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## REPORT OF A FEASIBILITY STUDY VISIT TO SENEGAL

February 29-March 11, and March 23-24, 1960

### I. THE COUNTRY

The Republic of Senegal is the point of contact between an ocean and a continent; between the Sahara and the Sub-Sahara; and between Africa and the more industrialized nations of Europe and America. The land itself, which encompasses 196,722 Km<sup>2</sup>. between the 11th and the 17th north latitudes, is characterized by the words "flat" and "hot" with a climate that alternates between a hot and humid season (July to October) and a dry season (November to June). Rainfall diminishes from South to North, with 3 cm. concentrated in a month and a half in the North, and 14 cm. spread out over 4 months in the Southern portions. The range of temperatures increases from West to East, with extremes of 15°C to 46°C at Dakar in the West, and from 17°C to 46°C at Tambacounda in the Southeast. There are four principal, permanent rivers: the Senegal, the Saloum, the Gambia, and the Casamance - and many temporary water courses during the rainy season. None of these water resources is exploited in terms of hydro-electric power, and there is only moderate irrigation. The country possesses mineral resources of phosphates, calcium, ilmenite,

zircon, and marine salt.

The Government is constitutional, with a President and decentralized powers forming a democratic social republic with the following organization:

The President of the Republic and of the Government. (Mr. Senghor Léopold, president since independence 4/4/60)

The National Assembly of 100 deputies

The Supreme Court, and a lesser court system.

Administratively the Country is divided into eight regions:

Cap-Vert	Louga (originally part of Diourbel)
Casamance	Sénégal Oriental
Diourbel	Sine-Saloum
Fleuve	Thiès

These eight regions are again divided into 30 Departments and 96 Arrondissements.

While French is the official language of the Country, the common languages of the nearly 6 million people are Wolof, Sérère, Diola, Peul, Soninké and Mandingue.

## II THE POPULATION.

The demographic characteristics of the population are as follows:

Total population (projected to 1981) 5,892,900

Average Density 26 Km<sup>2</sup>  
(ranges from 1801 in Cap-Vert to  
5 kilometers in Sénégal Oriental)

Urbanization rate (ranges from 84% in Cap-Vert to 8% in Louga and Sénégal Oriental)	30%
Growth rate (ranges from 5% in Cap-Vert to 1.7% in Fleuve and Diourbel. There are 278,600 births and 114,700 deaths per year)	2.8%
Population Distribution	
less than 5 years	16%
less than 15 years	44%
Aged 15 - 64 years (estimated 2,000,000/5,114,630)	39%
Unemployment rate (urban)	10% - 15%
Fertility rate	6.44
Birth rate	48.2/1000
Death rate	20/1000
School enrollment	
between 6 and 13 years	30%
between 6 and 12 years	33%
Proportion of girls	40%
For every 100 students in the primary grades there are 22.7 students in secondary grades, and only 2.4 students in post secondary school.	

### III. SITUATION IN THE HEALTH SECTOR

It is striking that the Fifth National Plan begins with a discussion of the population of Sénégal and of the demographic factors which hinder national development. This suggests a philosophical environment favorable to the introduction of various methods to reduce those constraints.

#### MORBIDITY AND MORTALITY

The greatest health problem continues to be infectious disease, often accompanied by malnutrition.

## INFECTIOUS AND PARASITIC DISEASES

Patients	Percent of Morbidity	Percent of Mortality
Children	85%	65%
Adults	70%	55%

### THE MOST FREQUENT ILLNESS IN SENEGAL (not in order of incidence)

<ul style="list-style-type: none"> <li>Yellow Fever</li> <li>Cholera</li> <li>Measles</li> <li>Spinal Meningitis</li> <li>Malaria</li> <li>Bhilariasis</li> <li>Other Intestinal parasites</li> <li>Poliomyelitis</li> <li>Tetanus</li> <li>Pulmonary tuberculosis</li> <li>Tuberculoid leprosy</li> <li>Encephalitis (sleeping sickness)</li> <li>Syphilis - endemic</li> <li style="padding-left: 20px;">- venereal</li> </ul>	<ul style="list-style-type: none"> <li>Nutritional diseases</li> <li>Onchocercosis</li> <li>Trachoma - (infect 70-80% of children under 5 years in certain rural areas. There are more than 12,000 blind persons in Senegal)</li> </ul>
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#### IV. THE HEALTH BUDGET

The health portion of the national budget was 9.1% in 1971-72, but has regularly decreased till it was 6.8% in 1975-76, and about 6% now. This amount has been inadequate to permit the medical infrastructure to keep pace with the demographic growth, and makes it difficult to even try to meet the health needs of the population, particularly in rural areas. It is important to note, however, that in

the 1979-80 budget all ministries had additional cuts in funds except for health. There was no increase, but neither was there a decrease.

### HEALTH EXPENDITURES

1975-76

In millions of Francs CFA

Regions	Personnel		Material		Medication		Medication * per capita	% of the budget
	Sum	%	Sum	%	Sum	%		
Cap-Vert	1,641,3	72	420,5	18	227,3	10	269 CFA	45,2
Casamance	309,2	83	30,4	8	34,9	9	53 CFA	7,4
Diourbel**	293,7	77	58,7	15	30,1	8	44 CFA	7,5
Fleuve	408,0	75	84,7	16	48,6	9	117 CFA	10,7
S.Oriental	143,9	86	12,2	7	10,5	7	89 CFA	3,3
Sine Saloum	322,8	74	68,3	16	43,3	10	51 CFA	8,6
Thies	324,1	86	19,7	5	26,5	7	45 CFA	7,4
Non-Attribu- table	153,8	31	103,8	21	38,6	8	---	9,9
TOTAL	3,596,8	71	798,3	16	459,8	9	---	100

\* The per capita expense for medicines has fallen from an average of 137 CFA per year in 1966 to 109 CFA in 1976. However, as the price of medications has doubled in the same time, the effective purchasing power has dropped from 137 CFA to 54 CFA per capita.

\*\* Includes Louga

Scrutiny of the distribution of those funds available for health, reveals that the large hospital centers absorb 44% of the health budget, and curative services in general consume more than 75% of the resources of the sector.

#### MEDICAL INFRASTRUCTURE

Regions	Hospitals	Health Centers	Maternities	Health Posts	MCH Clinics	Grandes Endémies
Cap-Vert	4	1	17	62	24	1
Caçamance	1	6	8	86	7	2
Diourbel*	1	6	9	44	6	1
Fleuve	1	4	6	65	6	1
S.Oriental	--	3	3	30	3	1
Sine-Saloum	1	9	10	83	10	--
Thies	1	5	7	57	10	1
SENEGAL	9	34	60	427	66	7

\* Includes Louga

Source 5th National Plan pg. 246

AVERAGE RADIUS OF AREA SERVED BY HEALTH FACILITIES  
IN KILOMETERS (1975)

Regions	Health Centers	Maternities	Health Posts	PMI
Cap-Vert	13,2	3,2	1,7	2,7
Casamance	38,8	33,6	10,2	35,9
Diourbel*	42,2	34,5	15,6	42,2
Fleuve	59,3	48,4	14,7	48,4
S. Oriental	79,5	69,5	25,2	79,5
Sine-Saloum	29,1	27,6	9,6	27,6
Thies	20,5	17,3	6,1	14,5

\* Includes Louga

Source 5th National Plan pg.246

### CAPACITY OF HEALTH FACILITIES

Regions	Number of Beds				Number of Beds/Capita			
	Total	Hospital	Maternities	Other	Total	Hospital	Maternities	Other
Cap-Vert	2,916	2,195	644	77	1:289	1:384	1:1309	1:10950
Casamance	468	70	145	253	1:1458	1:9752	1:4707	1:2698
Diourbel*	444	176	155	113	1:1577	1:3980	1:4519	1:6199
Fleuve	751	548	142	61	1: 569	1: 780	1:3010	1:7099
S.Oriental	127	---	32	95	1:2121	---	1:8421	1:2836
Sine-Saloum	601	250	241	110	1:1494	1:3592	1:3726	1:8165
Thies	478	120	177	181	1:1285	1:5119	1:3471	1:3393
Total	5,785	3,359	1,536	890	1: 767	1:1321	1:2888	1:4984

Includes Louga

Source: 5th National Plan pg. 246

MEDICAL & HEALTH PERSONNEL

Category	Number in 1966	Number in 1976	Number in Dakar	Number in other towns of 720,000	Number in rural zones
Doctors	192	307	225 (73%)	67 (22%)	15 (5%)
Increase in graduates, plus foreign assistance, particularly Chinese			(50 private) 1:3-4000		1:50,000
Pharmacists	55	93 (56 private)	73 (79%) (39 private)	?	?
Dentists	20	38	30 (79%) (17 private)	?	?
Nurse Mid-Wives	166	350	212 (61%)	?	?
Nurses		2563	936 ( )	?	?
Social Workers		161	?	?	?
Other Technical Personnel		1738	?	?	?

Estimated manpower needs in the health sector by 1980 are summarized as follows:

Upper Professional levels:

Health and Social Welfare 147  
 (12 Administrators, 60 Doctors,  
 40 Pharmacists, 32 Technicians,  
 and 3 Statisticians)

Middle Professional levels:

Health and Social Welfare 459  
 Promotion Humaine 120  
 Rural Development 620

Accomplishment of all of the projects outlined in the Fifth National Plan will necessitate the recruitment of qualified medical and para-medical personnel as follows:

PROFESSIONAL & PARAPROFESSIONAL MANPOWER NEEDS

Category	1977/78	1978/79	1979/80	1980/81	Total
Doctors, Surgeons other specialists	24	19	25	7	75
Nurse Mid-Wives	8	12	13	6	39
Auxiliary Nurse Mid-Wives	150	200	200	150	700
Nurses	59	73	59	56	247
Sanitation Workers	20	30	30	20	130
Other Technical Personnel	36	53	36	22	147
Administrative Personnel	16	16	8	6	46
Total	343	453	401	287	1484

V. GENERAL ORIENTATIONS OF THE HEALTH SECTOR

The general objectives of all health programs carried over from previous plans are:

1. Improvement of health conditions for all the population, but particularly for those segments the most deprived.
2. Rapid development of preventive and educational health services.
3. Intensification of research in the areas of the most urgent health needs.

Specifically, the Fifth National Plan states two general principles:

- medical practice cannot be compartmentalized or fragmented. Therefore it requires polyvalent personnel, completely qualified to provide curative, preventive, social, and educational services.
- The right of all citizens to be healthy requires the continued improvement of all basic health services.

Implementation of these two ideals implies:

1. A creative and innovative multi-disciplinary approach.
2. Development and integration of all basic health services, including in them preventive and educational health components.
3. Promotion of social welfare.
4. "A population policy directed toward maternal and child health. In effect, family planning, even considered just from the point of view of child spacing, will not

provide a rapid solution to the problems of development. Information and education activities for the population at large must be a part of any program." (Note: This is one of two direct mentions of family planning in the Fifth National Plan.)

5. "A policy of medical and paramedical training programs, requiring increasing of the capacity of the schools, the improvement of the schools themselves, and the development of ever-increasing technical capability." (Note: this quote from the Fifth National Plan is consistent with the PAC project of North Carolina.)

In the section of the Plan which discusses strategy and development, it says: "d. Population Policy - The strategy of the population policy is to integrate family planning services into those of maternal and child health."

In early 1980 the old (1920) French law forbidding the advertisement, sale, or use of contraception, and the performing of abortions in metropolitan France or its colonies, was separated, and the contraception portion abrogated by the National Assembly of Senegal. Although abortion continues to be illegal, as soon as enabling legislation is passed, contraception will be fully within the scope of the law.

Despite the formal ban on contraception, family planning services have long been available on a private, individual level. The government has more-or-less used the pioneering family planning services of the clinic "La Croix Bleue" as a safety valve to cover

the fact that services were not available in their own clinics.

In general, family planning is a very popular topic of conversation, and almost everybody seems interested in discussing it openly. However, the phenomenon of collective mentality influences both political and professional opinion, so family planning services are strictly limited to the maternal and child health context.

It is evident that political and governmental authorities give tacit consent to the development of family planning services. However, it seems that the question has not officially been broached within Islamic leadership circles. This uncertainty about the official religious position on the subject causes a certain amount of hesitation on the part of both individuals and groups to make an all-out commitment.

#### VI. THE PLAN OF ACTION(FIFTH NATIONAL PLAN)

The complete work plan has several components, many of which are outside of the maternal and child health framework. These are listed in the plan and given a priority. Those having to do specifically with MCH or training are as follows: (the priority ranking within the health sector is in parentheses following the enumeration)

1. (Priority 4) A new nursing school, which can accommodate 300 students. (This would be a replacement for the existing school, not a second facility.)
2. (Priority 5) Extension of l'École de Génie Sanitaire at Khombole. This school trains different levels of health and sanitation workers.

3. (Priority 8) Basic Health Services.

- Organize health care at the rural community level, develop rural health centers, and train village health workers to staff them.
- Build a community health center in each site that still does not have one.
- Repair and remodel all existing centers as necessary.
- Provide basic equipment to all centers, and as much as is possible, provide water and electricity.
- Staff all health centers completely.
- Provide adequate transportation services to permit the health centers to perform their tasks.
- Furnish basic supplies of medications to all centers.
- Train and supervise auxiliary birth attendants for the rural maternities.

4. (Priority 16) Enlargement of the School of Nurse-Midwifery

- 200 sages-femmes are already in government service. (This figure does not agree with others cited, which states that there are 350, of whom 212 are in Dakar.)
- The Ministry estimates that they need three nurse-midwives for every doctor in practice.
- The Fifth National Plan calls for the graduation of 20 doctors per year, therefore:
- They need to have at least 60 nurse midwife graduates each year. (At the time the plan was written - 1976 - only 17 graduated)

- In order to expand the Nurse Midwifery School, they plan to use the buildings vacated by the Nursing School when it moves to its new quarters. (Construction has not yet begun as of the time of this report - March, 1980.)
5. (Priority 21) Improvement of l'Ecole des Agents Sanitaires at St. Louis.
- Construction and equipping a school that can accept two classes of 80 each. (As of the time of writing this report, March, 1980, no construction or improvement has been done, but the intake was upped to 100 in October, 1979, with no increase in either facilities or faculty.)

#### VII. PROGRESS TOWARD THE MCH GOALS OF PLAN V

Much of the progress which has been made since the Fifth National Plan is included in the report: Statistiques Sanitaires et Demographiques du Senegal (1974), which is appended. So far as the priorities already cited, the following can be said:

1. Nursing School - Construction has not yet begun. The delay has necessitated a modification of plans and renegotiation of funding (FED: Fonds Européens de Developpment), which is expected to be within the new budget (80-81). However, the 1979-80 intake was doubled to 100 first year students, with no increase in space or faculty.
2. Extension of L'Ecole de Génie Sanitaire de Khonbole (School for Sanitary Engineers) is underway, using funds from USAID.
3. Development of basic health services is greatly encouraged by the administrative reform which has now been accomplished

in 5 regions, (Sine-Saloum, Thiès, Diourbel, Louga, Casamance). It provides an infrastructure for the training and deployment of paraprofessional and community level health workers. A pilot rural health project (USAID/GOS) in the Sine-Saloum, now in its third (of five) year, will be evaluated by the GOS and its positive aspects used as a model for the other regions. See Plan which follows.



4. Extension of the School of Nurse-Midwifery awaits the construction of the new nursing school. Meanwhile the 1979-80 intake of first year students was increased from 30 to 50, with no increase in space or faculty
5. According to Ministry of Health Officials, improvement and enlargement of L'Ecole des Agents Sanitaires de Saint Louis has been finished, and there are now 100 students in each of 2 classes. (Note: site visit 3/23/80 confirms only remodeled offices, nothing else, and a first year class of 106 and a second year class of 56.)

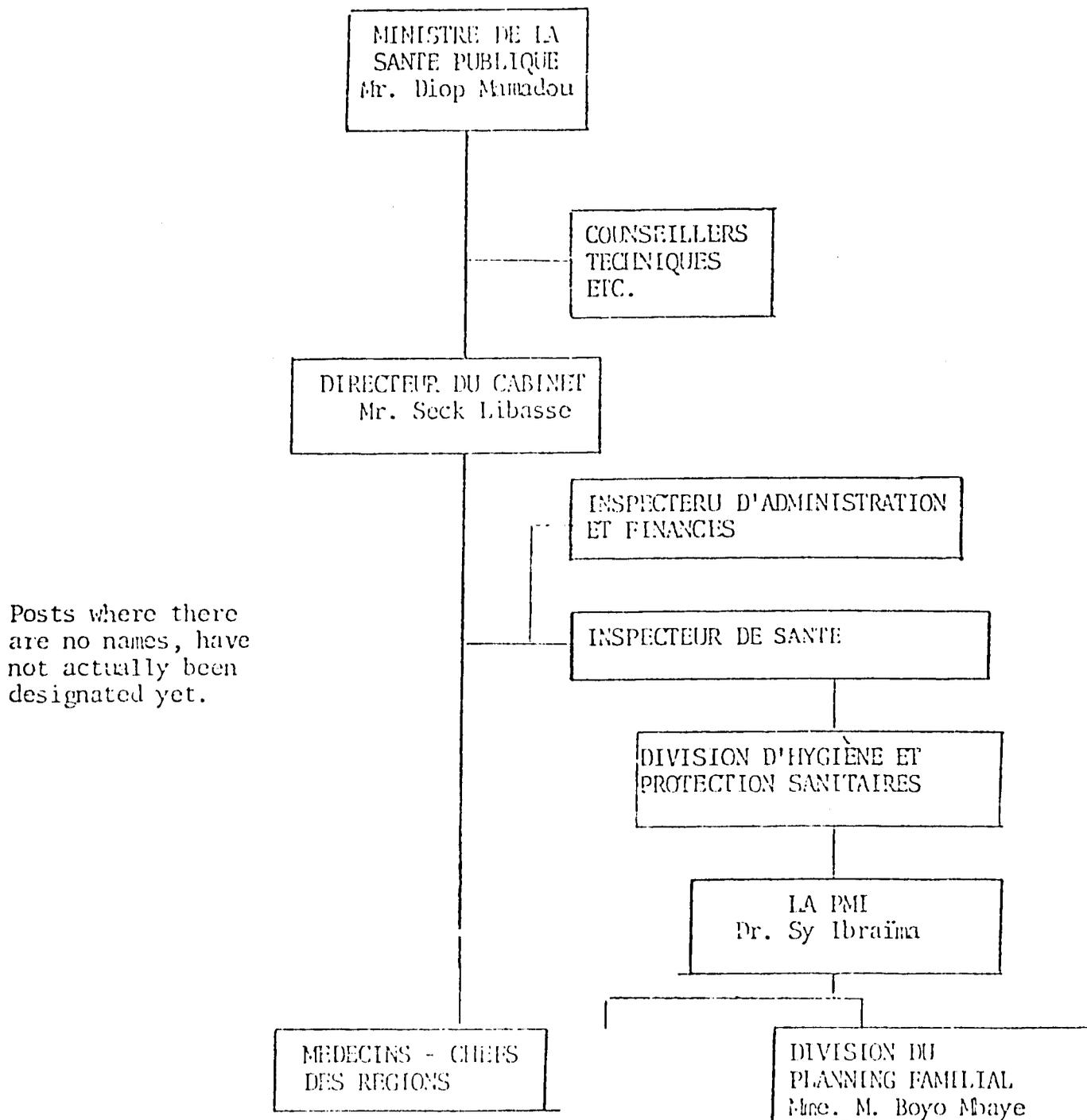
During the course of our interviews and visits, much information of subjective, political or sociologic importance was obtained. This was recorded along with the statistical data on the survey forms, therefore, this large body of valuable information will not be repeated in the narrative report. As was the case with the school in St. Louis, there were occasional discrepancies between official information and site visits.

#### VIII ORGANIZATION OF MCH SERVICES

The Ministry of Health is in the throes of reorganization. The old organigramme no longer is applicable, but we were freely shown the drafts of the new chart, which should be available by April, 1980.

What is important for the MCH sector is:

ORGANIZATION OF MCH SERVICES, MINISTRY  
OF PUBLIC HEALTH, SENEGAL.



Source: Draft seen in  
Planning Office  
10 March 1980

IX. PARAPROFESSIONAL TRAINING PROGRAMS WHICH AFFECT MCH

We were able to identify the following paraprofessional training programs:

1. Ecole Nationale des Infirmiers et des Infirmieres D'Etat (Nursing School)
2. Ecole Nationale des Sages-Femmes D'Etat (School of Nurse-Midwifery)
3. Centre d'Eseignement Supérieur en Soins Infirmiers (C.E.S.S.I) (Graduate School of Nursing)
4. Ecole des Agents Sanitaires de Saint-Louis (between Auxiliary Sanitarian and Nurse)
5. Ecole de Génie Sanitaire de Khombole (School for Sanitary Engineers)
6. Ecole Nationale des Assistants Sociaux et des Educateurs Spécialisés (E.N.A.S.E.S.) (School for Social Workers)
7. Ecole Normale Techniques Féminines (School for Homemaking Teachers) (Economie Familiale)
8. Training Programs for the rural basic health services pilot project Sine-Saloum (GOS, USAID, HOLLAND)

This paraprofessional training takes place at two levels:

1. Recyclage for the trainer/supervisor group, (nurses, sage-femmes, etc.)
2. Basic training of 3 new categories of community health workers (agents Santé-Communautaires)
  - Secouriste (first aid person)
  - Hygiéniste (Sanitation aide)
  - Matrone (trained lay birth attendant)
9. Programme de Formation des Accoucheuses Auxiliares (UNICEF)  
A training program for Auxiliary Nurse Midwives who will work in the rural maternities.
10. Programme de Formation Aides Sociales, Monitrices et Animatrices Rurales de Thiès. A training program for community health workers who are placed in the "Centres D'Expansion Rurale", "Foyer de la Femme", "Maisons Communautaires". Rural extension agents with an education, information and motivation function. There are other kinds of Government and private training, e.g. Croix Bleue, U. Calif, Missions, and Int. Aid Organizations), but they are episodic and not part of the infrastructure.

The programs listed are all described thoroughly in the attached survey forms.

X. PROBLEMS RELATING TO MCH

In interview after interview, the problems cited almost automatically were:

1. Lack of money
2. Lack of personnel
3. Lack of space
4. Lack of equipment and supplies

These almost rote responses bear much truth, but seemed often to mask underlying realities, such as:

5. A professional conscience which differs somewhat from what we are accustomed to (which may be self-protective, faced with the overwhelming need.)
6. A system which, not being based on merit, encourages neither motivation nor recognition of high quality work.
7. A less than efficient use of:
  - time: e.g., clinics open only half days
  - space: single use (by definition) spaces unused when idle.
  - material: limited resources are poorly used
  - personnel: no job description, minimal supervision, etc.
8. Limited coordination between different services and departments.
9. Only beginning notions of team work.
10. Poorly defined concept of Public Health and of basic health services.
11. The concept of family planning is completely foreign to a fatalist and theocratic society, which even has repercussions

at professional levels.

12. There is a continual brain drain, and the new professionals with the brightest potential are the most affected. This loss may be to other professions, administration, or to other countries.
13. There is no voice for paraprofessionals within the health system at a policy making level.
14. Candidates for exam for entrance into paraprofessional schools are less well prepared than previously which is causing educators to suggest raising entrance requirements from DFEM (10 years) to a minimum of Bac. (14 years of school).
15. Training methods are almost completely didactic.
16. Teacher/student ratio discourages learning.
17. The concept of continuing education is limited to professors and teachers, who themselves, have no resources to meet their own needs.
18. No professional re-licensure requirements.

## XI RECOMMENDATIONS AND COMMENTARY

### 1. Contact Point:

Any approach with aid for a program within the Ministry of Public Health must obtain the Minister's approval. The usual route is to contact Mr. Lo Mamadou, Conseiller Technique No. 1, who will arrange for an audience. When all has been properly cleared, Mr. Lo will direct you to Dr. N'Diaye Papa Souley Directeur de la Recherche, de la Planification et de la Formation, and to Mr. Gacou Saliou Demba, Directeur, Division de la Formation. One should also request an appointment with Mr. Ndecki Prosper, Chef de Division de Cooperation Technique International. These men can put you in contact with

anyone else within the Ministry of Public Health.

In view of the evolving state of the division of responsibility between the two Ministries, a point of contact with la Promotion Humaine should also be made. Mr. Samb Ousman is Directeur de Formation, Promotion Humaine. He can make the proper presentation to Mme. Kane Maïnouna, Secrétaire D'Etat Pour la Promotion Humaine.

## 2. PAC Training

While training development needs are apparent at the national or central level, it seems to us as observers, that to be successful, an outside aid proposal must start at a more receptive level, one where there is less overlay of factors which can only be modified by evolution over time, and which almost assure failure of a confrontational approach.

A. Regional Centers The administrative reform is taking the whole structure, from the regional level right down to the rural community and opening it up to change. This reform defines several categories of workers which are to be developed. Training and supervision responsibility for all of them rest with each regional government staff, comprised of 2-3 supervisory trainers from health (CESSI), 2-3 representatives from Promotion Humaine, and 1-2 representatives from social action.

INTRAH could have a significant impact on the system by helping the Government give thorough family planning training to this staff, and by teaching them how to train and supervise the people put in their charge. Training down to the level of the Arrondissement can be done in French, but below that it almost has to be indigenous. INTRAH's participation would be direct at the regional level, but below that it's role would be one of

support, materials development and supervision.

B. Continuing Education A second major input from INTRAH could be in the area of recyclage, or continuing education for all paraprofessionals. This desire for some type of program was the single most common and most urgent need mentioned by all people interviewed, but no one seemed to know quite where to begin. INTRAH could significantly contribute to improving the quality of basic health services by working with the Ministry of Public Health, The Nursing and Nurse-Midwifery Schools, and the Professional Associations to develop and implement continuing education for all civil service workers in health.

C. Improvement of Basic Training No discussion of modifying the output of the Health Professional Education system could finish without mentioning that the schools themselves need to have curriculum revisions and a shift to a more participatory type of instruction. The institutionalization of the present system is so strong that effecting change can only be accomplished by creating a demand within the ranks of students and practicing professionals for basic training which better meets their needs and those of their clients. INTRAH should use every subtle and indirect method at its disposal to help create the atmosphere in which this change can take place, standing by to help when, and if asked. Although we see modification of basic training as an immense need, it is controlled by too many factors beyond our influence to make it seem realistic to expect that it might take place during the lifetime of INTRAH. (We would, however, be delighted if we were proved wrong.)

### 3. Regional Training

Senegal has a long precedent of regional involvement in health training which continues to the present. However, their own manpower needs are placing pressure on their training institutions. Any regional development based on one of Senegal's own centers could over tax their system. A new site could relieve the internal pressure. The advantages and disadvantages of each must be considered.

XII

### RESOURCES

Ministere du Plan et de la Coopération, République du Sénégal,  
Cinquième Plan Quadriennal de Développement Économique et Social (1er Juillet 1977 - 30 Juin 1981), Les Nouvelles Editions Africaines, Dakar-Abidjan, 1977.

Zimmerman, Margot L., PDP/PIACT Trip Report #50: Senegal, 05-24 Noverber 1979, Done for Batelle, Human Affairs Research Center, 4000 NE 41st St.P.O. Box 5395, Seattle WA 98105 (206)525-3130 Cable Harcsea

USAID, Project de Santé Rurale, Région Sine-Saloum  
Ministere de la Sante Publique, Republique du Sénégal Statistiques Sanitaires et Demographique du Senegal, Anvee 1977

Interviews and site visits (reports attached)