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DEVELOPMENT

COUNTRY DEVELOPMENT STRATEGY STATEMENT

FY 1981

MAURITANIA

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DEPARTMENT
OF
STATE

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MAURITANIA

COUNTRY DEVELOPMENT STRATEGY STATEMENT

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INTRODUCTION

This Country Development Strategy Statement (CDSS) has been prepared in accordance with instructions provided in AIDTO CIRC A-383, STATE 302970 and STATE 262460. It is a preliminary statement and needs considerable refinement, which will be an on-going task of the AID Mission in Mauritania.

This CDSS differs in several respects from the Mauritania CDSS submitted to the Africa Bureau in June, 1978, reflecting both the new instructions contained in the above-referenced messages and additional research by the AID Mission in Mauritania.

ECONOMIC-ECOLOGICAL ZONAL MAP, SUBSIDIARY MAPS AND DESCRIPTIVE TABLES -- ANNEX I

A successful development strategy in Mauritania needs to be structured inter alia on an understanding of the country's physical and cultural attributes and their mutual inter-relationships. To assist in achieving this purpose a preliminary economic-ecological zone map of Mauritania has been prepared./ (See page 61.) This map is the basis for much of the analysis and associated strategy contained in the CDSS, ~~and along with appropriate descriptive tables and subsidiary maps is attached to the CDSS as Annex I~~. To facilitate an understanding of this strategy statement the reader should consult this Annex regularly.

Because of the importance of the zonal map it is reproduced on the next page as well as in Annex I.

ANALYTICAL DESCRIPTION OF THE POOR -- CONVENTIONAL MEASURES OF POVERTY

GROSS DOMESTIC PRODUCT PER CAPITA

Gross Domestic Product (GDP) for 1978 is estimated to be about UM 21.2 billion or about $490,000,000, at an exchange rate of UM45=$1. The calculated GDP per capita is about $350, which on a comparative basis makes Mauritania the 41st poorest country out of a total of 92 developing countries. (For this and other comparative measures see Annex II to the CDSS.)* In spite of Mauritania's ranking it is nevertheless reasonable that Mauritania be treated as a Least Developed Country (currently numbering 31 countries), because of the devastating effects of continual drought.

There are no data to measure GDP per capita by economic-ecological zone except in the broadest sense, i.e., between the Modern and Traditional Sectors. The GDP per capita for these two sectors, along with final calculations, are shown on the following table. The detailed calculations used to arrive at these figures are shown on page 62 (Annex III).

Population		GDP Attribution		GDP Per Capita	
Modern	Traditional	Modern	Traditional	Modern	Traditional
173,000 (12.1%)	1,247,000 (87.9%)	$275 mil	$175 mil	$1,300	$150

Similarly there are no data to measure GDP per capita on an ethnic basis, also except in the broadest sense, reflecting in part the highly stratified structure of the several ethnic groups in Mauritania. This

* Available from AFR/SFWA, Room 4527A, Ext. 632-0994

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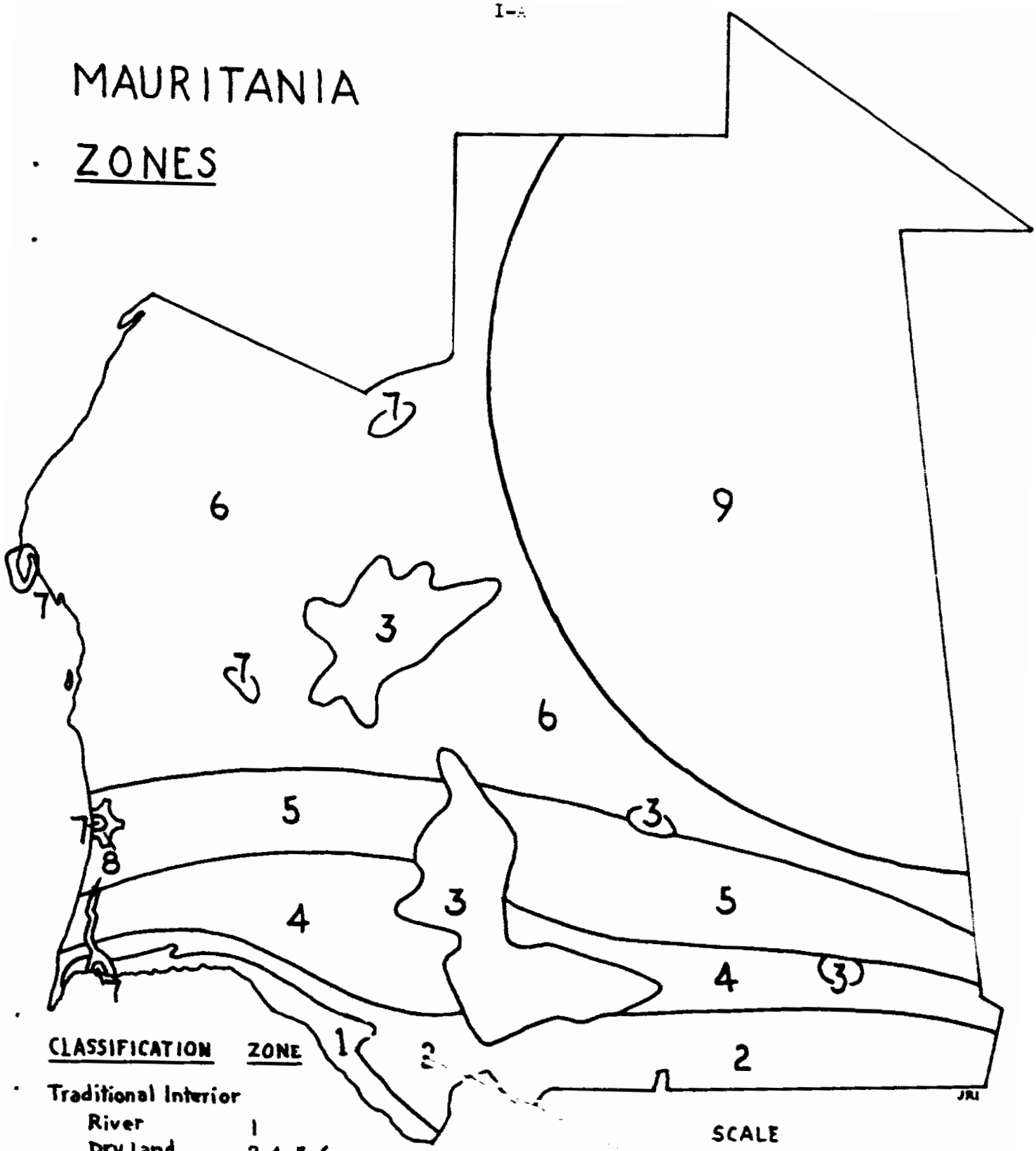
ZONES



CLASSIFICATION	ZONE
Traditional Interior	
River	1
Dry Land	2, 4, 5, 6
Oases	3
Modern	7
Transitional	8
Empty Quarter	9

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on pages 63-65
structure is shown in detail /(Tables 13, 14 and 15 in Annex I). The major ethnic group is the Moor, followed by the Toucouleur, Peuhl, Sarakolle, Wolof and Bambara. All these groups have a somewhat similar hierarchy of people: (1) Nobles (religious or military elite), (2) Free People who worked for themselves (herders, fishermen, cultivators), (3) Free people who worked for others (artisans, entertainers), (4) Freed people whose ancestors were slaves and (5) people who prior to independence were slaves but were legally freed at independence, who tend to be dependent on their former owners and are still integrated into the families as dependent servants. Among the Moors the "free" groups (the 1st, 2nd and 3rd groups) are collectively known as Bidan, and are generally light skinned, while the "freed" group (the 4th and 5th groups) are called collectively Haratin and tend to be dark skinned.

It is generally accepted that a small segment of noble Bidans own a disproportionate portion of the country's livestock and oasis land. Toucoleurs own a significant portion of the land next to the Senegal River, while the Haratin possess a large share of the dry agricultural land, the legal ownership of which has not been resolved.

The same high social status that increases a person's access to resources also limits their enjoyment. Thus, the disproportionate control of wealth that does exist in the country is severely mitigated by the obligation to redistribute it to kith and kin.

on pages 66-67
As shown /(Annex I), Table 11, ethnic status is largely related to specific occupations. As with ethnic status there are at present no data to directly measure money income distribution across these occupations. A rough scale, however, can be drawn showing the relative income positions of most occupation groups:

Low Income

dependents on the charity of others
domestic servants
very small herders
dryland agriculturalists and oases workers

Low Middle

small farmer landowner (river land)
traditional fishermen
average size herdsmen (sheep, goats, maybe a few cattle)
very small shopkeepers
lower scale salaried workers
traditional artisans except some jewelers

Middle

middle level civil servants (e.g., teachers, nurses)
typical commercant in other countries
large camel, cattle herders
a few jewelers

Upper

very large commercants
modern urban property owners
very large livestock owners

It should be clear from the foregoing measures of income distribution, which indicate marked skewness of income in the direction of the Modern Sector, White Moors and certain occupations, that the per capita GDP figure of $350 is an incomplete measure of Mauritanian poverty.

ACCESSIBILITY MEASURES - HEALTH

The raw health conditions in Mauritania are collectively suggested by the following comparative macro measures.

Macro Measure	Mauritanian Statistic	No. of LDCs With Data	No. of LDCs "Worse" Than Mauritania
Infant Mortality (deaths/1000 live births)	187	64	1 (Afghanistan)

Life Expectancy at Birth	39 years	91	4 (Afghanistan, Ethiopia, Mali, Upper Volta)
Per Capita Caloric Supply As % of Requirements	81%	84	6 (Mali, Upper Volta, Chad, Nigeria, Somali, Bolivia)
Per Capita Protein Supply (grams/day)	63	83	50

In addition there is a concensus that the Mauritanian diet is seriously deficient in key vitamins, and also that any temporary disturbance to normal food intake will cause serious disease problems.

Data are not available to indicate the extent, if any, of deviations from Mauritanian statistical averages on either a zonal or an ethnic basis.

The generally poor health situation reflected in these data is accommodated by a health care structure that, while not the "worst" in the developing world, nevertheless is inadequate to correct the measured deficiencies. The status of this structure is summarized by the following indicators.

Indicator	Mauritanian Statistic	No. of LDCs With Data	No. of LDCs "Worse" Than Mauritania
Persons/Native Physician	60,000	87	1 (Ethiopia)
Persons/Native Anaesthesiologist	130,000	NA	NA
Persons/Native Dentist	170,000	NA	NA
Persons/Native Nursing Person	3,790	82	26
Persons/Hospital Bed	2,320	80	4 (Ethiopia, Afghanistan, Nepal, Bangladesh)
Support Personnel/Physician (Native and Foreign)	4.3	72	38

It should be noted that these data exclude traditional healers.

On a zonal basis it appears that the health care structure is weakest in the Traditional Sector (particularly Zones 1, 2 and 4) and strongest in the Modern and Transitional Sectors (Zones 7, 8). (See pages 68 and 69, / Map "P" and Table #20, Annex I.)

Based on available published data there does not appear to be any clear-cut distinction as to the distribution of health services across ethnic lines. Both the weak and the strong zones, for example, are generally "mixed" ethnically.

ACCESSIBILITY MEASURES - EDUCATION

The raw literacy conditions in Mauritania are indicated by the following statistics:

Macro Measure	Mauritania Statistic	No. of LDCs With Data	No. of LDCs "Worse" Than Mauritania
Adult Literacy (French and/or Arabic)	17%	81	16

As with measures of health conditions, data are not available to indicate the extent, if any, of deviations from the Mauritanian averages, on either a zonal or an ethnic basis.

The poor literacy situation is accommodated by an educational structure that also is inadequate. The status of this structure is summarized by the following indicators:

Indicator	Mauritanian Statistic	No. of LDCs With Data	No. of LDCs "Worse" Than Mauritania
% of Primary School Age Population in School	20%	89	2 (Bhutan, Upper Volta)
Primary School Students/ Teacher	41	88	11
% of Secondary School Age Population in School	3%	89	3 (Upper Volta, Niger, Rwanda)

It should be noted that these data exclude Koranic schools.

As with the health care structure it appears that the educational structure is weakest in the Traditional Sector (particularly Zones 2, 4, 5) and strongest in the Modern and Transitional Sectors (Zones 7, 8). (See pages 70 and 71, / Map "O" and Table #19, Annex I.)

Based on available published data it appears that the weak zones tend to be Moorish, the strong zones "mixed" and the intermediate zones run the gamut from non-Moor to Moor. In short, these data indicate that there seems to be some overall weakness with respect to the Moors but this is not overly pronounced.

COMPLEMENTARY MEASURES OF POVERTY

The foregoing measures of poverty reflect biases inherent in "modern" or "western" approaches to poverty. For this CDSS, however, three issues should be included in the evaluation of the level of prosperity for Mauritania, which collectively significantly qualify these measures.

RISK MINIMIZATION

That an individual strategy of risk minimization is a likely candidate to describe Mauritanian economic behavior is suggested by the extraordinary wide swings that occur in those production and trade activities that affect the vast majority of the population, owing to annual changes in rainfall and to cyclical droughts. These swings in production and trade are illustrated in the following estimates.

	Range of Year-to-Year Production		Range of Year-to-Year Quantity Traded		Range of Year-to-Year Livestock Populations	
	Low	High	Low	High	Low	High
	(000 MT)		(000 MT)		(millions)	
Sorghum/Millet	16	104	0	50		
Niebe Beans	2	10				

Dates	9	15		
Wheat	.2	.3		
Cattle			1	2
Goats/Sheep			5.8	8
Camels			.6	.7

NOTE: These data must be used with caution. They constitute very rough estimates.

The magnitude of these swings in association with Mauritania's meager resources gives to Mauritania an average risk factor that must be one of the highest, if not the highest, in the world. Confronted by these conditions the average individual will optimize in the short-run and maximize over a certain time interval (determined by environmental conditions in the case of Mauritania). That is, he will choose among (a) withdrawal, i.e., migration, (b) increasing investment, i.e., changing the environment, and (c) diversification, inter alia, or a mixture of these.

The manner of coping with these risks appears to take several forms, depending on the sector of the economy in question. Thus, for example, for sorghum/millet farmers the most successful stratagem seems to be to, if possible, send members of their families to France, Senegal or other neighboring West African countries as laborers, a stratagem that in recent years has included sending family members to the Mauritanian Modern Sector, especially as civil servants.

For owners of oases the most successful stratagem appears to be to extend ownership of date orchards as much as possible.

The same stratagem describes the behavior of herders, whose herds are rhythmically reduced during droughts and reconstituted during good times.

Commercants, whose fortunes are in great measure tied to the production of agricultural products, seem also to have compensated for their risks by exporting their labor abroad.

The significance of describing Mauritanian economic behavior in terms of risk minimization is that it produces results that are quite different than those that arise by describing economic behavior in terms of income maximization (the basis for using GDP per capita as a comparison measure). A risk minimization analysis, for example, blurs the Traditional/Modern Sector dichotomy that emerges from a GDP per capita analysis — wherein as shown earlier there is a great disparity in Per Capita GDP, favoring the Modern Sector.

Under certain circumstances one could argue that there is little if any disparity from a risk minimization point of view — for example, one could argue that on the average, herding is as devoid of risks as is mining, deep sea fishing and government administration, reflecting the relative ease with which herds can be reconstituted after a drought. On a zonal basis such an argument would suggest that the Traditional Sector is "as rich" (or "as poor") as the Modern Sector.

On an ethnic basis such an argument would lead to the conclusion that the fortunes of a particular ethnic group are directly related to its participation in a relatively "high risk" or "low risk" activity. While an appropriate measure of riskiness has not been devised to facilitate comparison it would appear that the distribution of risks in Mauritania across ethnic groups might be as follows:

	Economic Activity	Ethnic Group
LOW RISK	Mining, fishing	Mixed
	Government Administration	Mixed
	Livestock	Moors (Bidan, Haritan)
INTERMEDIATE RISK	Trading (commercants)	Moors (Bidan, Haritan)
	Oases	Moors (Bidan, Haritan)
HIGH RISK	Sorghum/Millet	
	- lowest	Haritan, Non-Moors (Zone 1)
	- intermediate	Haritan, Non-Moors (Zone 2,4)
	- highest	Haritan (Zone 5)

TRADITIONAL EDUCATION AND MEDICINE

About 88% of the population constitues the traditional part of the society. In this society there is a long history of the provision of education and health services. The educational curriculum is directed toward teaching of the Koran, history, poetry and law, thereby establishing a minimum of literacy in Arabic. The medical system is based on ancient Greek practices.

There are about 2,200 traditional teachers in Mauritania, which is greater than the number of primary school teachers. The number of traditional healers is unknown but perhaps is as large. Neither traditional teachers or healers are included in the "western" or "modern" measures of poverty. Nonetheless, they have a significant effect on the welfare of the population.

If these measures are factored into the assessment of poverty, then the results would be quite different than those that emerge from the use of conventional measures.

IMPACT OF THE CASTE SYSTEM UPON DISTRIBUTION OF BENEFITS

The caste and tribal systems, outlined /(Annex I, Tables 13, 14 and 15), on pages 63-65 are operational in Mauritania today regardless of substantial official efforts of the government to mitigate their importance.

Specifically, the caste system within each ethnic group in the country serves to skew the distribution of rights and benefits, especially in the Traditional Sector. The following are illustrative examples of the impact of this phenomena on reducing the overall efficiency of the economy.

A. Social Mobility Hindered. Highly qualified, lower-caste individuals advance less rapidly to positions of authority than less qualified high caste individuals. In fact there are probably limits on how high a low caste individual may rise, for example, in the government service.

B. Preferential Distribution of Scarce Resources. Other things being equal, the caste system provides a means by which certain individuals obtain a disproportionate share of scarce goods and services, e.g., health care and medicines, land distribution, bureaucratic consideration, etc. In general higher castes are accorded preferential treatment per se.

C. Perpetration of Bias in Income Distribution. Access to higher income producing activities tends to be restricted to higher caste individuals. Lower caste individuals have difficulty obtaining credit, licensing, establishing land rights, etc. Additionally, because means of production tend to be owned by higher castes, lower castes find themselves receiving only a partial payment for their labors. Thirdly, any economic benefits that accrue to the extended social group (tribe, fraction, etc.) is vested in its upper caste leader. Therefore, lower caste members can settle and work land but title to this land and therefore part of the benefits will go to an upper caste party.

There are some benefits which are inherent in the caste system, however, and these have probably contributed to its perpetuation. Lower caste people, for example, often obtain benefits from being associated with an influential family, e.g., economic security, social status and indirect political influence.

The tribal system also skews benefits to the disadvantage of certain people which is not necessarily apparent from available, published statistics. For example, there is no question that the Moors are in a predominant political position in the country and that they tend to favor policies and make decisions which will benefit Moors and perpetuate this advantage. Other ethnic groups when given the opportunity tend to act similarly.

WORKING HYPOTHESES

1. Within Mauritania, among the poorest and most disadvantaged are those who suffer from the disadvantages of the resource-poor economy; those who suffer from the high-risk nature of the environment, for example, victims of the recent drought; and those who are arbitrarily denied economic mobility, social services and opportunity as a result of social stratification, tribal and caste prejudice. While every ethnic and social group has a significant number of poor people, reflecting at least one of these factors, the largest collection of the poor, reflecting the multiplicity of factors, are the Haratin -- and the most affected region of the country is the interior north of the Senegal River Valley.

2. Within Mauritania income distribution is so skewed, social services so minimal and the relative number of absolute poor so great that these strata, proportionately and absolutely, compare with similar groups in the least developed LDCs.

MAURITANIAN DYNAMICS

In Mauritania there are several historical factors at work which are forcing change at such a rapid pace that the foregoing static assessments of poverty must be augmented by analysis of the more dynamic aspects of Mauritanian society if a useful development assistance strategy is to be developed.

THE MODERNIZATION PROCESS

Prior to independence in 1960 Modernism -- as a series of assumptions that governs one's perceptions of society, or as a group of organizations that both arise from these perceptions and perpetuate them, for example, in the form of modern schools, hospitals, businesses, organized military

units and central government administrations — hardly existed, certainly not to the extent that Modernism existed in all other Francophone countries that border Mauritania: Algeria, Morocco, Mali and Senegal.

Modernism as a significant influence began in 1960 with the creation of a central government administration. Simultaneously the new government began to be represented in most international fora, particularly those concerned with development, where Modernism as an intellectual force has always been dominant; while at the same time the new government sent many of its bright young people to developed countries for training, where Modernism is also the dominant intellectual force.

The unfolding of the modernization process associated with independence and associated events has put great pressures on the Mauritanian society to replace: (1) tribal authority with a centralized political structure; (2) the tent or village with the individual as the basic social unit of the society; (3) nomadic schools and health care facilities with stationary schools and health units; and (4) traditional high-risk economic activities with modern low-risk economic activities. This process is far from complete.

MIGRATION FROM THE SOUTH

Prior to independence almost all of the non-Moorish population was contained in the Senegal River Valley. Certain aspects of the modernization process — particularly the establishment in Nouakchott of an administrative center in 1965 (none had existed before), the construction of a modern north-south road between Nouakchott and the Senegal frontier in 1971, the nationalization of the iron mine facilities in Zourate and Nouadibou in 1974, and the infrastructure and industrial investments undertaken in Nouakchott and environs over the past several years — have triggered a migration of non-Moors to areas that previously were almost entirely Moorish.

This migration probably has increased the percentage of non-Moors in the country, now estimated to be about 30%. And perhaps for the first time in the history of Mauritania Moors and non-Moors are intermingling on a daily basis in reasonably large numbers north of the River.

This phenomenon has accelerated the antagonism that Moors and non-Moors feel for each other, arising out of the exclusivity of the dominant Moorish tribal organization which does not permit admission save by birth, thereby permanently relegating non-Moors to the status of "outsiders." This antagonism is accentuated by the fact that the ruling Moors are white skinned, while all non-Moor immigrants are black-skinned, a factor which also gives this phenomenon a dynamic of its own quite independent of the modernization process per se.

While the process of modernization has put strong pressures on Moors to accept non-Moors into their society, the fact is that government decisions, including decisions regarding the "poor," are influenced by the government's estimate of potential gains for Moors as opposed to non-Moors, an observation that is supported by conventional wisdom.

ABOLITION OF SLAVERY

Prior to independence an integral element of Moorish tribal organization were slaves, mostly black-skinned. As part of the modernization process slavery was abolished concurrently with the attainment of independence.

The Haratin population is estimated to be about 25% of the total population of Mauritania. In 1960 this population identified itself with the Bidans and also with particular tribes, and it is in this sense that they were part of the Moor population and are so counted today. However, Haratin identification with the Bidans

is weakening, reflecting the fact that the exclusivity of Moorish tribal organizations prevents real Haratin admission, even through intermarriage; while the relative openness of the non-Moor ethnic groups, including openness toward intermarriage, represents a generally easy road to real identification.

It is impossible to say the extent to which the Haratin identify themselves with Moorish or non-Moorish elements. However, the mere presence of a large number of Haratin in the society and the recognition that there is a possibility that in the perhaps not-too-distant future the non-Moors will outnumber the Moors through intermarriage with Haratin, has created its own dynamic, independent of the actual process of the absorption of the Haratin into non-Moor ethnic groups. This dynamic is further aggravating the tension between Moors and non-Moors.

DESERTIFICATION

Independent of the modernization process, but in some important respects producing consequences related to it, is the process of desertification that is occurring in the interior of the country. This process, resulting from persistent overgrazing and population growth, aggravated by cyclical droughts as well as the introduction of modern technology, is reflected in a persistent lowering of the water table, a persistent decrease in ground cover and a persistent decrease in the number and kinds of wildlife, as well as in severe soil erosion by wind and water. (See page 72, Map "H" in Annex I.)

The process appears to be accelerating. Within recent memory, for example, the area now including Nouakchott was wooded, with good pasture and abundant game. Today it is a desert. Should this process continue unabated the country's major economic resource will have disappeared and the interior of the country, comprising about 70% of the population, exclusive of the Senegal River Basin, will be abandoned.

Already there has arisen serious concerns in the body politic regarding the wisdom of investing in the interior, reflecting the prospects for ever-diminishing resources but also probably by the higher unit costs of production in herding and oases agriculture caused by the abolishment of slavery -- as well as in some instances real shortages in the labor once performed by slaves.

The rate of desertification has not been scientifically estimated. But some guess as to this rate over the period of the CDSS is essential in order to establish a workable assistance strategy -- since a rapid abandonment of the interior of the country soon would have serious, adverse long-range repercussions on Mauritania's external food needs, employment levels and its poverty level in general; and would require a much different kind of strategy than one that assumes a slow but manageable rate of environmental degradation, or one that assumes a possible reversal of the process.

It is the AID Mission's estimate that should Mauritania experience two or three consecutive years of drought in the near-term that rapid abandonment of the interior as a viable resource would be a real possibility.

DROUGHT, FOOD POLICIES AND CHANGING DIETS

Prior to the beginning of the last major drought in Mauritania (1972) sorghum/millet production was in the neighborhood of 100,000 MT per annum, with most of the balance of the cereal requirements for the country being met by imports from Mali. Today annual cereal requirements are estimated to be about 180,000 MT, considerably higher than in pre independence Mauritania, reflecting an increased population and the steadily increasing substitution of milk and meat by grain.

The drought resulted in a continual shortfall in production as well as a shortfall of imports from Mali. These shortfalls were made up by government imports of rice and from foreign donations. The relevant import data are shown in the following table.

	1972	1973	1974	1975	1976	1977	1978
			(thousand MT)				
Rice	16.5	28.9	7.7	9.5	22.8	50.0	50.0
Donor Grains	NA	95.0	65.0	35.0	45.0	27.0	58.0

The importation of rice and the influx of donor grains have acted as a real disincentive to sorghum/millet farmers. The importation of rice forced a change in diets away from native cereals. The government's policy with respect to donor cereals was to distribute cereals at less-than-market prices and in most cases at less than costs of production, thereby making indigenous production, at least at the margin, unprofitable.

Concomitant with these policies Mauritania's annual assessment of external food needs, its treatment of each harvest as an emergency, and the inevitable delays in donor responses to appeals for food as well as / in shipping resulted in a distribution system that was alternately clogged and empty, which further added to disincentives by institutionalizing market uncertainties.

These disincentives (aided frequently by the policies of donors) are additional causes for the possible future abandonment of the interior. Additionally, they have contributed to making Mauritania a permanent food-shortage country with little prospects to regain old production levels in traditional agriculture without drastic changes in policy.

RURAL EXODUS

Between 1962 and 1977 the population of urban centers increased at an average annual rate of 10%, resulting in, for example, an increase in overall

urban population of 8% in 1965 to 23% in 1977. This phenomenon, which has been described by some experts as one of the largest migrations in history (in percentage, not absolute terms) is continuing unabated.

Motives appear to be a mixture of (1) the ideas of Modernism per se, (2) the attraction of jobs arising from new investments in the Modern Sector as well as arising from an expanded civil service, (3) the decline of opportunities in the interior, (4) the policy of the former government (described below) which indirectly encouraged rural exodus, and (5) the lure of reaping large profits from spiraling land values of urban land, ownership of which requires prior occupancy. Other factors could have been the increased health and education opportunities in urban areas, although this seems less clear.

The rate of this migration has outstripped the rate of creation of new jobs. However, even if matching jobs had been created it is highly doubtful that the migrants could satisfactorily have filled all but the most menial, since they lack the necessary skills to fill other types of jobs.

The fact that the rate of migration has outstripped the rate of job creation has caused this phenomenon, like many of those described in this section, to have a dynamic of its own. This migration, for example, inevitably over time must increase the demand for social services, particularly in Nouakchott, with no corresponding increase in production, thereby putting demands on scarce budget resources and reducing fund availability for either development projects or to cover recurrent costs. Additionally, the associated increase in unemployment can be expected to be accompanied with corresponding social disruption -- in a situation that already is becoming increasingly more volatile, owing to the influx of non-Moors and the weakening of Haratin ties to the Bidans.

FINANCIAL CRISIS

The guerrilla war waged by Polisario forces in 1976, 1977 and 1978 and the undertaking of substantial infrastructure and industrial investments during roughly the same period resulted in a staggering increase in external debt, currently amounting to approximately $711,000,000, or 130% of the estimated 1978 GDP.

Few of the activities associated with these debts are currently revenue producing, either because of the nature of the debt (e.g., for budgetary support), the fact that the pay-off for the associated project is in the distant future (infrastructure) or the fact that the pay-off will indeed never occur (most industrial projects, which in fact are not profitable). Accordingly, the servicing of these debts must come from existing resources, which can be expected to put a still further squeeze on scarce budget resources, as well as on relatively scarce foreign exchange, and cause still further inroads into the funds that otherwise could be made available for development.

External debt servicing requirements over the CDSS period are estimated to be as follows:

	1979	1980	1981	1982	1983
		(Terms: $ million)			
Total	67.1	80.2	75.1	87.6	111.9
(of which financed from government budget)	(48.5)	(50.1)	(44.6)	(45.4)	(37.3)

Mauritania is not expected to have either sufficient foreign exchange or budgetary receipts to meet this level of debt servicing. The government, therefore, is attempting to fill its foreign exchange and budgetary shortfalls by renegotiating some of its debt and by seeking foreign exchange

and budgetary support from its friends. At the same time it has imposed severe restrictions in the growth of the civil service, in the selection of development projects and in operating expenses.

Should the government be able to renegotiate part of its debt and also obtain foreign exchange and budgetary support from its friends its debt servicing requirements are estimated to be as follows, which, however, would still impose severe restrictions on foreign exchange and government expenditures.

	1979	1980	1981	1982	1983
		(Terms: $ million)			
Total	28.6	42.5	48.9	61.7	102.4
(of which financed from government budget)	(8.8)	(11.3)	(17.3)	(18.4)	(26.7)

Should the government not be able to make these arrangements still further belt tightening can be anticipated over the CDSS period.

SEDENTARIZATION

The 1964/65 administrative census concluded that the Mauritanian population was 65% nomadic and 35% sedentary. The demographic projections made at that time forecast a minor change in that ratio over the ensuing years to reflect a slow urbanization tendency that was beginning to appear. The 1976 census, however, showed that a drastic demographic change had occurred in the intervening years. In just a 10 year period the sedentary/nomad ratio completely reversed with 63.8% of the total population being sedentary and 36.2% being nomadic. One nomad out of every two had sedentarized during the past ten years. The reasons for this phenomenon have not been adequately studied but almost assuredly they are linked to the drought and environmental degradation. Likewise the full impact upon individuals and the state has not been fully evaluated in either the short

or long run; however, it is necessarily substantial. The sedentarized individuals will be searching for new occupations and places of abode and the state will be faced with the burden of providing social services to a large number of people who heretofore had met these needs independently of the state. Should this sedentarization trend continue the consequences for the state could be catastrophic as the demands for social services become excessive. On the other hand, it may present an opportunity, if proper policies are formed, incentives provided and programs initiated to increase agricultural production, decrease environmental destruction and manage renewable resources. Another conclusion which has implications for both the state and donors is the fact that the present is the propitious time to undertake positive measures to affect the future "shape" of the sedentary communities before they become "fixed" in any number of undesirable ways.

CORRUPTION

The former President Moktar Ould Daddah is generally credited as having been personally honest and sincerely concerned with the ethical conduct of those around him. He repeatedly addressed the problem of corruption and the especially grave consequences it had to a country with such limited resources and so precariously balanced between survival and disaster. However, he was unable to arrest what appears to have been a continuously deteriorating situation. In fact, while it cannot be stated with certainty, the element of unjustified personal profit in the latter days of his administration is a possible explanation for many of the apparently uneconomical public policies and practices of the past.

The new government has specifically cited corruption under the former regime as one of its justifications for assuming power and has encouraged a fairly frank discussion in the official journal of its maleficent influence

in various spheres (customs, land distribution, urban markets, etc.).

Unfortunately, there are several strong countervailing currents, all of which are prevalent throughout much of the third world. These include: 1) the influx of large sums of poorly monitored foreign aid; 2) the lure to "get rich" fed by booming land prices 3) the general sense of instability caused by the precedent of a coup which in turn discourages long-term, modest return investment; and 4) the increasing emergence of a consumer society. Accordingly, there is the possibility that corruption will become a factor significantly influencing Mauritanian investment decisions over the CDSS period.

TRENDS

MODERNISM AND TRADITIONALISM. The former government (prior to August, 1978) followed a Modernism policy. It actively pursued efforts to establish: a strong central government, a modern primary school and health structure, a modern economic sector and initiated a policy of social equality.

Simultaneously the former government attempted to phase out tribal and other community organizations and replace them with a political party system, while neglecting the development of traditional medicine and education. And while paying lip service to the concept of rural sector development the flow of investments to the rural sector did not materialize.

Although the position of the new government is unclear there are signs that it will pursue a considerably different tack, emphasizing a need to balance Modernism and Traditionalism in some fashion. For example, the new government has stated that it intends to:

- take steps to decentralize the central government administration;
- incorporate traditional schools in the national school system;

- give more recognition to the tribes;
- select new development activities in the Modern Sector with caution;
- emphasize rural development.

CENTRAL DIRECTION OF THE ECONOMY VERSUS PRIVATE ENTERPRISE. Concomitant with its Modernist orientation, but not necessarily essential to this approach, the previous regime followed a policy of extensive state interference in the determination of the satisfaction of individual and collective wants, reflecting a collection of independent but nevertheless mutually reenforcing factors: (1) an ideological flirtation with socialist type state control of economic activity by some elements of the society; (2) a French colonial legacy that favored centralized direction of economic activity; (3) the tendency for the new bureaucracy to have a vested interest in state control; and (4) in some cases the movement of the urbanized upper income class to social orientations that viewed state control, or at least certain forms of it, as the best means to satisfy their wants at the exclusion of the wants of the masses of the people (in the fields of health and education, for example).

This policy was reflected in extensive public ownership of the means of production. Medical and educational services were both the province of the State. And the satisfaction of community wants were determined within the bureaucracy and political party apparatus (there was under the old regime a single political party that was more or less synonymous with the government). Various forms of social security provided an income redistribution role, as did highly subsidized education and health services.

The new government has shown in several ways that it intends to follow a policy of private enterprise. Such a policy would be entirely consistent

with its Traditionalist bent, since, for example, in traditional Mauritanian society: the porduction, buying, selling and investment in the herding, sedentary farming and small-scale fishing sectors are based on the private decisions of individuals, as is the borrowing and lending of money; the provision of medical and educational services is based on private arrangements between teachers and parents and between healers and patients; and the satisfaction of community wants, such as the digging of wells, construction of firebreaks or the construction of earthen dams are consummated in the context of community decisions, within tribal or village frameworks.

WORKING HYPOTHESES

The foregoing suggests working hypotheses as follows:

1. Over the CDSS period Mauritania will continue in many important respects as it has in the past:

- it will remain essentially a Traditional Society but the tensions between Modernism and Traditionalism will persist;

- the tension among Moors and non-Moors and between Bidans and Haratin will continue to influence decision-making.

2. Over the CDSS period there will be severe constraints on funds available for development projects and for recurrent costs, owing to:

- a continuation of austerity measures to cope with large external debt servicing requirements;

- continuation of large defense expenditures; and

- increasing demand for social services in urban areas, particularly Nouakchott.

3. Over the CDSS period, there will be an augmentation of resources directed toward the development of the interior of the country, for example:

- the establishment of policies to turn back the environmental degradation process;

- increased intervention in herding and oases agriculture;

- the reexamination of the government's rice importation and donor grain policies with a view to nullifying their disincentive effects; and

- the examination of the possibilities of reversing the rural exodus, or minimally stabilizing the population.

4. Over the CDSS period, owing also to an apparent change in policies of the new government, there will be decentralization of decision-making and increased participation by the people in the process of decision-making, and increased scope will be given to private enterprise with a commensurate reduction in efforts to centrally direct economic activity.

CAVEAT

While the working hypothesis which flowed from the analysis of the poor in Mauritania identified the Haratin as the most disadvantaged social group in the country, the foregoing analysis has also shown that there is a complex of factors which necessitates a closer look at where AID should concentrate its resources.

The seemingly logical conclusion that AID should be directed to improving exclusively the condition of the Haratin is unwise for the following reasons:

1. Interventions aimed exclusively at the Haratin might not be productive in their own right. Because of the crucial social linkages between them and other castes in a tribal system, the groups are so inextricably linked that assistance to a particular group cannot possibly be given in isolation.

2. The concentration of AID development efforts on a particular ethnic group would also be unwise. Successful development requires a commonality of effort to achieve a condition where there is economic and social equality of opportunity. The short run requires peaceful coexistence as a minimum, therefore a successful strategy argues for an ethnically balanced approach.

3. Presently, the Haratin do not hold the keys to certain decision-making powers, nor do they control those economic resources which are critical to the abolition of poverty, their own included. Like it or not, land and water and animal resources are controlled by nobles. Interventions designed to improve access to and/or management of these resources must necessarily involve activities which are perceived by the nobles as being beneficial to their own position. Likewise interventions designed to upgrade educational skills must have the sanction of nobles, who control access to training and the productive resources where training is used.

In view of the above, an "even-handed" assistance policy developed through "case-by'case" analysis offers the best chance to mitigate "poorness" in Mauritania.

THE CAUSES OF POVERTY

FUNDAMENTAL CAUSES

There are five fundamental causes accounting for poverty in Mauritania.

1. Paucity of Resources. The natural resources available to Mauritania of any potential significance are: (1) deep sea fishing grounds, (2) extensive iron ore deposits and (3) a land area covering about two-thirds of the country (Zones 1, 2, 3, 4, 5, 6) that is capable of supporting some agriculture or grazing.

There appears to be an absolute physical limit to possible growth in deep sea fishing. Growth toward this limit can be expected to be gradual, owing to restricted Mauritanian capabilities to maneuver foreign fishing fleets into sharing their proceeds with Mauritania as well as limited prospects for the establishment of a Mauritanian fishing fleet. Proceeds from fishing are expected to grow by 28% over the 1978/1983 interval, reflecting for the most part increased revenues from licensing.

With regard to iron ore mining, the deposits currently being mined are expected to be exhausted in about 5-10 years. In order to simply maintain existing capacity Mauritania plans to invest $450 million in the development of new deposits, which hopefully will be exploitable by the time the existing deposits are depleted. Income from mining is expected to grow by 200% over the 1978/1983 interval, reflecting both an expected increase in the international price of metals and increased production.

Agriculture and herding, which concern most of the people appear to be the areaswith the most long-term potential -- if only by default, since the aridity of the Mauritanian climate places severe limits on this potential, although careful husbanding of resources and the adoption of new techniques probably could result in significant growth.

2. Lack of Water. While water itself is a resource, especially related to the growth possibilities associated with agriculture, it is important enough in Mauritania to isolate as a fundamental cause of poverty in its own right.

There are three sources of water: (1) rain, (2) the Senegal River and (3) groundwater.

Rain is sparse throughout the country, ranging from annual averages of less than 40 mm to 600 mm. / (See pages 73 and 74, Maps "F" and "G" Annex I.) Probably the greatest potential to husband this resource relates to improved collection of run-off in wadis through channeling, the construction of cisterns, terraces and earthen-type dams.

Fluctuations in the rise and fall of the Senegal River are extensive, inhibiting recessional agriculture. Probably the greatest potential to husband this resource relates to small village type irrigation efforts involving pumps and the more ambitious effort to regularize the flow of the river through the construction of large dams and associated large-scale irrigated perimeter developments.

As for groundwater, there appears to be extensive groundwater deposits, although little is known about deep water deposits or recharge rates. There are upward of 6 known major aquifers underlying about 20% of the country, which provide drinking water for humans and livestock. (See page 74, Map "G" Annex I.) The greatest potential here probably is in tapping groundwater for irrigation.

3. Dispersed Population. There are in Mauritania an average of about 1.4 persons per square kilometer. / (See page 61, Map "A" Annex I.) Even if one subtracts the uninhabited Empty Quarter from this calculation (Zone 9) the person-per-square kilometer ratio is extremely small. With regard to transportation and communication, the possibility of improved systems, over and above the up-grading of existing systems, probably is uneconomical except in unusual cases.

4. Limited Risk Minimization Possibilities. As pointed out earlier the possibility of the average Mauritanian being able to spread his economic risks is greatly limited, especially in agriculture. Probably the greatest

potential to reduce the importance of this cause is in the introduction of new agricultural products, e.g., vegetables, the reduction of environmental insecurity, e.g., enhanced water supply, as well as the creation of new more generalized opportunities, e.g., small rural industries.

5. Inability to Date of the Government and the Society at Large to Resolve the Issue of Modernism Versus Traditionalism. This cause relates less to the level of Mauritanian poverty than to the prospects for decreasing the poverty level.

The Mauritanian dynamic, as described earlier, shows what appears to be a kind of see-saw struggle between the forces of Modernism and the forces of Traditionalism, preceding over time in a kind of Hegelian dialectic. This is manifested both in social organization and in the allocation of investment resources, with the probability in Mauritania that there will be some sort of ultimate "victory" for Modernism rather than a synthesis of these two elements -- "probably" because this has been the pattern in LDCs in general and because Modernism is a global intellectual perspective with tremendous staying power and with an unyielding missionary zeal.

In Mauritania it is doubtful that an ultimate "victory" for Modernism in the productive sector which would concentrate investment on the creation of a capital intensive base would diminish the poverty level. In fact, if recent experience is exemplary the landscape resulting from an attempt to create a capital intensive economy would show a variety of investments -- some not profitable at all, some workable only with large subsidies, others showing marginally accepted returns -- with associated large-scale unemployment, including a significant percentage of unemployed intellectuals, and a dependence on foreign imports for almost everything that, along with debt servicing, keeps the country on the brink of continual political and

social difficulties; and with a dead rural sector except along the Senegal River.

Accordingly, an approach to development that somehow or other amalgamates Modernism and Traditionalism seems to be the best solution. Under such an amalgamation those sectors of traditional production and practice with objectively the best prospects for growth in output and efficiency would receive development priorities. The fact that the Mauritanian government and Mauritanian society have not been successful in achieving this amalgamation, save for rhetorical reference to the creation of a "new Mauritanian man," should not, however, be considered as a fault. To achieve this kind of amalgamation will require subtle intellectual and organizational adjustments in all aspects of Mauritanian society, of the type that perhaps a few other LDCs have tried, with varying degrees of success; and such an approach would also require great restraint on the part of donors, who in the main approach their task from a totally Modernist point of view.

6. Cultural Attitudes Toward Labor. Mauritanians, particularly the dominant Moors, are imbibed with values stemming largely from the caste system and nomadic life. These include a positive value, on the one hand, for a life of leisure or commerce and, on the other hand, a disdain for manual labor, especially labor for others. These values in turn have produced a situation where: (1) not only do the upper caste members refuse manual work but they are reluctant to encourage the expansion of possibilities for renumerative work for lower castes and non-Moor ethnic groups for fear that such efforts will further expand the economic importance of these groups; and (2) the aim of investors is to seek capital intensive

investments, while those members of the society willing to work manually lack the capital necessary to allow them to work for themselves, thus destroying such initiative. These values are institutionalized by the fact that the Moor nobles are generally the decision makers in the society.

7. Extensive Environmental Degradation, contributing to the loss of incomes in agriculture and herding, and associated changing economic opportunities in the Interior.

OPERATIONAL CONSTRAINTS TO DECREASING POVERTY LEVELS

In addition to the inability to date of the government and the Mauritanian society at large to resolve the issue of Traditionalism versus Modernism (described above as essentially related to prospects for decreasing the poverty level) there are other phenomena which severely inhibit the government's ability to steer the country toward a real decrease in the level of poverty.

1. Excessively Limited Budgetary Funds to Cover Recurrent Costs and Project Costs, reflecting relatively large demands for defense and debt servicing outlays in addition to increasing demands for social services.

2. Inappropriate Agricultural Pricing and Import Policies, resulting in the loss of incomes to farmers and disincentives for production.

3. Lack of Facts for Planning. The government cannot come to grips with the numerous choices of technique and emphasis facing it without adequate data. Especially important are nationally compiled data with regard to (1) groundwater, (2) vegetation and soils, and (3) unemployment, as well as data on units costs of production and market prices for agricultural products. While some data are available for all of these

catefories, these data are grossly incomplete, and for deep groundwater no data are available.

Related to this need for benchline data is a need for research in the adaptation of improved practices and techniques in agriculture and herding to the agronomic and economic conditions in Mauritania. At the moment research in agriculture related to the River Valley is fairly well established. For dryland agriculture, herding and oases agriculture, however, research is practically non-existent and reliance for new ideas and local adaptation is dependent almost exclusively on external sources.

4. Lack of Indigenous Planning Capacity. Should benchline data be available Mauritania still would not have the trained manpower to assess these data nor up-date assessments as new facts emerge or as new technology and systems become available.

5. Lack of Project Management and Technical Talent. Should soundly conceived developmental plans be forthcoming Mauritania still would not have sufficient managerial talent to manage the projects that would evolve from such plans. Nor would it have sufficient technical talent to plan projects in detail, evaluate and monitor them. According to recent surveys Mauritania has no trained project managers and only about 40 people with advanced level technical training. These include: 4 doctors, 1 dentist, 5 pharmacists, 6 economists, 5 educational planners, 4 statisticians, 4 veternarians, 3 agronomists, 2 architects, 2 sociologists and 2 mining engineers. There are no chemists, physicists, plant pathologists, public health pyhsicians or environmentalists with advanced degrees. Mauritania is beginning to meet its needs for these and other disciplines with returnees with advanced degrees from abroad, but shortages of all talents will remain critical over the CDSS planning period.

A rough measure of skills availabilities against skills requirements is indicated by the number of OPEX-type personnel working in the government: approximately 350 French and another 75-100 or so financed mainly by IBRD, UNDP and the German and Chinese governments.

6. Lack of Institutional Capacity for Extension and Animation. The introduction of new agricultural and herding techniques, new agricultural products, new opportunities to reduce risks, new health and education measures and systems, and interventions to turn back environmental degradation and reduce if not reverse rural exodus -- all these will require a well organized institution(s) with competent leadership designed to educate people to animate the population to the acceptance of these interventions and to enlist its participation, i.e., act as "agents of change"; and once absorbed into the local landscape many of these investments will require an institution(s) to provide normal extension work, i.e., to act as the vehicle through which new research results are transmitted to the population, using a service-oriented cadre.

With regard to extension type work in particular, the existing service is poorly equipped. Agricultural extension agents receive only a limited education at the Agricultural School at Kaedi, the deficiencies of which are well recognized.

At the directorship level in the relevant ministries there is a surprisingly uniform level of competent leadership. However, reflecting variations in staff size, variations in training and variations in budgets for recurring costs there are variations in the effectiveness of the relevant services, with perhaps health and veterinary services being the most effective.

There is no modern agricultural credit institution in the country (although as in all LDCs there is an extensive market for private money lenders).

With regard to "agents of change," these do not exist. Given the situation in Mauritania -- where so many changes are needed to raise the level of general well being, almost all requiring local participation to assure success, and where the amalgamation between modern and traditional techniques and systems is so important -- any development strategy must take into account the need to develop highly motivated and knowledgeable "agents of change," who fall outside the generally accepted parameters that define extension agents, teachers, etc.

The embryo of an appropriate institution is already in place for the development of the River Valley -- SONADER, a para-statal organization which inter alia has the responsibility for establishing certain linkages with Valley agriculture. Much, however, needs to be done to link SONADER to sensitizing and extension needs in the Valley. No such organization exists for oases, dryland and herding sectors.

6. Limited Investment Opportunity in the Interior. Currently not only is the interior rapidly becoming less attractive for investment there also appears to be no group in the Modern Sector that has a real vested interest and/means in seeing that this deterioration is stopped. Symbolic of the absence of this linkage between the Modern and Traditional Sectors is the fact that almost all new indigenous investments remain in the Modern Sector, particularly in the fields of trucking, real estage and related construction.

Should private entrepreneurs own, for example, grain warehouses and abattoirs rather than the government, and should private entrepreneurs perform certain services now performed by government, such as in the fields of well drilling, veterinary services, medical services and trucking, entrepreneurs probably would have increased incentive in channeling investments to the interior and be supportive of measures to combat desertification

and rural exodus. Simultaneously there perhaps might emerge pressure to persuade the government to formulate policies regarding credit and prices to make farming more attractive, particularly truck vegetable farming, small-scale irrigated perimeter crops farming, fruit tree cultivation and oases cultivation.

OVERCOMING POVERTY

DEVELOPMENTAL OBJECTIVES AND THEIR PRIORITIES

Eight objectives were selected to reflect the foregoing analysis and a priority was assigned to each as follows:

1. First Priority — to establish appropriate policies that will assure the most efficient balance between the four major development areas: Modern - Zone 7, Transitional - Zone 8, Traditional Valley - Zone 1, and Traditional Interior - Zones 2, 3, 4, 5, 6 (See page 75, Table 2); and which will assure the most economical use of Mauritania's scarce resources. Establishment of policies for balance among these four areas is given first priority because the appropriate direction, quantity and types of investment cannot be ascertained unless appropriate policies are first identified and established.

2. Second Priority — to raise the average level of human productivity. This objective is given second priority because investments in all sectors must increasingly be supported by healthy and trained Mauritanians who must adapt to a continually modernizing economy.

3. Third Priority — to assure an uninterrupted and rising flow of earnings in the Modern Sector so as to help finance the development of the other sectors. This objective is given third priority since investments in the Traditional and Transitional Sectors ultimately must be financed by indigenous revenues, whose principal source is the Modern Sector.

4. Fourth Priority - to establish linkages that will assure the efficient transfer of investment resources from the Modern Sector to the Traditional and Transitional Sectors.

5. Fifth Priority - to establish programs that will make Mauritania drought resistant. Without insurance against the devastating consequences of prolonged drought other investments in other productive sectors will be much less secure.

6. Sixth Priority - to establish a viable eco-system in the Traditional Interior Sector in order to arrest environmental degradation and in time reverse the process of degradation. Without arresting environmental degradation no other problems that exist in the Traditional Interior can possibly be sensibly addressed.

7. Seventh Priority - to stabilize the population in the Traditional Interior and maybe possibly reverse rural exodus. Without an adequate population the Traditional Interior can no longer be used as a resource base.

8. Eighth Priority - to increase agricultural production.

INTERVENTIONS AND TIMING

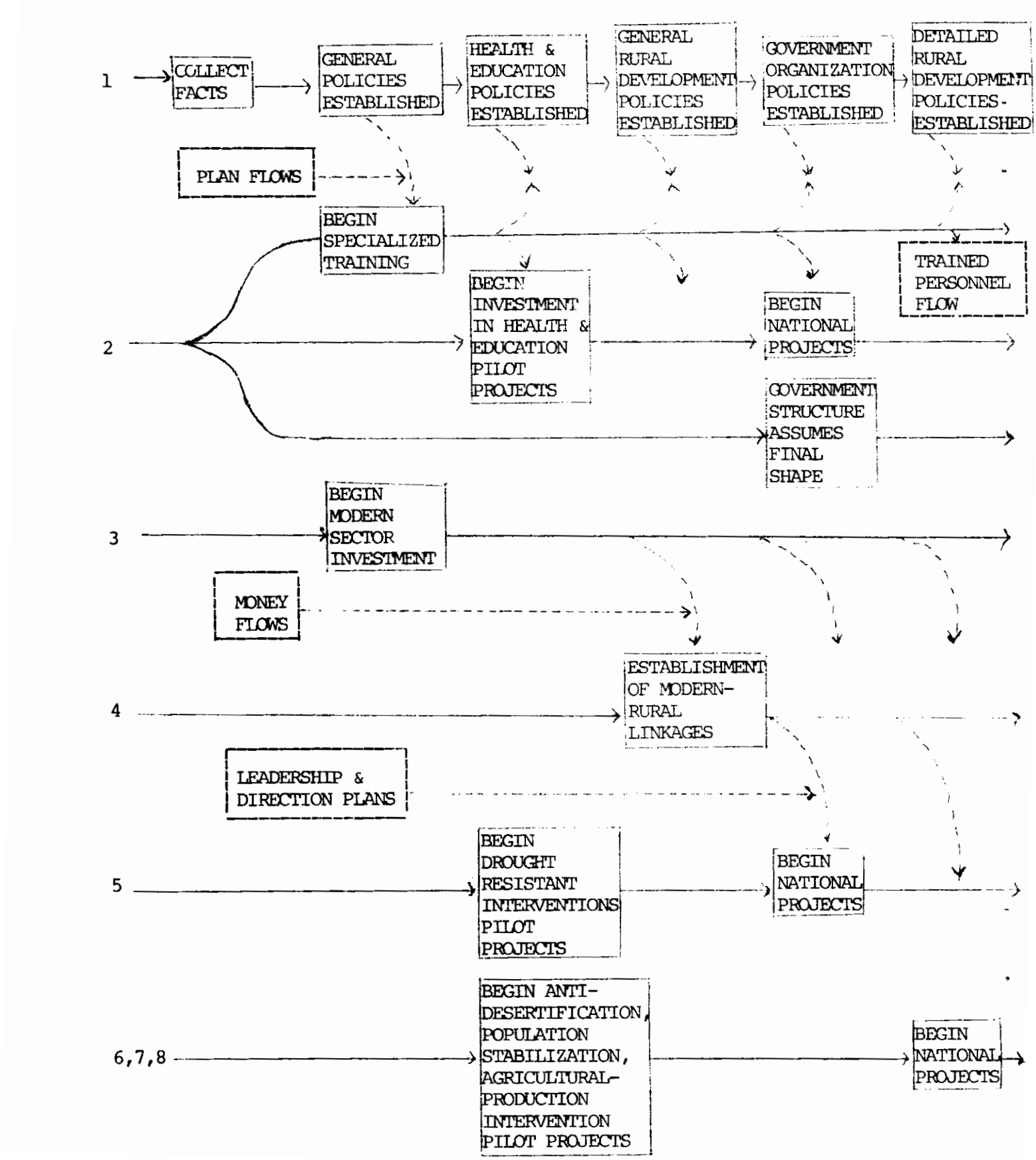
Each objective suggests certain interventions. However, the implied precision of these objectives is essentially semantical; that is, there are few interventions that would effect exclusively any single objective. There is shown in a separate Annex/a list of representative interventions and to this CDSS their corresponding objectives. (See pages 76-78.)

Implied in these interventions is the phasing or the unfolding of the development process. An idealized scheme of this process is shown on the next page. In reality, of course, there have been deviations from this idealized scheme.

This scheme shows pilot projects for priorities 2, 5, 6, 7 and 8. These reflect the fact that for the most part interventions in Mauritania require not only the participation of the people but ultimately the acceptance by the people of new ways of doing things. The techniques for inducing this acceptance, as well as alternate ways of accomplishing the same result with different "mixes" of acceptable inputs, in most instances is unknown. This ignorance suggests that these kinds of interventions first must be started on a pilot basis (generally meaning limited geographically), followed by an extension to national-type interventions.

PROGRESS AND COMMITMENT

Using this scheme as a guide it would appear that in general Mauritania has made fairly respectable progress in moving down the development path. All aspects of the scheme, for example, have been addressed by the government in some fashion or other in its Development Plan. And in general actual progress along the path appears to have proceeded to about the end of Phase III or the beginning of Phase IV, while planning has started for Phases V through IX.


PRIORITIES
PHASE I
PHASE II
PHASE III
PHASE IV
PHASE V
PHASE VI
1
COLLECT FACTS
GENERAL POLICIES ESTABLISHED
HEALTH & EDUCATION POLICIES ESTABLISHED
GENERAL RURAL DEVELOPMENT POLICIES ESTABLISHED
GOVERNMENT ORGANIZATION POLICIES ESTABLISHED
DETAILED RURAL DEVELOPMENT POLICIES-ESTABLISHED
PLAN FLOWS
BEGIN SPECIALIZED TRAINING
TRAINED PERSONNEL FLOW
2
BEGIN INVESTMENT IN HEALTH & EDUCATION PILOT PROJECTS
BEGIN NATIONAL PROJECTS
GOVERNMENT STRUCTURE ASSUMES FINAL SHAPE
3
BEGIN MODERN SECTOR INVESTMENT
MONEY FLOWS
4
ESTABLISHMENT OF MODERN-RURAL LINKAGES
LEADERSHIP & DIRECTION PLANS
5
BEGIN DROUGHT RESISTANT INTERVENTIONS PILOT PROJECTS
BEGIN NATIONAL PROJECTS
6,7,8
BEGIN ANTI-DESERTIFICATION, POPULATION STABILIZATION, AGRICULTURAL-PRODUCTION INTERVENTION PILOT PROJECTS
BEGIN NATIONAL PROJECTS

Some past interventions were out of phase, which perhaps accounts in part for the problems these interventions are encountering. Interventions in the Kaedi School of Agriculture, for example, probably occured too early in the process, as apparently did several interventions in health and education, i.e., before appropriate plans and policies were developed. Donor insistence in the past on emphasis on rural development perhaps was too early. For the future there appears to be a danger that the decision to invest in large-scale perimeters in the Senegal River Valley may be too early as well.

All in all, however, given the lack of planning personnel, the very low base from which Mauritanian development began and the numerous problems that have beset Mauritania since its independence -- a catastrophic drought, a civil war, persistent Modernism versus Traditionalism issues including some with racial overtones, to name several -- instances of inappropriate phasing and undue haste with regard to the development process are understandable. The major points to make here are that: (1) development has been launched in Mauritania; (2) it probably is further down the development pike than many people believe; and (3) while there have been instances of interventions being out of phase, these appear to be correctable, albeit probably painfully.

For the future more care must be taken by the government and donors alike to verify the appropriate timing of interventions. Out-of-phase interventions in a rural development effort are difficult to correct and too many such interventions out of phase could do serious damage to the development process itself.

WORKING HYPOTHESIS

The foregoing list of objectives and priorities, the list of representative interventions shown in the Annex and the description of the phasing of the

development process, while subject to modification and elaboration, is sufficiently accurate to be used in the design of the appropriate development assistance strategy.

LIMITS TO THE RATE OF DEVELOPMENT

ABSORPTIVE CAPACITY AND RECURRENT COSTS

Because so many different kinds of interventions must be undertaken to move Mauritania down the development path and because Mauritania has very limited financial resources of its own as well as a widely dispersed population, the way in which the problems of absorptive capacity and recurrent costs are handled will determine in large measure the overall speed of the development process.

It is not now possible to measure either unused absorptive capacity or unused recurrent costs capacity, given the sum of either on-going or planned interventions. However, it appears that certain steps can be taken to reduce the demands on absorptive capacity and recurrent costs; and further additional steps can be taken as well to expand absorptive capacity.

With regard to absorptive capacity two steps appear to be possible:

First, continued and perhaps increased reliance can be put on using OPEX-type personnel in the government, including continued inputs of technicians in AID projects;

Second, donors can assume many of the administrative tasks associated with projects that in more advanced countries are assumed by host governments (including, for example, the assumption by AID Mission personnel of contractor and commodity procurement, as well as subsequent monitoring.)

With regard to recurrent costs, five steps appear to be possible:

First, the elimination of subsidies would relieve the government of the need to meet substantial recurrent costs. One of the major subsidies that

could be eliminated is the average inland transportation charge of 15 cents per kilo to move donor-provided grains.

Second, reliance could be put on traditional techniques and practices as much as possible, since the introduction of modern techniques and practices inevitably carries with it burgeoning recurrent cost obligations--in the form of supplies, maintenance, depreciation, salaries and training. In some instances use of certain forms of intermediate technology may be applicable. In still others, notably perhaps in the field of health, which is a major generator of recurrent costs in any society, it may be desirable to provide a place in the development scheme for the employment of traditional practices with modifications to modern technology.

Third, the provision of many of those services frequently viewed as responsibilities of the society as a whole, i.e., the government, could be put on a pay-as-you-go basis, with rates sufficiently high to cover recurrent costs. Possible candidates could be the provision of medical services and education (other less important candidates could be in the fields of well drilling and trucking).

Fourth, certain government-owned assets and government-managed activities could be completely turned over to the private sector. In this connection the turning over to the private sector of trucking, grain warehouses and abattoir assets would be prime candidates.

Fifth, the government could take steps to reduce the enormous recurrent costs that arise from the use of vehicles. This might be done, for example, by decentralizing many government functions.

PROGRESS AND COMMITMENT - ABSORPTIVE CAPACITY AND RECURRENT COSTS

It would appear that until recently Mauritania has made little progress in tailoring its development efforts to the stringent requirements related

to absorptive capacity and recurrent costs.

Under the guise of the current financial crisis, however, the government is looking at recurrent costs in the selection of projects. This surveillance is still nevertheless to become part of the development lexicon in Mauritania.

WORKING HYPOTHESIS

The foregoing itemization of measures to take to cope with the problems of absorptive capacity and recurrent costs, while also subject to modification and elaboration, is sufficiently realistic to be used in the design of the appropriate development strategy.

DEVELOPMENT GOALS

The paucity of resources in Mauritania, as well as a widely dispersed population, suggests that it is highly unlikely that Mauritania, at least over the CDSS planning period and well beyond, will become a truly developing society -- in the sense that it will show, for example, an adequately increasing GNP.

Accordingly, an appropriate short-term development goal for Mauritania would be to reestablish a socio-economic equilibrium at improved levels of welfare. This goal is consistent with the realities of present Mauritania which has only recently emerged from a pre-independence state in which the socio-economic variables were more or less in perfect equilibrium, in a traditional sense, i.e., "things didn't change over time." Independence and the inevitable rise of Modernism as an intellectual force, along with a concurrent acceleration of the desertification process, destroyed this equilibrium, while setting in motion a number of subsidiary forces.

Because any significant development achievement in Mauritania will require eventual synthesis of the modernist and traditionalist forces in the society and the economy, which at the moment are reflected in extreme

and interdependent social and economic difficulties, an appropriate strategy at this time would be one that reflected an expectation of a "stepped" (iterative) evolution of the society and the economy (rather than an expectation of linear growth). Such a strategy would infer that initial initiatives be designed to achieve a higher welfare "plateau" from which, if appropriate at the time, additional efforts could be launched toward attainment of a successive higher level.

An iterative approach to development would call for different strategic components than employed in the more conventional linear approach to development. For example, a development goal which requires movement from initial equilibrium "A" to plateau "B" would (or at least might) require <u>different interventions</u> than would be required by a goal directed at change from "A" through "B", "C", "D" and beyond.

A major developmental element to be affected in an iterative approach is the <u>overall dimensions of interventions.</u> A development goal to move from Point "A" through Point "B", "C", "D" and beyond, for example, might require an educational and training system that ultimately prepares everyone to contribute to an ever-more complex process. A development goal to move only from Point "A" to Point "B", on the other hand, might only require that only a few need change their productivity to effect development to the extent desired. With regard to the A-to-B-to-C-to-D, etc., goal an educational and training system would have to be devised that would (1) be expanded over time to include everyone and (2) become increasingly more technical and specialized. An educational and training system for an A-to-B goal, on the other hand, could be patterned after any number of models. For Mauritania a likely model might be one that:

- provided primary education for everyone but with emphasis on non-technical subjects, e.g., religion, the arts, etc.;

- provided secondary school technical training to a limited number of people, i.e., those needed to "run" the stabilized system (while providing non-technical training to everyone else or as many people as the country can afford); and

- provided overseas scholarships for university technical training to a still more limited number of people, i.e., those needed to "run" the more complex aspects of the stabilized system (while providing non-technical scholarships to a few others).

Mauritania has not yet defined its development goals in the context of a historical process. The steps taken so far to launch the development process, however, indicate that, probably under the intellectual guise of Modernism, the assumed goal is one of continued growth.

WORKING HYPOTHESIS

The iterative development process described above is a realistic goal around which to weave a development assistance strategy.

THE MAJOR DEVELOPMENT ISSUES

The underlying assumptions in overcoming poverty in Mauritania are:

1. That the amalgamation of Modernism and Traditionalism is not simply a theoretical possibility but a real one, i.e., (1) such an amalgamation can be translated into effective programs and (2) can be articulated in ideological and ethical terms that will assure the support of intellectuals to these programs.

2. That "amalgamation-type" programs can be devised to neutralize the antagonism between Moors and non-Moors;

3. That sufficient "intermediate technology" really exists, i.e., is past the "idea stage" and is available to use in a broad range of interventions in order to help with the problem of recurrent costs;

4. That known technical knowledge related to "making the desert green" is really sufficient to realistically cope with desertification;

5. That there really exists a "package" of enticements that will reverse the migration from rural areas;

6. That the development program will show sufficient progress in the near-term to nullify the possibility of a rapid abandonment of the interior or the establishment of intractable positions between Moors and non-Moors;

7. That donor headquarters will be willing to:

- provide personnel to assume the administrative tasks associated with projects and assumed by governments themselves in more advanced countries; and

- evaluate country performance and the soundness of project design on more than just "modern" and "western" criteria;

8. That the government and donors alike can be induced to:

- take into account external circumstances that relate to Mauritanian development, for example, trends in food production in Mali and Senegal and trends in demands for meat in the coastal states;

- refrain from implementing interventions that are out of phase and/or excessively capital intensive or sophisticated; and

- design appropriate interventions for Mauritania in a regional context as well as in a national context.

With regard to the last two assumptions, the Club du Sahel and CILSS would appear to be appropriate mechanisms to bring about the needed harmony among donors and the needed restraints and perspectives by donors and

governments alike.

The criticality of all these assumptions is obvious. The inability to "prove" the validity of most of them without experimentation -- particularly the first five -- is equally obvious. Development in Mauritania for the moment is a high-risk enterprise.

THE MAURITANIAN 5-YEAR DEVELOPMENT PLAN

The Mauritanian 5-Year Development Plan (1976-1980) was prepared in the period 1974/1975 with the assistance of German and Canadian advisors. It is only partially an analytical document, reflecting the lack of benchmark data as well as limited planning capacity within the government. Accordingly, the Plan does not show projections of national income accounts; nor are the major development projects enumerated in the Plan time-phased or related logically to overall national objectives, priorities or goals.

On the other hand, these projects do reflect certain assumptions that were in the minds of Mauritanian planners when the Plan was developed. These assumptions in turn reflect the development thrust of the former government, which was in power when the Plan was formulated.

For one thing the Plan calls for balanced growth. This is reflected in the fact that the major projects listed in the Plan include projects in all investment areas: the Modern Sector, the Traditional Valley Sector, the Traditional Interior Sector and in human resource development, i.e., health and education.

On the other hand, the Plan shows an emphasis toward development of the Modern Sector, with development of the Traditional Sector relying heavily on capital intensive projects in the River Valley. Thus, 60% of the investment costs in the Plan are for the Modern Sector, 24% for rural development (mostly in the Valley) and 16% for human resource development.

Modern Sector projects include: the development of sulphide copper ore facilities, the expansion of iron ore facilities, various investments leading to the establishment of a steel mill, a copper smelter, a sulfuric acid production unit, an oil refinery, a sugar refinery, a milk plant and a textile factory. Related to these projects are projects in transport and utilities: The Nouakchott-Nema Road, construction of a deep water port in Nouakchott, expansion of the Nouakchott airport and new electric power facilities.

With regard to the development of the Senegal River Valley, the project list includes the construction of the Manantali and Diama dams on the river, which collectively are expected to bring into production about 215,000 hectares of irrigated farmland by the year 2000. Additionally, the Plan calls for projects that will develop about 10,000 hectares of irrigated land by flooding a large natural depression between the river and Nouakchott. And the Plan calls for the development of an additional 8,500 hectares of irrigated land through small scale perimeter development.

With regard to the development of the Traditional Interior, the Plan projects include: the expansion of dryland farming by 7,400 hectares and the expansion of recessional agriculture (behind earthen dams) by another 3,300 hectares. For livestock, projects include: interventions in the protection of rangelands, the repair of wells, the digging of up to 100 new deep wells, interventions for animal health improvement and the maintenance of firebreaks and the establishment of a cattle fattening ranch, as well as an experimental sheep production center. Other projects for the Interior touch on reforestation, sand dune stabilization, the production of gum arabic acacia trees, and rural animation and extension.

With regard to human resource development, the Plan calls for the addition of 900 primary school classrooms, the construction of several secondary schools and the establishment of a vocational training center and 5 new schools of higher education. In health the Plan shows the construction of 2 new hospitals, the creation of a medical service for public schools and the expansion of mobile health brigades.

In addition to the weaknesses noted, the Plan unfortunately does not address in any real way the problems of absorptive capacity and recurrent costs.

OTHER DONORS

Other donors by and large have followed the Plan and thus by inference have supported both the Plan's strengths and weaknesses.

Donors have paid little attention, for example, to the Traditional Interior, which accounts for about 70 percent of the population, including the largest portion of the poorest of the poor. At the same time donors have concentrated their efforts in the Modern Sector and in the capital intensive aspects of the development of the Senegal River Valley.

The major donors in Mauritania, along with estimates of their contribution through 1977, are shown in the following table. It should be noted that the data are approximations only, reflecting the fact that for some donor projects dollar equivalents are not available and in other cases data are incomplete.

	Traditional Interior	Traditional Valley	Modern/ Transitional	Total
	(terms: million dollars)			
China	.3	2.2	61.6	64.1
Arab States	1.4	0	188.4	189.8
IBRD/IDA	11.7	4.6	12.3	28.6
UNDP	1.8	0	3.8	5.6
FRG	6.7	0	19.9	26.6
FED	6.9	8.0	9.0	23.9
France	.4	1.2	31.6	33.2
	29.2 (8%)	16.0 (4%)	326.6 (88%)	371.8

This table does not include donor assistance channeled directly through OMVS; nor does it include food aid, loans on commercial terms, relatively modest grants by various donors and modest but significant assistance by private agencies.

The advent of CILSS and the Club des Amis du Sahel, the inauguration by the United States of a development effort in Mauritania and particularly the development orientation of the new government should serve to start the process of moving toward a more balanced development. This process should be facilitated by the current developmental situation in Mauritania today, i.e., the development process, by virtue of its having already passed through several phases, is ready to move into rural development.

THE ECONOMY

During the previous 5 year period Mauritania experienced a relatively sluggish economy as indicated on the following table:

Gross Domestic Product (1977 prices)
(Billions of UM)

1973	1974	1975	1976	1977	1978*
18.2	20.3	19.0	21.2	20.2	21.1

*1978 prices

This sluggish activity was supported by almost constant or falling production activity in livestock, agriculture, forestry and mining as shown in the following table.

Gross Domestic Product at Factor Cost (1977 prices)
(Billions of UM)

	1973	1974	1975	1976	1977	1978*
Livestock	3.4	3.9	4.5	4.2	4.0	5.0
Agriculture	.3	.4	.4	.3	.3	.5
Forestry	.05	.06	.06	.06	.06	.05
Mining	4.8	5.2	3.3	3.7	3.0	2.6

*1978 prices

During this interval the only growing sectors of significance were "Administration," "Construction and Public Works" and "Transport and Commerce," all reflecting either an expansion of the civil service or expansion of construction (mostly unproductive).

Gross Domestic Product at Factor Cost (1977 prices)
(Billions of UM)

	1973	1974	1975	1976	1977	1978*
Administration	2.6	2.8	3.1	3.9	4.3	4.3
Construction/ Public Works	1.0	1.1	1.4	1.7	1.7	1.6
Transport/ Commerce	2.2	2.4	2.4	2.5	2.4	2.6

*1978 prices

At noted earlier in the CDSS, at the end of this period the external debt requirements for the aforementioned investments had superimposed on this sluggish situation a foreign exchange crisis and a budgetary deficit crisis. These crises are to be met by renegotiating debts, obtaining budgetary and foreign exchange support from friends and by belt tightening.

Given the present state of investments in agriculture, whether Interior or VAlley, it is impossible to expect that agriculture will become a significantly growing sector soon, i.e., for at least another 4-5 years under the most favorable conditions. Mining is not expected to be a growing sector in volume so much as in receipts. Receipts from offshore fishing could also grow, but again not in volume.

Thus, the economic future of Mauritania -- until the agricultural sector can take off -- can be expected to be dependent on external forces on the one hand, i.e., the demand for and price of iron ore, and on the other hand on Mauritanian ability to extract better licensing arrangements for offshore fishing from larger and more powerful countries.

AID STRATEGY

GEOGRAPHIC AREAS OF CONCENTRATION

Strategy Point #1: AID will concentrate its bilateral efforts on the development of the Traditional Interior Sector, i.e., Zones 2, 3, 4, 5 and 6. The rationale for this selection is as follows:

- this area includes the largest number of the poorest of the poor, especially the Haratin;

- this area in comparison with other geographic areas (Modern/Transitional-Zones 7, 8 and Traditional Valley - Zone 1) has been relatively neglected by other donors;

- investments in this area will best meet the objective to stabilize the population;

- investments in this area will prevent the loss of Mauritania's most important resource, i.e., that land area that supports most of the people as well as an overwhelming percentage of the livestock and agricultural activity in the country;

- investments in this area will probably result in increased agricultural production quicker and at a higher cost/benefit ratio than in any alternative location; and

- investments in "reserve pasturage" in this area probably are essential to help meet the need to make Mauritania drought resistant.

Strategy Point #2: To the extent necessary AID will divert some bilateral resources to the development of the Traditional Valley. The rationale for putting AID resources into the Valley would be because the development of the Valley is necessary to make Mauritania totally drought resistant — by permitting the production of both grains and forage during drought periods. The need to do so would occur only if other donors provided insufficient assistance. This does not, however, currently appear to be the case.

Strategy Point #3: While AID will not provide resources to the development of the Modern Sector it will nevertheless actively encourage other donors, as well as the Ex-Im Bank and American companies, to invest in this sector providing, of course, the investments are developmentally sound. The rationale for such encouragement is because the development of the Modern Sector, particularly mining and fishing, is necessary to provide the revenues to help fund development in the Traditional Interior and Valley.

Strategy Point #4: With a view to assisting Mauritania meet the objective of increasing human productivity AID will assist in the functional areas of health, education and training on a selective geographic basis. For the moment the weak geographic sectors in health and education appear to be in the Traditional Interior and Valley Sectors and thus to the extent that AID becomes involved in health and education its resources will be concentrated in these geographic areas. With regard to other aspects of human productivity, particularly as regards the need for training in project management and highly specialized technical skills, including skills in planning, interventions might have to be ones that have a nation-wide impact.

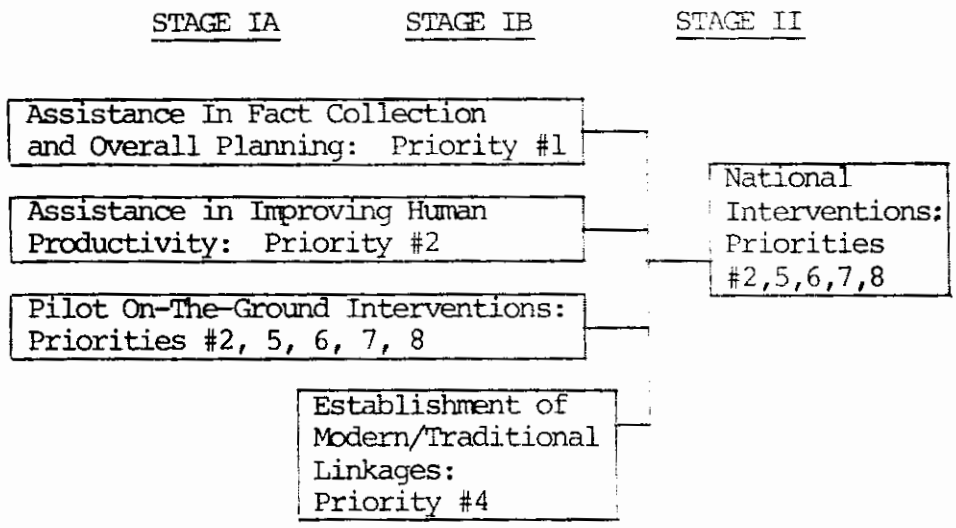
PROJECT DESIGN

Strategy Point #5: AID will to the extent possible incorporate in the design of its projects, and will encourage the government and other donors to do likewise, the following key elements:

- the amalgamation of modern and traditional techniques and practices;
- the use of intermediate technology;
- the use of AID technicians as project elements;
- the assumption by the AID Mission of certain administrative tasks associated with projects normally assumed by host governments in more advanced countries;
- the decentralization of government administration; and
- the need to "design out" recurrent costs.

TIME PHASING

Strategy Point #6: AID will relate the time phasing of its efforts to the idealized time phasing schemes shown on page 38 of this CDSS. In this context AID will proceed in two stages, as follows:



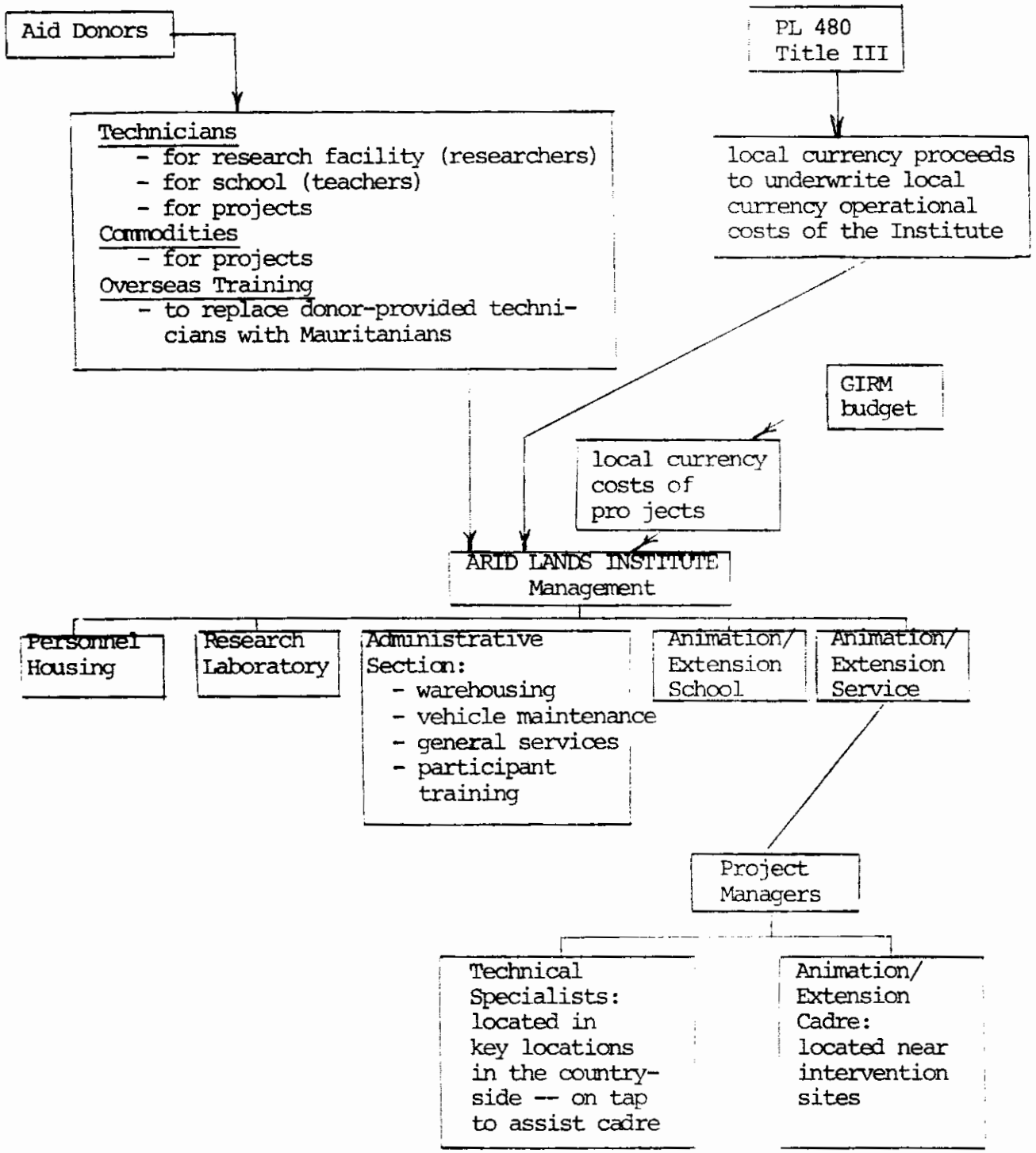
In Stage IA and IB AID will assist the government in collecting benchmark data, in analyzing these data and in establishing development policies. These interventions will complement current IBRD and German assistance in the same areas. During the same Stage AID will assist in improving human productivity, focusing primarily on project management and technical training, including training in planning as well as training in "grass roots" health care. These interventions will complement efforts by other donors, almost all of whom provide training of some sort or another. Finally, during the same period AID will undertake a series of pilot projects. Collectively these will be in as many different geographic zones and ethnic configurations as possible and will include, in addition to the expansion of "grass roots" health care, the following:

- reforestation
- sand dune stabilization
- establishment of reserve pasturage
- introduction of new range management techniques
- introduction of new agronomic techniques
- introduction of new oases agriculture techniques
- upgrading of tracks and trails

- introduction of vegetables
- establishment of new small oases
- recharging of oasis aquifers
- upgrading of firebreaks
- creation of agricultural recession systems behind earthen dams
- establishment of small rural industries
- community development
- construction of new wells
- expansion of rural radio

Stage IB reflects the need to establish inter alia a system to assure that the platform for development established in Stage IA, i.e., the plans, training and the information garnered from pilot interventions, will in fact be put to use in Stage II.

In order to provide this assurance it is planned that AID give assistance to the establishment of an Arid Lands Institute. This Institute would physically be located in the interior of the country, perhaps in Konkossa, which lies between Kiffa and Selibaby and is adjacent to both oases country and pastoral/dryland agricultural country, i.e., has easy access to Zones 2, 3 and 4, the principal Interior Zones. It would be a para-statal body, thus removing it from some of the shortcomings of the bureaucracy. It would be equipped and staffed to provide a range of activities which it would undertake as the "Development Commission" for the Traditional Interior. A tentative indication of the functions to be performed plus the relationship that the Institute would have to donors is shown on the scheme presented on the next page.


Aid Donors
PL 480
Title III
Technicians
- for research facility (researchers)
- for school (teachers)
- for projects
Commodities
- for projects
Overseas Training
- to replace donor-provided technicians with Mauritanians
local currency proceeds to underwrite local currency operational costs of the Institute
GIRM budget
local currency costs of pro jects
ARID LANDS INSTITUTE
Management
Personnel
Housing
Research
Laboratory
Administrative
Section:
- warehousing
- vehicle maintenance
- general services
- participant training
Animation/
Extension
School
Animation/
Extension
Service
Project
Managers
Technical
Specialists:
located in
key locations
in the country-
side -- on tap
to assist cadre
Animation/
Extension
Cadre:
located near
intervention
sites

Assets of the Institute would include various buildings and related equipment and furniture for a laboratory, a school, offices, a warehouse, a motor vehicle repair facility and housing for personnel and students.

The Research Laboratory would undertake research in all arid land subjects. Results would be passed on the School and then to the Animation/ Extension Service.

The School would train and re-train the animation/extension cadre in all arid land subjects.

The Animation/Extension Service would direct the animation/extension cadre, project managers and technical specialists. It is this combination of talent that would implement projects.

The Management of the Institute would coordinate the several branches of the Institute and seek financing of its investment program as well as for operational costs. This financing would arise in three ways:

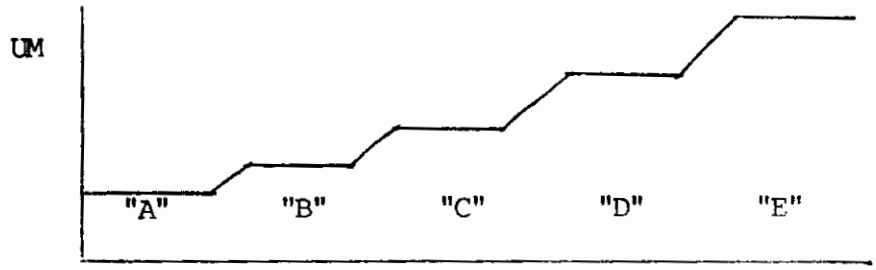
- from donors, who would provide the full scope of donor inputs at first, gradually reducing over time their input of technicians as Mauritanians are trained and then gradually reducing commodity inputs as the results of the total investment in the Interior pay off and financing can be picked up from the government budget;

- from PL 480 Title III local currency proceeds, which would cover the operational costs of the Institute as well as, perhaps at first, some of the local cost components of projects; and

- from the government budget, which would provide at first some of the local currency costs of projects and gradually absorb over time all of these costs as well as all other local currency costs.

A possible time-phasing for the assumption of government financing might

look as follows:



During period "A" the government would pay for some of the local currency costs of projects. During period "B" the government would pay all of the local currency costs of projects. During period "C" the government would pay for the cost of offshore commodities for projects. During period "D" the government would pay for the salaries of the research, school and specialized technical staff. And during period "E" the government would pick up the bill for all of the operational costs of the Institute. The exact timing for the beginning of each step would depend on the progress made in the Traditional Interior in generating income.

The PL 480 Title III component is critical to the success of the Institute. The proceeds from the sale of Title III grain should at a minimum pay for the operation costs of the Institute and at a maximum, at least in the early stages, pay for a part of the local currency costs of projects implemented by the Institute as well. In the absence of some means to generate local currency over and above normal budgetary receipts it would be highly unlikely that the Institute could be created. Indeed under these circumstances it would be unlikely that there could be any real progress shown in the development of the Traditional Interior for a long time, not only because

local currency funds would be insufficient but also because reliance on traditional ministries to implement a broad range of national-type projects would be inefficient as well as risky, reflecting the highly unstable situation all governments are bound to find themselves in in Mauritania for some time.

The use of PL 480 as a tool in development would coincidentally, yet importantly, help solve other priority problems in Mauritania. The food provided would help overcome the annual food deficit, to be sure. But perhaps more importantly the provision of regular food deliveries would help prevent the alternate clogging and emptying of the pipeline that now occurs, adding to agricultural production disincentives; and the sale of Title III grain in Mauritania at market prices would be a very significant incentive toward reviving agricultural production in the Interior. Thus, the use of Title III has built into it significant salutory policy implications, as well as humanitarian and developmental implications.

In Stage II the Institute would begin operations, first by picking up the responsibility for implementing the last stages of pilot projects, then by implementing national projects. The list of projects to be implemented by the Institute would include all projects for the Traditional Interior that normally would have come under the aegis of the Ministry of Rural Development for that area. The list ideally would also include those projects in education and health that are primarily for the Traditional Interior and which normally would fall under the aegis of the Ministries of Health and Education. The list would not, however, include those projects related to the development of the River Valley. These projects would come under the aegis of SONEDAR, the Agricultural School at Kaedi and the Agricultural Research Station at

Kaedi. These organizatio ns are already almost exclusively focused on problems related to the River.

While no firm estimate has been made yet it is temporarily envisioned that a PL 480 Title III program should initially be for 5 years and should provide about 25,000 MT of grain annually, either wheat or sorghum.

PROPOSED ANNUAL PLANNING LEVELS FOR OBLIGATIONS

Corresponding obligation levels that would tie in with the proposed phasing are shown in the following table.

	FY 1978	FY 1979	FY 1980	FY 1981	FY 1982	FY 1983	FY 1984	FY 1985
			(U.S. $ million)					
Agriculture	$6.7	$5.0	$6.8	$15.0	$10.0	$10.0	$10.0	$10.0
Health	-	1.7	-	-	2.0	2.0	2.0	2.0
Education	-	-	-	-	1.0	1.0	1.0	1.0
TOTAL	$6.7	$6.7	$6.8	$15.0	$13.0	$13.0	$13.0	$13.0
PL 480								
Title III (metric tons)			25000	25000	25000	25000	25000	?

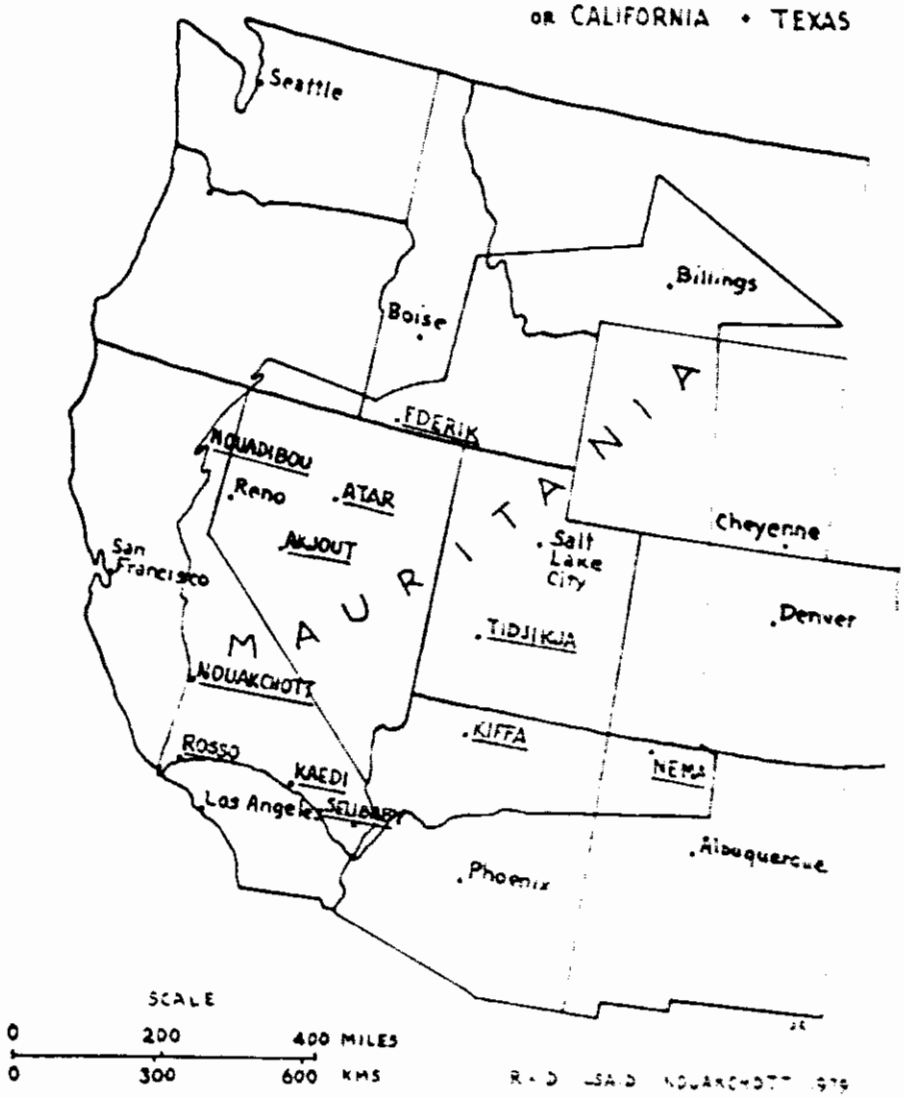
The relatively constant level of about $6.7 million over the 1978-1980 period reflects Stage IA. The sudden increase to $15.0 million in 1981 reflects Stage IB, wherein funding would be provided for the Arid Lands Institute and for the last stages of the pilot projects. The new "plateau" of $13.0 million shown for the 1982-1985 period reflects State II, wherein funding would be provided for national as opposed to pilot interventions.

MAP A

ANNEX I

MAURITANIA SUPERIMPOSED ON MAP OF THE WESTERN UNITED STATES

MAURITANIA'S AREA OF 1,400,000 KMS^2 OR 540,400 MILES^2
EQUALS THE AREA OF WASHINGTON, OREGON, CALIFORNIA + NEVADA
OR CALIFORNIA + TEXAS



R.D. SAID NOUAKCHOTT 1979

Annex III

CALCULATION TO ARRIVE AT GDP PER CAPITA FOR THE TRADITIONAL AND MODERN SECTORS

POPULATION

Estimated population Modern Sector (Zone #7 plus 1/2 Zone #8)	173,000 a/
Estimated population Traditional Sector (Zones #1-6 plus 1/2 Zone #8)	1,247,000 a/
Total	1,420,000

a/ from Annex I

ESTIMATED 1978 GDP

	Total	Attributed To: Traditional Sector (billions of UM)	Modern Sector
Rural Sector			
Livestock	5.00	5.00	
Agriculture	.50	.50	
Fishing	.35		.35
Forestry	.05	.05	
Industrial Sector			
Mining	2.60		2.60
Fish Processing	.23		.23
Other Industry/Energy	.92		.92
Handicrafts	1.05	1.05	
Construction/Public Works	1.55		1.55
Transport/Commerce/Services	2.65	.85	1.71
Administration	4.30	.95	3.35
Indirect Taxes	2.10		2.10
GDP at 1978 Prices	21.21	8.40	12.81

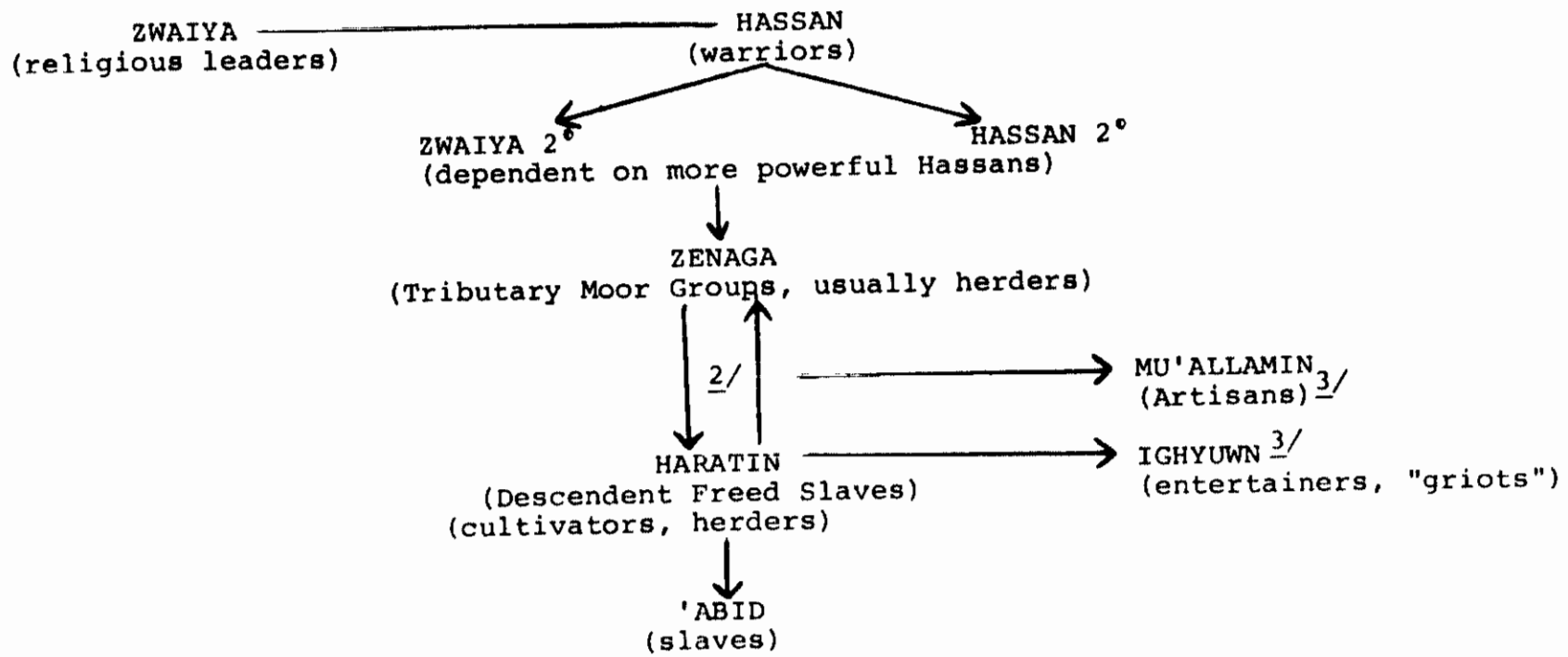
Note: The distribution between "traditional" and "modern" for the various GDP categories was made on the basis of a subjective judgment by the AID staff.

CALCULATIONS

Total GDP per Capita	21.21/1.420.000 = UM 15,000 = $350
Modern GDP per Capita	12.81/173,000 = UM 75,000 = $1,300
Traditional GDP per Capita	8.40/1,247,000 = UM 7,000 = $150

TABLE # 13

SIMPLIFIED OUTLINE OF MOOR SOCIAL STRUCTURE[1/]



Comments:

1/ None of this structure is legally enforced in Mauritania, but it still has major social significance.

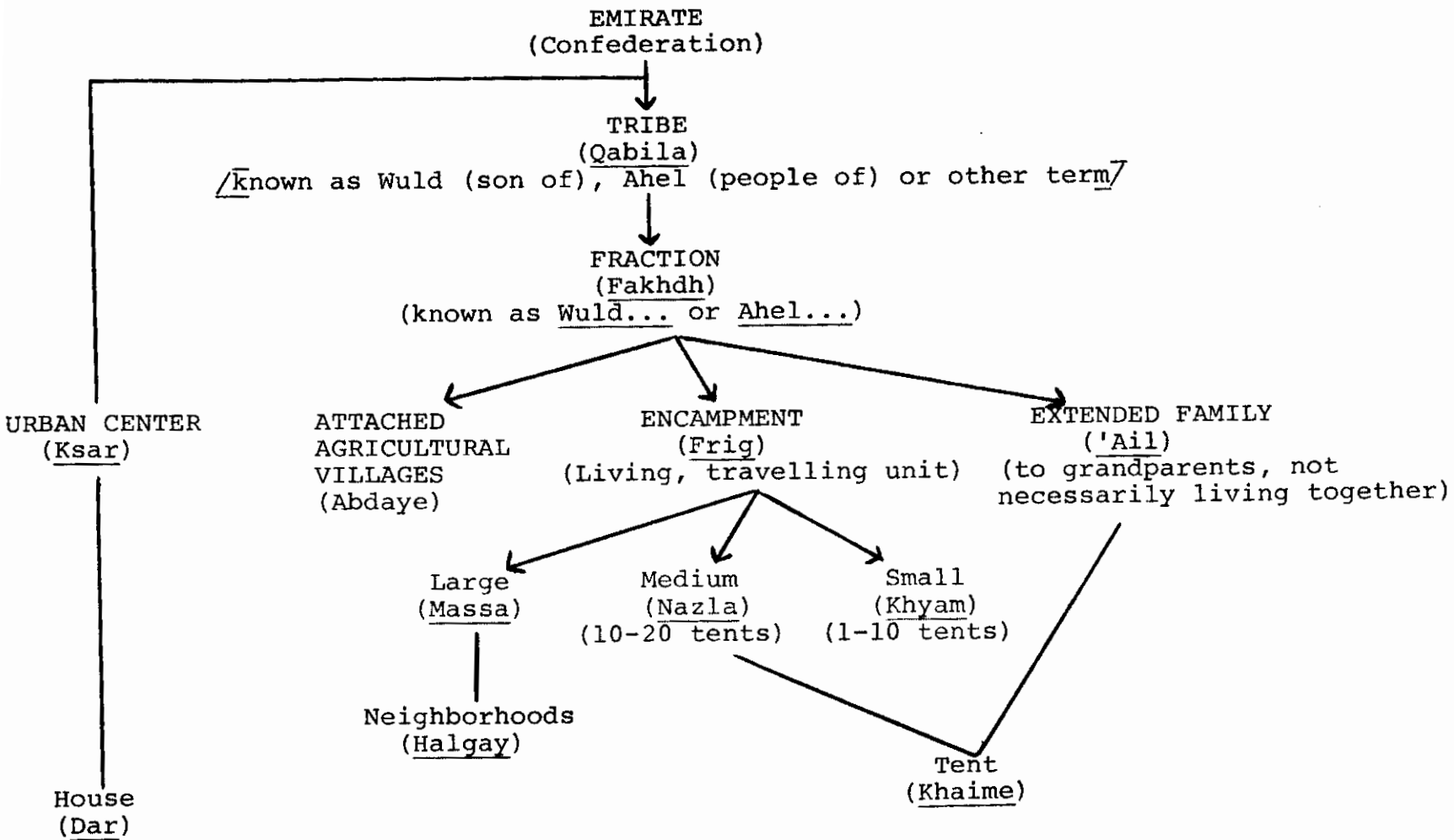
2/ The relative position of Zenaga and Haratin varies by region.

3/ These groups have an ambiguous position as attached to but not part of Moor groups, and as both despised for earning their living working for others, admired for their skills, and feared for supposed magic powers and ability to slander.

R & D Office, USAID/Mauritania

TABLE # 14

TRADITIONAL MOOR SOCIAL ORGANIZATION



R & D Office, USAID/Nouakchott

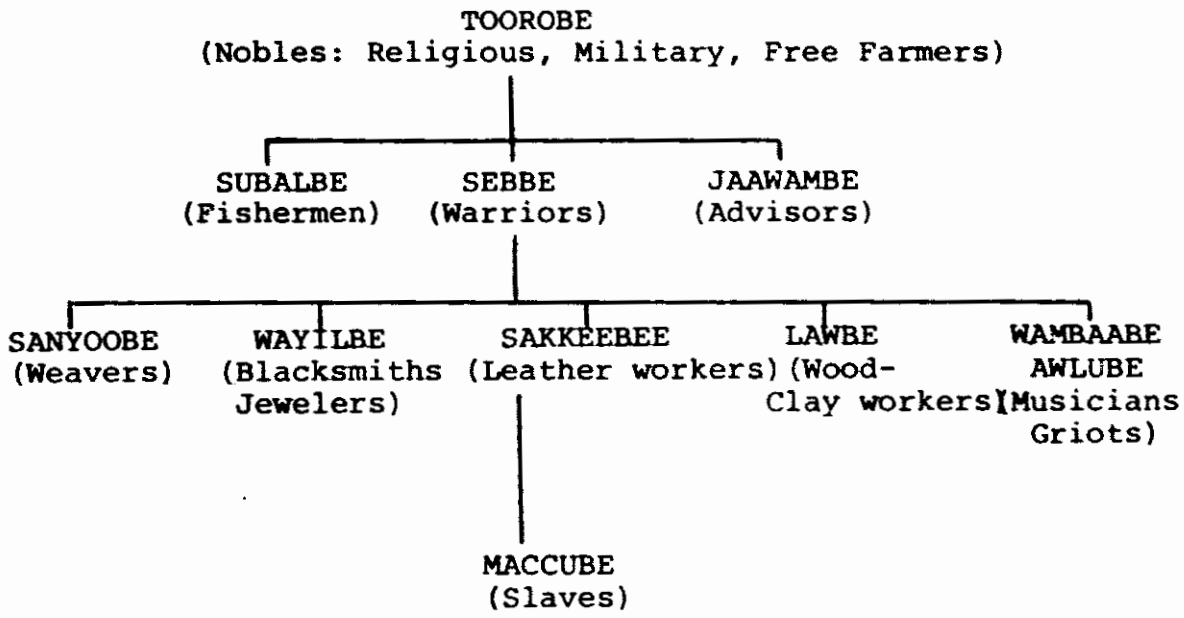
ANNEX 1

TABLE # 15

SIMPLIFIED OUTLINE

OF

TRADITIONAL TOUCOULEUR SOCIAL STRUCTURE



R & D Office, USAID/Mauritania

TABLE #11

ETHNIC GROUPS BY ZONE AND PRINCIPAL ECONOMIC ACTIVITIES

ETHNIC GROUP	ZONE	PRINCIPAL ECONOMIC ACTIVITIES
Bidan*	1	Commercants
	2	Herding, commercants, landowners
(White Moor)	3	Herding, commercants, landowners, artisans
	4	Herding, commercants, landowners, artisans
Est. % of Total Population	5	Herding, commercants
	6	Herding, commercants, sea fishing
45 %	7	Government (all levels), modern business, commercants, artisans
	8	Commercants, landowners, "dependents"
	10	Commercants (Senegal, Gambia, other West African countries), artisans (Senegal)
Haratin*	1	Agriculturalists, servants, unskilled laborers
	2	Agriculturalists, servants
(Black Moor)	3	Agriculturalists, servants, unskilled laborers
	4	Herders, agriculturalists, servants, unskilled laborers
Est. % of Total Population	5	Herders, servants
	7	Administration (lower echelons), unskilled laborers, servants
25 %	8	Servants, unskilled laborers
	10	Commercants, unskilled laborers (Senegal)
Toucouleur	1	Landowners, agriculturalists, commercants, fishermen, artisans
	7	Administration (all levels), commercants, modern business, unskilled laborers
(Halpularen)*	10	semi-skilled - unskilled laborers (Senegal and France)
Est. % of Total Population		
14 %		

cont./...

TABLE # 11/ cont.

ANNEX 1

ETHNIC GROUP	ZONE	PRINCIPAL ECONOMIC ACTIVITIES
Peuhl	1	Herding, some agriculture
	2	Herding, some agriculture
(Fulbe)*	3 (S)	Herding, some agriculture
	7	Administration (all levels)
Est. % of Total Population		
7 %		
Sarakollo	1 (NE)	Landowners, agriculturalists
	2 (SW)	Landowners, agriculturalists
(Sonike)*	10	Unskilled laborers (France)
Est. % of Total Population		
6 %		
Bambara	2	Agriculturalists
	3 (SE)	Agriculturalists
(Bamano)*		
Est. % of Total Population		
1.5 %		
Wolof*	1 (W)	Agriculturalists, fishermen
	7	Skilled and unskilled laborers, deepsea fishing
Est. % of Total Population		
1.5 %		

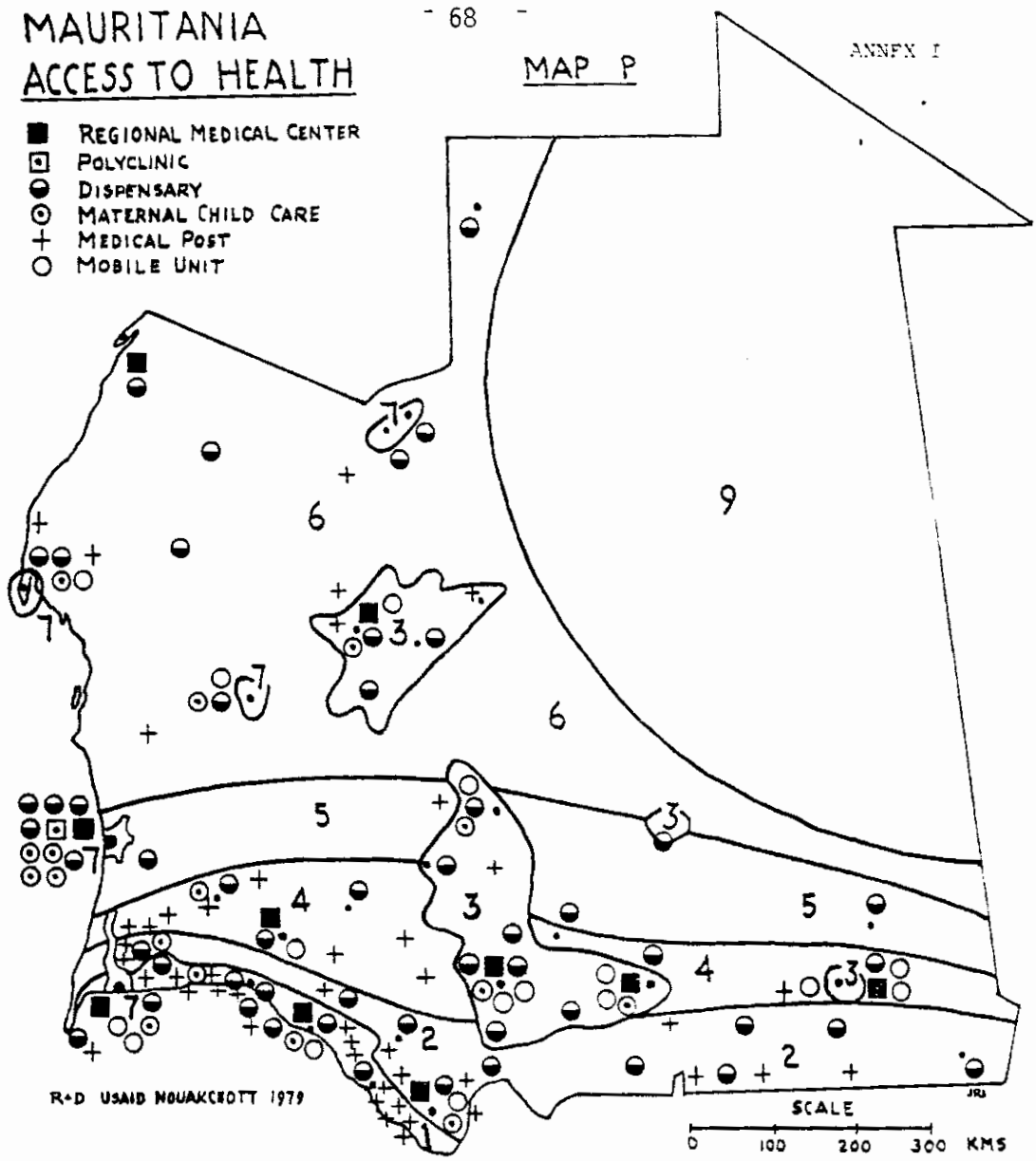
* Indigenous Term

W-West, S-South, SE-Southwest, SW-Southwest, NE- Northeast

R & D Office, USAID/Nouakchott

MAURITANIA
ACCESS TO HEALTH

MAP P



ZONE	1	2	3	4	5	6	7+8	9	TOTAL
REGIONAL MEDICAL CENTER	1	1	4	1	0	1	2	0	10
POLYCLINIC	0	0	0	0	0	0	1	0	1
DISPENSARY	7	10	13	3	3	5	10	0	51
MATERNAL CHILD CARE	2	2	5	1	0	0	7	0	17
MEDICAL POST	17	11	3	8	1	5	1	0	46
MOBILE UNIT	1	1	8	1	0	0	9	0	20

SOURCE - Mauritanie, Atlas Jeune Afrique 1977 - World Health Organization 1976
- Ministère de la Sante et du Travail 1978

ANNEX 1

TABLE # 20

ACCESS TO HEALTH FACILITIES

ZONE	1	2	3	4	5	6	7-8	9	TOTAL
UNIT									
Regional Medical Center[1/]	1	1	4	1	0	1	2	0	10
Total MDs	3	6	27	1	0	1	33	0	71
Mauritanian MDs	0	1	3	0	0	0	24	0	28
Foreign MDs	3	5	24	1	0	2	9	0	43
Anesthetists[2/]	0	0	8	0	0	0	3	0	11
Dentists[3/]	0	0	0	0	0	0	3	0	3
Ratio: Population/MD	74 000	53 700	12 600	165 000	-	13 500	7 000	-	19 100
Dispensaries	7	10	13	3	3	5	10	0	51
Ratio: Dispensary/ Population	31 700	32 200	25 500	55 000	21 000	5 400	24 800	-	27 100
Nurses[4/]	34	45	76	20	9	12	161	0	357
Ratio: Population/ Nurse	6 500	7 200	4 400	8 300	7 000	2 300	1 400	-	3 800

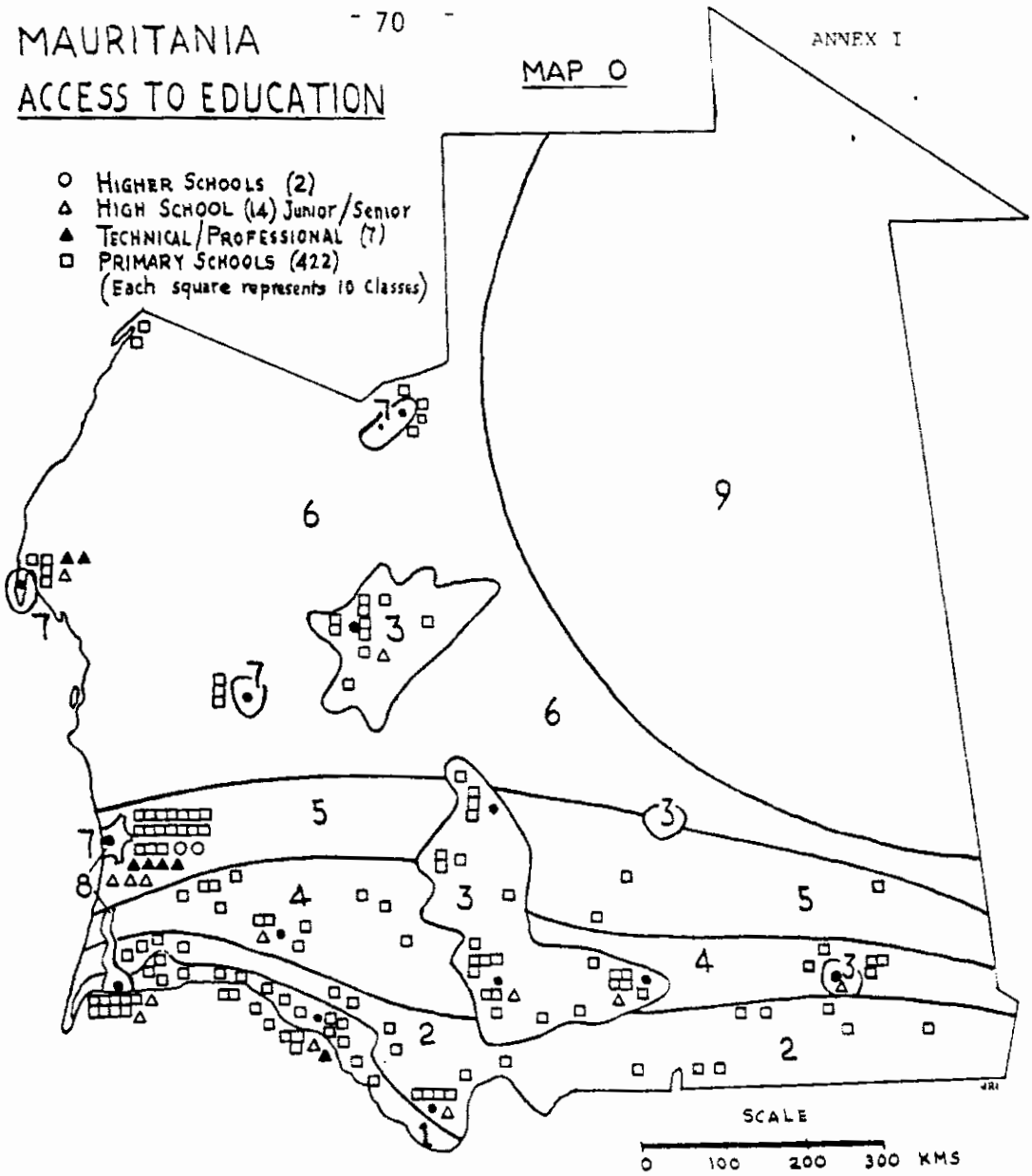
1/ More than 50 beds
2/ All Mauritanians
3/ 1 Mauritanian
4/ Includes Infirmiers d'Etat and Infirmiers Brevetes

R & D Office, USAID/ Nouakchott

ANNEX I

MAURITANIA
ACCESS TO EDUCATION

MAP O



ZONE	1	2	3	4	5	6	7-8	9	TOTAL
PRIMARY CLASSES	248	235	377	126	35	37	322	0	1380
PRIMARY STUDENTS	12838	10276	17187	5240	1219	1417	24876	0	74053
HIGH SCHOOL STUDENTS	1554	122	2606	644	0	70	4732	0	9728

SOURCE: Ministere de l'Education 1977-78 R.-D. USAID NOUAKCHOTT 1979

TABLE # 19

ANNEX 1

ACCESS TO EDUCATION FACILITIES

ZONE	POPULATION	POPULATION Age 6-15	CLASSES	STUDENTS per class	STUDENTS	RATIO 1/	TEACHER	RATIO STUDENTS PER TEACHER 1:___
1	222 000	54 168	248	50	12 838	24	313	41
2	322 000	79 090	235	44	10 276	13	285	36
3	331 000	80 764	377	46	17 187	21	452	38
4	165 000	40 309	126	50	6 240	15	169	37
5	63 000	15 498	35	35	1 219	8	42	29
6	27 000	6 648	37	36	1 417	21	36	39
7	120 000	28 320	322	93	24 876	46	496	50
8	103 000	25 335						
9	0	0	0	0	0	0	0	0
TOTAL	1,353 000	330 132	1 380	54	74 053	22	1 793	41

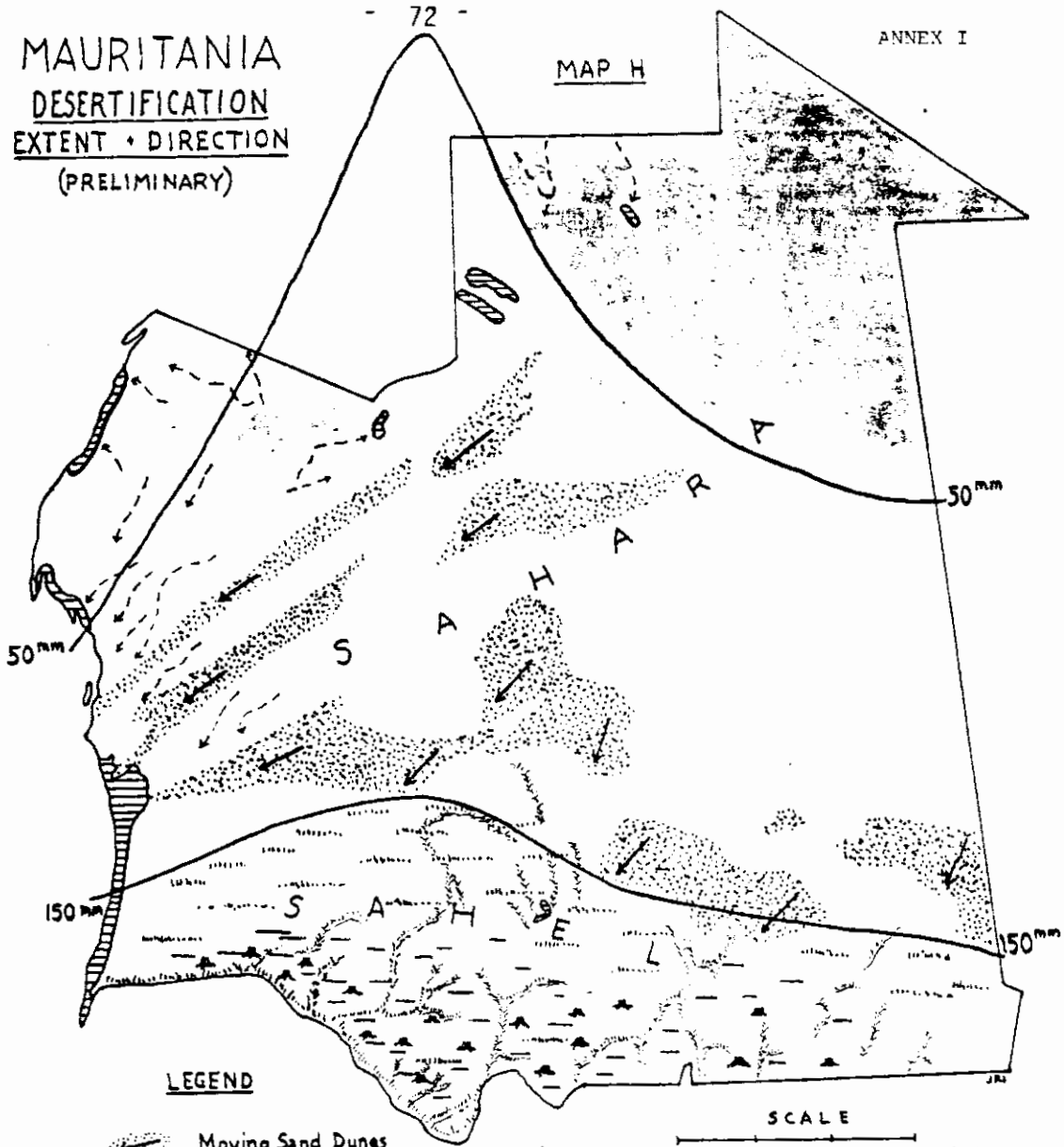
1/ Percentage school age population in school.

Source: Ministere de l'Education Nationale, 1977
R & D Office, USAID/Nouakchott, estimations

ANNEX I

MAURITANIA
DESERTIFICATION
EXTENT + DIRECTION
(PRELIMINARY)

MAP H



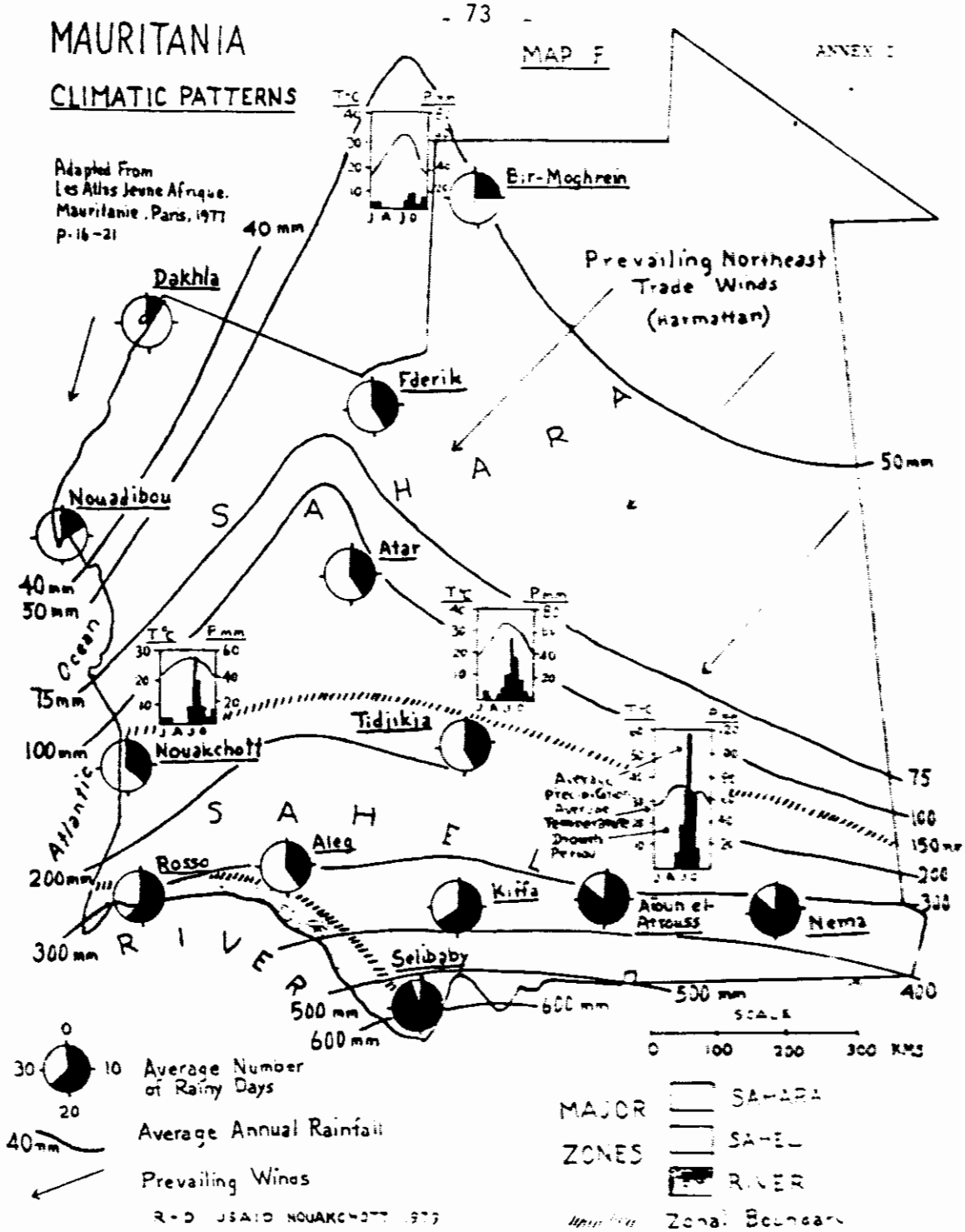
LEGEND

- Moving Sand Dunes (Arrow Indicates Direction of Movement)
- Salt Flats + Dunes
- Intermittant Streams - Lowered Water Tables Commonplace
- Soil Erosion: [Gully Erosion Along Intermittent Streams; Sheet Erosion by Water and Wind]
- Pasture Deterioration by Drouth + Overgrazing
- Trees Cut, Burned Grazed, or Dying
- Shaded Areas are Desert:
  - Darker Shading represents Desert Heartland
  - Lighter Shading of Sahel represents invasion of Drouth + Desert.

SCALE
0 100 200 300 KMS.

SOURCES
Staff Field Observations
Selected Physical Maps

R+D USAID NOUAKCHOTT 1979


MAURITANIA
CLIMATIC PATTERNS
MAP F
ANNEX I
Adapted From
Les Atlas Jeune Afrique.
Mauritanie . Paris, 1977
p. 16-21
Bir-Moghrein
40 mm
Dakhla
Prevailing Northeast
Trade Winds
(Harmattan)
Fderik
50mm
Nouadibou
S A H A R A
Atar
40 mm
50 mm
Ocean
75mm
100mm
Nouakchott
Tidjikja
75
100
150 mm
200
300
Atlantic
S A H E L
200mm
Rosso
Aleg
Kiffa
Aioun el-Atrouss
Nema
300 mm
R I V E R
Selibaby
500 mm
600 mm
400
SCALE
0 100 200 300 KMS
Average Number of Rainy Days
Average Annual Rainfall
Prevailing Winds
MAJOR ZONES
SAHARA
SAHEL
RIVER
Zonal Boundary
R-D USAID NOUAKCHOTT 1979

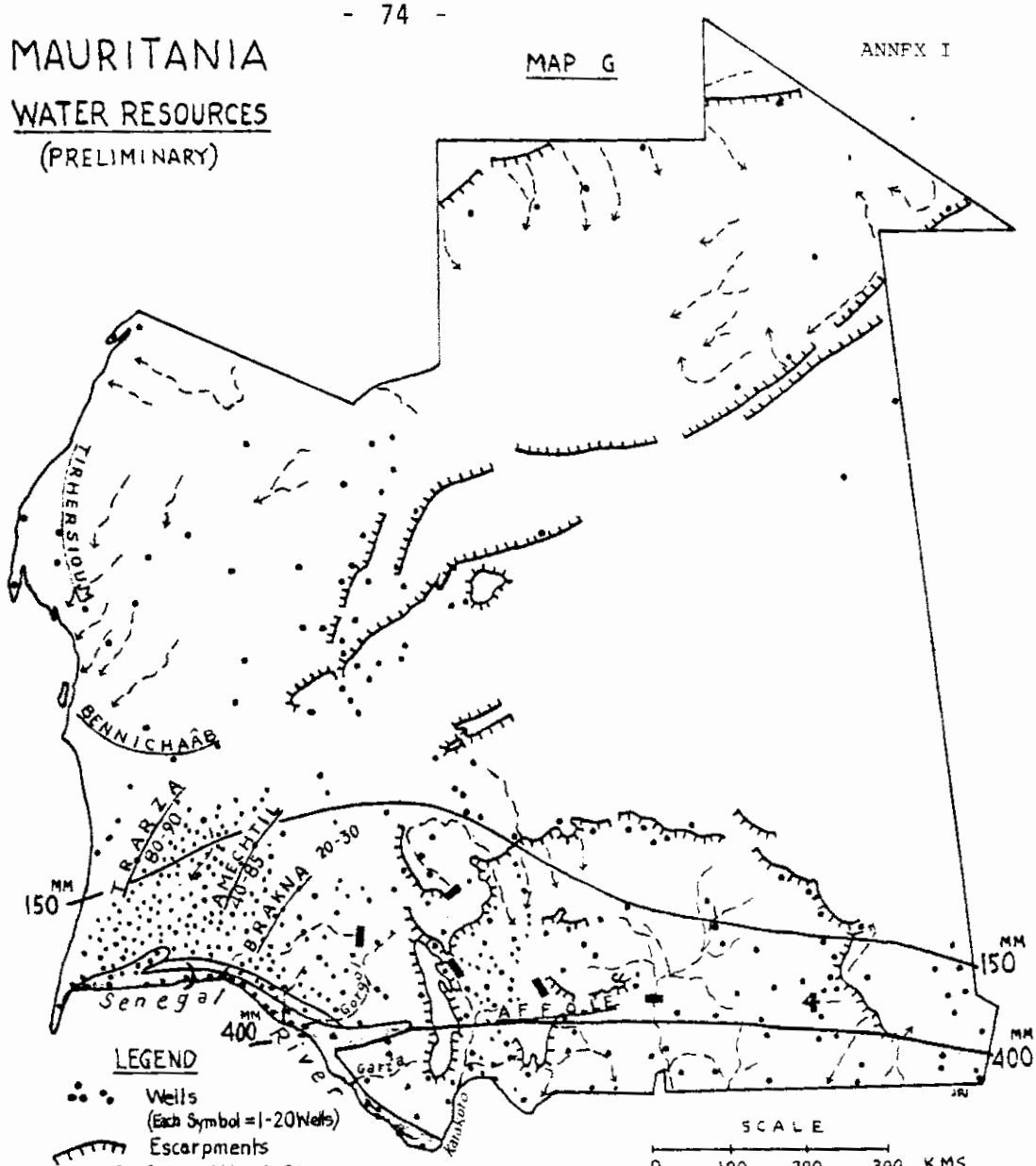
ANNEX I

MAURITANIA

WATER RESOURCES

(PRELIMINARY)

MAP G



LEGEND

- Wells (Each Symbol = 1-20 Wells)
- Escarpments
- Intermittent Streams
- Important Agricultural Barrages
- Rain-fed Agriculture
- Recession of Flood-Water Agriculture
- Senegal River Saline to This Point
- TRARZA 80-90 — Major Aquifer. Well Depths 80-90 meters
- 150 MM — Average Annual Precipitation Isonyet

SCALE

0 100 200 300 KMS

SOURCES

Mauritanian Topographic Maps
Department of Hydrology, Nouakchott
Mauritanie-Atlas Jeune Afrique, 1977

R+D USAID NOUAKCHOTT 1979

ANNEX 1

TABLE # 2

CORRESPONDENCE OF ZONES TO CUSTOMARY NOMENCLATURE

SAHARA	Zone 3	(northern parts)
	Zone 5	(northern parts)
	Zone 6	
	Zone 7&8	(northern parts)
	Zone 9	
SAHEL	Zone 2	
	Zone 3	(southern parts)
	Zone 4	
	Zone 5	(southern parts)
	Zone 7&8	(northern parts)
RIVER (Chememma)	Zone 1	

Research & Development Office, USAID/Mauritania

Annex IV - 1

REPRESENTATIVE INTERVENTIONS

Shown below are representative intervention subjects and their relationship to objectives priorities. A note at the end of the index identifies the 8 objective/priorities that are indicated numerically on the table.

	Objective/Priority (See Note)							
Possible Intervention Subject	1	2	3	4	5	6	7	8
I. ALL FOUR SECTORS: MODERN, TRANSITIONAL, TRADITIONAL VALLEY, TRADITIONAL INTERIOR								
Establish Policies								
Development Path Strategy	x	y	y	y	y	y	y	y
Health Strategy	x	y						
Employment Strategy	x	y						
Water Control Strategy	x				y	y	y	y
Environmental Strategy	x				y	y	y	y
Establish Facts								
Micro Economic Data	x				y	y	y	y
Population Data	x	y						
Groundwater Inventory	x				y	y	y	y
Renewable Resources Inventory	x				y	y	y	y
Education								
Primary		x					y	y
Secondary		x						
University		x						
Teacher College		x						
Koranic Schools		x					y	y
Health								
Mobile Health Unitw		x					y	y
PMIs		x					y	y
Hospitals		x					y	y
Pharmacies		x					y	y
Nursing/Midwifery School		x						
Traditional Healers		x					y	y
Specialized Technical Training	y	x	y	y	y	y	y	y
Project Management Training		x	y	y	y	y	y	y

NOTE: "x" refers to primary objective/priority, "y" refers to ancilliary objectives and priorities.

Annex IV - 2

	Government Administration	1	2	3	4	5	6	7	8
	Classification	y	x	y	y	y	y	y	y
	Organization/Systems	y	x	y	y	y	y	y	y
	School of National Administration		x						
II.	THREE SECTORS: TRANSITIONAL, TRADITIONAL VALLEY, TRADITIONAL INTERIOR								
	Rural Industry							x	
	Reforestation						x	x	
	Alternate Energy							x	x
	Housing							x	
III.	TWO SECTORS: TRADITIONAL VALLEY AND TRADITIONAL INTERIOR								
	Protection Wildlife						x		
	Agricultural Credit							x	x
	Crop Protection							x	x
	Tracks & Trails							x	x
	Seed Multiplication							x	x
	Vegetables					x		x	x
	Fruits							x	x
	Grain Storage					x			
	Agricultural Techniques							x	x
IV.	TRADITIONAL INTERIOR ONLY								
	Extension - Arid Lands				x				
	Animation - Arid Lands				x				
	Rural Radio - Arid Lands				x				
	Animation/Extension School-Arid Lands				x				
	Research - Arid Lands				x				
	Firebreaks						x	x	
	Dune Stabilization						x		
	Reserve Pasturage					x	x		
	Aquifer Recharge						x	x	x
	Oases Development							x	x
	Irrigation - Wells							x	x
	Irrigation - Cisterns							x	x
	Irrigation - Terracing							x	x
	Irrigation - Earthen Dams							x	x

Annex IV - 3

	1	2	3	4	5	6	7	8
V. TRADITIONAL VALLEY ONLY								
Extension Valley Lands				x				
Animation Valley Lands				x				
Rural Radko - Valley Lands				x				
Animation/Extension School - Valley Lands				x				
Research - VAlley Lands				x				
Irrigation - Pumps (Sm Perimeters)					y		x	x
Irrigation - Dams (Lg Perimeters)					y		x	x
Forage					x		x	x
Modern Sector Only								
Off Shore Fishing			x		y			
Mining			x		y			
Utilities			x					
Communications			x				y	
Modern Transportation			x					
Manual Trades School			x					

NOTE: The 8 objective/priorities are as follows:

1. First priority: to establish appropriate policies that will assure the most efficient balance between the four major development areas: Modern - Zone 7, Transitional - Zone 8, Traditional Valley - Zone 1, Traditional Interior.

2. Second priority: to raise the average level of human productivity.

3. Third priority: to assure an uninterrupted and rising flow of earnings in the Modern Sector so as to help finance the development of the other sectors.

4. Fourth priority: to establish linkages that will assure the efficient transfer of investment resources from the Modern Sector to the other sectors.

5. Fifth priority: to establish programs that will make Mauritania drought resistant.

6. Sixth priority: to establish a viable eco-system in the Traditional Interior Sector in order to arrest environmental degration and in time reverse the process of degradation.

7. Seventh priority: to stabilize the population in the Traditional Interior Sector and maybe possibly reverse rural exodus.

8. Eighth priority: to increase agricultural production.

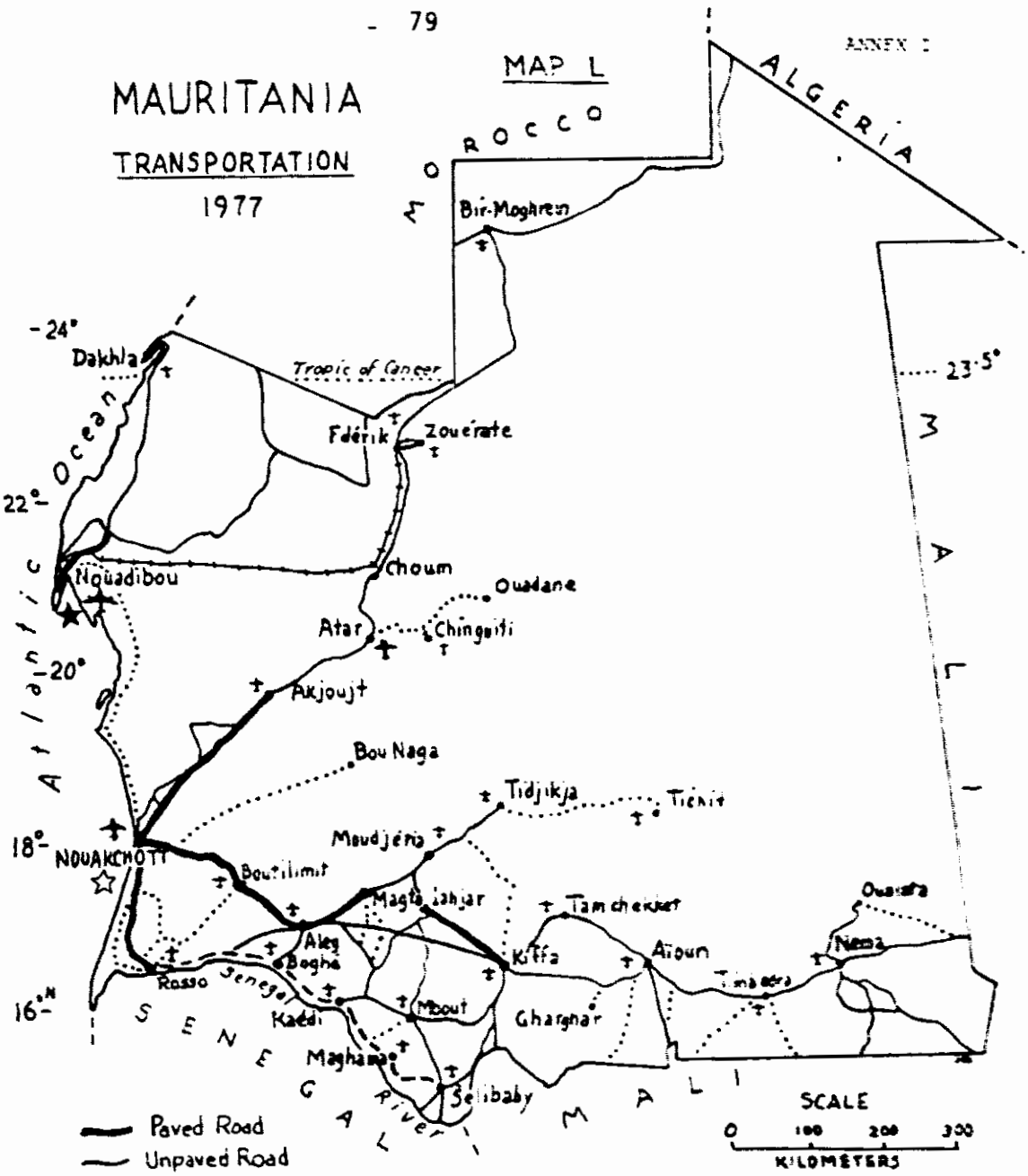
ANNEX I

MAP L

MAURITANIA

TRANSPORTATION

1977

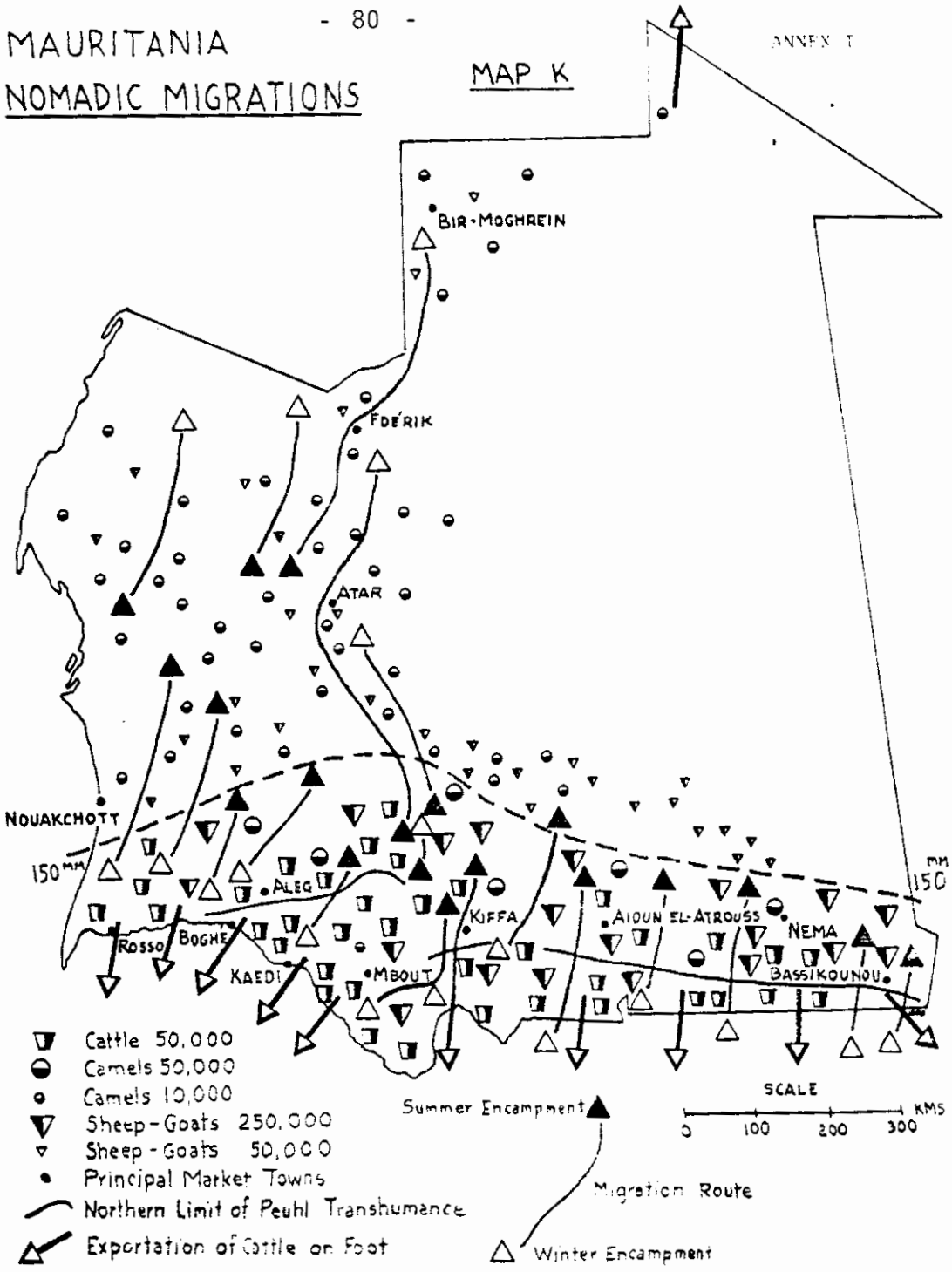


R+D USAID NOUAKCHOTT 1979

Adapted from Les Atlas veuve Afrique Paris, [illegible] p. 50 Mauritanie

MAURITANIA
NOMADIC MIGRATIONS

MAP K



SOURCE: Mauritanie - Atlas Jeune Afrique 1977 R.+D. USAID NOUAKCHOTT 1979

ANNEX V

TABLE II

PERCENTAGE OF GOVERNMENT RESOURCES DERIVED FROM DIFFERENT SOURCES 1974 - 1977

	1974	1975	1976	1977
A. BUDGET REVENUE	90	85	88	89
1. Tax Revenue (1+2+3+4+5)	73	67	71	75
a. Income-Profit	16	14	21	24
Business Profits	3	1		6
Wages-Salaries	9	7		10
General Income Tax	3	3		3
Contribution N.D.E.	0	0		4.5
Others	1	1		0.5
b. Property	1	1	0.3	1
c. Goods-Services	11	8	18	11
Turnover	10	5	4	5
Special-SNIM	0	0	11	2
Gasoline	0	2	2	3
Selective Excise Duties	1	1	1	1
d. International Trade	44	43	30	38
Import	27	34	29	37
Export	17	9	1	1
e. Others	1	1	1.7	1
2. Non-Tax Revenue	5	5	4	4
3. Unclassified Revenue	12	12	13	10
B. SPECIAL ACCOUNT	10	15	12	11
TOTAL PERCENT (A + B)	100	100	100	100
TOTAL BILLION UM	3.8	3.9	4.9	4.6

Source: IMF Report 1978
Banque Centrale 1977
Budget d'Etat 1976, 1977, 1978

R & D Office, USAID/Mauritania

TABLE V ANNEX V

GOVERNMENT EXPENDITURES BY PERCENTAGE

	1973	1974	1975	1976	1977
I. Budget Salaries Services	40.7	39.4	57.9	45.9	59.2
A. General Services	17.3	15.3	24.6	22	19.8
B. Defense	4.6	4.6	8.5	7.7	17.2
C. Education	9.8	8.6	11.5	8	13.5
D. Health, Social Services	3.6	3.6	4.3	3.1	3.6
E. Household Collective	-	-	-	-	-
F. Other Collective Services	1.1	1.7	2.8	0.9	1.1
G. Economic Services	4.3	5.6	6.2	4.2	4
Agriculture/Fish	1.6	1.4	1.6	1.2	1.2
Industry	2.5	3.3	3.6	2.3	1.5
Other	0.2	0.7	1	0.7	1.3
II. Technical Assistance Salaries	5.5	5.2	15.8	12.9	10.3
III. Goods & Services as Grants	39.9	41.4	12.6	9.1	6.8
IV. Special Accounts	17.1	14.1	13.7	32	23.8
V. Amortization CNSS	0.02	-	0.05	-	-
VI. Sales of Goods & Services	0.04	0.1	0.05	0.1	0.1
TOTAL	100	100	100	100	100

Source: Ministere du Plan, Indicateurs Economique, Decembre 1978
R & D, USAID, Nouakchott, Estmations

ANNEX V

TABLE III
PERCENTAGE OF GDP ALLOCATED TO SPECIFIC SECTORS

CURRENT PRICES 1973-77

	1973	1974	1975	1976	1977
A. TRADITIONAL (1+2+3+4)	24.6	30.7	33.2	30.4	26
1. Livestock	15	21.4	26	25.7	21.6
2. Agriculture	2.4	2	2.6	1.3	1
3. Fish	6	5	4	3	3
4. Others	1.2	2.3	1.6	2.4	1.4
B. MODERN (1+2+3+4+5)	75.4	69.3	66.8	69.6	74
1. Industries (a+b+c)	30	27	23	23	18
a. Mining	25	23	18.5	18.3	12.6
b. Fish	1	1	1	1	1
c. Other	4	3	3.5	3.7	4.4
2. Construct Public Works	4.6	5	6	7	9
3. Transp. Com. Sce.	21	18.5	20	20	23
4. Public Administration	8	7	8	10	13.5
5. Indirect Taxless Susidies	11.5	11.5	9	10	10
TOTAL (A + B) PERCENT	100	100	100	100	100
TOTAL BILLIONS UM	12.1	16.9	18.5	22.4	23.3

S ource: IMF Report 1978
Banque Central 1977
Budget D'Etat 1976,77,78

R & D Office
USAID/Mauritania

ANNEX V

TABLE VII

PERCENTAGE OF BANK CREDIT ALLOTTED TO DIFFERENT ECONOMIC SECTORS

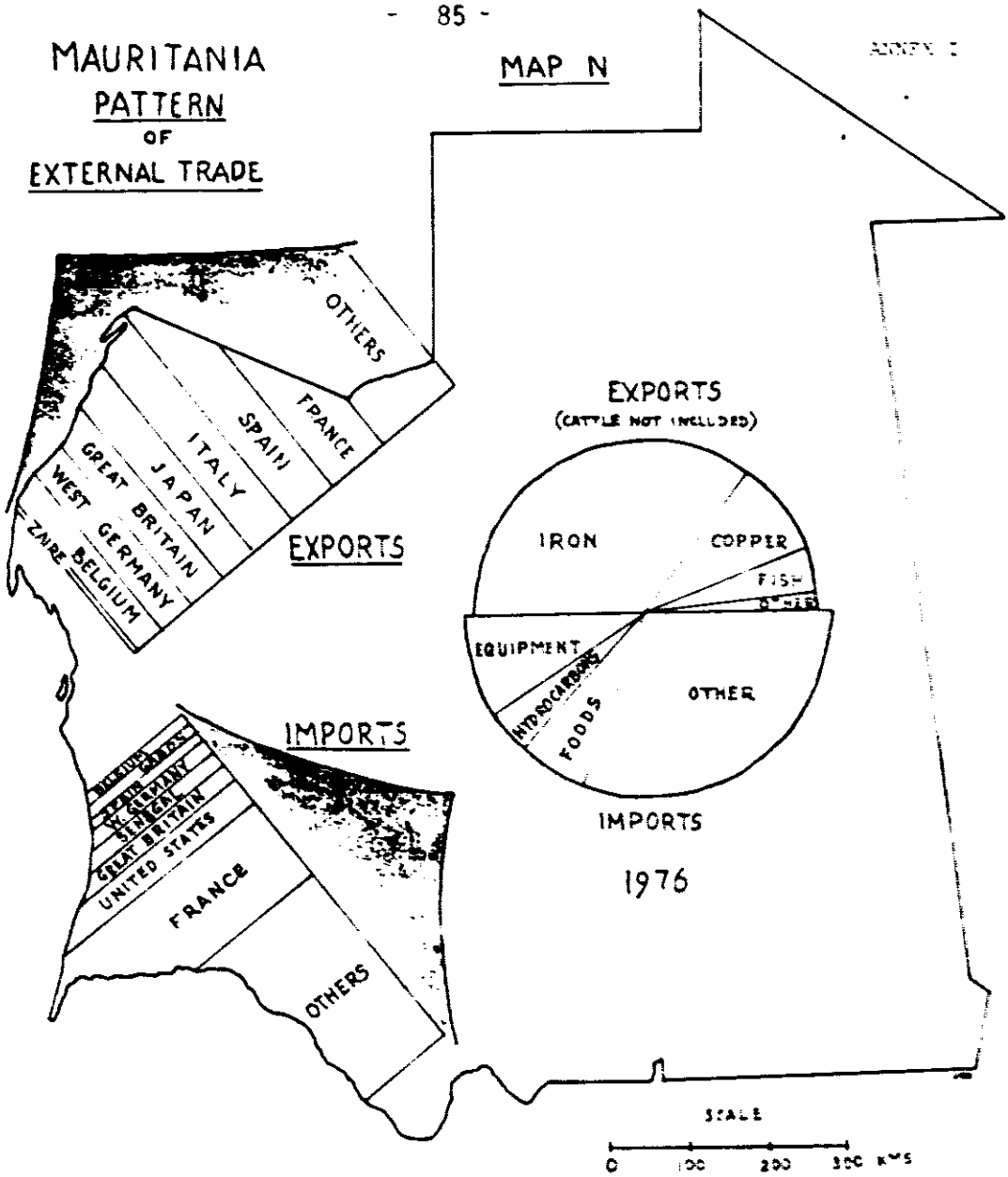
1974 - 1977

	1974	1975	1976	1977
Commerce	50	35	33	40
Construction	13	9	11	10
Fishing	10	4	2	2
Mining	9	38	37	28
Transportation	7	3	3	2
Unclassified	11	11	14	18
TOTAL PERCENT	100	100	100	100
TOTAL BILLIONS UM	2.6	5.2	6.2	7.3
Short Term	87.4	72	75	80
Medium Term	10	9	11	10
Long Term	2.6	19	14	10
TOTAL PERCENT	100	100	100	100

Source: IMF Report, 1978
Banque Central 1977
Budget d'Etat 1976,77,78

MAURITANIA
PATTERN OF EXTERNAL TRADE

MAP N



SOURCE: Mauritanie – Atlas Jeune Afrique 1977 R & D USAID ROUAKCHOTT 1978