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SUPPLEMENT TO

SENEGAL: A COUNTRY PROFILE

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Office of Food For Peace
USAID/Senegal
Dakar, Senegal

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I. ORGANIZATION AND FUNCTIONS OF THE USAID/SENEGAL MISSION DISASTER RELIEF TEAM (MDRT)

A. MISSION DISASTER RELIEF TEAM

- Ms. Vara Lafoy (ETA 7/31/82)	Mission Disaster Relief Officer (MDRO) Food For Peace Officer
- Ms. Barbara Howard	Alternate Mission Disaster Relief Officer Deputy Program Officer
- Mr. Stanley Robinson	Embassy Admin. Officer
- Mr. John Caruso	Embassy General Services Officer (GSO)
- Mr. Eric Altonen	Defense Attaché (DAO)
- Dr. Emmett Wilson	Regional Medical Officer (RMO)
- Ms. Sue Potter	Embassy Secretary
- Mr. Will Petty	USIS, Public Affairs Officer

B. MDRT FUNCTION

1. Food and Water Preparation, Treatment and Distribution : Team Officers Responsible: Ms. Vara Lafoy - Dr. Emmett Wilson
2. Medical Services: Team Officer Responsible: Dr. Emmett Wilson
3. Shelter and Survival Supplies: Team Officer Responsible: Mr. John Caruso
4. Engineering, Communication, Building Inspection and Condemnation, Road and bridge inspection and clearance: coordinated by RDO and US Engineer TDY from REDSO/WA Abidjan; if outside assistance is necessary.
5. Transportation and Logistics, Fuel Supplies and Distribution: Team Officer Responsible: Mr. John Caruso
6. Rescue and Relief Assessments/Operations: Team Officer Responsible: Mr. Eric Altonen

7. Coordination and Monitoring Activities: Team Officer Responsible: Ms. Vara Lafoy, MDRO

8. Security: Team Officer Responsible: Mr. Stanley Robinson

9. Administrative and Reporting: Team Officer Responsible: Ms. Barbara Howard, alternate MDRO

10. Information: (press release, photographs, U.S. and foreign news media servicing); Team Officer Responsible: Mr. Will Petty

11. Clerical and Typing Coordinator: Team Officer Responsible: Ms. Sue Potter

II. HOST COUNTRY DISASTER PLANNING/PREPAREDNESS

The Government of Senegal (GOS) has no national disaster relief plan at present. The UNDRO has recently offered technical assistance to Senegal to develop a national plan. No details are presently available to indicate the nature of the proposal. In the event of a disaster, the relevant ministries and the military will mobilize in response to an executive order. Once the GOS declares a disaster the Private Voluntary Organizations (PVO) and International Organizations will lend their cooperation in relief efforts under its leadership.

A. FOOD DISTRIBUTION

In 1974, the Ministry of Rural Development established the Commissariat à l'Aide Alimentaire (CAA), which is now headed by Mr. Souleymane N'Diaye. Although the CAA was set up only to handle food distribution during droughts, we have been advised that the Commissariat will be responsible for coordinating food distribution activity in the event of any disaster.

CAA has administrative offices in Dakar as well as representatives in the regions.

B. MEDICAL ASSISTANCE

In the event of a disaster the Ministry of Health will prepare government hospitals and other health care facilities to receive disaster victims.

In the event of an epidemic: the Ministry of Health, Director of Endemic Diseases, Dr G.M. N'Diaye, will coordinate health personnel and resources at both national and regional levels.

The Pharmacie Nationale d'Approvisionnement du Sénégal, the Institut Pasteur, and the Croix Rouge Sénégalaise will be responsible for any medical supply requirements.

The French military medical section has excellent capability. The French have a military medical school, which requires graduating students to fulfill a 15 year military obligation; this period can be shortened by 50% if service is done overseas. Consequently, in Senegal there are 55 military physicians evenly distributed throughout the country working in civilian premises. So there is a close military/civil relationship on the medical side.

C. MILITARY ASSISTANCE

The Senegalese military do not have a military disaster relief plan. They are organized and equipped, however, to respond adequately to an emergency or disaster.

The Army has territorial units at St Louis, Kaolack, Tambacounda and Ziguinchor as well as transportation and support units in and around Dakar.

The Gendarmerie are responsible for maintaining law and order.

III. PRIVATE VOLUNTARY ORGANIZATIONS/INTERNATIONAL ORGANIZATIONS

Private Voluntary Organizations and International Organizations appear well organized and prepared to provide relief assistance in the event of disaster. United Nations Development Program (UNDP), Food and Agricultural Organization (FAO), and World Health Organization (WHO) assume coordinating responsibilities in their respective areas of expertise. Chief providers of material resources, food, clothing, blankets and medicines, are Catholic Relief Services (CRS), the World Food Program (WFP), Germany, and USAID. Other organizations with limited access to external resources would play an important role in providing in-country expertise and on-the-spot distribution of relief materials.

In response to recent drought, the UNDP representative has coordinated frequent meetings of the donor government and international agency representatives, GOS technical bureaus, PVO's and the Commissariat à l'Aide Alimentaire. The purpose of these meetings is to exchange information and coordinate disaster relief activities. It is expected that UNDP will continue to assume an active role in relief assistance efforts.

PVO's working in Senegal recently formed a coalition, CONGAD - Comité d'Organisations Non-Gouvernemental pour l'Aide au Développement for the purpose of establishing information networks and coordinating the disaster relief activities of PVO's.

Of all the PVO's in Senegal, Catholic Relief Services is probably best equipped organization to respond to a disaster. CRS has a network of 425 food and nutrition program centers throughout Senegal, which are instrumental in facilitating distribution of food and other relief materials. CRS usually

keeps a small stock of food and medicines, and has 10 vehicles - (3 pick-up trucks and 7 Peugeot 504s).

A. International Organizations

UNDP
Mr. Bertin Borna
Resident Representative
2, Avenue Roume, Dakar
Phone: 21-32-44/21-34-26

WFP
Mr Jacques Martin
Senior Advisor
2, Avenue Roume, Dakar
Phone: 21-32-44/22-40-26

UNICEF
Mr Knud Christensen
Représentant de l'A.O.
43, Avenue Albert Sarraut
B.P 429, Dakar
Phone: 21-47-80/22-50-80

CARITAS
Frère Picard (ou Père Charles Diémé)
Km 11, Route de Rufisque, Thiaroye
B.P 439
Phone: 34-00-20/22-03-22

F.A.O
Mr Jacques Dubreuil
2, Rue El Hadj A. Assane N'Doye, Dakar
Phone: 22-05-29

W.H.O
Dr Emile Elan N'Touzoo
55, Avenue Albert Sarraut
Phone: 22-27-69

Croix Rouge Sénégalaise
Mohamed Abdoulaye Diop
Président Comité National
Boulevard Franklin Roosevelt
B.P 299, Dakar
Phone: 21-22-76

B. Private Voluntary Organizations

Service Oecuménique d'Entraide
"Centre de Bopp"
Mamadou Mane
B.P 500 - Dakar

National Council of Negro Women
Mme Liliane Robinson
B.P 49 - Dakar

Church World Service-Sahel
Lionel Derenoncourt
B.P 3822 - Dakar

SASFED
Abdoulaye M. Traoré
B.P 5061 - Dakar

Project YMCA
Lillian Baer
B.P 12031 - Dakar

Catholic Relief Service
Norbert Clément
B.P 216 - Dakar

CARITAS - Senegal
Adrien Adah Dioh
B.P 439 - Dakar

ENDA - T.M.
Olivier Laurent
B.P 3370 - Dakar

Fondation Cheick A. MBacké
Mohamed Aly Kane
B.P 6233 - Dakar

Assocations Nationales des
Handicapés Moteurs-Sénégal
Serigne Bamba Ndiaye
Rue 25 x 6 - Dakar
B.P 10218

OXFAM
Whyndham James
B.P 3476 - Dakar

ASRADEC
Seydou Nourou Touré
B.P 3679 - Dakar

ADAUNA Régional
Mamadou Talla
B.P 3301 - Dakar

AFVP
Didier Laurent Michel
B.P 1010 - Dakar

CILSS - Représentant C.O.E.
Abba Moussa Issoufou
B.P 7049 - Ouagadougou

Mission Baptiste
Prosper Makalebo
B.P 10325 - Dakar
B.P 330 - Dakar

ACICOP
Gilles Doublier
B.P 3419 - Dakar

Bureau Information AECSW
Ousmane Fall
B.P 9 - Ross-Béthio

Association des Jeunes de Thilogne
Thierno Ahmed Kane
SAED/Ross Formation - Béthio

Amicale des Jeunes Agriculteurs du
Walo - Ronkh
Abdoulaye Diop
B.P 9 à Ross-Béthio

Association Jeunesse Agricole
de Casamance
Demba Mansaré
B.P 11 - Sédhiou

FONGS
Famara Diédhiou
B.P 269 - Thiès

SOS Sahel-Internationa
Massaer Diagne
B.P 5220 Dakar-Fann

PADEC
Abdourahim Chérif
B.P 3624 - Dakar

OFADEC
Mazide N'Diaye
18, Rue Emile Zola - Dakar

AFRICARE
R.J. Benn
B.P 2272 - Dakar

ENDA - Tiers Monde
Nicolas Ferenczi
B.P 3370 - Dakar

LVIA
Beccaria G.
B.P 262 - Thiès

CASEC
Hameth Sall
B.P 2029 - Sicap Liberté

Associations Culturelles
d'Aide à la Promotion
Educative et Sociale ACAPES
Abdoul Hamidou Sy
B.P 3432 - Dakar

Fédération des Associations
Féminines du Sénégal
Annette MBaye D'Erneville
Dieuppeul III Villa NO 2744
SICAP-Dakar

IV. CURRENT INFORMATION ON HOST-COUNTRY RESOURCES AND THE LOCATION OF THESE RESOURCES

A. FOOD STORAGE CAPACITY

It is estimated that the Government of Senegal has approximately 133,100 metric tons of grain storage plus an additional 80,000 metric tons of sheet metal peanut storage. The peanut storage warehouses are not suitable for grain storage although they have been used for this purpose in the past. There is also an unestimated amount of aged private storage which housed a portion of the surplus millet crop of the 1978-1979 crop year. These warehouses are generally in very poor condition..

Private grain storage capacity is unknown. The CAA is currently conducting a survey in order to find out the location and storage capacity of the private and commercial sectors..

1. Government Storage (Cereals Flat Storage)

30,000 metric tons, GOS financed, completed in 1978.

30,000 metric tons, USAID financed, completed in 1980.

20,000 metric tons, GERMAN food aid financed, completed in 1981.

Sub Total: 80,000 metric tons.

2. Caisse de Péréquation et de Stabilisation des Prix Storage (CPSP) -

Imported Rice Storage -

18,450 metric tons, rented from private/commercial

26,650 metric tons, owned by Caisse de Péréquation et de Stabilisation des Prix

Sub Total: 45,100 metric tons.

3. Port Storage

4,000 metric tons, Môle IV - Caisse de Péréquation et de Stabilisation des Prix - Rice Storage (CPSP) -
2,000 metric tons, Potou - Caisse de Péréquation et de Stabilisation des Prix - Rice Storage (CPSP) -

Sub Total: 6,000 metric tons

Cereals are bagged if necessary and stored outside warehouses on platforms on Môle IV and Môle VIII. Other port storage capacity figures are not available.

4. Private/Commercial Storage (Cereals Flat Storage)

Figures are not available.

Total Grain Storage Capacity in Senegal: 133,100 metric tons (not including private/commercial storage)

5. Peanut Storage (SONAR)

80,000 metric tons.

TABLE I

GOVERNMENT CEREAL FLAT STORAGE CAPACITY AND LOCATION

REGIONS	GOS 30,000 metric tons	USAID 30,000 metric tons	GERMAN 20,000 metric tons
THIES		M'Bour Joal Fadiout Thiès Tyilmakha Tivaoune Fissel	Noto Meouane Mékhé Tiadiaye
LOUGA	Linguère Kébémer	Louga Dara	
DIOURBEL	Bambey M'Backé	Darou-Moustî	Lambaye Bara-Garage Ndoulo Touba Bogo Ndindi
FLEUVE	Dagana Thilogne Matam	Thille Boubaker Podor Haire Lao Ndinum	Richard Toll Kanel Semmé
SINE-SALOUM	Medina-Sabak Djilor Nioro du Rip Kaffrine Gossas Kolobane Wak-Ngouna Koungheul Sokane Fatick	Madiabel Fumela Kaolack	
CASAMANCE	Kolda Velingara Sedhiou	Kounkané	Bignona
SENEGAL-ORIENTAL		Bakel Kédougou Koumpentoum	Dialakoto Tambacounda Koussanar

Source: USAID/DAKAR

GOVERNMENT RICE STORAGE CAPACITY & LOCATION

TABLE II

LOCATION	RENTED BY CPSP* FROM COMMERCIAL/PRIVATE	OWNED BY CPSP*	TOTAL (in metric tons)
Rufisque	7,000 MT		7,000
Louga	500 MT	850 MT	1,350
Diourbel	900 MT	3,800 MT	4,700
Kaolack		20,000 MT	20,000
Ziguinchor	4,000 MT	2,000 MT	4,000
Tambacounda	3,050 MT		3,050
Fleuve	3,000 MT		3,000
TOTAL	18,450 MT	26,650 MT	45,100

* Caisse de Péréquation et de Stabilisation des Prix

Source: CPSP

B. FOOD STOCKS

There is usually a two month supply or 60,000 metric tons of imported rice in Senegal.

The food stock situation changes rapidly from year to year, as it is dependent on food production levels and drought conditions. However, indigeneous millet stocks will generally be located in warehouses close to production sites, namely the millet/peanut basin of Senegal (Sine Saloum Region).

The deficit areas of Senegal are usually found along the Atlantic coast between Dakar and St Louis and bordering the Senegal River between St Louis and Matam. The flat storage warehouses of this region will not normally contain stocks of food.

. STOCKS OF MEDICAL SUPPLIES

The Pharmacie Nationale d'Approvisionnement du Sénégal is supposed to keep a two month supply of medicines and other materials in stock. This has not always been the case, however, as they have on occasion not been able to fill emergency requests. It is expected that medical supplies can be sent from the U.S. or Europe in a disaster.

FOOD DISTRIBUTION SYSTEM

1. Food arrives at Dakar port, is cleared through customs and is received by the Commissariat à l'Aide Alimentaire (CAA).
2. Food is checked to see if is adequate for human consumption.
3. When the food vessel arrives, a portion of the food is forwarded directly to the distribution points and the rest of it is stored in bonded warehouses.

4. The Government of Senegal releases an invitation to bid among trucking firms to deliver food to the regions.

5. Once the food is loaded into the trucks and transported to the regions, the Commissariat à l'Aide Alimentaire hands over control of the food to local authorities. They acknowledge receipt of the food by signing the truck manifest, in which quantities of food received or lost are recorded. These truck manifests are then returned to CAA.

6. At the regional level, a local commission is set up in order to determine eligibility and to coordinate distribution efforts. Actual distribution is handled by prefets and sous-prefets to whom are allocated truckloads of food on regular bills of lading. They distribute the food according to a distribution plan prepared by the CAA.

7. At the village level, chiefs determine the extent of disaster and the number of needy families affected; this information is submitted to the sous-prefets.

8. Eligibility is determined by several factors:

(1) Whether family income comes exclusively from agriculture or is supplemented by family members working in the cities;

(2) The amount of land cultivated;

(3) Dependency on other farmers for employment; and

(4) The number of employable male members in the family.

Eligibility is determined on the basis of the income per capita census which is conducted annually by the Public Treasury.

9. The amount of food given families is determined on the basis of estimated harvest crop data. A per capita ration formula is factored for each affected region (production x number of people x duration).

10. The total tonnage of cereals needed for relief is determined by the number of rations to be distributed.

11. The Regional Commission is responsible for coordinating food distribution at the village level.

V. HEALTH CONDITIONS

The fundamental health problems of Senegal are malaria, measles, and diarrhea,, all compounded by underlying malnutrition. Approximately 30 percent of young children die through this combination of causes, although tetanus and a range of viral respiratory infections also contribute significantly to the high number of deaths.

For adults, malaria, although less lethal after the age of 15, is still a serious cause of debilitation; especially, in the rainy season, when agricultural activities require the maximum physical effort. Diarrheal ailments aggravate the problem. In addition, bilharzia, which exists in the Casamance and Upper Senegal River Basin, becomes more problematic as irrigation is extended, like malaria. Tuberculosis, tetanus, and wound infections also kill or debilitate the adult labor force.

A compounding factor in disease is malnutrition, defined here as widespread caloric deficiency. Studies performed for the World Bank, the World Health Organization, and the Government of Senegal identify it as a serious public health problem for all ages. A 1979 study funded by the World Bank in Diourbel and the Casamance revealed chronic protein-caloric malnutrition in more than 20 percent of all infants under five. A further 25 percent were acutely malnourished. The 1977 WHO national study described first degree malnutrition as "normal" in Senegal.

The World Bank estimates per capita daily food availability as 1800 calories and 40 grams of protein, with extreme regional and seasonal fluctuations in the degree of this malnutrition.

The major causes of malnutrition among the target population are limited income and aggregate food availability, amplified by inadequate home storage, poor food habits (especially related to infant weaning), and constant exposure to parasites and other infection. For adults, this coincidence of minimum food availability and maximum exposure to infection in the preharvest period, combined at that time with maximum energy requirements, causes dramatic weight loss and weakness. This classic example of the interaction between malnutrition and infection carries especially heavy consequences for productivity and output. The high mortality rate of Senegalese children under five (Casmance: 36.1%, Sine-Saloum: 26.6%, Fleuve: 25.4%) is complicated by what President Abdou Diouf, in January 1982, called the "galloping" demographic increase (perhaps 3 percent). It has been estimated that each Senegalese woman has an average of seven live births. Among African countries, this total fertility rate is second only to that of Kenya. The consequent short birth intervals leave women anemic, exhausted, and more susceptible to disease. It also exposes their children to a greater risk of death.

TABLE III

POPULATION BY AGE

Age Group	1976		1977		1978	
	Population	%	Population	%	Population	%
0 to 19 years	2,695,588	53.0	2,767,544	53.0	2,839,499	53.0
20 to 59 years	2,169,054	42,7	2,223,579	42,6	2,281,394	42,6
60 & more	220,746	4,3	226,485	4,4	232,373	4,4
Total	5,085,388	100	5,217,608	100	5,353,266	100

Source: Government of Senegal

TABLE IV

POPULATION BY REGION

REGION	1976	1977	1978	1979	1980	1981
CAP VERT	984,660	1,024,046	1,038,534	1,065,535	1,093,239	1,121,663
CASAMANCE	736,527	751,258	776,224	796,405	817,112	838,357
DIOURBEL	425,113	434,466	449,674	461,366	473,361	485,669
FLEUVE	528,473	544,327	556,740	571,215	586,066	601,304
LOUGA	417,737	426,217	438,967	450,381	462,091	474,105
SENEGAL-ORIENTAL	286,148	289,295	299,783	307,577	315,574	323,779
SINE-SALOUM	1,007,736	1,032,929	1,059,947	1,087,505	1,115,780	1,144,790
THIES	698,994	715,070	733,397	752,466	772,030	792,102
TOTAL	5,085,388	5,217,608	5,353,266	5,492,450	5,635,253	5,781,769

Source: Government of Senegal

TABLE V

DEVELOPMENT OF MAIN INDEXES

YEARS/INDEXES	1960	1970	1978
Crude Birth-Rate	43%	46%	48%
Children per Family	6.2 children	6.4 children	7.2 children
Crude Death-Rate	27%	20%	-
Infant Mortality-Rate	181%	130%	-
Life Expectances at Birth	37 years	44 years	-
Urbanization Rate	23%	30%	32%
Population Density	16 inhabitants/Km^2	20 inhabitants/Km^2	27 inhabitants/Km^2

Source: Government of Senegal

TABLE VI

CHILDHOOD MORTALITY 1968-1978

SENEGAL FERTILITY SURVEY

REGION	Of every 1000 children born, number dying before AGE 1	AGE 5	Of 1000 children living to age 1 number dying before AGE 5
CAP-VERT	69	145	82
FLEUVE	103	254	168
SINE-SALOUM	118	286	191
CASAMANCE	169	361	231
OVERALL	116	275	161

TABLE VII

MORTALITY RATES - 1978

AGE GROUPS	SEX			%
	MALE	FEMALE	TOTAL	
Less than one year	3,198	3,395	6,593	41.2
1 to 4 years	1,375	1,167	2,542	15.9
5 to 14 years	694	619	1,313	8.2
15 to 54 years	1,777	1,831	3,608	22.5
55 years and over	1,164	796	1,960	12.2
TOTAL	8,208	7,808	16,016	100

Source: Government of Senegal
Ministry of Health

INCIDENCE OF DISEASES 1979

NOMENCLATURE	CAP VERT		CASAMANCE		DIOURBEL		FLEUVE		S.ORIENTAL	
	C	D	C	C	C	D	C	D	C	D
TUBERCULOSIS	1254	54	247	12	186	2	297	7	73	-
TETANUS	355	70	255	46	74	14	97	16	28	6
MEASLES	11400	228	2496	72	3532	61	3411	84	3156	70
HEPATITIS	892	5	175	2	64	3	75	-	39	1
MALARIA	90803	141	119236	122	17969	5	46338	35	28462	62
SCHISTOSOMIASIS	1509	-	1875	-	690	-	649	-	723	-
SYPHILIS	1725	-	1106	-	867	-	4093	-	1476	1

C: Cases
D: Deaths

TABLE IX

HEALTH PERSONNEL BY REGION 1980

	DOCTORS	MIDWIVES	NURSES	ASSISTANT NURSES	TECHNICAL PERSONNEL
CAP-VERT	335	238	529	272	82
CASAMANCE	29	17	172	86	27
DIOURBEL	15	20	62	93	22
FLEUVE	28	24	111	155	33
LOUGA	5	10	38	50	8
SENEGAL-ORIENTAL	12	9	83	76	20
SINE-SALOUM	30	38	117	162	33
THIES	24	31	92	86	41
NATIONAL TOTAL	478	387	1204	980	266

Source: Government of Senegal
Ministry of Health

TABLE X

HEALTH FACILITIES BY REGION - 1980

REGIONS	HOSPITALS	HEALTH CENTERS	MATERNITY CENTERS		HEALTH PROJECTS		MATERNAL AND CHILD HEALTH CENTERS	LEPER HOSPITAL	ENDEMIC DISEASE CENTERS
			PUBLIC	PRIVATE	PUBLIC	PRIVATE			
CAP-VERT	5	2	12 U	11 U	45	24	23	–	1
CASAMANCE	1	6	46: 6 U 40 R	4: 1 U 3 R	92	15	7	4	2
DIOURBEL	1	3	31: 3 U 28 R	–	23	3	3	–	1
FLEUVE	3	4	16: 7 U 9 R	–	75	4	6	1	1
LOUGA	–	3	22: 3 U 19 R	–	26	1	3	1	–
SENEGAL-ORIENTAL	–	3	9: 3 U 6 R	–	35	4	3	–	1
SINE-SALOUM	1	9	92:71 U 21 R	3 R	70	15	10	2	1
THIES	1	6	38: 7 U 31 R		38	22	10	2	1
TOTAL	12	36	266:52 U 21 R	18:12 U 6 R	404	68	65	10	7

U: URBAN MATERNITY CENTERS

R: RURAL MATERNITY CENTERS

SOURCE: GOVERNMENT OF SENEGAL
MINISTRY OF HEALTH

TABLE XI

HOSPITAL BEDS/POPULATION
BY REGION - 1980

REGIONS	NUMBER OF BEDS				RATIO BED/POPULATION			
	TOTAL	HOSPITALS	MATERNITY CENTERS	HEALTH CENTERS	TOTAL	HOSPITALS	MATERNITY CENTERS	HEALTH CENTERS
CAP-VERT	3 781	2 565	709	509	1/288	1/426	1/1541	1/2147
CASAMANCE	953	107	416	430	1/857	1/7636	1/2964	1/1900
DIOURBEL	167	180	270	317	1/617	1/2629	1/1753	1/1493
FLEUVE	1 295	862	277	156	1/452	1/679	1/2115	1/3756
LOUGA	468	-	230	230	1/987	-	1/1941	1/2009
SENEGAL-ORIENTAL	229	-	96	133	1/1378	-	1/3287	1/2372
SINE-SALOUM	1 717	388	679	650	1/649	1/2875	1/1643	1/1716
THIES	1 203	215	428	560	1/641	1/3590	1/1803	1/1378
TOTAL	10 415	4 317	3 113	2 985	1/540	1/1305	1/1810	1/1887

Source: Government of Senegal
Ministry of Health

VI. RECENT INFORMATION DESCRIBING ECONOMIC CONDITIONS INCLUDING DATA ON TRENDS AND THE BALANCE OF PAYMENTS SITUATION

In early 1981, Senegal struggled with its worst economic and financial crisis since Independence in 1960. Every economic indicator attests to this fact; negative balance of payments, high debt servicing, low productivity, and widening resource gap. Liquidity has posed such major problems that in June 1980 the government could not have met its payroll without emergency outside assistance.

Senegal's multi-faceted economic emergency is best illustrated by its external accounts. The national balance of payments is in grave disarray. In 1979, Senegal's current account deficit, according to the IBRD Report published in November 1980, was estimated to be $ 436 million, or 51% of exports. This deficit was due to a drop in earnings from exports coupled with a steady increase in imports, especially petroleum and consumer goods. The drop in exports was due to the failure of rains and a poor peanut harvest that reduced peanut product earnings from $ 322 million in 1977 to $ 196 million in 1979. Increased imports were partly the result of the sharp rise in petroleum costs from $ 92 million in 1978 to $ 137 million in 1979, but were due to a greater extent to increased imports of consumer goods, including foods, which accounted for $ 199 million in 1979. The 30% increase in overall imports between 1978 and 1979 was a result of demand fueled by the expansionary policies of the government. The imbalance in current accounts thus reflects both long and short-term factors : high population rates, slow growth, low savings, and a widening resource gap, aggravated by oil price increases

and poor crop years. Under their combined impact, the imbalance has been seriously aggravated, from minus $ 68 million in 1977 to minus $ 435 million in just two years.

Consumption has grown as a percentage of GDP in the last couple of years as the government and consumers have tried to retain previous standards of living and services while the economy has declined. Consumption as a percentage of GDP reached its peak in 1979 at 97% of GDP. Investment has remained at about 20% of GDP. To cover some of the resource gap thus created, gross domestic savings dropped from about 10% of GDP to less than 3%. This amount still did not cover the resource gap which stood at 17% of GDP in 1979. To make up some of this gap, the government has had to borrow heavily from the foreign assets of the West African Monetary Union (WAMU). By the end of 1979, Senegal's balance in WAMU was a negative foreign assets account of $ 303.2 million. As a further aid to cover this gap, the government expanded credit through increasing the money supply. Money supply went from a long term average of 5% of GDP to over 32% in 1979. This expansionary action increased imports directly and also indirectly through an increase in domestic demand. Inflation, meanwhile, has held steady at between 8-10%.

During the same period (1976-1979) the government was incurring large budget deficits. To cover these deficits, it borrowed heavily on the domestic market and also from public enterprises and local governments. When this supply became exhausted in mid-1980 and its cash flow dwindled, the government began to delay payment for goods and services. This led to a major cash problem in the economy at large and to the June 1980 crisis

in salary payments.

In addition to domestic borrowing, the government also undertook a major external borrowing effort to finance development and counterpart funds for investment in the economy. By the end of 1979 total public and publicly guaranteed external debt outstanding stood at $ 1.27 billion Debt service payment claimed about 20% of the value of exported goods and services.

At the root of Senegal's economic crisis is the long-term decline in productivity. Beginning in the mid-sixties per capita GDP began to fall behind population growth rates, estimated at 2.7% by about 0.2% annually. While generally negative, the GDP growth rate in constant prices has risen and fallen sharply in recent years; plus 0.7% (1977), minus 9.0% (1978); plus 12.6% (1979) and minus 5.5% (1980, estimated).

TABLE XII

SENEGAL KEY ECONOMIC INDICATORS

All values are in million of U.S. dollars unless otherwise noted

	1978	1979	1980	
Exchange rate: US $1.00=CFA	225	210	226	
	1978	1979	1980	% Change[1] 1979/80
INCOME PRODUCTION				
GDP at Current Prices	2013	2232	1994	- 4
GDP at 1971 Prices	1196	1283	1050	-12
GDP Per Capita, Current Prices	363	406	353	- 6
GDP Per Capita, 1971 Prices	310	233	186	-14
Gross Investment	315	339	416	32
INDICES				
Industrial Production (1969=100)	137.5	155.3	128.9	-17
Minimum Industrial Wage (100=$32/hr)	148	148	185	25
Minimum Agricultural Wage (100=$28/hr)	148	148	185	25
Population (000)	5360	5504	5653	2.7
MONEY AND PRICES				
Domestic Money Supply	705.8	815.7	769.5	5
Domestic Credit	984.4	1153.8	1222.1	14
Consumer Price Index (1925=100)	117	130	140[2]	8
Central Bank Discount Rate	8	8	10.5	31
BALANCE OF PAYMENTS & TRADE				
Net Foreign Assets	-185.3	-285.7	-411.5	-55
Outstanding External Debts	824.9	1119.1	1026.4	- 1
Annual Debt Service	106.1	121.0	162.7	45
Balance of Trade	-395.1	-407.1	-422.6	-12
Balance of Payments	- 89.3	-120.5	- 54.9	51
Exports	466.7	641.0	533.2	-10
U.S. Share				
Imports	861.8	1048.1	955.8	- 2
U.S. Share	5.7%	3.0%	4.7%	
Major U.S. Exports				
BTN 870 - Earthmoving equipment		12.0		
BTN 880 - Aircraft Engines & Spare Parts		5.0		
BTN 100 - Cereals and Grains		3.0		
BTN 902 - Geophysical Instruments		1.2		

Footnotes
1) Percent changes based on CFA statistics
2) For first three quarters only

VII. CHARACTERISTICS OF THE TRANSPORTATION NETWORK AND RELATED INFRASTRUCTURE

A. Roads

By 1984, the Senegalese road systems will consist of 3,518 km asphalt roads and nearly 11,150 km laterite or dirt roads, or approximately 14,700 km in total.

With 18 km for each 1000 km^2, the asphalt road system is the longest in Africa, and no longer is a basic impediment to development.

Under the Vth Plan, the extension of the asphalt road system was concentrated mainly in the outlying areas: 295 km in Casamance; 149 km in the Fleuve Region; 140 km in the Senegal Oriental Region; and 110 km in the Louga Region.

In addition, ten bridges were built (four in Casamance, four in the Fleuve and two in Senegal Oriental), bringing from 18 to 29 the number of over 30 m long bridges built on the national territory.

A direct link has now been made possible between the regional capitals and Dakar.

The road system is relatively new and in operating order: 31% is under five years, 43% under ten and nearly all other roads over 15 years were recently reinforced, or will be so by 1983. Regular maintenance is inadequate however, and decays are hastened by the nearly systematic overloads of heavy transport vehicles.

B. Motor Fleet

The national motor fleet experienced under the Vth Plan a 5% annual average growth rate. It went up from 98,700 vehicles (in 1977) to 120,000 vehicles (estimation in 1981).

In contrast to the 1960-1974 period, the growth of the number of vehicles for the transport of goods was greater than that of private cars from 1976 to 1981. On December 31, 1979, the motor fleet was estimated at 112,560 vehicles, including nearly 93,870 private cars and light motor lorries, 5844 trucks and special heavy equipments, 6305 buses, and 4026 registered two-wheel vehicles.

The capacity for the transport of goods is 5800 vehicles totalling nearly 62,000 tons.

- Commercial vehicles are seven years old on the average, and are made up of 54% small carriers (of which 45% are over ten years old) and 46% of trucks weighing over 9 tons (of which 70% are over under 5 years old).

- Nearly all the vehicles for the transport of goods (90% of the transport capacity) are registered in the Cap Vert Region and the nearby regions of Thiès, Diourbel, and Sine Saloum.

Interurban passenger transport is provided by a motor fleet estimated at 6,300 vehicles and buses, making 94,000 seats available (or an average capacity of 15 seats). This motor fleet increased by 9% annually. It is on the average four years old.

Three quarters of the interurban passenger transport capacity is in the regions of Cap Vert, Thiès and Sine-Saloum.

C. Urban Transport

The Dakar urban center alone offers an important transport demand, requiring both private and public commercial transport.

Commercial urban transport in Dakar is still provided by SOTRAC (Government owned company) which in 1980 had 468 buses of 100 seats each and 20 lines.

"Cars rapides" (private vehicles for mass transport) currently number 650, and carry as much as the buses.

Finally, semi-private commercial transport is provided by 2500 taxis.

TABLE XIII

ROADS AND ROAD TRANSPORT

ASPHALT ROADS: SITUATION AND EVOLUTION FROM 1960 TO 1981

EVOLUTION / REGIONS	TOTAL IN KM				EVOLUTION		KM OF ASPHALTS FOR 1000 KM2	
	1960	1970	to 1.7 1977	to 1.7 1981	Fm 1960 to 1977	Fm 1977 to 1981	In 1960	In 1981
COATED ROADS	907	1 960	2 675	3 518	+ 1 768	+ 843 Km	4,6	17,9
1 CAP VERT	100	163	208	241	108	33	182	438
2 CASAMANCE	-	168	350	645	350	295	-	22
3 DIOURBEL	78	297	225	230	147	5	2	53
4 FLEUVE	153	399	482	631	329	149	3	14
5 SENEGAL ORIENTAL	-	18	83	223	83	140	-	3,7
6 SINE SALOUM	233	494	586	674	353	88	10	28
7 THIES	343	421	431	474	88	43	52	72
8 LOUGA	-	-	310	400	310	110	-	14
MOTOR FLEET	35,000	59,100	98,700	120,000	+63,700	+21,300	-	-

Source: Government of Senegal
Ministry of Equipment

PUBLIC TRANSPORT TRUCKS

DISTRIBUTION BY AGE AND CAPACITY

1980

CAPACITY / AGE	2 up to 6 T	6 up to 9 T	9 up to 15 T	15 T & more	TOTAL	
					NUMBER	QUANTITY
5 years	138	711	949	657	2 455	29 485
5 up to 10 years	69	187	125	128	509	5 751
10 up to 15 years	208	161	92	130	591	5 587
15 years and more	527	58	75	105	765	5 853
Unknown	106	21	28	55	210	2 237
TOTAL	1 048	1 138	1 269	1 075	4 530	48 913
Average Age	12. 1 years	5.5 years	3.8 years	5.6 years	6.8 years	

Source: Government of Senegal
Ministry of Equipment

TABLE XV

PRIVATE TRANSPORT TRUCKS

DISTRIBUTION BY AGE AND CAPACITY

(1980)

CAPACITY / AGE	2 up to 6 tons	6 up to 9 tons	9 up to 15 tons	15 & +	TOTAL Number	TOTAL Tons
5 years	180	377	122	170	849	8 545
5 to 10 years	31	83	24	16	154	1 280
10 to 15 years	45	36	3	12	96	691
15 years and more	53	35	9	11	108	778
Unknown	23	7	19	7	56	501
TOTAL	332	538	177	216	1 263	11 795
AVERAGE AGE	6.5 years	4.9 years	3.8 years	3.4 years	5.0 years	

Source: Government of Senegal
Ministry of Equipment

TABLE XVI

PUBLIC TRANSPORT TRUCKS

DISTRIBUTION BY CAPACITY AND REGION
1980

CAPACITY / REGIONS	2 to 6 T	6 to 9 T	9 to 15 T	15 T & over	TOTAL	
					NUMBER	CAPACITY in tons
CAP VERT	269	520	361	552	1 702	20 367
CASAMANCE	25	49	106	13	193	1 886
DIOURBEL & LOUGA	290	211	312	258	1 071	11 841
FLEUVE	23	19	28	22	92	954
SENEGAL ORIENTAL	73	27	31	1	132	952
SINE SALOUM	284	205	329	138	956	8 904
THIES	84	107	102	91	384	4 009
TOTAL	1 048	1 138	1 269	1 075	4 530	48 913

Source: Government of Senegal
Ministry of Equipment

TABLE XVII

PRIVATE TRANSPORT TRUCKS

DISTRIBUTION BY CAPACITY AND REGION

1980

CAPACITY / REGIONS	TONNAGE				TOTAL	
	2 to 5 T	6 to 9 T	9 to 15 T	15 T & over	Number	Quantity (tons)
CAP VERT	186	386	88	115	775	7 067
CASAMANCE	19	10	10	2	41	55
DIOURBEL & LOUGA	15	16	12	–	43	282
FLEUVE	23	23	22	82	150	2 495
SENEGAL ORIENTAL	13	50	5	5	73	590
SINE SALOUM	29	20	15	4	68	485
THIES	47	33	25	8	113	821
TOTAL	332	538	177	216	1 263	11 795

Source: Government of Senegal
Ministry of Equipment

D. Railroads

Of all the means of transportation, railway transport is least effective due to :

- a brisk competition from road transport: the railway system is paralleled on all sections by a very developed road system.

- the deterioration of tracks and equipment which very seriously hinders the quality of service of the railroad and, helps damage its commercial image.

E. Infrastructures

The railway system has not changed since 1968. It is made up of 1,038 km of main metric tracks, 70 kms of which are in double railed tracks between DAKAR and THIES, and 158 kms of which are feeder tracks.

This railway system is characterized by:

- its decrepitude: over 35% of the tracks are over 60 years of age and over 20% between 25 and 60 years of age.

- the lightness of its fleet: over 70% of the railway system in rails jointed by fish-plates weighing 25 or 30 kg/m do not allow a load per axle higher than 12.5 tons.

- the poor quality of the ballasting materials.

- an inadequate maintenance for want of funds.

Some sections are now unsuited to train traffic (DAHRA-LINGUERE 40 kms) or must be closed to traffic (LOUGA-DAHRA 88 kms).

F. Rolling Stock

In May 1980, the Régie des Chemins de Fer du Sénégal owned:

- 29 locomotives, of which 19 are to be scrapped
- 20 locomotives, of which 16 are to be scrapped
- 11 railcars, of which 7 are to be scrapped
- 629 baggage wagons, of which over 350 are to be scrapped
- 27 passenger slip portions, of which 20 are to be scrapped.

The lift of carriages of the express train for international passenger traffic is 29 years old and is on the verge of collapse.

Over 75% of the engine equipment is over 15 years old, and its availability rate (43%) is very low. Over 50% of the hauling equipment is over 25 years of age.

Like the track, the engine equipment and the hauling equipment are in such a decayed state that a small number of available units are intensively used, which hinders its proper maintenance and results in usually serious breakdowns.

TABLE XVIII

RAILWAY TRANSPORT

DEVELOPMENT FROM 1970 TO 1981

	RESULTS			PROJECTIONS	
	1970	1977	1980	1981	1985
EQUIPMENT					
RENOVATED TRACKS (KM)	67	337	362	362	734
LOCOMOTIVES (NUMBER)	35	33	22	26	29
RAILCARS	13	11	6	6	8
LOCOTRACTORS	21	26	8	10	20
SLIP PORTION	28	28	28	28	22
WAGONS	708	706	700	690	693
TRAFFIC					
MILLION TONS/KM	337	310	313	454	622
MILLIONS PASSENGER/KM	280	181	120	136	275

Source: Government of Senegal
Ministry of Equipment

DAKAR PORT

G. PORT FACILITIES

1. Moorings, Docks, etc.: There is considerable wharfage available at Dakar for oceangoing vessels. Approximately 9,150 meters (30,000 feet) of berthing space is provided, and there are alongside berths capable of handling very large vessels. U.S. Navy ships are normally berthed at the Grant Wharf. Camels are not provided, but pier fendering is excellent and should prevent damage to ships' sides.

The shoals west of Grand Wharf are dredged every 6 months. Soundings by ships' personnel indicated depths of 7 to 9 meters (4 to 5 fathoms), with some bottom silt.

Pier 1 (mole 1) is now able to take container ships that arrive in the port. It has been specifically cleared on the west side for container operations. The east side still takes general cargo ships. A port observation tower and office space havebeen constructed on the far end of pier 1.

Steam is not available.

2. Fuel, Lube, and Diesel Oil: Several commercial companies and the French Navy maintain petroleum terminals in the port area. The connection size at the commercial transfer berth, tanker berth, is 8 inches, and the delivery rates are 320 cubic meters (2,000 barrels) per hour for fuel oil and 360 cubic meters (2,250 barrels) per hour for diesel oil. The Esso Company lighter has a 6-inch connection and a delivery rate of 259 cubic meters (1,630 barrels) per hour. In an attempts to meet contracted NSFO specifications, the commercial oil companies will mix bunker C black oil and diesel oil.

When fueling from the commercial transfer berths, the two are lined up to the same delivery pump and are thus mixed adequately. When delivery by lighter is desired, the stipulation should be made that the fuel be mixed as described above, or else the lighter may deliver a load of stratified fuel.

In November 1977 gas oil of good quality was provided to a USN ship by Iranian ET Shell in Dakar. The pumping rate was approximately 75,700 liters (20,000 gallons) per hour. Refueling was delayed because fuel samples were not provided on arrival and had to be requested. In February 1978, diesel oil was found to contain large amounts of suspended solids. Gas oil was relatively clean and was taken on board at rates up to 800 GPM.

3. Mechanical Handling Facilities: Arsenal de la Marine is reported to have one 40-ton and one 15-ton installed travelling crane available for specialized service to commercial interests within the port. The port authority has 11 installed travelling cranes of varying capacities. There are 5 floating cranes with capacities of 10 to 60 tons. There are between 40 and 50 wheeled or tracked cranes with capacities of 2 to 40 tons. Several fixed and portable belt conveyors are available.

Coal-handling conveyors and bunkers have been removed.

A large, modern, cargo-handling facility with seven semi-portable jib cranes is located at mole number one.

4. Dry Docks and Repair Facilities: Excellent facilities are available at Dakar Marine which has a 60,000 ton capacity floating dry dock with all related auxiliary equipment.

5. Warehouses and Storage Areas: There are over 46,450 square meters (500,000 square feet) of covered storage area available at Dakar and at Bel-Air. Ample facilities are available for bulk grain, other dry produce, bulk petroleum, bulk liquid storage and general cargo. Large amounts of open storage areas are also present in the port area. Several cold storage installations are located in the vicinity, including the publicly owned cold storage plant of Dakar, which offers over 10,750 cubic meters (380,000 cubit feet) of storage space and modern ice-making and crushing equipment.

6. Stevedores: Ample unskilled labor is available for cargo handling, through private firms. Morale and efficiency of stevedore gangs is reportedly good.

7. Port Capacity: Approximately 9,150 meters (30,000 feet) of berthing space is available in Dakar.

8. Road, Rail, and Steamer Transportation: Dakar is cleared by a single-track, narrow gauge (3 feet 3 3/8 inches) line, which is the main route of the rail system of Senegal.

All major port facilities requiring rail clearance are connected with the port network and with the main line clearing the port. Rail repair yards are available.

The city is also cleared by a well-maintained, 2-lane bituminous-surface highway leading eastward for about 40 kilometers (25 miles) to a major road junction. The port facilities themselves have adequate road clearance to the city's road system.

Numerous steamship lines make frequent stops at Dakar. Approximately 40% of the port traffic consists of ships stopping for resupply only. Another 40% is made up of ships that stop for resupply and commercial operations.

H. NAVIGATIONAL INFORMATION

1. Description of Port: Dakar has an improved natural harbor formed by two main moles. Dakar harbor has been dredged within the last few years to a depth of 10 meters (33 feet). This 10-meter depth extends over the entire harbor. The harbor is about 1.9 kilometers (1.2 miles) long and 1 kilometer (0.9 miles) wide, enclosing about 200 hectares (500 acres). The harbor is divided into three principal zones:

A. The northern zone includes the tanker basin, north quay, bulk liquid mole, phosphate mole and the dry peanut products mole.

B. The western zone includes the port authority zone, western commercial zone and the French military zone.

C. The southern zone includes the west basin, southern commercial zone and the Mali customs zone.

The harbor provides good natural and artificial shelter. It provides accomodations for all classes of ships. Detailed navigational information can be obtained from Sailing Directions (N.O. Publications 51) and from N.O. Chart 51561.

2. Approaches, Lights, Etc.: N.O. Chart 51561, current edition, was found adequate in all respects for navigation into and out of Dakar.

North range lights (FG) mole NO 4. at 14-41-29N 017-26-03W and south range lights (FG) mole NO 2 at 14-41.13N 017-25.25.2W were not lit in May 1976. There is an F and FR (green) light at naval port 14-40-40N 017-25-55W.

The F and FR light at the end of Grand Wharf has been removed.

3. Pilotage: Pilotage is compulsory. The pilot boards between Gorée Island and the harbor entrance. The pilot should be contacted on channel 16. The voice call sign is "Dakar pilot". Due to the Senegalese Navy pilots' questionable ability to handle destroyer or larger size ships, it is highly recommended that civilian pilots be utilized. No problems have been encountered with civilian pilots.

4. Entrance: The entrance to Dakar is made on a westerly course between the breakwaters. The heads of these breakwaters are 256 meters (840 meters) apart, and the fairway itself is approximately 122 meters (400 feet) wide. The controlling depth of the entrance channel is 11 meters (36 feet).

5. Channel: The channel is reported to be well buoyed and lighted. Silting is of no consequence in the channel or in the harbor.

6. Anchorage: Dakar offers anchorage over good holding ground (sand and gravel) in Dakar roads. It extends for some 3 miles from southwest to northeast outside the harbor.

7. Wrecks and Obstructions: A wrecked ship is located outside the harbor entrance southwest of buoy 12.

8. Tides and Currents: The high water interval is 7 hours and 44 minutes, the mean range 1 meter (3.3 feet) and the spring range 1.3 meters (4.2 feet). Tidal currents flow in a counterclockwise direction inside the harbor. Both sea and swell are negligible within the harbor.

9. Wheather and Winds: The average mean rainfall at Dakar is 58 centimeters (22.7 inches), almost half of which usually falls in August.

Temperatures are generally high throughout the year, rarely dropping below 16 degrees Celsius (60 degrees Fahrenheit). The annual mean temperature is 25 degrees Celsius (77 degrees Fahrenheit), the mean maximum temperature is 29 degrees Celsius (84 degrees Fahrenheit), and the mean minimum temperature is 21 degrees Celsius (70 degrees Fahrenheit).

The relative humidity ranges between the annual mean maximum of 87% and the annual mean minimum of 52%.

With the exception of the thunderstorms, strong winds are rare in the vicinity of the port, the average mean annual velocity being 5 kilometers per hour (3 MPH). About 29 thunderstorms occur here each year. They occur between June and October, arising suddenly out of the east and raising choppy seas. Shipping in Dakar roads should be aware of this threat.

I. AIRPORTS

See Attachments.

VIII. COMMUNICATIONS, PUBLIC UTILITIES AND ENERGY SOURCES

A. Newspapers

"Le Soleil", is the sole national daily newspaper in Senegal. It is published in French everyday except Sunday. It is government-subsidized and has a national penetration with a circulation of 30,000. The newspaper uses AFP, Reuter and local Agence Presse Sénégalaise plus information from international organizations.

B. Radio

The two radio networks (one in French, one in national languages) join together four times daily for extended newscasts, supplemented by seven brief newscasts. The radio service is government owned and has a national penetration with the majority of 5.5 million population as listeners. It uses Agence de Presse Sénégalaise, AFP, Reuters and feeds from Radio France Internationale.

C. Television

Television in Senegal is government owned. The one television station broadcasts 3 1/2 hours daily, including a half hour national and international news program featuring inserts received from French television via satellite relay. It reaches the western half of Senegal and nearby Gambia and Mauritania with an estimated viewership of 500,000.

D. Telecommunications and Postal System

On June 30, 1980, the Office of Postes and Telecommunications was made up of 121 post offices, 98 telephone exchanges, 18,500 telephone subscribers and 680 telex subscribers.

Under the Vth Plan a very important effort was undertaken to improve the quality of the national telephone system and the international telephone links. All subscribers in Cap Vert and regional capitals, except Tambacounda, were connected to the automatic network. The automatization rate reached 94%.

Despite this effort, the density of the national system is still fairly low - nearly 0.33 main telephone lines for each 100 habitants. The rate of penetration of postal and financial services is modest: 0.2 post office for each 1000 inhabitants, and 1 post office bank account and 2.4 postal saving books for each 100 inhabitants.

1. National Telephone Network

The pool of main telephone lines connected increased by nearly 6.5% annually from 1976 to 1980, while its annual increase was only 4.5% from 1970 to 1976, and only 1.5% during the previous decade.

In contrast to the tendencies experienced under the previous plans, this increase in the supply was faster in the regions (10% annually from 1976 to 1980) than in Cap Vert (5% annually). The pool of the main lines connected went up from 4000 to 5989 outside the Cap Vert, and from 10350 to 12518 in the Cap Vert Region.

2. International Telephone Links

Senegal's international links were improved through the coming into operation of the DAKAR-ABIDJAN-LAGOS submarine cable and the increase (75%) in the number of the international relay circuits.

From 1977 to 1980, the number of international telex circuits increased from 86 to 150. These facilities were added under the Vth Plan to the Gandul land station and the Dakar-Casablanca - submarine cable to improve the quality and safety of Senegal international telecommunications.

3. Postal Facilities

Under the Vth Plan, the post office pool increased from 112 to 120. The new postal facilities were concentrated mainly in the rural areas, through the establishment of rural mobile postal circuits in the departments of Bignona and Kaffrine.

New post offices were opened at MBOUMBA and GALLERE (Podor Department), DIAWARE (Bakel) and OREFONDE (Matam).

E. Energy Resources

Though the extensive search for oil and gas was one of the objectives of the Vth Plan, results are still modest. A survey to assess the possibility of exploiting the DOME FLORE deposit (100 to 200 million tons) off the Casamance coast, of which at least 1 million tons of light oil can be extracted through conventional methods is underway through World Bank Funding.

Except for the gas deposit of DIAM NIADIO, which since 1980, has supplied gas to Cap des Biches through a 15km long gas pipe, there exist no known reserves economically exploitable. The DIAM NIADIO reserves are estimated at 70 million cubic meters which can produce 90,000,000 KWH.

During the initial prospecting for phosphate, brown coal strata were discovered in various areas. The depth of this strata (30-35 m) makes exploration difficult.

Analyses and surveys are underway to define the characteristics and quality of peat deposits, the magnitude of reserves, and whether or not they are exploitable.

The most promising options and the most effective means to resolve long term energy problems in Senegal, lies in hydro-electric resources.

Senegal benefits from the following hydro-electric works: on the Senegal River and its tributaries:

150 MW at Manatali, 100 MW at Petit Gouna and Félou, and 300 MW on the Galougo site.

On the Gambia River: 40 MW at Kékréti, 100 MW at Sambangalou.

There exists, however, an area of the renewable energies which could be of great interest for Senegal and, perhaps offer a solution to energy problems faced by the country. Wood obtained from eucalyptus plantations can be used to generate electricity, replacing imported oil.

1. Energy Consumption

Energy consumption is characterized by a bipolarization around two sources: imported petroleum and wood.

2. Crude Oil

La Société Africaine de Raffinage (S.A.R), the only refinery in Senegal, holds the monopoly for the importation and refining of crude oil. Its processing capacity, currently 900,000 T/year, will be increased to 1,200,000 T/year in 1983.

Sales in the domestic market are divided between electric energy (33%), road traffic (30%), and industry and various users (17%).

3. The Electricity Subsector

Electric energy production and supply are handled by two companies. L'Electricité du Sénégal (EDS) established in June 1973, with a capital of 400 million FCFA, of which 99.25% are owned by the Government of Senegal. This company has the exclusive concession to purchase, build, and implement all works concerning the electric energy sector in Senegal, except for rights granted to the Société Electrique et Industrielle de la Casamance (SEIC) for the City of Ziguinchor until 1983.

The production facilities of the converted system are made up of the following generating plants:

- The CI station at Bal Air (Dakar) equipped with 3 - 3MW turbines

installed respectively in 1940, 1947, and 1950.

- The CII generating plant, on the same site, with 4 - 12.8 MW steam units (totalling 51.4 MW) installed in 1953, 1955, 1959, and 1961.

- The CIII generating plant in Rufisque (Cap des Biches) with

a) One 27.5 MW steam unit

b) Two 30 MW power units

c) One 16.5 MW gas turbine

- A diesel operated station in St Louis with two 3 MW units fixed in 1980 and an older 1 MW generating set.

- An old power station in Kaolack using an emergency generating system.

- Two mobile groups with 2 MW power units each, presently installed in St Louis and Kaolack.

- The total power installed in Senegal is 184 MW.

<u>The Supply facilities consist of:</u>

- A 90 KV transmission system which goes from Bel Air to Taiba through Hann, Cap des Biches et Thiona.

- Various regional transmission and supply systems on KV.

- Local and urban supply networks on 6.6 KV, KV and at low tension.

4. <u>Wood and Biomass</u>

Wood and charcoal are the major household energy supplies. Consumption per capita for cooking is higher than corresponding energy consumption in developed countries. This is accounted for by the low output of the cooking stoves, which transmit only a small amount of the combusion heat to the containers, and by the low productivity of charcoal preparation methods.

Charcoal production level is approximately 1,000,000 quintals.
In 1976 fuelwood production was 170,000 quintals.

TABLE XIX

WATER SOURCES AND CONSUMPTION - 1980

REGION	POPULATION	POTABLE WATER SOURCES		DAILY CONSUMPTION
DAKAR	1,100,000	37 wells	80%	120,000 m^3 or 110 liters/ day/person
		Lac de Guiers ..... (247 kms from Dakar)	20%	
INTERIOR CITIES	910,000	42 wells 15 drilled wells	74%	36,000 m^3 or 40 liters/ day/person
		7 surface tap connections 4 aqueducts to tap Lac de Guiers	26%	
RURAL SECTOR	3,200,000	150 drilled wells managed by SOMH		23,000 m^3 or 7 liters. day/person
		900 constructed/tap connections		
		9,500-10,000 indigenous wells constructed by craftsmen		

Ministry of Equipment

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