneity to guarantee some success to herders' associations. (It is this same category of herders who put pressure on the government to deliver free veterinary medical supplies and imported animal feed. (Situation Socio-Economique de la Mauritanie, Ministère du Plan, November 1982, p. 12). This would mean that the Fulani, for example, who have such an important role in cattle raising, would not be involved in range management schemes since they have no traditional territorial rights over the areas which they occupy.

In the crop production sector, the question becomes how to set up manageable cooperative groups when one is dealing with small independent farmers, absentee owners and sharecroppers. Although the need to set up cooperative groups for the provision of inputs and for the management of credit and communal infrastructures is felt, difficulties have arisen over the choice between supporting traditional forms of authority--with the risk of non-participation of the lower status groups (see case of Gorgol Noir Project), or of setting up artificial structures that do not automatically ensure maximum participation. The Guidimaka Project was faced with this type of problem:

"The former [Peuhl] seem often incapable of organizing themselves for permanent cooperative ventures. In the latter (the Soninke), the extended family is already a de facto cooperative, whose established patterns and power structures are threatened by new cross-family cooperative action " (Guidimaka Project Interim Evaluation Report, p. 32)

Furthermore, the cooperatives which have been created up to now were often artificial structures whose raison d'être was tied to the construction of a perimeter in the River Valley, or to the hope of obtaining some kind of assistance from the government in other areas. The statutes imposed by the cooperative service of the Ministry of Rural Development were unadapted to their situation, and the extension training which farmers received was limited to basic new agronomic techniques. Hence, these groups were incapable of dealing with their management and organizational problems.

To deal with these shortcomings the Ministry of Rural Development is "reorganizing" the cooperative movement by eliminating fictitious cooperatives, creating regional unions of cooperatives, and holding training sessions for farmers in cooperative management in a school which just opened in Boghé.

### The Role of Women

The role of women in agriculture has gone through considerable changes in the past few decades. With the increasing migration of the men to the urban centers, an important part of the agricultural work, including "management" has fallen to the women; yet, they have not been integrated in their role of producers in to the development programs that have been initiated up to now (RAMS AS 8-2, pp. 51-52).<sup>1/</sup>

Smale's study analyzes the role of women--in addition to their duties as householders--through the complementary activities that they perform within the production units of farming and herding, such as sowing, guarding the fields or the animals, weeding, harvesting, etc. Activities restricted to women that contribute to the household income are also described. For example, vegetable production or the sale of milk products are sources of women's personal income, from which they contribute to the family budget for items such as clothing, jewelry, and housewares.<sup>1/</sup>

In spite of this, official demographic data, including the census and RAMS demographic projections (AS 3), continue to ignore the role of women in the labor force.

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<sup>1/</sup>On this point Melinda Smale's well documented study on Women in Mauritania should also be consulted.

<sup>2/</sup>These comments do not apply to Beidane women, among whom idleness was culturally valued as a sign of nobility. However, because of the exodus of servile labor, some Beidane women are beginning to play a more active role.

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**MANPOWER AND INSTITUTIONAL DEVELOPMENT**

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## MANPOWER

Education and, thus, manpower training for development, are handicapped by a number of social phenomena (see also Social Issues): although predominantly Moor, the population comprises several important ethnic minorities that speak different languages and have different ways of life. Hassania Arabic, spoken by the majority of people, is now used as the national language while French is still the official language. There was a revolt in 1966 when Arabic was decreed as the national language. Now the Government plans to introduce, besides Arabic and French, three additional languages at the primary education level by 1985: Poular, Soninke and Wolof. The literate population numbered less than 1% in 1977. Among them, more than half read or wrote Arabic only, one fourth both Arabic and French, and the remainder other languages. As in other LDCs, urbanization has been growing very fast; to 23% in 1977 of a population that still lives predominantly from pastoralism and agriculture. The educated people are mostly concentrated in the national capital and a few regional towns.

### Educational Level of the Population and the Labor Force

The educational level is lower than in most other LDCs. According to RAMS (FS 3-1, pp. 10-11), based on the GIRM census of 1977, of a total literate population of 189,300, slightly less than half had received some traditional education (family or organized), 42% received primary education (80,240), 7.4% secondary and higher education (14,120), and 1.5% technical and professional education (2,990). The bulk of the educated population is, of course, in the capital. Nouakchott alone had nearly one-half of the people with technical, professional education, and secondary and higher education, but only one-fourth of those with primary education. The literacy rate among the urban population was twice as high as in the rural areas, being about the same for the sedentary as for the nomadic population, but 42 percent higher than among women (ibid. pp. 7-9).

Nearly one-third of the 232,000 persons in the sedentary labor force (already working or seeking work) were literate. Expectably, only seven percent of the agricultural labor force and 17% of the rural artisans were literate (ibid., p. 18). Fewer than one percent of the active nomadic population had received a formal public education of any kind, five percent received a traditional family education, two percent a traditional organized education, 0.5% some general primary education, and 0.02% some secondary or post-secondary education (ibid., pp. 13-15).

### Education and Training

With the assistance of international organizations, the GIRM has made a great effort to improve the educational situation. In 1980, the Government employed 3,560 civil servants for fundamental and secondary education alone (ibid., p. 64). Public education expenditures varied from 4% to 5% of GDP between 1975 and 1978; they represented an average of 15% of total public operating expenditures, rising to 17% in 1980. If investment expenditures and regional budget operating expenditures for education are included, education was responsible for 11% of the total State budget in 1976-77 (ibid., Appendices 15 and 16).

As the census data indicate, education has been developed in the urban areas rather than in the countryside. Many of the rural regions had a rate of enrollment as low as 14%. Only in Nouakchott and in two regions is this rate in excess of 50%. Furthermore, the heavy emphasis upon secondary and higher education at the expense of primary education has put the rural population at a definite disadvantage because only primary education is available to them (*ibid.*, Appendices 16, 17 and 21). Nevertheless, at least in quantitative terms, and for the country as a whole, visible progress had been made. In 1980, public institutions were training 89,000 elementary school students, 12,134 secondary education students, 679 technical school students, and 1,642 vocational and higher education students (*ibid.*, Appendix 42).

The number of students trained abroad is difficult to estimate. According to various sources of information, there are at present about 3,000 to 4,000 Mauritians pursuing overseas training in about 30 countries, the largest number in France, Morocco, Tunisia, Algeria, Senegal and Iraq.<sup>1/</sup> Most sources agree that the vast majority are still in training and only a small minority have returned. Lamentably, 43 percent of these students were studying humanities and social sciences as against only 4.7% in the agricultural sciences (RAMS, *op. cit.*, Appendix 40). The GIRM created a university in 1980 which teaches only law and letters; according to GIRM sources, no new scholarships for studies abroad will be given to those who want to pursue these branches of learning.

All the weaknesses of this education and training system have been analyzed by the RAMS study: the excessive emphasis on general education; the neglect of primary and technical/vocational education; the exaggerated granting of scholarships, which usually consume two-thirds of the institutions' budgets; the slow progress of Mauritanization of the teaching staff; the low quality of training, especially in the countryside where primary school students are mostly taught by "monitors" (those who failed the graduating exams of the elementary teachers training school); the irrelevance of training to the job market, the complete lack of education for adults (RAMS, *op. cit.*, especially pp. 223-243). RAMS also suggests radical and large-scale reforms which require the mobilization, involvement and coordination of all public agencies concerned, the creation of many new organizations and coordinating committees involving the President, many ministers, agency heads, and government representatives at all levels. In short, the RAMS study recommends, not only for education but also for all other fields related to the development of the rural sector, a sweeping, even grandiose planning and implementation scheme,<sup>2/</sup> that, as will be shown below in the examination Mauritania's institutional capacity for development, is quite unrealistic.

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<sup>1/</sup> According to the Sahel Manpower Project Evaluation Report (AID, May-June 1982, p. 72), the total number was 4,000. According to RAMS (FS 3-1, Table 6.3, page 101) the number was 2,744 for 1979-80. The number estimated recently by the Directorate of Higher Education and Training of Cadres, GIRM, was 2,000 under its control.

<sup>2/</sup> See especially PI 2 for education, OP 6 for agricultural institutions.

## The Labor Force

### Nomadic/Sedentary and Rural/Urban

Although, as noted by RAMS, statistical figures should be used with great caution, they provide some general notions about the labor force. According to the 1977 Census, the total population was 1,339,700, out of which two-thirds (895,700) were sedentary and one-third nomadic (440,000).

The "manpower stock" of 709,000, defined as those who can potentially work (15-64 years), amounted to slightly more than half of the total. The labor force (defined as those who are working--the employed--and those who are not working--the unemployed--but who want and are seeking work) represented one-third (451,000) of the population. Of this labor force, two-thirds was sedentary (301,000) one-third was nomadic (150,000) and 10 percent was unemployed (RAMS, FS 2, p. 79).

The sedentary labor force was one-third urban and two-thirds rural, with a 14 percent unemployment rate, as against only two percent among the completely rural nomadic population. In 1977, agriculture was the occupation of nearly half the sedentary labor force, followed by commerce and transport (12.5%). Among the nomadic labor force, 77.6% were occupied in stock raising and 15% in farming (ibid., pp. 9, 25, 30, 32.).

### The Modern and Public Sectors

The modern business sector employed a very small percentage of the labor force. According to a 1980 RAMS survey, 199 firms with five or more employees in the six largest towns employed slightly over 15,000 employees. Excluding SNIM, a parastatal organization with 5,000 employees, this number is reduced to 10,000, or less than 2% of the total labor force. Some large enterprises paid salaries higher than those for equivalent position in the Civil Service (RAMS, FS 3-1, pp. 35-37).

The Government is by far the largest single employer in Mauritania, although it is impossible to obtain even a rough estimate of its work force. According to RAMS (ibid., pp. 58-64), in 1980 the Civil Service included 9,576 employees, as follows:

Education	37%
Health, Labor and Welfare	18%
Finance and Commerce	12%
Rural Development	7%
Interior	6%
Islamic Affairs	5%
Other Agencies	15%

Educational levels were distributed as follows:

<u>Category</u>	<u>Number</u>	<u>Percent</u>
Category A (high school diploma and higher education)	619	6%
Category B (junior high diploma)	1,772	19%
Category C (grade school diploma)	2,927	31%
Category D (some primary education)	2,999	31%
Other	1,250	13%

These figures were taken from the payroll printouts which excluded the employees of several parastatals and the diplomatic staff. RAMS points out (*ibid.*, pp. 29-30) that the Civil Service and parastatal enterprises and financial institutions (which appear to be mostly para-public) employed 88% of the people with higher education, 64% of people with secondary education and 46% of people with primary education. According to the Civil Service Directorate the number of tenured civil servants (*fonctionnaires*) and non-tenured employees (*agents auxiliaires de l'Etat*) under its jurisdiction was 10,184 by the end of 1981. This does not include the personnel seconded to the many autonomous organizations whose total number of employees may equal or even exceed the Civil Service work force. The security forces (police, guard, militia, armed forces) totalled 15,000 in 1981. The proportion of public sector work force serving in urban areas is around 55% and in rural areas, 45%. The vast majority of those serving in the rural area are soldiers, guards, militia, policemen, school teachers and nurserymen (RAMS, OP 7, p. 53).

#### Public Cadres for Rural Sector Development

The Ministry of Rural Development (MDR) is directly and indirectly responsible for most aspects of this sector. In 1980, MDR had a total of 681 employees, equivalent to seven percent of total Central Government employment. Of these, 14 were in category "A"; 121 "B", 194 "C"; 215 "D", and 137 "others" (RAMS, FS 3-1, p. 64). Professional and technical personnel of MDR and the autonomous organizations under MDR supervision (mostly SONADER) was distributed as follows among specialties:<sup>1/</sup>

<u>Service</u>	<u>Veterinarian or Engineer</u>	<u>Assistants</u>
Agriculture	12	19
Animal Health	8	31
Forestry	4	3
Rural Engineering	3	0
Total	<u>27</u>	<u>53</u>

<sup>1/</sup> Condensed from RAMS AE 4-3, figure 5.4.

### Concluding Observations on Manpower

This brief review of the labor force, based upon doubtful statistical figures, gives only a very tentative idea of its quantity, and especially of quality. The population may be much higher than the census indicates: many nomadic tribal groups may have been outside the country (Mali, Senegal) at the time of the census. The ratio of sedentary to nomadic population may also have been distorted by the difficulty of definition of "nomad". (See Social Issues and Livestock Assessment). There is a great deal of confusion as to what constitutes the modern business sector, the civil service sector and the para-public sector. Nevertheless, it can be concluded that the general degree of manpower skills in Mauritania is much lower than in most LDCs. This shortage has been remedied to some extent through expatriates who are supposed to transfer skills to local counterparts, and by in-country or overseas training. While substantial resources and effort have been devoted to both, progress has been slow. The question can be asked whether the gap between the supply and demand of manpower is widening rather than diminishing with time. An attempt to answer this question will be made in the review of the institutions which make use of this manpower, in particular those concerned with development of the rural sector.

## INSTITUTIONS

In its assessment of Mauritanian traditional and modern, public and private sector institutions, RAMS has made an impressive effort to collect data and information and to discuss and expose their weaknesses and defects. However, the RAMS analysis is confined mainly to the formal structure of these institutions; it neglects almost completely to examine their informal behavior, which is quite distinct from what is set forth in the institutions' charters. As a result, while RAMS recognizes that the system has exhausted its absorptive capacity owing to the constraints imposed by the government's fiscal situation, it then advocates further, substantial expansion of the bureaucratic machinery through the addition of more civil servants for developing the rural sector. This assessment attempts to analyze the basic cause of what goes wrong and the informal dynamic of the bureaucracy.

### Root Causes of Institutional Weaknesses

The Mauritanian bureaucracy is the leading, perhaps the only institution, on which the success or failure of the country's development effort depends. As elsewhere, the bureaucratic system has to interact with its environment. By studying its interaction with the socio-political system, in particular, one can hope to better understand bureaucratic behavior in Mauritania.

### Political Instability and Bureaucratic Behavior

The socio-political situation in Mauritania is exceptionally complex and difficult. The country is composed of many tribes, each with its own culture and socio-political structure. Some are oriented toward the Arab world, others toward black Africa. Several tribes cut across national boundary lines. Even though all are united by the same religion--Islam--religious as well as tribal values have to some degree deteriorated through contact with the outside world through colonial rule and international trade. There is not yet a real consensus about the socio-political rules of the game, and the regime faces an imbalance between legitimacy and power and has been struggling to fill the gap in the way most other non-communist LDCs have.

Facing a crisis of legitimacy, any regime in the non-communist Third World has to attempt to make up for it by recourse to some use of "power"--manipulation, distribution of wealth, political games, coercion. Among other things, maintaining the stability of the regime calls for a certain balance between personal loyalty and technical qualifications in assigning people to key positions. It may be necessary to co-opt or drop some individuals and groups at certain times, depending upon the requirement of the political moment. Frequent changes of government are needed for the sake of political stability, and each change of government is accompanied by changes at successively lower levels of the bureaucratic hierarchy. Because national identity is at an incipient stage, while tribal and family loyalty still remain strong, and because there is little if any alternative white-collar employment, the bureaucracy has become an arena in which rival socio-political groups vie for power and

wealth. Personal, family and tribal connections may at times pay off more than professional qualifications. Given these socio-political constraints it has become extremely difficult to make a rational allocation of scarce human resources.

### Interaction Between the Formal and Informal Bureaucracy

In this bureaucratic milieu, the French Civil Service model, which has been adapted to the local situation, remains merely a formal structure. What happens in practice may be different from what is officially prescribed. Through the mechanism of secondment (detachement), a member of any specialized corps of employees administered by one Ministry can serve in any position, even if it is not related to his specialization--in other ministries or autonomous organizations, international organizations or even mixed or private sector enterprises which serve the public interest. It is not unusual for a veterinarian to serve in the Ministry of Fisheries or the Ministry of the Interior, or at SNIM. The boundary between what is "reason of service" and "personal convenience" is indeed, difficult to determine. There are understandable reasons why public servants would use the secondment system to remain in Nouakchott, or at least in one of the other major towns, rather than to serve in the rural areas.

In theory, all graduates from technical/vocational schools can honor their commitment to serve the Government for at least ten years. After obtaining training for several years with a study scholarship worth 6,000-7,000 UM a month, a graduate would typically join a corps of "primary school teachers", "secondary education professors", or "live-stock extension workers". But for reasons of personal preference and through connections, the individual can also be seconded to a job which may not have much to do with the specialty for which he was trained. Frequent memoranda (circulaires) issued by the Ministry of Civil Service, reminding all public services to observe the law on matters of secondment, appear to indicate that this situation is rather widespread. Even graduates who violate their commitment by quitting the public sector altogether are not held accountable because there is no system for keeping track of them. Besides, interventions from friends, relatives and colleagues tend to discourage attempts at enforcement. Nevertheless, while the overall impression seems to be that many graduates are not honoring their public service commitment, it might be argued that, at least, the country as a whole is receiving some benefit from the training provided if they remain in Mauritania.

In such a bureaucratic environment, the deficiencies identified by RAMS are not surprising: to lose to the modern sector (SNIM) people trained for the rural sector; frequent reorganization of the government to reflect policy changes; highly centralized structure; lack of adaptability to meet the critical needs of the rural population; absence of an effective planning mechanism and coordination between planning, budgeting and implementation, and multiplication of institutions (RAMS, AE 4-2). But these weaknesses are merely the symptoms of the need, discussed earlier, to maintain political stability. Hence, administrative reforms based solely on technical and economic considerations would be difficult to achieve.

## The Formal Bureaucracy

### The Government Civil Service

The Civil Service has been carefully analyzed by RAMS (AE 4-2 and OP 6). At the national level, the structure of government follows certain norms: sectoral and functional divisions of responsibility define separate ministries. As of April 1981, GIRM consisted of 15 ministries and 34 dependent institutions. A government reshuffle occurred in August 1982; this is shown in an unofficial chart prepared by the AID Mission (Figure 1). The new GIRM has 18 ministries, excluding the Primature (Prime Ministry). One of the main changes is the creation of a Ministry of Planning and Regional Development (MPAT). Based on RAMS findings (AE 4-2, p. 51), this appears to be the fifteenth change of government structure since 1960.

There are 12 regions in addition to the District of Nouakchott. Regions are subdivided into 44 departments, which are further subdivided into 36 arrondissements (some regions do not have arrondissements). Ministry field services are represented at the region, department and arrondissement levels, depending upon the requirements of each locality. Governors of regions, department prefects, and arrondissement sub-prefects are all employees of the Central Government. The regions are territorial collectivities with a limited autonomy, a negligible budget and a small number of low level personnel paid from this budget (ibid., pp. 62-82).

All of the civil service agencies (services administratifs), including those of MDR, follow the same personnel and finance rules, along the French bureaucratic model. These rules are enforced by the ministries of Civil Service and Finance. As a result of successive austerity measures and inflationary pressures, salaries and operating funds have been gradually and drastically reduced in real terms. At the end of 1982, the per diem for all civil service employees at all levels for in-country travel, for example, was total of 600 UM (US\$12) for ten accumulated days and even this was paid only in cases where host authorities cannot provide food and lodging from budgets which contain very little representational funds.

Given the bureaucratic environment discussed above, it is natural that the central government structure and personnel are very heavy at the top in Nouakchott and very light at the arrondissement level. Administrative units at the level of the village and nomadic encampment, called for by legislation first enacted in 1968 in Public Law No. 68.242, and later, in 1980, in Public Law No. 80.144, have not materialized because of the delay in the issuance of an implementing decree (ibid., pp. 73-74).

The basic development issue thus becomes how, with such a low capacity of government at the local level, the bureaucratic machinery can hope to penetrate and develop the rural areas in accordance with the decentralized and participatory policies of the planning rhetoric.

## The Autonomous Organizations

A study of the organization of the para-public sector against this background of the Civil Service proper is revealing. RAMS has gone into great detail in its analysis of many of these autonomous agencies, but has neglected to analyze the relationships between these two structures, despite their important implications for development.

As in many LDCs, there has been a proliferation of the 30-some autonomous organizations placed under the supervision (tutelle) of the Ministries. The reasons for their creation are many: to overcome the rigidity of the Civil Service rules which do not fit the requirements of development; to satisfy the requirements of external donors and lenders that do not want to see their resources dispersed in the general budget; to provide the operational flexibility required by the industrial or commercial nature of the responsibilities of certain institutions; because the private sector is too weak and too small to handle big enterprises, or; to take over foreign enterprises which have been nationalized.

There are several categories of autonomous agencies called établissement public (EP). Law 67.172 of July 18, 1967, established three categories: the établissement public à caractère administratif (EPA), and the établissement public à caractère professionnel (EPP). The établissement financier governed by Law No. 74.021, which regulates banking, may be classified as an EPIC. According to the enabling legislation (Law 67.172), the base salary and allowances of all EPs must follow the "norms" applicable to the Civil Service agencies. Yet, the application of these norms through the constituting decrees, and multiple and successive changes in parastatal legislation, have led to growing deviation from these norms.

At present, it appears that the EPA's autonomy is more limited than for EPIC's: base salaries in EPAs are aligned with those of the Civil Service but the indemnités (allowances) are determined by the board of directors; in practice this makes for a substantial difference in total compensation. The EPA's financial rules are similar to those applicable to regular administrative agencies, through with some simplification (e.g., control by an agent comptable appointed by the Ministry of Finance). EPICs, on the other hand, are allowed to have separate personnel rules governed by private labor law, as well as commercial accounting rules. Salaries and allowances tend to be much higher than in EPAs, let alone those of regular public services. On the average, total compensation in EPAs and EPICs may be double or triple that in the Civil Service; the result has been a brain drain from the Civil Service.

Civil servants can be seconded to EPs and enjoy all their perquisites, while still maintaining their rights to seniority, advancement and retirement in the Civil Service. Law 67.169 establishing the Civil Service Statute (art. 69-86) allows for a détachement of up to 5 years, renewable each year thereafter. While the law prescribes that the total number of seconded personnel cannot exceed 20% of the total corps of civil servants concerned, it excludes from this percentage cases of détachement d'office (an automatic mechanism in case of appointment to

policy-making offices). Moreover, because of the shortage of staff, the Directorate of Civil Service is in no position to enforce this provision. Also, the socio-political dynamics discussed earlier do not seem to encourage this enforcement.

In addition, the same legislation also authorizes a civil servant to be mis hors cadre to serve in autonomous organizations and later be reinstated in his original service at his old level. After exhausting all these devices, he may have recourse to the mise en disponibilite which allows him to interrupt his career service for a few years with the possibility of rejoining it later. The Ministry of Civil Service has issued memoranda reminding other ministries correctly to observe civil service regulations in these matters. Ordinance No. 79.313 was issued in 1979 providing for the leveling of personnel compensation (base salary and allowances) in para-public and public sector organizations, but it has not been enforced to date because the implementation decree has not been issued.

It should be pointed out that almost all autonomous organizations are run by Civil Servants or military personnel. Their boards of directors comprise directors of the ministries concerned, and their management consists of civil servants seconded from the ministries. The bureaucrats tend to run even the EPICs as administrative agencies whose purpose is to render a public service free of charge, but not to generate revenues. This applies in particular to EPAs, whose revenues, if any, would go to the general state budget. For all practical purposes, they are not different than administrative agencies, except for the high pay and the flexibility in operating rules. Whether these differences lead to efficiency and effectiveness or to abuses depends on the overall bureaucratic environment described earlier. A few organizations may fare a bit better than others, depending on the leadership, the sources of funding, and the circumstances. The overall results, however, may not be much different than in the administrative agencies.<sup>1/</sup>

Two major issues can be raised here: (1) ministries are supposed to provide coordination to parastatal organizations under their supervision to achieve the goals of their sectors, but how can they fulfill this role when they are in such an unfavorable situation in terms of human and financial resources relative to the organizations under their tutelage? (2) how could the state budget, with its meager revenues, handle all the counterpart funding and recurrent costs generated by the parastatals-run development projects that are supported by external resources?

#### The Ministry of Rural Development (MDR)

The MDR is the institution most directly concerned with rural development. Its organization and activities, shortcomings and deficiencies have been analyzed carefully by RAMS (AE 4-2, OP 6). No great changes have occurred since that analysis. A new parastatal organization, SOMALIDA (Mauritano-Libyan Society for Agricultural Development) has recently been created and placed under MDR's supervision, and a planning

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<sup>1/</sup> For an analysis of parastatal performance in the agricultural sector, see RAMS AE 4-1, pages 16-28.

unit is being added with World Bank assistance. MDR's administrative agencies follow the same operating rules as those supervised by other ministries and thus share the same problems. The autonomous agencies placed under MDR's supervision are roughly similar to the EPs described above. One of the parastatal organizations, SONADER (see Crops Assessment), is almost as big as the Ministry in terms of personnel and budget.

### Training Institutions

All training institutions have been comprehensively assessed by RAMS (FS 3-2). Their shortcomings, as identified by RAMS, can be understood in the light of the internal dynamics of the whole bureaucratic system, in particular the extremely high cost of training owing to scholarships which benefit mostly the urban people; the extremely low progress in Mauritanization of the teaching staff; the loss of rural sector trainees to the modern sector; the difficulty of assigning teachers to the rural areas, the non-relevance of education content to the job market; the preference of students for the humanities, law and social science. It is not surprising that the more successful institutions are those which train middle and lower cadres for the modern sector enterprises (especially SNIM) and at their request.

ENFVA (Ecole Nationale de Formation et de Vulgarisation Agricole) is the only institution which trains middle and low level cadres for the rural sector. It is located at Kaedi. According to RAMS, thus far it has constituted the last recourse for students who are unable to pursue further education in other areas. Since the time of its establishment in 1968 with the help of FAO, ENFVA has produced around 300 Cycle B (middle) and Cycle C (low) graduates as compared with an annual output level recommended by FAO of 50-60 cycle C, and 77 cycle B graduates per year. For 1980, the school was not able to recruit any students for Cycle B because none of the 50 candidates passed the entrance exam. The average operating cost per student has been extremely high. For 1980, it was 391,667 UM (RAMS FS 3-2, pp. 157-166). There is no formal follow-up of the employment of graduates. While many are assigned initially to the specialized services for which they were trained--agriculture, livestock, and environmental protection--informal observations and the overall interorganizational mobility suggests that there have been leakages to other sectors.

### Overall Institutional Capacity

#### External Assistance

Since independence Mauritania has received an enormous amount of foreign assistance. With a GDP estimated at CFAF 47 billion (US\$130 million) in 1968, the country received a total of CFAF 55 billion of foreign grants and loans in 1960-69, or an annual average of CFAF 5.5 billion. This amount exceeded by far the total current budget. Receipts, which increased gradually, went from CFAF 2.5 billion in 1960 to CFAF 5.7 billion in 1968.<sup>1/</sup>

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<sup>1/</sup> Brian Curran and Joann Schrock, Area Handbook for Mauritania, the American University, 1972, pp. 106, 135, 138.

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Current budgetary receipts increased slightly in the 1970's: from UM 2.8 billion in 1973 to six billion in 1979, or an annual average of 4.7 billion. Increased budget expenditures brought the cumulative budget deficit for 1973-78 to UM 18.7 billion (it increased from UM 155 million in 1973 to 5.9 billion in 1978, but declined to 4 billion in 1980). If extra-budgetary expenditures are included, the deficit increased from UM 363 million in 1973 to UM 10.8 billion in 1976 and declined to UM 8.2 billion in 1980.

In 1975-80, Mauritania received a total of UM 128 billion of external loans.<sup>1/</sup> At the end of that period, the total amount of annual debt service obligations exceeded UM 15 billion. By August 1980, the external public debt outstanding (including only the debts with an original or extended maturity of over one year) amounted to more than US \$1.1 billion (of which only US \$590 million had been disbursed). US \$18 million of debt service payments were in arrears. Since 1977, the ratio of debt to GDP has been about 80 percent in current prices, and the debt service to exports ratio has varied between 16 percent in 1978 and 38.5 percent in 1980. The debt service ratio of 27.7 percent for 1975-80 was 10 percentage points higher than the accepted international standard of 18 percent. (RAMS, OP 2, pp. 25-27 and 56-63). Besides, since 1976 there has been an unspecified but substantial amount of accumulated internal debt<sup>2/</sup>.

The major part of the external loans and grants has been used for investment projects which have generated a need for recurrent costs beyond the capacity of the meager State budget. Not surprisingly, it has been extremely difficult for the Government to honor its commitments for counterpart funding and to continue to operate and maintain the investments in development projects. Overall, the absorptive capacity of the country has been exhausted.

### Current GIRM Policy

In response to the deteriorating situation, the GIRM in 1978 adopted a rehabilitation plan with financial stabilization as its first priority. It obtained STABEX compensation for iron ore export shortfalls and in 1978 reached an agreement with the IMF on the use of Trust Fund Resources in the second period. These arrangements were accompanied by stabilization measures, particularly in the credit and budgetary fields: rescheduling or consolidation of most external debts, imposition of strict conditions on future borrowing, tight control of public expenditures and drastic changes in public<sup>3/</sup> investment priorities to promote growth and save foreign exchange.

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<sup>1/</sup> In 1973-80, the country also received foreign grants amounting to nearly UM 16 billion (RAMS OP 2, Page 19).

<sup>2/</sup> "Esquisse du IV<sup>e</sup> Plan de Developpement Economique et Social". RIM, MEF, Decembre 1981, Partie I, pages 6-7.

<sup>3/</sup> World Bank Report No. 2479 a, Islamic Republic of Mauritania: Recent Economic Development and External Capital Requirement, 1979, pages 20-29.

To achieve these purposes, GIRM's draft IVth Plan (1981-85) proposes the following measures: (1) favor low capital projects generating employment; (2) favor directly productive sectors, the traditional sector (agriculture, stock raising), fishing, mining and small and medium industry; (3) limit external debt to a level compatible with national income; (4) reduce growth of service sector; (5) encourage, through decentralization, the participation of the people and the private sector in order to allow private savings to be directed toward productive activities; <sup>1/</sup>(6) improve the para-public sector by strengthening its management.

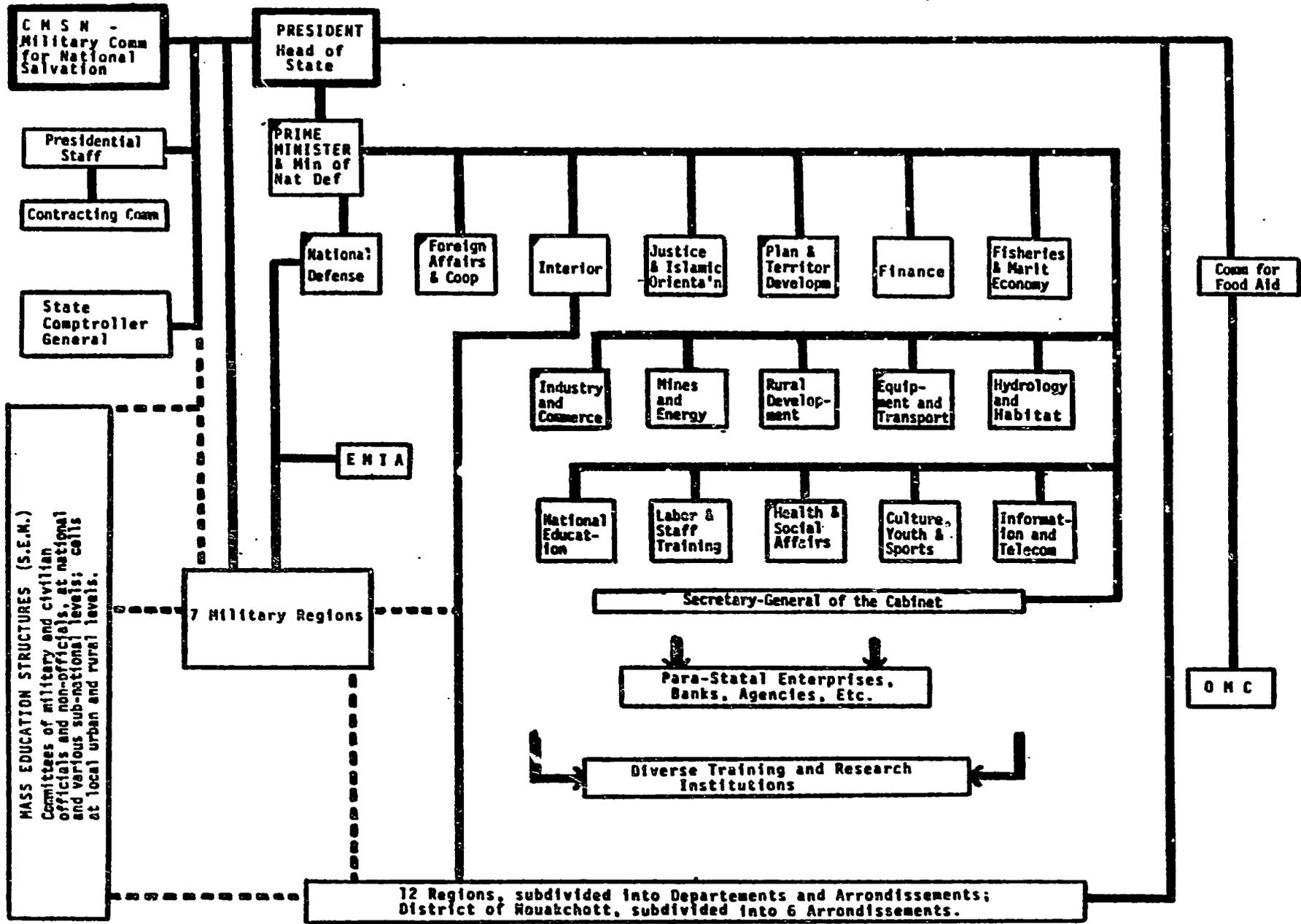
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<sup>1/</sup>"Esquisse du IV<sup>e</sup> Plan..." Chap. IV, pages 2-3. For an update assessment of the economic situation, see David Carr, "Macroeconomic Assessment" 1982, USAID/Nouakchott June, 1982.

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TRUKITANIA: STRUCTURE OF THE GOVERNMENT

FIGURE 1



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## CONCLUSIONS

Given the overwhelming constraints, the possibility for developing the capacity of public sector institutions appears to be very limited. The professionalization of the bureaucratic work force that would allow for a rational allocation of manpower and an increase in institutional effectiveness will be difficult to achieve without a stabilization of the socio-political system. An expansion of the bureaucratic machinery at the local level to develop the rural areas is not possible because of financial constraints. The remaining options may consist of the reallocation of existing government resources among the different government sectors and the involvement of the non-government sector in development projects. The following suggestions might be considered in implementing such an approach, which may help relieve some of the existing constraints.

### Reduce the Role of the Civil Service Bureaucracy

The efficiency of civil service agencies, seriously undermined by the fiscal constraints, might be enhanced if their roles were reduced and concentrated on keeping law and order, collecting taxes, providing justice, and basic education, building public networks, and fulfilling the country's international obligations. In the sphere of economic development, their role could be confined to providing economic infrastructure and orienting and regulating the economy. Direct actions and interventions could be left to parastatals and projects funded from external sources. The Ministry of Rural Development's administrative services could reduce their role to planning, coordinating and controlling, and let parastatals and projects handle the operational tasks. The operating personnel of the former could be reassigned to the latter.

Such a division of labor is also congruent with the different management structures of public and para-public sector institutions. The French civil service model, with its rigid and centralized structure and operating rules, is good for bureaucratic organizations whose job is to provide services of well-defined and routine character within a stable environment. The structure and operating rules of parastatals and "projects" are much more adapted to the requirements of development activities.

### Improve the Economic Efficiency of Parastatal Organizations

With proper supervision, guidance, and support from ministries, parastatals could be made responsible for their performance. To this effect, the existing detailed a priori control of management processes, which tends to delay the parastatals' operations and to consume a lot of ministries' time and energy, could be replaced by an a posteriori evaluation of performance and results. This type of control can be achieved by having the parastatals submit to the ministries work plans and financial plans against which performance could be measured within the framework of the Government's sectoral policies. The system of program-contract (contrats de programme) contemplated by the GIRM Fourth Plan is an application of this new approach to control. These contracts determine

the objectives of production and productivity increase, funding, management and financial results in return for certain government commitments. With such a system of control, a balance can be achieved between the privileges enjoyed by parastatals' employees and their responsibility to account for results. Among other objectives, it should motivate them to achieve economic efficiency by decreasing costs and--where applicable-- increasing revenues to as to minimize the financial strain on the State budget.

### Participation of the Private Sector

An underdeveloped private sector cannot constitute a meaningful source of tax revenues to support an expanding bureaucratic machinery. Public sector monopolization of major economic activities and of available financial resources has helped to exclude the private sector from the market place and thus to keep it weak. If the bureaucracy could be reduced to a small but competent core, a climate of confidence might be created that would encourage foreign and domestic private enterprise to create joint ventures, for example in the production and commercialization of livestock and in industrial and artisanal fisheries (see Fisheries Assessment). Institution building, manpower training, and Mauritanization of the workforce would probably take place more effectively within the framework of such joint enterprises.

Even for the categories of services which, in Francophone countries, are traditionally provided by the public sector--electricity, water, port facilities--delivery through contracts with private joint ventures might be considered, through well-known legal mechanisms such as "concession de service public" or "gérance". These are public law contracts under which the public sector delegates its public prerogatives to the private contractor to provide public services under Government supervision.

The RAMS case study, "Agro-Pastoral Group of Boumdaid", indicates the potential for rural private sector development through dedicated and enlightened local leadership. In this case, a traditional community ("brotherhood"), headed by a religious leader, managed to introduce simple and appropriate innovations to develop farming and stock raising in the area under its control. The village became self-sufficient in food and was subsequently able to produce substantial quantities for the market in several cities, including Nouakchott. The spiritual leader of this community knew how to motivate his followers by integrating the positive aspects of traditional and modern values. He built on "istinbate", the traditional principle of work and continuity in action, to encourage his people to increase production and productivity. By evoking the dictate of the Cheikh that success in agriculture depends on a rational attitude toward trees, the brotherhood was also successful in forbidding the cutting of trees on its land and delimiting a protected forest. (RAMS AE 4-1, pp. 48-51).

This case seems to demonstrate that many of the social problems encountered by development projects--disputes over land ownership, deteriorating project dams and wells, failure of the cooperative systems-- could be solved by working through the leadership of a well integrated

group that controls a territory through traditional customs and usages. In the Boumdaid case, the formal cooperative system, based on imported values, seems to work well because it is supported by an informal traditional community headed by a revered leader. No land tenure issues are raised. Project works are well operated and maintained, and recurrent costs are taken care of by the community.

## LIST OF INTERVIEWS

- Mr. Tourad, Chief, Service of Agricultural Statistics, Ministry of Rural Development (MDR)
- Mr. Sidaty Ouli Tar, National Fund for Development (FND)
- Mr. Sy Moussa, Director of Fisheries, Ministry of Fisheries
- Dr. Diallo Boubacar Cisse, Director, National Center for Livestock and Veterinary Research, MDR
- Mr. Amadou Baba Tandia, Director of Labor, Ministry of Civil Service and Labor
- Mr. Sy Adama, Director, Kaedi National School for Agricultural Training and Extension, MDR
- Dr. Mohamed Elmoktar Ould Mohammed, Deputy Director, Directorate of Livestock
- Mr. Sallah Moulay, Director of Higher Education and Training of Cadres
- Mr. Ahmedou Ould Mahammed Sultane, Director of Civil Service, Ministry of Civil Service and Labor
- Mr. Coulibaly Bakary Manso, Director of Fundamental Education, Ministry of Education
- Mr. Mohameden Ould Elbou, Inspector in Charge of Sanitary and Nutritional Education, Ministry of Education
- Mr. Tran Ba Thach, Technical Advisor to Minister of Industry and Commerce
- Mr. Tony Robbe, UNICEF
- Mr. Gerrit A. Ten Velde, Representative, Lutheran World Federation
- Mr. Abdallahi Ould Mohameden, Director of Administration and Finance, MDR
- Mr. Wilfred Blaschnek, Technical Advisor to Minister of Rural Development
- Mr. Andre Carre, Technical Advisor, Directorate of Agriculture, MDR
- Mr. K. Choueiri, Representative, FAO

(Group meetings with AID Agriculture Sector Team, GIRM officials at the Ministry of Planning and Territorial Development, FED and World Bank officials are not included)