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**SENEGAL
HEALTH AND POPULATION
SECTOR ASSESSMENT**

by

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Glossary

ABS	Annual Budget Submission
A.I.D.	U.S. Agency for International Development (Washington or Regional)
AIDS	acquired immunodeficiency syndrome
ASBEF	Association Sénégalaise pour le Bien-Être Familial (Senegalese IPPF affiliate)
CA	Cooperating Agency
CDC	Centers for Disease Control (Atlanta, USA)
CESAG	Centre Africain d'Etudes Supérieures en Gestion
CFA	Communauté Financière Africaine (Senegalese franc)
CIDA	Canadian International Development Agency
CHU	Centre Hospitalier Universitaire
CNSS	Caisse Nationale de Sécurité Sociale (National Social Security System)
CNTS	Confédération Nationale des Travailleurs Sénégalaise
CONAPOP	Commission Nationale de la Population
CPSP	Country Program Strategic Plan
CREDES	Centre d'Etudes pour le Développement de la Santé
DFA	Development Fund for Africa
DHS	Demographic and Health Survey
DPT	diphtheria, pertussis, and tetanus
DRPF	Division of Research, Planning, and Training
DTCP	Diphthérie-Tétanus-Coqueluche-Poliomyélite
EEC	European Economic Community
ENDA	Environnement/Développement en Afrique
EPI	Expanded Program for Immunization
FP	family planning
FY	fiscal year
GNP	gross national product
GOS	Government of Senegal
HIV	human immunodeficiency virus
HPN	Health, Population and Nutrition Office (USAID)
IEC	information, education, and communication
ILO	International Labor Organization
IPM	Institutions de Prévoyance Maladie
IPPF	International Planned Parenthood Federation
ISD	Institute of Health and Development
ISTI	International Science and Technology Institute
IUD	intrauterine device
JICA	Japanese International Cooperation Agency
KAP	knowledge, attitudes and practice
MCH	maternal and child health
MIS	management information system
MOPHSA	Ministry of Public Health and Social Action
MSH	Management Sciences for Health
NCHS	National Center for Health Statistics
NGO	non-governmental organization
Norplant	five-year contraceptive implants

OCCGE	Organization for Coordination and Cooperation in the Control of Major Endemic Diseases
OR	operations research
ORANA	Organization for Research on Food and Nutrition
ORS	oral rehydration salts (or solution)
ORT	oral rehydration therapy
PHC	primary health care
PMI	Protection materno-infantile (maternal and child health)
PNA	Pharmacie Nationale d'Approvisionnement
PRICOR	Primary Health Care Operations Research Project
PSF	Projet Santé Familiale et Population (Family Health and Population Project)
PVO	private voluntary organization
RAPID	Resources for the Awareness of Population Impacts on Development (project)
SANAS	Service de l'Alimentation et de la Nutrition Appliquée au Sénégal
SIDA	syndrome d'immunodéficience acquise (AIDS)
SIPOA	Société Industrielle Pharmaceutique de l'Occidentale Africain
SSS	sugar/salt solution (for oral rehydration)
STD	sexually transmitted disease
TBA	traditional birth attendant
UN	United Nations
UNDP	United Nations Development Program
UNESCO	United Nations Education, Scientific and Cultural Organization
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USAID	U.S. Agency for International Development (mission)
VSC	voluntary surgical contraception
VSPP	Volet Secteurs Privé et Parapublic (private sector component of PSF)
WHO	World Health Organization
WID	women in development

Preface

Purpose of Assessment

The goal of U.S. assistance to Senegal has been to increase per capita growth and food security through an orderly process of financial stabilization, structural reform, and carefully selected project activities in the key areas of agriculture, natural resources, health, and family planning. To accomplish this goal, the U.S. assistance strategy has given priority to assisting the Government of Senegal (GOS) in expanding the delivery of health, nutrition, and family planning services.

Historically, USAID/Dakar has strongly supported the health and population sector in Senegal. Of total current obligations (approximately \$157 million including bilateral and centrally funded activities), about one-quarter have been utilized for health and population. Perhaps two-thirds of these funds have been used for family planning and population-related activities. Currently, there are two major bilateral activities in the sector, the Rural Health Delivery Services II/Child Survival Project (\$12 million, ending in 1991) and the Family Health and Population Project (Project Santé Familiale, \$20.6 million, ending in 1992), both of which are scheduled for evaluations this fiscal year. In addition to bilateral projects, 23 centrally funded health and population contractors have provided approximately \$5.3 million in technical and financial assistance to Senegal. USAID/Dakar has also pursued a policy agenda that focuses on the development of replicable models of self-supporting, community-based primary health care activities which include comprehensive child survival and voluntary family planning programs.

USAID/Dakar is currently undertaking a comprehensive review of its entire portfolio. The outcome of the review will determine the scope and direction of the mission's assistance for the 1992-1997 period. Early next year the mission will produce a Country Program Strategic Plan (CPSP). Overall, USAID/Dakar is charting a course which calls for program consolidation. To this end the mission intends to focus its resources on critical policy and program needs; reduce the number of active projects (while possibly increasing the size of supported projects); sharpen conditionality; link new projects to overall sector strategies; and insist on active GOS participation.

This health and population sector assessment is intended to assist the mission review process in making strategic choices concerning its investments in the health and population sector. This approach is of special importance because of a predisposition to emphasize child survival and family planning within the mission's overall portfolio.

Methodology

The assessment was developed, first, as a result of extensive review and study of the several hundred documents that characterize the health and population sector in Senegal. Subsequently, attempts were made through discussions and interviews with mission staff, contractors, GOS personnel, other donor agency personnel, and private sector representatives to clarify and evaluate successes and problems and to identify opportunities to build upon USAID's contributions to a strong national maternal and child health and family planning program. Both the public and private sectors were examined, with greater emphasis placed upon the private sector due to a lack of mission experience in this area.

Organization of the Report

Chapters 1 through 6 of the report focus on the public and private health and population sector service delivery situation, trends, and activities under way to address known issues and problems in the sector. Chapters 7 and 8 focus upon the unresolved issues in the health and population sector and offer strategy alternatives for USAID's consideration.

The report also includes annexes of supporting information, including a bibliography and list of resource persons for further reference.

Executive Summary

This assessment of Senegal's health and population sector was undertaken at the request of USAID/Dakar in an effort to determine the scope and direction of mission involvement for the 1992-1997 period. The assessment provides a picture of the current situation of the sector and activity under way to deal with problems, and discusses issues affecting progress that need to be addressed by the Government of Senegal (GOS) and the donor community. Finally, the assessment offers a framework from which to approach development of a viable USAID strategy for the years ahead and suggests some specific activities to reach strategic objectives.

Overview of the Health and Population Sector in Senegal

Demographic factors. Senegal's demographic profile, when viewed in light of the major population, environmental, and economic shifts the country is experiencing, shows it to be a society that will be increasingly hard pressed in the decade ahead to provide basic services (employment, health, and education) to its population. A population of 7.3 million (1990) is expected to grow to 9.4 million by the year 2000, with over 3.9 million of that composed of 2.1 million women of childbearing age and 1.8 million children under age 5, the most at-risk populations in the country. The country will continue to urbanize at such a rate as to be approximately 50 percent urbanized by the year 2010 without the ability of the economic sector (industry and general business) to keep pace. The area of land under cultivation will also continue to fall during the period. The per capita gross national product (GNP) of \$650 per year will probably continue to decline due to the rapid growth in the population without the equivalent growth in productivity. In all, according to the RAPID II models, the health and population sector will show an overall decline in the quality of health services provided.

Major health problems. Although Senegal has demonstrated improvement in the key health indicator of life expectancy, a study of the country from the perspective of WHO's Global Indicators reveals some disturbing problems yet to be overcome. For example, primary health care has been adopted by the GOS in concept, but there is little evidence of its provision except through donor project efforts. In addition, although monies are available for local health care needs, a great deal of it comes from the donor external budget which, although stable, leaves the GOS very much at the mercy of the international community for essential service assistance. Further, many health care resources remain unequally distributed throughout the country. Finally, despite a lack of reliable data, it is clear that the infant and maternal mortality rates for the country are quite high and that malnutrition among this population underlies many of the causes of severe morbidity and mortality. Half of infant deaths can be attributed to diarrhea (for which simple treatment with oral rehydration salts [ORS] is available) and respiratory diseases, followed by tetanus (preventable through proper implementation of the Expanded Program on Immunization [EPI] program) and, in the child's second year, measles (again, EPI) and malaria (simple presumptive treatment, in most cases). Maternal deaths are largely a result of a lack of understanding of major risk factors (on the part of both mothers and health workers) and lack of early and clear risk identification, counseling, and treatment, including referral. Sexually transmitted diseases are also prevalent in the country, including the human immunodeficiency viruses 1 and 2 (HIV1 and HIV2).

Health and population infrastructure. In order to improve the delivery of services with its scarce resources, the GOS has recently initiated a number of structural reform policies. These include the reorganization of the Ministry of Public Health and the Ministry of Social Development

into one Ministry of Public Health and Social Action (MOPHSA); the development of guidelines to aid community groups in the collection and control of user fees at local health centers and posts; and the promotion of decentralization and delegation of authority from the central level to the regions. The GOS has, further, initiated two new major program policies: a population program policy that calls for the reduction of population growth rates and the integration of this policy into overall program development strategies, and a national health policy that outlines major structural and program reforms. A new and responsive nutrition policy remains undeveloped to date.

The overall picture that emerges from these reform efforts, however, is fragmented. The very positive process of decentralization now under way, for example, needs to be completed and fully implemented. A decentralized reorganization has begun at the central level, but a similar reorganization has not yet begun at the regional level. In addition, there are several shortcomings in the infrastructure overall. These include a maldistribution of facilities, staff, programs, and supplies; inadequate training curricula; job descriptions unsuited for use in a fully integrated system; a lack of operationally focused research and needs analysis; incompletely defined program planning needs; support services unlinked to needs in the field; and an inadequate information system. Although numerous activities have been undertaken to resolve these shortcomings, much remains to be done.

Senegal's pharmaceutical distribution system, which is organized into both a private and a public system, functions poorly overall. The public sector program, the subject of much criticism and numerous studies and recommendations for thorough reform, functions in a dual manner. It distributes drugs with budgeted funds and also distributes drugs in response to payments from community organizations. Each of these systems accounts for about 50 percent of the public market; with the private system functioning more efficiently than the former. Again, studies exist or are under way that offer suggestions for remediation of the system's problems.

The private sector in Senegal is, on the whole, a significant force, contributing 85 percent of the GNP and employing 92.5 percent of the labor force. In the area of health services delivery, however, it consists primarily of individual private practitioners and their small clinics, located mostly in Dakar; further expansion of its potential suffers from a lack of access to credit to establish practices. In addition, the private sector is almost exclusively oriented toward the provision of curative care; the concept of preventive health care, including family planning, does not appear to be generally recognized or of great interest. At the same time, contraceptive products are available on the commercial market and networks exist that could be exploited to develop these markets further through social marketing. Further, ORS packaging and distribution does not exist in the private sector, but studies have proposed how this might be accomplished.

Health and population programmatic efforts. MOPHSA programming efforts present both promise and problems. Maternal health problems and programming needs have surfaced and strategy development efforts have begun. EPI activities have had reasonable success when implemented as campaigns, but have been difficult to maintain as a routine health post level activity (especially with regard to cold-chain problems). The malaria control program has suffered from stock-outs at key times of the year and confusion due to the lack of a clear policy regarding intervention. (At present, no donor works with the malaria program.) The anti-diarrheal program, even with great efforts at personnel training, has an unclear policy regarding home solution vs. packets for ORS and the proper administration of either. The nutrition program has stopped as a nationwide effort and continues only as a locally supported activity, although a new program proposal for a nationwide program is under consideration. The national family planning program has made great strides in introducing

services into both public clinics and private (mostly urban) pharmacies, but has suffered from stock-out problems and a lack of central government commitment to the initiation of family limiting services. The health system's sexual transmitted disease (STD) and HIV-AIDS activities have shown steady progress against this still moderate but increasingly serious problem. Lastly, health education service activities have been organized and launched, although largely through the efforts of the donor community, as the service remains without operational resources to organize activity on its own.

Government and donor expenditures. GOS expenditures on health care have declined to only 5 percent of the national budget, but have stabilized for the time being. Increasingly, Senegal will look to its external (donor-financed) budget to meet health system needs. Before increased cost recovery revenues can be realized to ease this tendency, comprehensive reform is needed. Insurance schemes do not look, for the immediate future, to offer much hope of assisting in this situation.

Ranked fourth among the donor community overall in the decade of the 1980s, USAID/Dakar has focused its general assistance efforts on structural and policy reform activity. It has supported two large projects, one in health and one in family planning. Other active donors in the health and population sector have included Belgium, France, Italy, UNICEF, the UNFPA, and recently the UNDP. The World Bank is poised to promote the implementation of its huge structural reform program for the health and population sector, and stands to become a major donor in this area. Further, donors who began meeting together informally in 1987 are developing a sense of the role each might play in the activity needs of the period ahead. For instance, UNFPA and USAID are taking the lead in the development of national family planning activities, and UNICEF has been playing the lead role in immunization and in community diarrhea control efforts.

Major Health and Population Sector Issues

Demographic and health issues. Three significant trends regarding the population of Senegal must be dealt with over the coming decade and beyond: a high projected population growth rate, high infant and early childhood mortality, and high maternal mortality. The growth rate is expected to continue despite efforts to encourage the spacing of children, as it is driven by an extremely high desired family size. Nothing short of a major effort to encourage limiting family size will change this forecast. A lowering of the high rates of infant, early childhood, and maternal mortality will require a major improvement in the population's understanding of prevention and the system's ability to provide key services. Included in any discussion of these three major problems is the need to continue efforts to control and limit the spread of sexually transmitted diseases (to include AIDS).

Managerial and structural issues. Within the sector's infrastructure, there are a number of major managerial and structural issues that will need to be dealt with in order for the system to develop the capacity to deal with the health/demographic problems of the future. In the area of management, these include

- The lack of an operationally focused, problem-solving perspective in the MOPHSA's planning and operations activity. Although first steps have been taken to change the structure of the MOPHSA planning process, a full outline of the new perspective required to approach and complete the planning process remains to be developed.
- The lack of clearly defined central/regional roles, planning process, service priorities, and support service requirements. At the central level, the MOPHSA has made a commitment

to the development of a decentralized planning system but it has not yet defined in complete and operational terms, the roles of the various levels in this process; it has not established service delivery priorities; and it has not identified key support services that need special attention. Further, performance standards have not been outlined nor have elements of the plan implementation process, such as plan review and evaluation.

- A problematic management information system that, although in redesign, does not yet serve the decision-making needs of the field.
- Undeveloped supervision, monitoring, and evaluation criteria that allow for poor performance by staffs in the field.

As far as the sector's structure is concerned, major issues include

- The maldistribution of staff throughout the system, particularly the lack of staff in the rural areas.
- The continued inappropriateness of basic training for staff that leaves them unprepared for the real needs of service in the rural areas.
- The limited access of the population to health facilities, overall, exacerbated by the maldistribution of facilities and services in existence. It is estimated, for example, that only 40 percent of the population has access to any type of care and that over 50 percent of all hospital beds are located in Dakar. Further, the scope of services offered at a facility is not necessarily determined by distances to alternative sources of care, thereby undermining any desire for a regionalized approach to the health care system.
- The inadequacy of operations-focused support services that leaves the MOPHSA without any systematic manner by which to examine and develop proposals for improvements to the operational needs of the system. The burden for providing this perspective and these services continues to rest upon the donors, and will do so for some time.
- The general inability of the pharmaceutical system to provide the medicines and supplies needed at the right place at the right time.
- The undeveloped, albeit limited, potential of the private sector to provide services to the population that the public system cannot provide. Plans for the commercial distribution of contraceptive and health products (oral rehydration solution, in particular) exist but have not been implemented.

Program policy issues. With regard to major program policy issues facing the MOPHSA, there are a significant few needing attention:

- With regard to population policy, the lack of a clear national family planning program with emphasis upon limiting of family size, lack of clarification of restrictions on the role of nurses, duties on commercial contraceptives, and lack of experimentation with community-based distribution systems.

- With regard to health policy, the lack of clear priorities for intervention and action plans to realize these interventions.
- With regard to nutrition policy, the lack of a policy and program that is implementable within existing resources.

Public sector program implementation issues. Public sector program issues focus on the need for a clear and implementable policy and objectives aiding service delivery efforts in the following areas:

- The control of diarrheal diseases, in which a national policy of promoting both home-made solutions of oral rehydration salts and providing the pre-packaged solutions has created confusion, stock-outs, and poor understanding of administration by both facility staffs and mothers.
- The control of malaria, in which the existing policy of prophylactic treatment is in conflict with World Health Organization-endorsed presumptive treatment practices and has created large supply problems and probably chloroquine resistance.
- The prevention and treatment of under/malnutrition, in which no operating program exists.
- The control and prevention of immunizable childhood diseases and tetanus, in which the program is burdened with unrealistic campaign objectives at the expense of the expansion of routine immunization capabilities at health post levels.
- The integration of maternal and child health and family planning (to include STD/AIDS) services, in which no guidelines exist to aid in the process or focus upon key interventions (using standard protocols).
- The availability of resources and lack of a clearly defined role for the National Public Health Education Service, which could play a significant role in future information, education, and communication campaigns directed at increasing awareness of major health risks and their treatment.

Economic and financial issues. The major economic and financial issues facing the sector center upon the non-availability of health care funding from all sources — the public sector, private payment for services, and foreign assistance. Also involved is the question of whether the available resources are adequate and effectively utilized to provide health services of the quantity and quality required to attain and sustain desired improvements in health status.

Donor activity issue. The issue regarding donor activity in the sector is the extent to which donors will collaborate regarding the systemic, program, and service delivery needs of the public and private health care systems. Certainly, meetings and dialogue will continue regarding this issue, but the real test of willingness to cooperate will come when discussion focuses on the package and prioritization of needs in the system and the implementation of improvement.

Suggested Strategies and Key Activities

High population growth is a major obstacle to economic and social development which is the primary objective of the USAID assistance program in Senegal. Improved access to high quality family planning is a critical element in promoting reproductive choice and essential to enable families to participate in opportunities generated by economic and social development. Promotion of family planning in Senegal is closely linked to and integrated into maternal child health care. Maternal and child health (MCH) interventions for child survival and to reduce maternal mortality are based on preventive health strategies and act directly to influence behavior and attitudes for fertility control.

Thus, the USAID assistance program should continue to provide major support to help the GOS carry out an effective population and MCH program during the 1990s. USAID's strategic goal can be defined in terms of seeking large increases in contraceptive prevalence by expanding family planning services and major improvements in child survival and family health by expanding and improving the related MCH service delivery system.

USAID programmatic activities should center on the following key strategic elements:

1. **Build upon GOS policy and program initiatives wherever feasible.** The GOS has taken concerted steps to develop population and health policy, has reorganized and decentralized programming activity, has recognized and developed a maternal mortality program strategy, and has pronounced the need to integrate program services. USAID should develop its areas of emphasis and programming plans consistent with and building upon these first steps.
2. **Focus on the operational level needs of a package of key demographic/health issue-related service delivery interventions (that is, a package of linked family planning/MCH activities).** USAID/Dakar should approach the development of its strategy in the health and population sector from the standpoint of the need for a nationally endorsed package of health care services that is focused on integrated MCH/family planning activities at the health center and health post levels. These activities should be well-targeted, based upon low tech interventions, selected for their impact and synergistic effect, and phased in order to ensure high quality implementation.
3. **Develop a modern management approach to and strengthen key service delivery support systems.** No package of interventions, however well designed, can be maintained without the effective management of support system requirements. In the modern management approach to service delivery, the development of accurate and timely information and an operations level problem-solving perspective and capability are key. Focusing upon the minimum and key supply needs is also essential. USAID should further this perspective in dialogue with the GOS and use it in its efforts to refocus the many activities under way in the sector.
4. **Participate in key institution building (that is, public and private infrastructure strengthening) activity.** Without being done at the expense of the need to focus on the service delivery issues mentioned above, USAID should aid the GOS in its study of the system development needs of its health system and provide technical assistance, wherever practical, to both public and private sector health care providers.
5. **Aid in efforts to enhance overall sustainability of health system activity.** USAID/Dakar should act to aid development of sustainable activities in the health system with the use of operations research targeted at the management procedural needs in the system; development of community

financing and participation schemes and cost-effectiveness analysis; market-testing of sustainable private sector models; and general research aimed at understanding the different perspectives of urban and rural communities with regard to health/demographic problems and their solution. Again, USAID has the experience and interest to work in this area and should plan to continue to offer assistance to the MOPHSA in this regard.

6. **Lead collaboration between donors.** USAID/Dakar should take the lead in collaborative efforts with other key donors to develop and implement the service package. Using the above-outlined approach, USAID would be doing so from a position of strength (based upon experience) that would be consistent with mission policies and goals.

1. Overview of the Health and Population Sector in Senegal

General Country Background

Senegal lies on the bulge of Western Africa, bounded by the Atlantic Ocean, Mauritania, Mali, Guinea and Guinea Bissau. The Gambia penetrates more than 200 miles into Senegal, effectively isolating the Casamance region of the country from the area north of The Gambia. The country covers 76,000 square miles, an area roughly half the size of California. Most of the land consists of rolling plains covered with savanna vegetation, while the southwest is characterized by marshy swamps and tropical rain forests. The climate varies from warm and dry in the Sahelian region to tropical in the south. The wet season, which is considerably more pronounced in the south, extends from July to October.

In the last twenty years the rainfall pattern has shifted southward, resulting in a change in agricultural practices and a southeasterly movement of the peanut basin. In what was once the northern peanut basin, "niebe" (cow pea, a high protein, short-season, but very disease-vulnerable crop) is now grown. The central eastern zone of the country remains an important potential agricultural area (it is undeveloped due to environmental hazards like the tsetse fly). The country has seen an overall decline in land area cultivated, however, since a high in the 1970s. Chief commercial products are peanuts, phosphates, and fish.

Seventy percent of the workforce is engaged in agriculture, which accounts for 22 percent of the gross national product (GNP). Per capita GNP is approximately \$650 per year but declining due to the rapid growth in the population without equivalent growth in productivity. Although the country gained political independence from France in 1960, France remains an influential and strong ally, a major economic partner, and the prime source of foreign assistance.

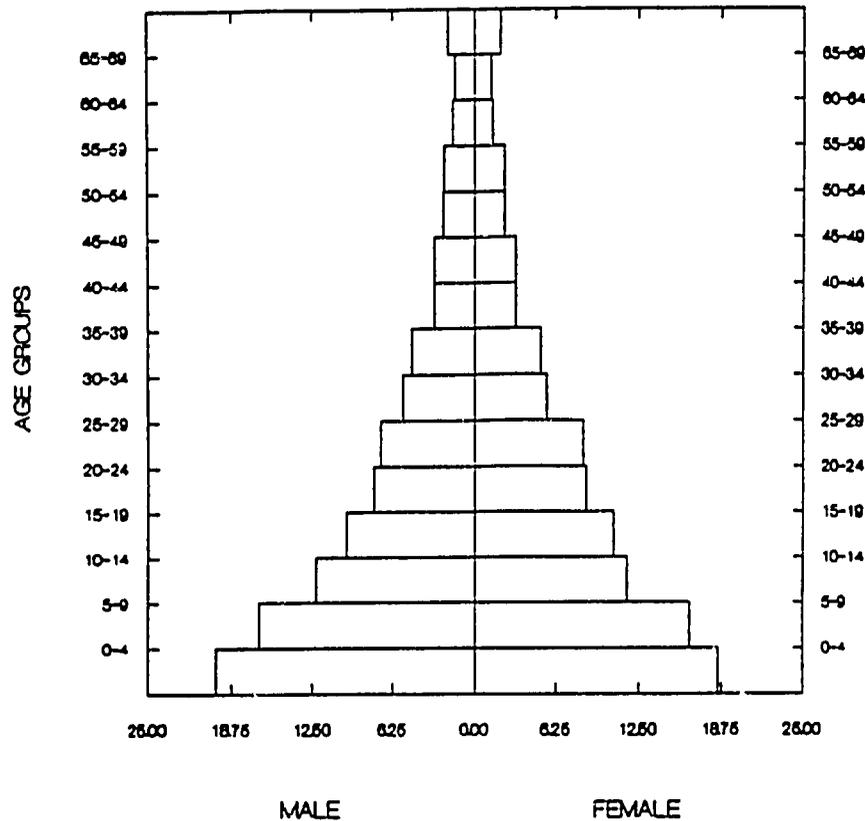
Literacy is 37 percent among adult males and 19 percent among females. In 1987, approximately half of all children were enrolled in primary education (70 percent of the 7-12 year male population and 46 percent of the 7-12 year female population). Although that figure represents a greater number and percentage of females going to primary school than in earlier years (up by 10 percentage points since 1980), their increase relative to males (up by 14 percentage points) has been slightly less; secondary school attendance was less than 15 percent. Literacy among females is a significant factor as research has established a positive correlation between it and the health status of women and children, the most at-risk populations in Senegal.

(See Annex 1 for graphic representations of general country characteristics.)

Demographic Profile

Population. In 1988, Senegal recorded a population of 6,905,330. Various sources indicate that the population in 1990 is between 7.3 million (United Nations) and 7.6 million (World Bank). Major ethnic groups include the Wolof (36 percent), Fulani (18 percent), Serer (17 percent), and the Toucouleur (9 percent). French is the official language, but Wolof is spoken by 75 percent of the population. Eighty-nine per cent of the population is Muslim. The male-to-female ratio is slightly less than one. Forty-seven percent of the population is under the age of 15 years.

Figure 1
Population Structure - 1988



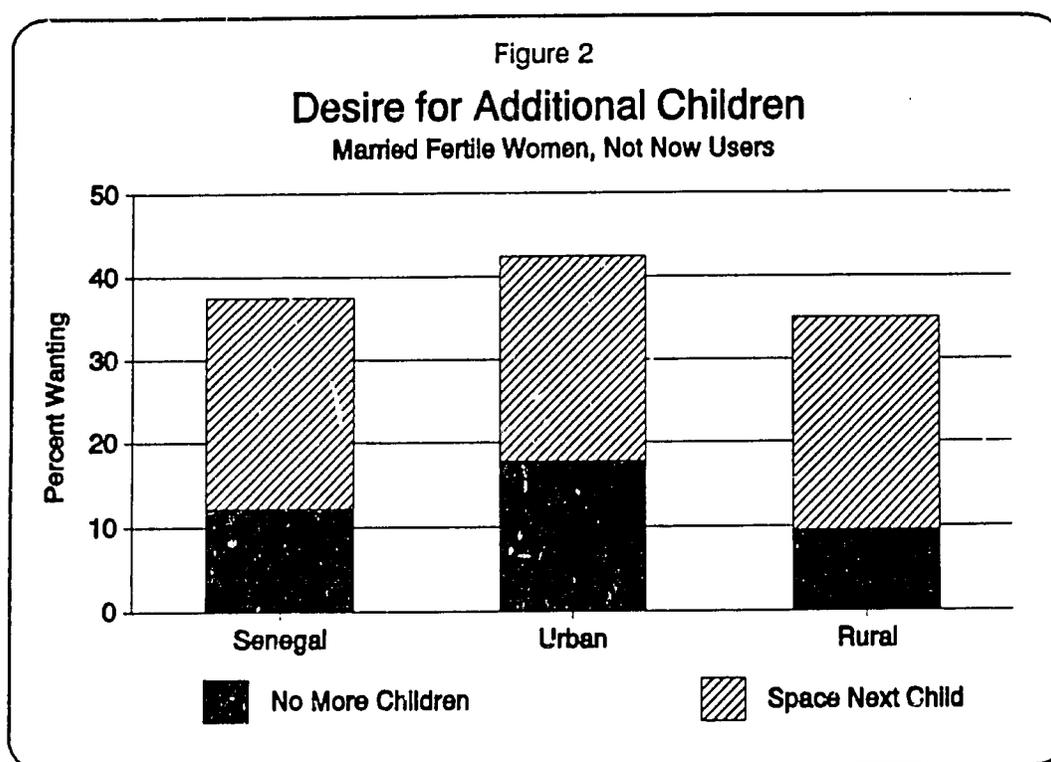
Growth Rates. The Crude Rate of Natural Increase of the population has increased from 2.5 percent in 1968 to 2.9 percent in 1988 as a result primarily of a drop in the Infant Mortality Rate (from 166.8 in 1968 to 128.0 in 1987). With immigration estimated at 0.2 percent, the average population growth rate from 1976 to 1988 has been 2.7 percent. For the period 1976-1988, the region of Dakar experienced the highest growth rate (3.96 percent), followed by the region of Diourbel (3.20 percent), east of the Dakar region. The region of Louga, north and east of the Dakar region, experienced the lowest growth rate for the period (1.21 percent).

Extrapolating from the mean annual growth rates for the period 1976-1988, Senegal's population will grow from a total of 7.3 million (both urban and rural) in 1990 to a total of 9.4 by the year 2000. By the year 2000 (RAPID II), there will be an estimated 2.1 million women of child-bearing age (representing 22.8 percent of the population) and 1.8 million children under age 5 (representing 18.9 percent of the population). This compares with the figures of 1.66 million and 1.38 million, respectively, of women and under-age-5 children now in the country.

Population Density. Population density ranges from under 24 per square kilometer to 2,728 persons per square kilometer in the Dakar region. The next most densely populated regions are Thies (142 per square kilometer) and Diourbel (141 per square kilometer). The Tambacounda region is the least densely populated, followed by the St. Louis (especially in the eastern two-thirds of the region) and Louga regions.

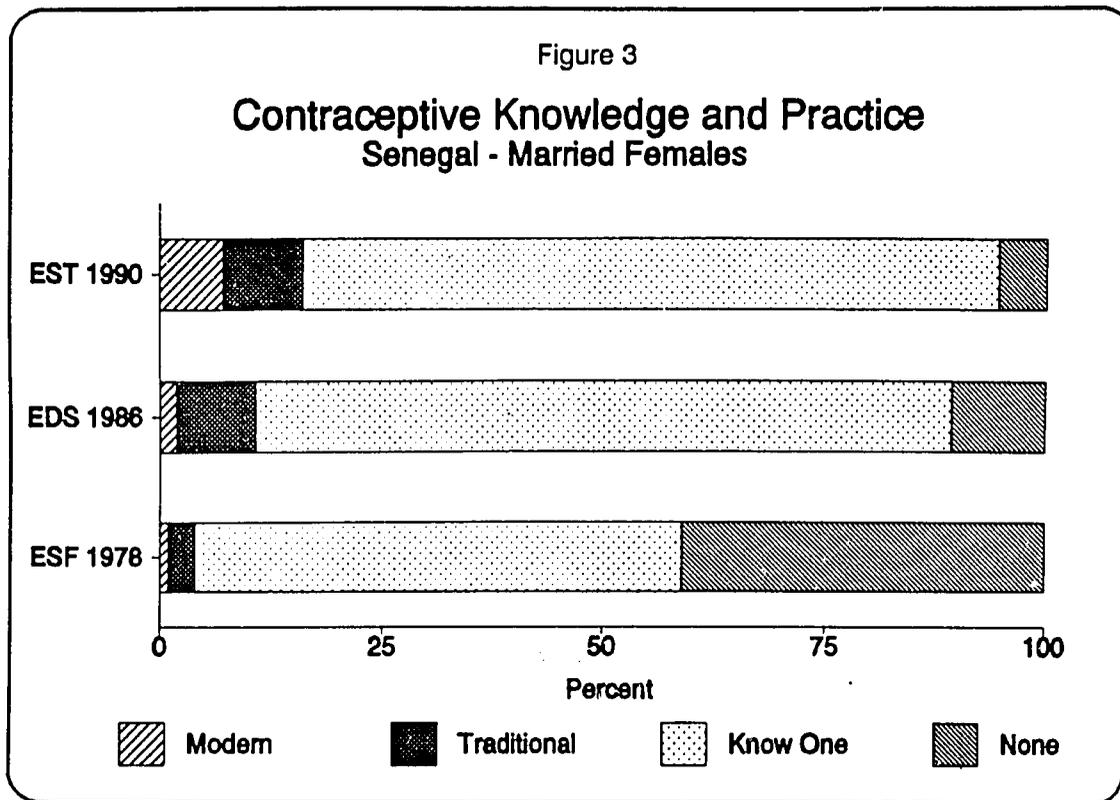
Urbanization. There has been a steadily increasing trend in urbanization in the country since 1960. This has brought the country from a total urbanized population of 23 percent in 1960 to 39 percent in 1988 (a 70 percent increase for the period). Dakar, Pikine, Thies, M'Bour, and Ziguinchor have been the fastest urbanizing regions in the country; Kolda and Fatick the slowest. At this rate, Senegal will be approximately 50 percent urbanized by the year 2010.

Fertility Rate/Desired Family Size/Contraceptive Demand. The 1986 Demographic and Health Survey (DHS) determined the total fertility rate in Senegal to be 6.4. The DHS showed the desired family size to be 6.8; for only married women, the desired size was even higher — 7.2. Desired family size was lower in urban areas — 5.5. Figure 2 shows 1986 DHS data which indicate that among currently married women who are not presently contracepting, 42.5 percent of urban women either want no more children (17.7 percent) or want to space their next child (24.8 percent); 35 percent of rural women either want no more children (9.5 percent) or want to space their next child (25.5 percent); overall, 37.5 percent of Senegalese women (married, fertile, not now contracepting) want either no more children (12.2 percent) or want to space their next child (25.3 percent).



These figures are supported by a more recent study (August 1989) carried out in Diourbel which found that the ideal family size was 7.2 (6.8 for females and 7.8 for men). The urban/rural difference was only slightly different from the earlier DHS study, with 5.8 for urban and 7.6 for rural females. Urban males indicated a desire for 6.4 children and rural males, 8.7.

Although contraceptive prevalence was shown to be very low in Senegal — 11.3 percent for all methods, 2.4 percent for modern methods — the number of women having knowledge of a method or practicing some form of contraception (modern or traditional) has grown over the past 12 years, as is shown below.



The reasons given in the 1986 DHS for non-use of contraceptive methods were varied: want more children (50 percent), lack of information (12 percent), religion (8 percent), or contraceptives are difficult to obtain (.4 percent).

Nutrition Status/Caloric Intake. During the 1965-1988 period, average caloric intake per person per day dropped from a 1965 level of 2,490 (of which 62.3 percent was cereal) to 2,336 calories per person per day (of which 68.7 percent was cereal).

Overall RAPID Projections. A 1987 RAPID II analysis, which included two demographic studies and six population-development models, illustrated the impact of Senegal's young, growing, urbanizing population on the country's limited resources. Using a range of fertility and mortality data to project growth over the next 25 years, it revealed a population of between 14.5 million and 16.2 million by the year 2011. At this rate of growth, such a population would outstrip any economic growth projections in a resource-poor country. The analysis concluded that the total consumption of food grains would double with such a population, overwhelming Senegal's agricultural resources (which, in 1988, accounted for only 59 percent of needed production levels) and further exacerbating the country's efforts to achieve food self-sufficiency.

Although other models have been used that are somewhat more optimistic, all models have arrived at the same projected effect upon the health sector: population growth pushing the need for an increased percentage of the national budget to be used to maintain health services, a large portion of funds used for salaries, little service delivery extension, and an overall decline in quality of health services.

(See Annex 2 for graphic/data interpretations of the population socio-demographic situation.)

Summary of Findings. This demographic profile of Senegal, especially when viewed in light of the major environmental shifts the country is experiencing, shows it to be a society that will be increasingly hard pressed to provide the basic services (employment, health, education) to its population.

Health Indicators

General. According to World Bank tables, between 1968 and 1988, Senegal demonstrated some improvements in its basic health indicator profile:

- life expectancy at birth rose from 42 years to 48 years;
- infant mortality declined from 166.8 to 128;
- the Crude Birth Rate dropped from 46.7 to 45; and
- the Crude Death Rate dropped from 21.2 to 16.3.

Unfortunately there are no clear data regarding changes in the maternal mortality rate, which is estimated to be at the exceptionally high rate (even for the Africa region) of 600 per 100,000.

Global Indicators for Monitoring Progress towards Health for All. Although the Physical Quality of Life Index developed by the Overseas Development Council is commonly used to measure relative development status and to compare nations with regard to general well-being, World Health Organization (WHO) indicators, used by member states, outline a more complete picture of the overall health status of the country. The following measures Senegal's status against these 12 WHO global indicators for monitoring progress towards health for all.

1. Health for all has received endorsement as policy at the highest official level

1978 - Official adherence to the Alma Ata Declaration (Health for All by the Year 2000)

1984 - Ratification of the African Charter of Health Development

Decision to integrate health in all development plans and projects

The personal commitment of the president of Senegal to reach the goal of 80 percent vaccination coverage of children between the ages of 1 and 2 years

Creation of national commissions and committees: National Health Council; Planning Commission for Health and Nutrition; follow-up committee on progress in primary health care; population (CONAPO); AIDS; reduction of maternal mortality; development committees (national, regional, departmental and local)

Policy declarations: National Health Policy; National Population Policy; National Water Provision and Sanitation Program; National Program to Improve Women's Status; New Agricultural Policy (Goal of 80 percent cereal self-sufficiency by the year 2000)

2. **Mechanisms for involving people in the implementation of strategies have been formed or strengthened, and are actually functioning.**

In Senegal some of these mechanisms are not yet functioning.

Administrative reform; Seventh Socio-Economic Development Plan (1985-1989); Program of Economic and Financial Adjustment; Triennial Public Investment Program; Health Program by Country (1982)

Villages organized into rural communities: health committees; associations for promotion of hospitals; associations of women, youth, others

Financial and management participation of communities in health and development projects

Creation and support of non-governmental organizations

Fusion of the Ministries of Health and Social Development into one ministry

Creation of a management unit in the Ministry of Public Health and Social Action

Decentralization - development of regional health plans

Support for applied research (appropriate technologies and traditional medicine)

3. **At least 5 percent of GNP is spent on health.**

The public health budget as a percentage of the state operating budget has fallen from 10 percent in 1969 to about 5 percent in 1988.

About two-thirds of the health budget is for personnel support.

4. **A reasonable percentage of the national health expenditure is devoted to local health care.**

About three-fourths of the resources allocated for primary health care have been used for peripheral populations.

Most of the foreign aid has been for the financing of specific projects in rural areas: USAID — rural health in the regions of Kaolack and Fatick; Belgium — Pikine Project; UNICEF — acceleration of the Expanded Program on Immunization (EPI); France — Rural Integrated Development Project of Eastern Senegal.

5. **Resources are equitably distributed.**

There are marked regional and urban/rural disparities in the distribution of health infrastructure and personnel.

The solution to the problem of health worker resistance to assignment in rural areas has not yet been found.

6. **The country's needs for external resources are receiving sustained support from more affluent countries.**

70 percent of the budget for primary health care comes from foreign aid.

7. **Primary health care is available to the whole population, with at least the following.**

In general, except for immunization coverage of children, these primary health care objectives have not been met:

- safe water at home or within 15 minutes walking time

Provision of Drinking Water Project — Tube wells provide about 12 liters/person/day

Urban zones: Dakar - 85 percent

Other - 60 percent

Rural zones: - 63 percent

- adequate sanitation facilities

The vast majority of people do not have adequate facilities for the disposal of excreta.

Urban zones: In the cities less than 3 percent of houses are connected to sewer lines.

Rural zones: Latrine projects have been undertaken by the School of Sanitary Engineering at Khombole and the Ministry of Hydraulics.

- immunization for the six EPI diseases

Due to an acceleration of the EPI, the goal of 80 percent coverage of children from the ages of 1 to 2 has been reached. Goals for children under 1 have not been met.

The protection of pregnant women against tetanus has been less successful. Coverage in the region of Fatick in 1988 was 32 percent.

- Health care within one hour's travel (with at least 20 essential medicines)

Urban zones: 100 percent (39 percent of the total population)

Rural zones: Health posts exist in 659 villages, health huts in 1,409 villages. (A large number of rural facilities are not functional.)

- Trained personnel for attending pregnancy and childbirth and following children to the age of one

Two-thirds of pregnant women have at least one prenatal visit, but the identification and follow-up of women at high risk is only rarely done.

40 percent of women are assisted at delivery by at least a trained village birth attendant. (A village matrone program has been functioning at the Center of Social Pediatrics at Khombole under the direction of the Department of Pediatrics at the Medical School of Cheikh Anta Diop University. Previously UNICEF also sponsored matrone trainings.)

The Program of Nutritional and Health Protection of Vulnerable groups (consisting of growth surveillance of infants accompanied by food distribution and health education has been canceled, although some activity continues at various locations.

11 percent of the target group of children 0-4 years old were seen at least once in PMI centers in 1988, for treatment of illnesses, not well-baby visits

8. The nutritional status of children is adequate.

Malnutrition of children 0-4 years old is an important public health problem. Probably little or no improvement has been made in their nutritional status over the last decade.

- at least 90 percent of newborn infants weigh at least 2.5 kilograms

10 percent children with low birth weight (World Bank statistics). This is certainly an underestimate given that the majority of newborns (especially in rural areas) are not weighed.

- at least 90 percent of children have a weight for age that corresponds to the NCHS reference values; 25 percent have a weight for age less than 80 percent of the reference values (MOPHSA estimate).

An ORANA study of children (2-6 years) in the regions of Diourbel and Fatick in 1988 showed

- 69 percent malnutrition (Gomez classification)

- 37 percent malnutrition (Waterlow classification)

(These findings are associated with a prevalence of hypo-avitaminosis A of 47 percent)

9. The infant mortality rate for all identifiable subgroups is below 50 per 1,000 live births.

National estimates for 1988 vary between 78 and 131. The above-mentioned ORANA study estimated the rate in Diourbel and Fatick to be 300/1000.

Whatever the true rates, there is certainly much regional and urban/rural variability.

10. Life expectancy at birth is over 60 years old.

Estimated to have increased from 42 to 48 years over the last 20 years.

11. The adult literacy rate for both men and women exceeds 70 percent.

Estimate = 33 percent (with men certainly higher than women)

Children in the 7-12 age group in primary school: boys: 70 percent; girls: 46 percent (These estimates are aggregates and hide large regional and urban/rural variability.)

12. The gross national product exceeds US\$ 500 per capita.

World Bank estimates show the GNP/capita at US\$ 650 (in current dollars) during the period 1960 to 1989. However, this figure, expressed in 1977 dollars, represents a decline of 13 percent due primarily to the increase in population. (See Annex 3 for health and social indicators graphic interpretation.)

Summary of Findings. Although Senegal has demonstrated improvement in the key health indicator of life expectancy, a study of the country from the perspective of the WHO Global Indicators reveals some disturbing problems yet to be overcome. For example, primary health care has been adopted by the GOS in concept, but there is little evidence of its provision except through donor project efforts. Further, although money is available for local health care needs, a great deal of it comes from the donor external budget which, although stable, leaves the GOS very much at the mercy of the international community for essential service assistance. Further still, many health care resources remain unequally distributed throughout the country. Malnutrition remains high, as do infant and maternal mortality, and adult literacy remains low, with literacy for women significantly below that of men. Finally, although the GNP per capita is in the "acceptable" range, it is declining under the environmental/demographic pressures discussed previously.

Major Health Problems

Infant and Early Childhood Mortality. Senegal does not have a reliable morbidity/mortality data collection system. One must rely on periodic studies (although well-done) and facility utilization data collected by the Statistics Division of the Ministry of Public Health and Social Action (MOPHSA), which are generally incomplete and certainly not representative of the full extent of health problems faced by the population in the rural areas.

Senegal's 1989 National Health Policy, in fact, develops its profile of the major childhood diseases faced by Senegalese children using (but without citing reference to) a Centers For Disease Control (CDC) study conducted for the Sine Saloum (now Fatick and Kaolack) Region in 1982-83. Table 1 on the next page shows the principal causes of death in children under 5 years. This table is generally used to represent the country as a whole. It shows that diarrheal and respiratory diseases accounted for about one-half of reported deaths. Tetanus was also an important cause of death during infancy. Measles and malaria were prominent factors after the first birthday, accounting for almost 30 percent of deaths.

The CDC study also produced other useful findings:

- most infant tetanus deaths occurred within the first month after birth and are therefore thought to be under-reported;
- malaria deaths before the age of one were rare, owing to the presence of maternal antibodies during infancy (as a result of prolonged breastfeeding);
- as with malaria, maternal antibodies almost completely prevent measles mortality during infancy;
- just under one percent of children studied reportedly died of meningitis, with the majority of these deaths occurring during infancy. (Senegal is in what has been called the "meningitis belt" of Africa.)

Table 1

Unadjusted percentage distributions of causes of death for children born after 1976, by reported age at death: Sine Saloum Family Health Survey

Cause of Death	Age at Death (years)			
	<1	1	2-5	All <5
*Diarrheal disease	20.5	28.0	27.3	23.9
*Respiratory disease	26.5	17.3	22.1	23.1
*Malaria	3.1	10.3	18.3	9.1
Measles	2.0	15.4	9.7	7.0
Tetanus	9.5	2.0	1.1	5.4
Meningitis	5.2	3.8	0.7	3.6
Other neurological diseases	5.5	2.9	2.6	4.0
Polio	2.0	0.0	0.8	1.2
Malnutrition	0.5	1.2	1.9	1.0
Prematurity	1.3	0.0	0.0	0.6
Other or unspecified infectious disease	11.8	7.6	9.6	10.2
Indeterminate	12.2	11.7	5.9	10.9
Total	100.0	100.0	100.0	100.0
No. of deaths	185	80	113	381*

*Three children had unknown ages at death; all died from indeterminate causes.

The CDC study continues to examine child deaths by means of describing symptoms reported to be present among children before death in order to eliminate "the potentially hazardous step of trying to determine actual causes of death." The proportions of children dying who exhibited symptoms related to the most common causes of death are shown in Table 2 on the next page.

The study suggests that treatment for symptoms as well as root causes might have prevented some of the deaths; the number of measles-related deaths, for example, might have been reduced by effective treatment of the dehydration caused by diarrhea which occurred as a complication in 51 percent of the deaths.

A 1989 MOPHSA study regarding midwife training included an assessment of the public's (mostly women) awareness of major health problems among children. The diseases and symptoms cited, including diarrhea, respiratory problems, malaria, fever, skin problems, and vaccine preventable diseases, were remarkably similar to the problems identified in the 1982-83 Sine Saloum study and seemed to indicate good general awareness of and little change in major health problems among young children over the last several years.

The 1989 MOPHSA study also identified poor sanitation (personal hygiene, presence of flies), poor nutrition, and lack of health care as major factors associated with the previously cited health problems.

Table 2

Percentages of children no longer alive, born since 1977, who reportedly exhibited selected symptoms, by age at death: Sine Saloum Family Health Survey

Reported symptoms	Age at death			
	Infants	1 year	2-4 years	All < 5 years
Fever	74.5	86.6	89.2	81.4
Diarrhea	40.2	61.1	61.1	50.7
Cough	35.9	45.3	39.9	39.0
Rash	10.8	18.9	16.8	14.3
Fever and diarrhea	33.8	54.6	57.2	45.1
Fever and cough	28.8	39.7	39.9	34.3
Fever and rash	9.6	18.9	16.8	13.7
Diarrhea and cough	17.0	32.6	32.0	24.7
Diarrhea and rash	8.4	12.2	13.7	10.8
Cough and rash	5.3	15.4	11.7	9.3
Fever, diarrhea and cough	22.8	14.8	32.0	22.8
Fever, diarrhea and rash	7.8	12.2	13.7	10.5
Fever, cough and rash	5.3	15.4	11.7	9.3
Diarrhea, cough and rash	4.7	9.7	9.4	7.1
No. of children	181	79	110	370

Other studies have shown that the incidence of diarrhea among young infants is highly correlated with failure to breastfeed exclusively during the first four to six months of life and to inadequate handwashing by the mother. More generally, child survival is closely associated with female literacy and access to potable water. In Senegal, only 38 percent of the rural population has access to potable water and only 19 percent of adult women are literate.

With regard to dehydration, diarrhea, and oral rehydration specifically, a 1989 knowledge, attitudes, and practice (KAP) study showed that 62 percent of the mothers surveyed had heard of oral rehydration salts (ORS) in packets and 93 percent knew of the home sugar/salt solution (SSS). Overall, oral rehydration therapy (ORT) utilization increased from 7 percent in 1986 to 34 percent in 1989, with 21 percent using ORS and 13 percent using SSS. Use of ORS was concentrated in urban and semi-urban settings, while the use of SSS was similar in all settings. Only 35 percent of the mothers knew that ORT affected dehydration; 55 percent were under the impression that it cured diarrhea. Of the women utilizing ORS, 89 percent could prepare the solution correctly. By contrast, nearly three-fourths of those using SSS mixed the solution incorrectly, tending to add excessive amounts of salt. During episodes of diarrhea, 25 percent of the mothers decreased feeding, and 14 percent increased feeding.

With regard to immunizations, the evaluation of the 1990 mass immunization campaign (discussed in Chapter 4) included a survey of mothers whose 12-23 month old children were not completely vaccinated. The study was conducted to explain the attrition in coverage between series — DPT 1, 91 percent; DPT 3, 63 percent. Very little resistance to the concept of vaccination was detected. Two-thirds of the mothers had some notion of the utility of childhood immunizations,

although some thought that these injections cured illness. Unfamiliarity with the vaccination schedule and the fact that the child was sick were cited as reasons for failing to complete the series. Other reasons mentioned included inconvenience, unpleasant experiences with previous vaccinations, (e.g., reactions), cancellations, poor interaction with staff, negligence, lack of motivation and non-involvement of the father.

Similarly, little is known about knowledge, attitudes and practices regarding respiratory problems, especially acute respiratory diseases, or regarding chemoprophylaxis and the presumptive treatment of malaria among pregnant women and young children.

Maternal Mortality. Though little studied until recently, maternal mortality is a serious problem in the rural areas of Senegal. Several good sources of data, however, provide information on the nature of the problem.

A national study (sponsored by WHO, UNDP, and Columbia University) was conducted in 1988 for the MOPHSA. The study attempted to identify both the extent of the problem and the population at highest risk. Some of the major findings include the following:

- current estimates of the Maternal Mortality Rate range from 500 to 2000/100,000; the study arbitrarily chose 850/100,000 as an indicative figure;
- 69 percent of the women had their first pregnancy at less than 17 years of age;
- in 70 percent of the studied pregnancies the woman's work-load was maintained or increased;
- 1 woman in 5 had more than 6 children;
- 1 woman in 5 was judged to be at high obstetrical risk;
- most women gave birth at home without any assistance; and
- most women did not know any signs of complications — in only 2 percent of the studied pregnancies did the woman decide that she needed evacuation because of a complication.

A study of rural pregnancy care surveillance carried out in the region of Kaolack from September 1984 to September 1985 on 6,911 women who delivered in health institutions produced the following major findings:

- important identified risk factors — extremes in age, parity, previous poor pregnancy outcomes, previous Cesarean section, antenatal anemia, malaria, and hypertension — were correlated with an increased risk of infant perinatal mortality;
- the observed mortality rate was 400 per 100,000 births;
- women over the age of 34 years had an average of 8 deliveries; and
- prolonged breastfeeding was virtually the only method used to space pregnancies.

The Belgian-assisted Pikine Project has noted, additionally, that an estimated 68 percent of known deliveries in its area of operation are attended in the health system, suggesting that more than one-third to one-half are unattended (allowing for a significant number of unreported pregnancies).

Further, MOPHSA statistics show that in 1988, 615 women were medically evacuated to Dakar for five major categories of problems. Figure 4 (next page) summarizes the data, showing that over half of the evacuations were for problems related to delivery. In general, 43 percent of the evacuations were for hemorrhage, anemia, and shock (see Figure 5, next page). These problems were complications in over 70 percent of the evacuations for abortions and post-partum factors. This latter finding is a reminder that the first six weeks of post-partum are the time of continuing risk for the mother and that post-partum visits (ideally two per woman) must be part of pregnancy surveillance.

Figure 4
Evacuations of Women - 1988
 From Pikine to Dakar

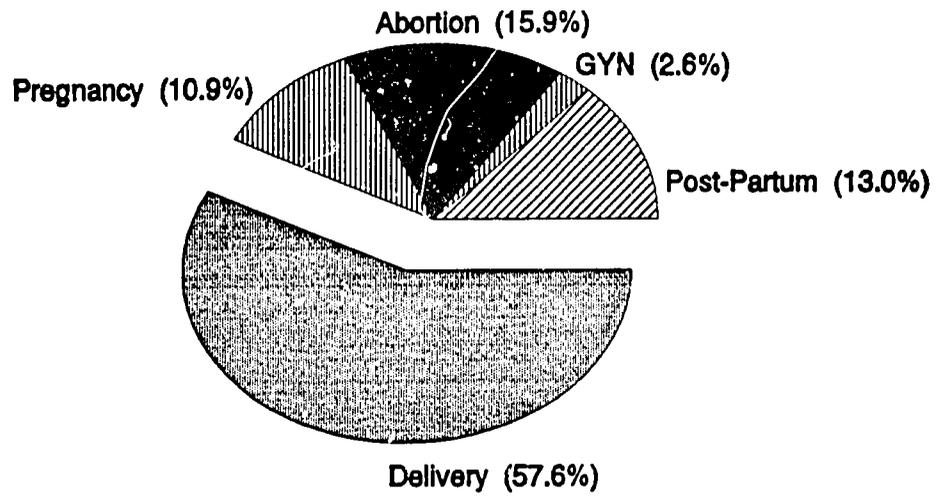
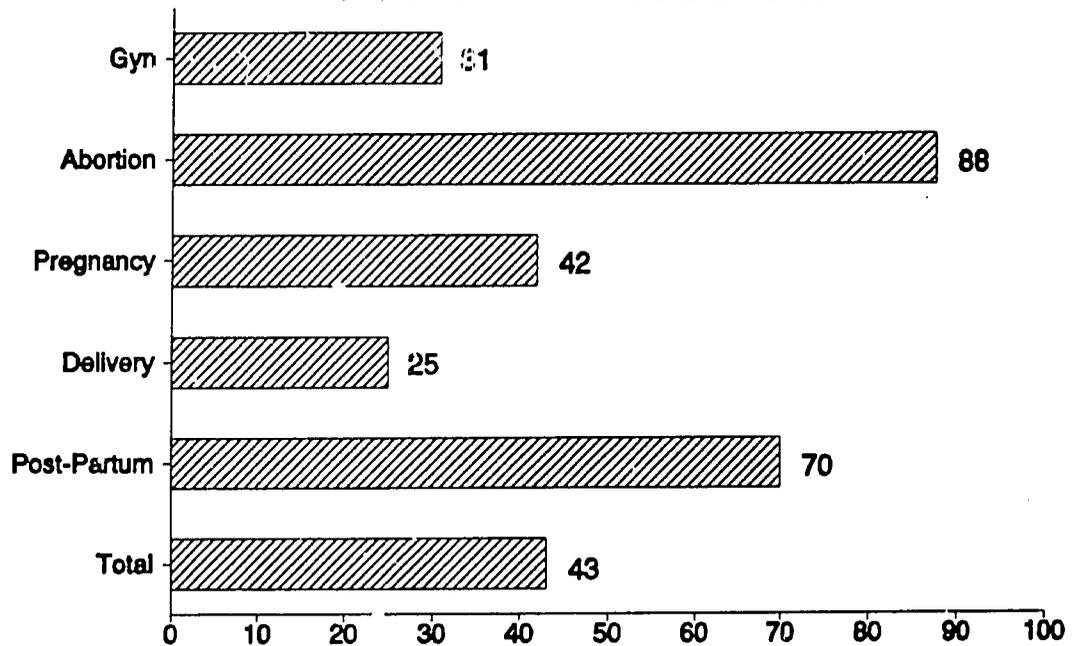


Figure 5
% Med Evacs for Anemia - Bleeding - Shock
 Women From Pikine to Dakar - 1988



The MOPHSA is developing a program strategy to deal with the serious health problem of maternal mortality and will solicit donor assistance in its implementation.

Nutrition. Although data on nutrition are irregular and incomplete, according to the 1986 DHS, Senegalese children aged 1-5 years appear to suffer in significant numbers from underweight and undernutrition. Fully one child in three is underweight by the end of the first year of life. Using the Gomez and Waterlow Classifications, malnutrition is prevalent in from one to two-thirds of all children 2-6 years old. It is estimated further that children aged 1-5 consume only 70 percent of what is considered an average caloric intake requirement.¹

Contributing to this situation are three related factors:

1. Pregnant women are estimated to consume only 85 percent of normal daily requirements.
2. Twenty-four percent of infants 6-11 months old do not regularly eat mushy or solid foods.
3. More than one-half of all infants 0-4 months of age are given water as well as being breastfed.

This last factor contributes to the early prevalence — 40 percent of children under 6 months — and frequency of episodes of diarrhea.

Frustrating the attempt to develop a more complete picture of the nutritional status of the population has been the short duration of nutrition projects, resulting in an inability to provide the data useful for an analysis of the situation.

(See Annex 3 for graphic representations.)

Anemia. Anemia is a public health problem of particular importance for women in the childbearing years and for children under 5 years of age. The causes of anemia include the following:

- Hemoglobinopathies (especially sickle cell disease)
- Nutritional deficits of iron and folic acid
- Malaria
- Infections
- Hemorrhage related to obstetrical problems

Anemia is probably the most common medical problem associated with pregnancy. At the Kaolack hospital in 1985, 38 percent of pregnant women seen were diagnosed as having anemia; this clinical finding is also known to exist among rural women. Almost 6 out of 10 women interviewed in the earlier referenced 1988 Maternal Mortality Study stated that they considered pallor to be a sign of a normal pregnancy.

As far as infants are concerned, iron stores present at birth begin to disappear after four to six months in full-term infants and earlier in premature and low birth weight babies. Some iron is present in breast milk; thus, infants subject to early, abrupt weaning are at added risk. In 1980, studies of children between the ages of six months and five years in the Casamance region and in northeastern Senegal found the prevalence of moderate to severe anemia to be over 50 percent.

¹SANAS, Plan d'Action, 1990.

Sexually Transmitted Diseases (STD). Although reliable national level statistics are lacking, small-scale studies and clinic records provide a general idea of the scope of the STD problem in Senegal. The MOPHSA estimates that 20 percent of all outpatient consultations are for STDs or their complications and that 60 percent of sterility is caused by STDs. The prevalence of gonorrhea is between 5 and 10 percent, syphilis is at 1.2 percent, and chlamydia is at 12 percent. These figures may be low.

In Senegal, the first 6 cases of HIV/AIDS were reported in December 1986; 149 cases were reported by the end of 1988 (0.9 per 100,000). Senegal is a low to medium African country in terms of prevalence and seriousness of the problem, compared to countries such as Congo (57.5 per 100,000), Uganda (11.5), Burundi(13.8) and Malawi (12.0). By the end of 1989, 269 cases had been reported and a rapid expansion is predicted. As in many African countries, HIV/AIDS is probably under-reported.

Overall, the trend in sexually transmitted diseases over recent decades has been toward an increase in the number of recognized major diseases from 5 to about 20. Diseases of public health importance include the following:

- **Gonorrhea** - A study in Pikine in 1980 found 3 percent prevalence in the general adult population, 2 percent in women seen in prenatal visits, and 9 percent in gynecological consultations. There is evidence that penicillin resistance rose from 19 percent to over 50 percent between 1983 and 1985.

- **Treponemal Diseases**

Endemic syphilis - A prevalence of about 15 percent was found in children under 15 in the Senegal River valley in the 1970s, but now the disease is very rare.

Venereal syphilis - Reported cases have decreased from over 60,000 per year in 1973 to less than 4,000 in 1988.

- **Hepatitis B** - This disease is endemic in some areas of Senegal. Sero-positivity in adults has been recently shown to be 12 percent in men and 9 percent in women. Experimental trials of a vaccine were undertaken in 1985.
- **HIV/AIDS** — The total sero-positivity for HIV-1 and HIV-2 varies from a low of 0.6 percent in a healthy population to an average of 16 percent among prostitutes. The rate among prostitutes varies considerably from 7 percent among prostitutes in the city of St. Louis to 37 percent for those in Kaolack. (Chapter 4 provides a fuller discussion of HIV/AIDS.)
- **Papillomavirus** - A study at one of the three teaching hospitals in Dakar in 1987 found this infection in 5 percent of PAP smears.
- **Chlamydia Trachomatis** - At 12 percent prevalence, this disease has been shown to be an important cause of chronic urethritis.

Eye Disease. Diseases of the eye and eyelids are common, particularly in rural areas. Important causes of blindness include trachoma, vitamin A deficiency, and onchocerciasis.

A general health status study of rural children (aged two to six years) in the regions of Diourbel and Fatick (1988) found the following disease prevalence:

Disease	percent
Trachoma	20.0
Inflammatory stage	17.1
Scarring stage	2.9
Conjunctivitis	5.7
Vitamin A Deficiency	
Night Blindness	14.1
Xerophthalmia	2.7
Abnormal Ocular	
Impression	47.0
Corneal Ulcer	0.1
Opacity	
Post Measles	0.2
Other causes	0.1

Senegal is a participant in the international fight against onchocerciasis coordinated by the Organization for Coordination and Cooperation in the Control of Major Endemic Diseases (OCCGE), based in Burkina Faso. The Simulium flies which transmit the disease are known to be present in large numbers in eastern Senegal in the upper valley of the Senegal River, although little data exist regarding incidence.

Gingivo-Dental Health. Diseases of the gums and teeth are widespread in all age groups. Modern dental care is virtually unobtainable outside of Dakar — of the 58 dentists practicing in the country in 1988, 42 (72 percent) were in Dakar. In addition, the problem of fluorosis exists in the region of Kaolack.

Summary of Findings. Because of the lack of reliable data (see Annex 4 for examples of erratic reporting), a thorough study of Senegal's health problems must rely on the availability of good, albeit intermittent, studies. Despite this limitation, it is clear that the infant and maternal mortality rates for the country are quite high and that malnutrition within this population underlies many of the causes of severe morbidity and mortality. Half of infant deaths can be attributed to diarrhea (for which simple treatment is available) and respiratory diseases, followed by tetanus (preventable through proper implementation of the EPI program) and, in the child's second year, measles (again, EPI) and malaria (simple presumptive treatment, in most cases). Maternal deaths are largely a result of a lack of understanding of major risk factors (by both mothers and health workers) and early and clear risk identification, counseling, and treatment (including referral). Sexually transmitted diseases are also prevalent in the country, as are the HIV1 and HIV2 viruses of AIDS.

2. Health and Population Sector Infrastructure

Public Infrastructure

Ministry Reorganization and Redefinition of Roles. Over the last decade the Government of Senegal (GOS) has made efforts to streamline and decentralize government activities (see Chapter 3). As a part of this effort, the two previously separate Ministries of Health and Social Development have recently been joined into one Ministry of Public Health and Social Action (MOPHSA), thus effectively bringing together the GOS's public health and family planning/population activities for the first time. In addition, the number of directorates in the new structure has been reduced from six to three (the others becoming bureaus directly under the supervision and control of the cabinet).

This reform is meant to simplify the decision-making process and to reduce the problems of activity coordination within the central ministry by reducing the "protected territories" and the duplication of services that were sources of friction and blockage in the previous organization. Decision-making power is now at least theoretically concentrated in the three directorates. It remains to be seen, however, if they will in fact decentralize their authority and concentrate on being the impetus for regional action, and if they will focus on coordination, support, and evaluation of plans of action, resource use, and delivery of service in the regions. At present, there is discussion of the need for a regional structure in terms of integration of activities and supervision but no outline has yet been developed. (See Annex 5 for a new [unofficial] organization chart and a simplified schematic of the regional structure.)

The Program Operation Planning Process. Operational planning in the MOPHSA involving the central level and regions has never been a formal, established process. Regular bimonthly meetings of regional chief medical officers and the director and assistant director of the MOPHSA have been held but without a planning or structured agenda. Regions have tried to implement what they were instructed to implement without much feedback or discussion regarding their particular needs. This practice, however, as part of the overall government restructuring and decentralizing efforts, is evolving into a more systematized, decentralized two-way process which is intended to support the regions and departments in initiating the development of their own operational plans. At the same time, the central level is regrouping itself in order to coordinate and guide this decentralized approach more effectively.

A first step in this new direction toward decentralization, and one outlined in the MOPHSA's VIIth National Economic-Social Development Plan in 1984, was the development of a region-initiated, cross-sectoral Integrated Regional Plan that was supposed to provide for developing the needed decentralized and integrated plans. Quickly seeing this approach to be too cumbersome, however, the MOPHSA, through the VIIIth National Economic-Social Development Plan recently authorized and directed the regions and departments to go ahead with the development of their own health plans, and not wait for the development of a fully integrated, cross-sectoral, regional plan. As a result, regional health teams have begun to produce information on the populations in their own coverage areas and to prepare their own health program plans, although without much advisory assistance. This effort has included information on indicators that are necessary for the quantification of objectives, the determination of services and resources needed to meet the objectives, and the measurement of progress made towards the achievement of the objectives. Specific examples of some of these efforts include the following:

- Bulletin Epidémiologique: Plan Régional de Développement Sanitaire. Région de Tambacounda, April 1990.
- Statistiques Sanitaires de la Région de Fatick. Fatick: Equipe Medicale, March 1990.
- Estimations of the obstetrical needs, services, and resources for the Region of Fatick in 1991 (see Table 3 next page).

The results of such efforts show a great variance in understanding of how to approach the task, how to set priorities, and how to analyze resource requirements. Efforts are under way to build the skill level for these activities and a USAID-supported centrally based planning management advisory team (Comité de Suivi) has been organized to provide assistance. Additionally, a modified masters in public health program has been operating to train all chief medical officers in public health administration.

The development of an operational planning capability has been deemed most important by all donors as well as the central and regional governments. USAID has provided important assistance in this process: it has rechanneled unspent rural health project funds to support the development and field work of the centrally organized Comité de Suivi. It has sponsored a workshop and a retreat that brought together medical officers from all the regions and the central level to outline the planning process and to review the preliminary plans developed by three regions: Fatick, Tambacounda, and Diourbel. USAID has also committed funds to be used by the first four regions able to develop "workable" plans that can be implemented over the period 1989-1991. Objectives and plans are to be for a four- to five-year period (ultimately coinciding with the national plans), and are to focus on the departmental level, follow a developed outline, and include medium- and short-term objectives with annual measurable targets. This particular activity, however, is at present stalled, as USAID searches for a mechanism through which funds can be distributed directly to the regions, and as USAID continues to discuss how to better support the efforts of the Comité de Suivi. Therefore, at present, the regions are minimally working on their plans with little or no technical assistance.

Support Services. The recent MOPHSA reorganization has regrouped the support services of training, research, planning, statistics, and documentation, but has not yet outlined new roles or capabilities for their operations. For the time being, it can be assumed that each service will function very much as before; therefore, the outline below discusses each as if this were the case. (The organizational charts provided in Annex 5 show where these functions are placed in the new organization.)

The research, planning, and training services (previously organized as the Division of Research, Plans, and Training) have, together, handled MOPHSA research/studies tasks. In principle, these services were to determine, outline, and endorse the future needs of the MOPHSA with regard to the health system, project plans, research, and the training of personnel. In practice, however, they have had the support and capacity to function as little more than a reviewer of the form and thoroughness of the proposals generated by other MOPHSA offices and of the plans and studies generated by external sources such as the donor community. In any case, these services have not produced focused analyses useful in the implementation of activities at the field level.

Research Service. This office was created to generate, coordinate, and participate where appropriate in all research activity within the MOPHSA. In 1989, the office participated in five research projects or studies: a study on the autonomy of the CHU hospitals; a study on essential medicines; research on the appropriateness of nurse and nurse midwife training with regard to the needs of primary health care delivery; research on the feasibility of family planning activity; and

Table 3

**Health Centers of the Region of Fatick
Estimation of Obstetrical Needs - Services - Resources (1991)**

	Fatick IIC		Gossas IIC		Gulngulneo IIC		Foundlougne IIC		Sokone IIC		TOTALS
	UZ	RZ	UZ	RZ	UZ	RZ	UZ	RZ	UZ	RZ	
Female population	11,099	99,469	5,739	53,240	8,013	20,032	1,997	34,678	5,156	33,432	272,855
Coverage objective	4,440	29,840	2,293	15,972	3,205	6,009	799	10,403	2,062	10,030	85,053
Women (15-49 years)	2,220	14,920	1,147	7,986	1,603	3,005	400	5,202	1,031	5,015	42,527
Live births/year	426	2,865	220	1,533	308	577	77	999	198	963	8,165
Adjusted live births/year	569	2,721	296	1,457	337	548	127	949	246	915	8,165
Prenatal visits/year	1,707	8,164	888	4,370	1,011	1,644	381	2,846	738	2,744	24,494
Women with high ob. risk	142	680	74	364	84	137	32	237	62	229	2,041
Post-natal visits/year	1,138	5,443	592	2,913	674	1,096	254	1,898	492	1,829	16,329
Cesarian sections	17	82	9	44	10	16	4	28	7	27	245
Present Personnel (1988)											
Physician	1		1		1		1		1		5
State Mid-wife	6		3		2		3		2		16
Nurse-head of health post		21		8		4		6		8	47
Necessary Personnel											
Hours of service to provide											
Necessary to meet needs	6,259	29,935	3,256	16,023	3,707	6,028	1,397	10,436	2,706	10,062	89,810
Person equivalents needed	3.8	18.1	2.0	9.7	2.2	3.6	0.8	6.3	1.6	6.1	54.2
Necessary material											
Live births/day	1.6	7.5	0.8	4.0	0.9	1.5	0.3	2.6	0.7	2.5	22.4
Maternity beds needed	12	26	8	16	8	8	5	12	7	11	
Transportation needs											
Distances (Health Post-Health Center)	844 Km + 1 Isle		292 Km		46 Km		319 Km + 4 Isles		231 Km + 1 Isles		
Distance (District Center to Hospital) (Round trip)	90 Km		90 Km		50 Km		150 Km		110 Km		

HC = Health Center UZ = Urban Zone RZ = Rural Zone

research on the training of matrones (traditional birth attendants). These research activities were all carried out in collaboration with personnel from other offices of the former Division of Research, Plans, and Training, other MOPHSA divisions, and with the financial or technical support of WHO and USAID. The office has no funds to conduct studies itself.

Planning Service. This office has been subdivided to handle four functions: general project planning, project studies, organization and evaluation of project documents, and following the progress of these projects. A 1989 study done by OCGR (an expatriate research group) revealed three major causes of difficulty encountered by this office in the fulfillment of its functions: 1) planning documents were insufficiently complete and project chiefs not consistently identified, making it difficult to obtain status reports; 2) the training of division personnel was adequate, but there were too few personnel to manage all of the projects needing review and follow-up; and 3) the office had inadequate space, materials, and equipment. Additionally, the study noted that most project plans went directly to the Ministry of Plan without coming to this office for review. The recent MOPHSA central reorganization has not outlined any changes to augment the capability of this office.

Training Service. This office has focused on three major types of activity: 1) organization of competitions for entrants to the School of Nursing (which accepts about one in 100 applicants), as well as the arrangement of rural internships for these students (which activity occupies most of the time and attention of staff); 2) establishment of the policies of the paramedic schools; 3) establishment of training requirements for positions and organization of the field stages and sessions of these trainings; and 4) supervision of the assignment of scholarship students to international study assignments. This latter responsibility is frustrated by the ability of other MOPHSA offices to work directly with donors independently of the training office, thereby reducing its role to that of a passive facilitator of these decisions.

Statistics Service. This office focuses on the development and maintenance of a large organized data bank which is periodically published in the form of the Statistique Sanitaire (e.g., 1986-1988 data were published in 1990). The data are principally collected from health center activity reports at all levels of the public health system. This office also collects and collates data for use in the project development (planning) activities of MOPHSA departments, and stores, analyzes, and publishes data collected from field studies conducted by the MOPHSA. The office has also assisted USAID in the development of the RAPID series of studies.

Within the last few years the office has received its few computers and the training necessary to use them effectively; it has therefore been able to produce the annual statistical summary for the 1986-1988 period in less than two years — using its old method this task would have taken four or more years. Even so, the office's small staff must still work with a cumbersome and incomplete information system that produces too much data, too irregularly, and without a clear sense of its utility. The office's major problem is the incompleteness of staff training, which prevents a full understanding of the uses of organized data. Examples of this include the lack of "total" figures for categories of data, and the lack of data manipulation in reports to show rates, ratios, etc., which would make the data immediately useful to the medical officer who needs to use it for planning purposes.

Documentation Service. This office (within the overall support services group of activities) attempts to collect and store the MOPHSA's public health research documents. Created in 1979, it did not begin operation until 1986, and only then with the technical and financial assistance of the Canadian government. Currently, it holds 972 studies and 49 evaluations. Frustrating this office's efforts to collect and catalogue documents is the fact that each division in the MOPHSA keeps its

efforts to collect and catalogue documents is the fact that each division in the MOPHSA keeps its own documents. Further, the office is poorly located to be accessible to all MOPHSA divisions. Nonetheless, the 1989 OCGR study found the office to be staffed by a qualified and capable person and to have the potential to become a useful central storage facility if attention were paid to providing it with a better location and proper equipment. With the reorganization of the MOPHSA, it is not clear where this office will be placed.

The Health Information System. Although a key management tool, the current health information system is cumbersome and data-heavy. A series of recent management information studies has shown that

- the multitude of reporting systems from the health hut level to the national level generate numbers that are not generally useful because they are incomplete, of variable quality, nonstandardized, often late, and unrelated to the calculation of pertinent indicators;
- there is a lack of adequate training, supervision, and motivation of field personnel; frequent absence of basic recordkeeping supplies; and rare feedback of analyses, interpretations, and recommendations to those who generate the data from day to day; and
- at the national level there is a lack of coordination of the various departments that collect and analyze data; this has resulted in the lack of a reasonably functional system for the analysis, interpretation, dissemination, and archiving of health statistics.

Despite this situation, considerable effort has been made in recent years by the MOPHSA and its partners to diagnose its information needs and to develop and execute a strategy and action plan aimed at the long-term goal of modern management of the public health sector. Accomplishments to date include the following:

1. An increasing number of health personnel, ranging from nurses in charge of health posts to regional physicians and statisticians, and key national decision makers, have received and are continuing to receive training in public health management and statistics. Training has been both short and long term, national and international. Examples of training include regional workshops on health statistics in general; workshops for specific programs such as the EPI and family planning; introduction of statistical training into the schools of nursing and midwifery; short-term management training, including an introduction to computers; long-term public health training in North America and Europe at the masters and doctoral levels; and public health training at the Institut de la Santé Developpement at Mbour (which awards the Certificat d'Études Supérieures en Santé Publique).
2. New reporting forms for health posts and health centers have been created; an accompanying reference manual is to be produced in a forthcoming workshop. These documents will undoubtedly be revised as the regions and operational districts gain experience regarding what is really feasible and useful for their information needs.
3. An action plan for the improvement of the health information system through 1993 has been proposed with specific objectives related to standardization of reporting forms; training, assignment, and supervision of personnel; and periodic evaluations of the health sector based on the routine reporting system and operational research.

4. A proposal for the reorganization of the Division of Health and Demographic Statistics at the MOPHSA calls for three sub-divisions: an office of studies and surveys, an office for the follow-up and coordination of the activities of health institutions, and an office for the establishment and management of a data bank.

5. Special attention has been given to the needs of maternal and child health programs in information system design and has led to the following accomplishments:

- With the assistance of Columbia University, the MOPHSA and the Faculty of Medicine at Cheikh Anta Diop University, Dakar, have developed and submitted to USAID a joint proposal to make management, operational research, and computer training (with an emphasis on maternal and child health (MCH) and family planning) a part of the formal medical school curriculum. Theoretical training would be supplemented with supervised field experience.
- Evaluations of the USAID-funded Family Health and Population project family planning centers have been carried out and have resulted in numerous recommendations for improvement of the information system. For example, it has been determined that the attempt to classify contraceptive users into active and inactive groups has not worked very well.
- The program strategy aims to achieve a reduction in maternal mortality and calls for an improvement of the reporting system including the identification and follow-up of women at risk, the introduction of a checklist to monitor labor, and improvement of the reporting system for medical evacuations. The traditional birth attendant training program based in Khombole has had considerable success using home-based records for the surveillance of pregnancy that are kept by illiterate women.

The Activity Supervision, Monitoring, and Evaluation Process. At present the MOPHSA system of program supervision is organized at four levels:

- the community level, at which the health post chief nurse and the nurse midwife at the health center supervise village level activities;
- the departmental level (or health center), at which the nurse supervisor and nurse midwife supervisor work with the chief medical officer of the department and the health post chiefs;
- the regional level, at which the public health medical officer and the primary health care supervisor follow the activity of the regional primary health care programs; and
- the national level.

(See supervisory organizational charts in Annex 5 for a visual representation of the process.)

A 1989 supervision study carried out by the PRICOR project noted the following systemic problems: 1) unclear definitions of functional responsibilities and work objectives for personnel; 2) unclear functional and hierarchical relations, allowing directives to come from several levels and, at times, conflicting sources; and 3) the selection of supervisors tending to be on the basis of experience, charisma, or criteria that are not always pertinent to the job. In addition, without general activity

guidelines or standards, supervisors have been free to interpret their jobs in a variety of ways. With little or no training pertinent to their supervisory jobs, the competence of agents with regard to the management of programs has been less than adequate.

Through the PRICOR project, USAID is currently helping the MOPHSA to develop and field-test job descriptions and a supervisory guide for departmental supervisors; to develop and test a training course for departmental supervisors; and to study the general management process at the departmental level (focusing on planning and the conduct of supervisory visits) in order to develop a more integrated and operative system.

Activity monitoring and evaluation are carried out within the broad, generalized context of the supervisory activity. No activity objectives, etc., exist formally at the subregional and service delivery levels; therefore, monitoring and evaluation remain undeveloped aspects of an overall activity managing process.

Staff. In 1989, the Ministry of Finance calculated that there was a total of 5,835² regularly salaried staff working in the MOPHSA, without knowing with accuracy the geographic placement of all staff. The number includes some 407 doctors, 934 nurses, and 474 nurse midwives. To this total should be added 167 staff detached to the MOPHSA from the armed forces and other ministries and an additional figure of 114 foreign technical assistants in all categories. Finally, although there are no figures available on either the number of private voluntary organization staff contributing to the delivery of health services or the number of municipally recruited staff (such as nurse-aids, drivers, guards, and workers), they should also be added to the number of staff working in the public health sector.

In 1988, for every 100,000 people in Senegal there were 6 doctors, 2.9 pharmacists, 34.6 nurses and health workers, and 27.2 midwives. (Annex 5 shows the official staffing patterns of the health system in rural areas and the distribution of personnel throughout the system with attention to staff/population ratios.)

Once trained, staff are appointed by the MOPHSA at the central level (without the benefit of a needs analysis system) with the result that personnel are currently maldistributed throughout the system and employees are frequently relocated by the MOPHSA without coordination with the areas affected. Individuals completing long-term training are frequently placed in positions not requiring their newly acquired knowledge and skills.

In addition, the tendency is for professionals to find a way to be posted in cities and, especially, in the Dakar region. Two recent studies³ of the distribution of personnel have shown that the majority of personnel are located in this region (which accounted in 1990 for only 1.6 million of a 7.3 million population or 22 percent) leaving, at times, shortages of key personnel in the other regions and outlying areas of the country. The studies show 62 percent of salaried medical officers, 50 percent of nurse midwives, and 39 percent of nurses to be located in the Dakar region. Seven health centers, four of which are in regional capitals (Ziguinchor, Tambacounda, Thies, and Diourbel), are left without doctors. The distribution of nurse midwives is more uneven and their

²This number represents a 12 percent decrease in all levels of employees from 1988 figures listed in the 1989 Politique Nationale de Santé. It was reported in the CESAG 1990 study (Annex 11-2).

³CESAG, 1990 and Unger, 1989. (Annex 11-2 and 11-13)

availability appears to be inversely proportional to the distance from Dakar and other major cities or the centers of posting. Approximately 5 percent of the health posts are nonfunctional because of the absence of assigned staff.

In its discussions with the GOS, the World Bank (at present, a major influence because of its intention to initiate a \$50 million project in human resource development in health, population, education, and youth) has insisted upon the development of a national plan that includes standardization of staffing patterns and a mechanism for the orderly recruitment, training, supervision and redeployment of personnel, thereby reducing inter-regional disparities. To aid in that effort, it initiated the two above-mentioned studies to propose alternative solutions to the uneven distribution of personnel and facilities. Because the alternative solutions proposed have proved to be controversial and because discussions between the GOS and interested donors have not resolved the issue, the GOS intends to organize a commission to study the alternatives with the chief medical officers (and their staffs) of each region before any action is taken. Donor input will also be sought regarding the feasibility of various alternatives and any technical/financial assistance required.

Training. There are three principal training institutions in Senegal for the training of key public sector health personnel:

- School of Medicine, Pharmacy, and Dentistry at Cheikh Anta Diop University in Dakar, which has been under the budgetary control of the Ministry of Finance. Of those who graduate, most have been on national scholarship and have, therefore, to work in the public health sector for a period of five years to fulfill their obligation. They have officially not been allowed to engage in private practice before serving this tour. Pharmacists are exempted from this payback system. The current number of graduates reflects a decrease in subsidized training due to personnel cutbacks in the MOPHSA, a backlog of unemployed physicians and dentists who have yet to perform their public service commitment, and the fact that the MOPHSA can no longer guarantee jobs to graduates.
- National Nursing School (École Nationale des Infirmiers et Infirmières d'État), a three-year program which has produced 1,385 Senegalese nurses since first opening its doors in 1951 as the first international vocational school in the region. In 1967, its curriculum was revised to include public health and the length of study was changed from two years to the current period of three years. Four months over the three-year period are used for a field practicum in rural areas. In 1983, a primary health care curriculum was introduced with the objective of training a multi-faceted nurse capable of providing care at all levels of the health system and capable of supervising and training community health agents (agents sanitaire communautaire). In 1988 the school graduated 29 nurses.
- Nurse Midwife School (École des Sages-Femmes) graduated a class of 94 in the 1988-1989 period, up from its original class of 4 in 1956. Entrance is by competition with the Diplôme du Brevet de Fin d'Études Moyennes the minimum requirement. More and more, however, applicants have a bachelors degree (75 percent of the new entrants in 1989). To date, the school has graduated 686 nurse midwives from its three-year program. Family planning was added the curriculum in 1987. (See Table 4 next page.)

Other institutions and trainings include the following:

- Military Health School in Dakar, which was established in relation with the University of Dakar at the French-operated military facility (Hôpital Principal). Following graduation, students are required to serve a period equal to that of their schooling and an additional ten years. This includes

Table 4

Number of Graduated Students, 1979 to 1988

		State Midwives	State Nurses	Sanitary Agents
1979	Admitted	19	100	110
	Graduated	40	60	49
1980	Admitted	52	100	100
	Graduated	40	55	48
1981	Admitted	46	***	***
	Graduated	21	53	71
1982	Admitted	50	***	***
	Graduated	40	91	72
1983	Admitted	49	***	***
	Graduated	48	91	64
1984	Admitted	26	—	***
	Graduated	45	—	64
1985	Admitted	20	***	***
	Graduated	40	85	113
1986	Admitted	30	35	—
	Graduated	54	75	48
1987	Admitted	30	35	—
	Graduated	30	111	43
1988	Admitted	25	30	—
	Graduated	24	29	—

Source: MOPHSA (DRPF)

one year of service in the military health corps, additional service in the military or public health corps, and possibly some further professional training.

- A traditional midwife training program at Khombole, is associated with the Department of Pediatrics, Faculty of Medicine. Participants are put through a training program in sanitary birthing techniques. UNICEF and WHO have supported this activity in the past. It is not clear how it is being funded at present.

- Until its recent closure, a Health Agent School (École des Agents Sanitaires) taught a two-year course emphasizing concepts of hygiene, food storage, and sanitary legislation. Its uniformed graduates served in the National Hygiene Service Brigades as food inspectors and were located at the regional and departmental levels and were particularly effective during epidemic periods because of

their military-like organization. They were effective in dealing with the cholera epidemic in 1987 and the northern border refugee problem in 1989. They have also effectively assisted the EPI program's social mobilization efforts.

At present, there is no formal, government-supported system for in-service training.

In addition to the Senegalese schools that offer basic training of health personnel, donors have developed their own types of retraining programs to prepare personnel for work in their various projects; most of these programs have been rural and primary health care oriented. Selected individuals have also been sent abroad for short, specific training courses or for longer, formal graduate degree training in the public health field. Decisions with regard to the most appropriate type of training have generally been made by the donors with GOS concurrence.

Several studies have recently examined the appropriateness of the existing basic curricula at GOS schools with regard to the actual situation in the country's health centers and health posts. The results can be generalized as follows:

1. Doctors feel a strong need for a better orientation to their rural environment, with particular attention to their role in the general management of their staffs and offices and in their contact and work with community groups. Most doctors feel that what they have learned regarding the realities of their jobs has come from on-the-job experience and donor-sponsored orientations and seminars on various job-related subjects.
2. Nurses feel that training which emphasizes national priorities is weak with regard to delivery of primary health care services. Their basic training emphasized curative, hospital-based medicine rather than the public health needs of rural populations.
3. Nurse midwives feel they have little time for community needs, management concerns, and little preparation in how better to organize and plan their activities. They feel they are poorly prepared to detect and treat high-risk pregnancies and to teach preventive care, in general.

A number of activities are under way to address these problems. The MOPHSA has released, as part of its stated National Health Policy and as a result of discussions with the World Bank and other donors regarding training needs, a National Training Plan for the period 1990-1994. The plan correctly characterizes the major issues regarding the training situation as follows:

- The lack of a budget to assure continued training of personnel (donors now fill the need);
- Training is not a "systematically planned" activity;
- The absence of follow-up to utilize competencies in the field;
- The lack of precise tracking of personnel, training received, and field placement; and
- The inappropriateness of basic training to field service needs.

The plan then lists additional training needs in an attempt to address the gap between the basic training of personnel and the performance needs of personnel in the rural facilities where primary care is given. Despite its ambitious outline, however, the plan offers neither an analysis of these

issues nor an analysis of job-specific needs, and looks very much like a list or catalog of short- and long-term, domestic and international training preferences.

In addition to the MOPHSA plan, USAID, through its Rural Health Delivery Services II/ Child Survival Project, is providing a grant to Tulane University and Morehouse College of Medicine to improve the institutional capacity of the recently created Institut de Santé et Développement (ISD). This institute is the outgrowth of an earlier attempt to organize an institute of public health at the University of Cheikh Anta Diop during the period of the IInd National Economic-Social Development Plan (1965-1969). The ISD offers the only masters-equivalent degree in public health in the country. Graduates from the program will be awarded the Certificat d'Étude Supérieur, which is a degree recognized throughout West Africa and will count toward promotion for those in public health service. The program is presently offered only for physicians and is expected to train 20 Senegalese physicians during the first two years. USAID is committing \$1,100,000 to the activity.

Training is conducted at the Institute's training center in Mbour, which was constructed through donations from ENDA, UNICEF, WHO, and other sources. Physicians rotate through six modules over a two-year period (divided between two weeks at the center and two and one-half months of practicum at their permanent posts, followed by a further two weeks of critique and evaluation back at the center). Physicians are absent from their health posts a total of only three months per year during which time they are to be replaced by seventh-year medical students, who are capable of carrying out the physician's clinical duties. Priority is given to physicians who currently are departmental chief medical officers. The USAID grant period ends June 30, 1991, at which time approximately one-half of the chief medical officers will have been through the training.

In addition to the above-listed activities, interest in addressing training needs is broadening to include a curriculum revision plan that has been proposed for the medical school, which would introduce medical officers to modern management and data analysis techniques in their last year of studies.⁴ The director of the School of Nursing at Cheikh Anta Diop University in Dakar has also expressed interest in curriculum redesign activity.

Finally, USAID, during the 1990-1991 period (using redirected rural health project funds), will provide a short-term health training specialist and a public health specialist to assist faculty at the schools of midwifery and nursing in the revision of selected curricula. This revision is needed to provide training for paramedical personnel that is more in line with a national health policy emphasizing primary health care.

Health Facilities. The Senegalese health infrastructure consists of public facilities operated by the MOPHSA, municipalities, and the military. There are also private non-profit facilities such as the health posts operated by the Catholic Church and the Red Cross; private for-profit entities such as the Clinique Pasteur; and physicians, nurses, and midwives in private practice.

The three university teaching hospitals (Aristide Le Dantec, Fann, and Albert Royerare), which are located in Dakar, contain a total of 1,590 beds, nearly 40 percent of all the hospital beds in the country. Other key facilities include the National Institute of Hematology, the National Prosthetic Center, and the Institute of Social Hygiene. The 663 bed Hôpital Principal, a military

⁴See Columbia University unsolicited proposal: "Projet de Formation et de Développement Institutionnel Pour le Renforcement des Services de Santé Maternelle et Infantile et de Planification Familiale."

facility staffed by French and Senegalese army physicians, is also situated in Dakar, and serves the military and private patients on a fee-for-service basis.

The country is divided geographically into 10 administrative regions each with its own health program. Each program is under the authority of a regional medical director (Médecin-chef de Région) who is responsible for the planning and implementation of the regional health program (see Figure 6, below).

The regional medical director is also responsible for the operation of the regional hospitals, except in Fatick and Kolda where there are no such facilities. Regional hospitals are the most peripheral level facility that may provide specialized medical services such as obstetrical and gynecological surgery; general surgery; ophthalmology; ear, nose, and throat; and dental care should specialists be available.

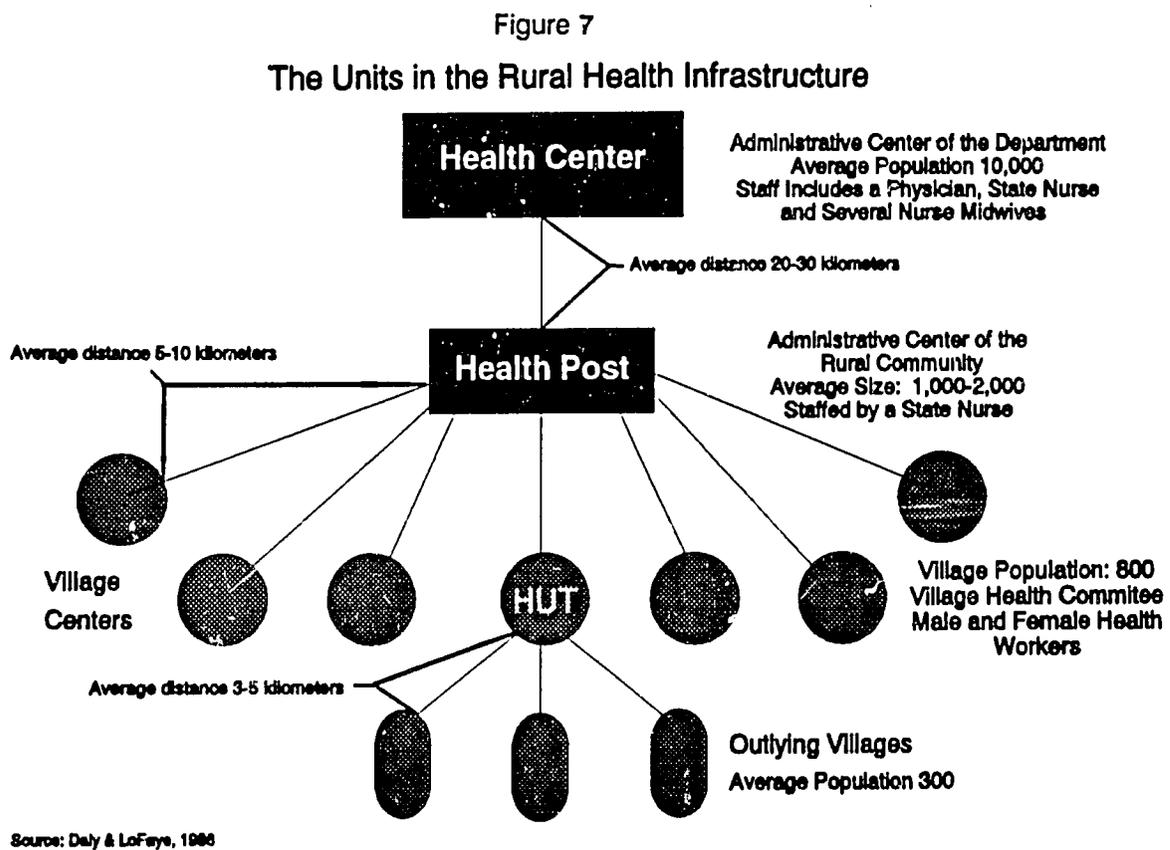
Figure 6

Senegal Health Care Infrastructure

National Level (Dakar)	Ministry of Health and Social Action
	Staff: Varied senior military and MOPHSA physicians and other officers
10 Regions (of about 600,000 population)	Regional Hospitals
	Staff: Headed by chief Medical Officer with various supervisors
30 Departments (of about 15,000 population) Medical Circumscriptions	47 Health centers (Centres de Santé) many with MCH centers and maternities
	Staff: Headed by MD with midwife and other parastaff
Arrondissements (of 15-20,000 population)	659 Health posts (Postes de Santé) some with rural maternities
	Staff: Headed by male nurse (Chef de Poste)
600 Village Communities (of about 1,000 each) Community councils support and finance	1,373 Health huts (Cases de Santé)
	Staff: Environmental health worker and/or midwife

Each region is divided into three departments served by one or more health centers (Centres de Santé). Most of these centers are, in essence, small hospitals with 20-30 inpatient beds, a maternity unit, and laboratory and X-ray facilities. The centers are usually staffed by several clinical and support personnel under the direction of the medical director (Médecin-chef de Centre). Center services include general hospitalization, complicated obstetrical deliveries, treatment of medical and surgical emergencies, and family planning services. The provision of these services is contingent upon the availability of appropriately trained staff. There are currently 47 public health centers. There are also 25 private polyclinics which provide ambulatory care, general hospitalization, and obstetrical care. Nineteen (75 percent) of these private clinics are located in Dakar.

Each public health center supervises about 12 health posts (Postes de Santé). The health post is directed by the health post nurse (infirmier-chef de poste) who should be assisted by a trained midwife (sage-femme) responsible for the rural maternity center attached to many posts.



The health post is considered the point of initial contact between the patient and the public health care system. Services include primary curative services, supervision of chronic illnesses such as tuberculosis and leprosy, prenatal care, well baby care, vaccinations, nutritional care, and, in some posts, family planning.

There are 659 health posts, about 95 percent of which are functioning. Most of these are operated by the MOPHSA. Of the remainder, 59 are municipally owned and 85 are private non-profit, 68 of which are Catholic. The Catholic health posts tend to be larger and better staffed, and are located mostly in rural areas. Although they constitute less than 10 percent of the health posts in the country, they generated 600,000 visits or 40 percent of all visits reported by health posts in 1988. In addition to the above, there are 47 health posts and 32 infirmaries in the private for-profit sector, but little is known about their capacity or the quality of the care they provide.

There are also 1,373 health huts at the community level. These function to some extent as an extension of the MOPHSA system but are not considered part of the formal MOPHSA system. They are rudimentary structures staffed on a part-time basis by volunteer community health workers and/or traditional birth attendants (agents de santé communautaires and matrones) who are supervised by a health post nurse who may visit the hut on a more or less regular basis. The frequency of such visits ranges from one per month to one per year. Health hut staff provide basic health services such as dispensing aspirin and chloroquine, treating minor health problems, and assisting with uncomplicated deliveries. The village health workers are also supposed to perform a variety of health promotion activities such as health education and environmental sanitation.

In addition, there are 2 hospitals, 13 garrison health centers, 12 family health centers, and 11 garrison health posts operated by the armed forces for military personnel and their families. These facilities also serve civilians in the area.

Table 5
Public Sector Facilities

	1960	1980	1988
Population	3,110,000	5,563,000	6,893,000
Hospitals	7	12	16
Hospital Beds	2,400 (est.)	3,523	5,179
Pop/H. Bed	1,300	1,580	1,650
Health Centers	34	35	47
Pop/H. Center	91,500	159,000	147,000
Health Posts	201	376	659
Pop/H. Post	15,500	14,800	10,500

Source: National Health Policy, 1989
Health Statistics, 1987-89

As shown in Table 5, the GOS has attempted to improve the availability of health services by continually expanding the network of health facilities. Despite the increase in the number of hospitals and the total number of beds, however, there has been a rise of over 25 percent in the population per bed ratio over the last 30 years. Similarly, the growth of the health center network has been outpaced by the rate of population growth. Only at the health post level has there been a reduction in population per facility. The GOS estimates that the existing system of public facilities provides access to only 40 percent of the Senegalese population.

Table 6 on the next page reveals that the national averages obscure significant regional variations in population served per facility. Although Dakar is undoubtedly well served by hospitals relative to the remainder of the country, over one-fourth of the hospital beds are accounted for by the Hôpital Principal which only serves the military or those able to pay. A patient origin study would be required to determine to what extent Dakar's hospitals are truly national, serving the entire country and to what extent they are utilized by the residents of Dakar. A similar study would indicate to what extent hospital beds in St. Louis are actually utilized by the residents of the entire region.

As shown in Table 6, variations in population and geographic area per health center and health post also suggest that population alone is not a sufficient basis for locating health facilities. With a population of 95,893 per health center, Tambacounda appears better served than Dakar with a population of 214,351 per center, but in Tambacounda the service area covers nearly 15,000 square kilometers. Similar differences exist with respect to health posts. Tambacounda again appears well served with 1 post per 5,725 habitants but these are spread over nearly 900 square kilometers. By contrast, Dakar has a ratio of 19,237 inhabitants per health post, but these are concentrated in an average service area of only 7 square kilometers.

Operating budgets are inadequate to cover the routine maintenance and repair of facilities and equipment. As a consequence, facilities usually deteriorate until funds (usually foreign assistance) become available for renovation and repairs. The problem with equipment can be more critical, with necessary patient care equipment and vehicles, such as ambulances, frequently being nonfunctional.

In attempting to allocate its inadequate resources in order to best serve its population, the GOS is faced with a classic equity-efficiency issue: should resources be distributed to equalize access to health care, however inadequate that may prove to be, or should these resources be allocated so as to achieve the greatest possible volume of services by concentrating services in areas of higher population density with fewer logistic problems?

As mentioned above, the World Bank has recently concluded a major study of the distribution of health facilities and is currently negotiating plans with the MOPHSA for a major restructuring of the health facilities network based on equalizing the population to facility ratios throughout the country. These plans include a comprehensive facilities construction and renovation program. Also, within the context of its redirected Rural Health Project II funds, USAID has proposed the renovation of 20 health facilities in accordance with regional health development plans. At this point, however, the MOPHSA lacks sound planning criteria and guidelines for improving access not only to facilities but to specific health services based on population per facility ratios, and on population density, travel distances, and geographic area.

Health Services Utilization. It is currently impossible to obtain an overall picture of health services utilization without conducting a special study. Data are not routinely collected on services provided by the private for-profit sector. Services of private non-profit clinics, such as the Catholic health posts, are included in the MOPHSA reporting system, but MOPHSA officials indicate that reporting compliance among their own facilities is only 60 percent. Apparent variations in regional utilization may be due entirely to problems in data collection.

Problems in data validity are clearly demonstrated in the following table, taken directly from Situation Économique, edition 1988, released in late August 1990, by the MOPHSA Division of Statistics. The latest year included in this table is 1985. Fragmentary data included elsewhere in the document reflect a reporting compliance of less than 40 percent for 1987 (see Table 7, page 33).

Table 6

Distribution of Health Facilities by Region

	Dakar	Diourbel	Fatick	Kaolack	Kolda	Louga	St. Louis	Tamba	Thies	Zig.	Total
Population	1,500,459	616,184	506,844	805,847	593,199	489,529	651,206	383,572	937,412	398,067	6,881,919
Area (Sq. Km.)	550	4,359	7,935	16,010	21,011	29,188	44,127	59,602	6,601	7,339	196,722
Pop/Sq. Km.	2,728	141	64	50	28	17	15	6	142	54	35
Hospitals	6	1	--	1	--	1	3	1	2	1	16
Beds	2,565	139	--	335	--	113	515	115	311	86	4,179
Pop/bcd	585	4,435	3,920	2,405	--	4,330	1,265	3,335	3,015	4,630	1,650
Health centers	7	4	5	4	3	4	4	4	9	3	47
Sq. Km./H Center	79	1,090	1,589	4,002	7,004	7,297	11,032	14,900	733	2,446	4,186
Pop/H Center	214,351	154,046	101,369	201,362	197,733	122,382	162,802	95,893	104,159	132,689	146,424
Health Post	78	46	58	63	48	59	101	67	71	68	659
Sq. Km./H Post	7	95	137	254	438	495	437	890	93	108	299
Pop/H Post	19,237	13,395	8,739	12,785	12,358	8,297	6,448	5,725	13,203	5,854	10,443

Table 7

Hospital and Health Center Utilization

Year	Bed	Admissions	Hospital Days	Patients	Visits	Occupancy
1962	4,292	106,000	980,000	3,395,000	7,838,000	63%
1964	4,805	113,000	1,206,000	3,094,000	8,329,000	69%
1966	4,976	151,000	1,410,000	3,926,000	11,634,000	78%
1968	5,077	121,000	1,240,000	3,579,000	10,053,000	67%
1970	5,397	120,000	1,255,000	3,489,000	9,155,000	64%
1972	5,453	146,000	1,351,000	3,789,000	10,073,000	68%
1974	5,722	150,000	1,260,000	***	***	60%
1976	6,025	156,000	1,436,000	3,872,000	10,966,000	65%
1978	7,092	203,000	1,944,000	3,853,000	12,255,000	75%
1980	***	76,000	498,000	1,861,000	4,407,000	---
1982	***	59,000	513,000	867,000	2,800,000	---
1984	***	63,000	624,000	2,150,000	4,464,000	---
1985	7,510	60,000	636,000	2,474,000	5,088,000	23%

Source: MOPHSA (DRPF)

The total number of beds reported for 1985 is 7,510, but other MOPHSA reports indicate a bed total of less than 6,000. If one looks at utilization trends over time, the most dramatic change is the discontinuity between 1978 and 1980. According to Table 7, the number of hospitalizations plummeted 66 percent between these two years, patient days dropped 74 percent, and consultations declined 64 percent. Since 1980, reported utilization has been relatively stable, with in-patient occupancy rates of less than 25 percent.

A recent World Bank report⁵ refers to the decline in utilization described above but within a 1978-1985 rather than 1978-1980 time frame. The report states that this decline is attributable to a deterioration in the quality of care. Although this may be true, there are no reliable data to support this conclusion. When questioned about the validity of the report's conclusion, the director of statistics in the MOPHSA stated that he questioned it because prior to 1980 data reporting was even less reliable than it is now. (It is unclear why the MOPHSA continues to publish these data which it knows to be invalid and which can serve little useful function.)

⁵Unger, 1989. (Annex 11-13)

Table 8 provides some insights into the socio-economic mix of patients utilizing the Aristide Le Dantec Hôpital, one of the major teaching hospitals in Senegal.

Table 8
Le Dantec Utilization, 1987

Category	Admissions	Percentage
Indigent	15,950	81.6
Public employees	1,971	10.0
Private employees	1,542	8.0
Other self-paying	82	0.4
TOTAL	19,545	100.0

Over four-fifths of the patients admitted in 1987 were classified as indigent. This may very well be characteristic of the public hospital system as a whole. No information is available on what proportion of the remainder has any form of health insurance. It could be hypothesized that such coverage would probably be low since most individuals with more extensive insurance would select the Hôpital Principal. (See Chapter 5 for a further discussion of the financial aspects of health services delivery.)

Table 9 briefly outlines the utilization of ambulatory services as reported by the MOPHSA. Although these data are subject to the same caveats stated above, they do provide at least a rough indication of the services offered by these facilities.

Table 9
Use of Ambulatory Services, 1986-1988

Category	1986	1987	1988
Health hut	57,457	1,273*	68,328
Health post	708,949	1,124,414	1,422,002
Health center	799,346	1,088,612	967,452
TOTAL	1,565,752	2,214,299	2,457,782

* This low number is most probably an instance of under-reporting.

In 1988, health posts accounted for nearly 60 percent of the visits reported above. The 68 Catholic health posts had a total of 600,000 visits, or an average of 8,800 per facility, while the remaining 591 posts averaged 1,400 visits per facility. Adjusting for a reporting compliance of 60 percent, this average is increased to 2,300 visits per health post. By contrast, the 47 health centers averaged 20,600 outpatient visits per year per facility.

The MOPHSA has attempted to determine the leading causes of death and morbidity observed among the patients utilizing its health facilities. The 10 leading causes of death attributable to communicable diseases are shown below.

Table 10
Communicable Diseases, 1988

Ten Leading Causes of Mortality	% of Cases	% of Deaths
Malaria	75.40	44.79
Tetanus	0.11	17.79
Respiratory T.B.	0.44	10.43
Purulent Meningitis	0.06	9.82
Jaundice	0.11	7.36
Meningococcal Meningitis	0.08	5.52
Bacillary Dysentery	2.59	3.07
Amoebiasis	1.17	0.61
Typhoid Fever	0.05	0.60
Pertussis	0.09	—
TOTAL	80.10	100.00

Source: MOPHSA (DRPF)

There is no information on the total number of deaths reported, but a similar report for 1986 showed a total of 376 reported deaths — out of approximately 125,000 deaths per year in Senegal. Again, although these data provide some indication of the leading causes of mortality, the small percentage of total deaths recorded by the system further underscores the need for a comprehensive reform of the health information system.

Finally, anecdotal evidence indicates that the referral of patients from health post to center to regional hospital to university teaching hospital for progressively more comprehensive and complex care as appropriate does not routinely occur. Facilities at each level appear to serve primarily the populations residing in their immediate or general vicinity. Thus, the population of Dakar has much better access to hospital care than the remainder of the country.

Summary of Findings. The overall picture that emerges from a study of the MOPHSA infrastructure is that the process of decentralization now under way needs to be completed and fully implemented. A decentralized reorganization has begun at the central level, but a similar reorganization has not yet begun at the regional level. In addition, numerous activities are under way to resolve shortcomings in the infrastructure overall. These shortcomings include a maldistribution of facilities, staff, programs, and supplies; inadequate training curricula; inappropriate placement of trained personnel; job descriptions unsuited for use in a fully integrated system; incompletely defined program planning needs; support services unlinked to needs in the field; and an inadequate health information system.

Pharmaceutical Distribution System

Senegal's pharmaceutical distribution system has been the object of widespread criticism and the subject of extensive study throughout most of the past decade. A 1983 audit of the Pharmacie

Nationale d'Approvisionnement (PNA), the public sector drug procurement and distribution system, identified the following major problems:

1. Procurement. There are frequent delays in procuring drugs. Drugs are not necessarily obtained from the least expensive sources. Without an essential drug policy, very expensive products and products known to be ineffective have been routinely purchased.
2. Payment. There have been unreasonable delays in paying for supplies. The PNA is several million CFA in arrears. Some suppliers refuse to deal with the PNA until past due bills have been paid.
3. A dysfunctional information system. Some inventory control procedures have not been updated in over 50 years. Records are poorly kept and the system is currently unmanageable.
4. Stock Outages. As a result of poor inventory control, the system is plagued with frequent stock outages, requiring emergency purchases from more expensive sources.
5. Poor inventory control/procurement practices at the health facility level. These have tended to compound the problems experienced by the PNA.
6. Irrational prescriptive practices, e.g., use of ineffective drugs, over-prescribing, and failure to use the most cost-effective drug have placed an additional strain on already inadequate resources.
7. Cost recovery. While fee-generated income has played an important role in drug purchases since 1980, there is considerable leakage in this process. Health facilities and PNA reforms proposed by the World Bank (part of the Bank's recommendations constitute a precondition to be satisfied prior to the implementation of its health/population reform project) and the implementation of the Bamako Initiative⁶ all require a substantial increase in funding from this source. It is unknown whether such an increase is feasible.

Because extensive information is available on this sub-section, discussion here will be limited to a brief overview of the pharmaceutical distribution system.⁷

Supply of Pharmaceuticals. Two pharmaceutical firms based in Senegal provide about 10 percent of the pharmaceuticals consumed in the country. SIPOA (Société Industrielle Pharmaceutique de l'Occidentale Africain), part of the Rhone Paulenc group, has total sales of 1.3 billion CFA,⁸ 300 million of which are accounted for by the public sector. Parke-Davis (Warner Lambert Group) has an annual production of 1.3 billion CFA, most of which is earmarked for exports. Sales in Senegal are estimated at 160 million CFA. In 1987, pharmaceutical imports were 11.5 billion CFA, destined

⁶The Bamako Initiative was passed in September 1987 in Bamako, Mali, by the health ministers of the WHO African Region at their Regional Committee Session. The resolution invites Member States to a) encourage social mobilization initiatives to promote community participation in policies on essential drugs and child health at the district level; b) ensure regular supply of essential drugs of good quality and at the lowest cost, to support the implementation of PHC; c) define and implement self-funding mechanism at the district level.

⁷See CREDES study, 1990 and Herrington, 1983. (Annex 11)

⁸West African currency, 250 CFA = \$1.00 (December 1990).

primarily for domestic consumption. Private sector sales are estimated at 15-20 billion CFA since current pricing policies result in an effective doubling of the initial import/purchase price. By stark contrast, the annual public sector budget is only 1 billion CFA.

Distribution System. There are, in fact, two pharmaceutical distribution systems in Senegal: the private and the public. The former is highly functional, with 3 major importers/wholesalers, 120 pharmacies, 56 percent of which are located in Dakar, and about 150 drug depots (some estimates range as high as 380). The system distributes approximately 3,500 different products. As mentioned above, the final markup is about 100 percent of the original purchase price, resulting in high average prescription charges (3,170 CFA per prescription in 1987, for example). The exceptions are drugs on the "liste sociale," for which the margin is considerably lower, resulting in little incentive to maintain adequate supplies of these products.⁹ Although the private sector functions relatively well, it primarily serves the Dakar population. It is not known to what extent this system is within the economic reach of the average Senegalese.

The PNA, the public sector distribution system, actually consists of two parallel distribution channels. The first is the mechanism through which drugs procured with the Budget de l'État (state (public) budget) are distributed to MOPHSA health facilities in accordance with a fixed monetary allocation. The facilities either obtain their supplies directly or through the regional pharmacies. Although the facilities usually receive drugs in the amount budgeted, these do not necessarily correspond to the items requisitioned.

The second channel is that through which the Associations pour la Santé and the Comités de Santé (the local and sub-departmental health committees in regions) purchase drugs with fee-generated revenues. Various suppliers (the PNA, SIPOA, and wholesalers) are utilized. This system appears to function reasonably well, with even the PNA functioning more responsively in the cash arena. Purchases through this mechanism, valued at 175-200 million CFA, are roughly comparable to the MOPHSA drug budget for these same facilities.

Proposed Reforms. There have been several plans for reforming the public sector pharmaceutical distribution system but none have been implemented to date. The recent CREDES report proposes four alternatives for restructuring the PNA: improving the existing organization; creating a users organization; converting to the private sector; or creating an autonomous parapublic entity.

The report rejects the first three of these options outright in favor of the fourth, while stating that any reform strategy, however, should include the promotion of the private sector as a major component in the system. Reforms proposed include 1) the decentralization of the distribution system by developing the role of the PNA; 2) improving the management of pharmaceuticals at the facility level; 3) the adoption and implementation of an essential drugs policy covering both the public and private sector; and 4) the adoption of standardized care protocols to rationalize prescriptive practices.

⁹This will be further exacerbated when the "liste sociale" is eliminated with the implementation of the essential drug program. Private pharmacies will not, apparently, be required to carry these essential drugs. To date, there have been no risk-sharing or social marketing programs through the private sector aimed at improving the availability of such essential products as ORS and contraceptives.

The report addresses the issue of underfunding not by suggesting increased MOPHSA support, but rather through an overhaul of the fee-for-service system (participation communautaire) which was established 10 years ago (see Chapter 5). Although revenues can be increased, further study is needed to determine the full potential of this funding mechanism.

Summary of Findings. The pharmaceutical distribution system in Senegal is organized into a private system and a public system. While the former functions reasonably well, the latter has serious problems. Both are supplied by two major suppliers who account for some 10 percent of the market. The public sector program, the subject of much criticism and numerous studies and recommendations for thorough reform, functions in a dual manner. It distributes drugs with budgeted funds and also distributes drugs in response to payments from community organizations. Each of these subsystems accounts for about 50 percent of the public market; again, with the latter subsystem functioning more efficiently than the former.

The Private Sector in Health

General Overview of the Private Sector in Senegal. Senegal's economy has been directed by a statist philosophy and interventionist policies since independence, but the decade of the 1980s brought some adjustments and reforms.¹⁰ Although it is difficult to gauge the extent of the GOS's commitment to fostering the private sector, the environment seems more supportive than in the past.

The private sector is a significant force in Senegal, contributing 85 percent of the GNP and employing 92.5 percent of the country's workforce of 2.4 million. It is not, however, monolithic. It has both formal and informal components, the latter sometimes also called parallel, illegal, underground, or popular (i.e., non-tax-paying), and there are important rural/urban distinctions. The rural and informal private sectors dominate Senegal's economy; they employed over 90 percent of the total workforce in 1987. The modern or formal private sector employs about 2 percent (51,000 people), and employment in modern industrial and service sectors (not including government) is declining — it has been estimated that 65,000 jobs in this sector have been lost since 1984. Therefore, the dominance of rural and urban self-employment and informal enterprise cannot be overstated.

Approximately 61 percent (1.4 million) of official total employment (2.4 million) is in farming (ILO estimates range up to 80 percent); approximately 10 percent (0.23 million) is in the "modern economy", and about 29 percent of the workforce is in the informal urban sector. The informal sector's contribution to the GNP is estimated at 59 percent, primarily in agriculture and services (transport, construction, food preparation, and vehicle repair). The modern private sector employed about 51,000 people in 1987 (roughly 31,000 in industry and 20,000 in services), accounting for only 2.2 percent of total employment. Analysts believe that the formal private sector employs an even lower portion today.

Despite its relatively small size, the formal sector maintains a high profile and is well organized. Among the numerous important business associations in Senegal are the Chambers of Commerce (in eight regions); the 36 employers associations (or syndicates), 13 of which are grouped into the Conseil National du Patronat; and the Chambre de Matiérs (artisans associations). Labor is also well organized and highly politicized, with the main unions essentially arms of the ruling party.

¹⁰Micka, 1990 (Annex 11-7).

The largest, the Confédération Nationale des Travailleurs Sénégalais (CNTS), has 59 constituent unions, and claims 70,000 members. There are two autonomous teachers unions, and workers in the health sector are organized into one union that is part of CNTS and one autonomous union the Syndicat Uni des Travailleurs de Santé et de l'Action Sociale. Agricultural producers are also organized, although at the level of farmers associations, the groups are often weak. These structures may provide mechanisms for the provision of health information and, perhaps, services.

Parastatals are important in Senegal in that they represent a major investment by the government. At the same time, they account for only about 7.5 percent of the GNP, employ only about 1 percent of the total workforce (20,000 - 30,000 workers), and are considered an unprofitable drain on the economy. Most troublesome, however, is the fact that parastatal borrowing has virtually eliminated private sector access to long-term credit, making it practically impossible for the private sector to invest and plan for the long term. In 1985-87, parastatals held 96 percent of the banking sector's long-term credit, and 40 percent of total banking credits. This situation may improve, as privatization is an objective of the GOS; in 1987, the GOS announced that 26 of the 85 parastatals were for sale, but progress on privatization has been slow. In general, parastatals provide above average health services to their employees (and dependents); it is not clear what impact privatization would have on this employed population.

Lack of access to the banking sector is one important constraint on the formal private sector, and reinforces the role of the informal private sector. Most Senegalese have difficulty obtaining banking services. Most banks are weak or insolvent, caught in a cycle of a weak deposit base and limited savings and investment. Banks require minimum deposit levels, which discourage small deposit accounts and limit the number of account holders, and without deposits or other collateral it is difficult to arrange credit. Banking system reform and restructuring efforts are currently under way, but they too are proceeding slowly and tight credit remains a significant problem.

With annual population growth at approximately 2.7 percent and half of the population under 15, the labor force in Senegal is growing by 100,000 people per year (net). This growth will strain public services and create pressures on the GOS to come up with employment options. It will also provide the informal private sector with a large pool of labor. Given rigid and protective labor practices, it is unlikely that the formal private sector will absorb many of these workers (unless the government undertakes reforms to make labor laws more flexible).

Much of the attention to date in the private sector provision of health and family planning services has focused on work-based populations. The preceding discussion outlines the limits of that approach in Senegal.

Scope of the Private Sector in Health. In the area of health services delivery, the private sector consists of several facets: there are individual private practitioners and their small clinics, providing both "modern" and "traditional" health services; and there are institutional, nongovernmental providers of services — nongovernmental or private voluntary organizations (NGOs/PVOs), employers, parastatal insurance carriers, and private hospitals.

Private Sector Health Services Providers

<u>Individual or Small Group Providers</u>	<u>Institutional Providers</u>
<p>"Modern" Practitioners</p> <p>-Physicians -Sages-femmes -Private clinics</p>	<p>"Traditional" Practitioners</p> <p>-Guérisseurs -Matrones</p> <p>-NGOs -Employers -Parastatal insurance -Private hospitals</p>

With the exception of the traditional healers and a few of the institutional providers, the private health care sector is neither large nor highly developed, and access to its services is limited, primarily because of high prices and maldistribution. The following numbers give some indication of the situation.

Table 11

1988 Distribution of Health Professionals

	Dakar	Ziguin-chor	Kolda	Diourbel	St. Louis	Louga	Tamba-counda	Kaolack	Fatick	Thies	Total
Medecins Generalistes	75	2	-	2	4	-	2	4	-	13	102
Medecins Specialises	44	-	-	-	-	-	-	1	-	2	47
Pharmaciens	83	5	2	5	10	3	3	9	2	12	134
Chirurgiens - Dentistes	28	1	-	-	-	-	-	-	-	2	31
Sages Femmes d'Etat	10	-	-	1	-	-	-	-	1	4	--
Infirmiers d'Etat	34	3	1	3	1	2	3	5	2	1	55

Source: MOPHSA (DRPF)

In 1989 there were 150 physicians in private practice, several private polyclinics, 120 private pharmacies, 16 midwives with private practices, and 1 truly private hospital (St. Jean de Dieu in Thies). The vast majority of the private clinics and physicians and midwives in private practice are in greater Dakar, along with 56 percent of the private pharmacies. The remainder are clustered in the other main urban centers of the country (e.g., St. Louis and Thies). Prices for such services are quite high; the average physician consultation cost CFA 8,000 in 1987, and the average cost of a prescription was CFA 3,170. These prices are not easily afforded by the large majority of Senegalese.

The private health sector is almost exclusively oriented toward the provision of curative care (as is the case in many countries). Most providers have not received adequate training in preventive care; indeed, the concept of preventive health care, including family planning, does not appear to be generally recognized or of great interest.

Private medical practitioners are organized into professional associations: the Conseil de l'Ordre de Médecins, a conservative and highly influential body in Senegal, and the somewhat moribund national association of certified midwives.

Although unemployed physicians (médecins-chômeurs) figure largely in policy-level discussions of "what's wrong with the health system in Senegal," their numbers actually are not great. It is estimated that there are currently 60 unemployed physicians (including one gynecologist), one-third of whom are women. These men and women represent an underutilized and potential private sector resource. Of greater consequence, however, are the public providers operating private practices after hours who are underutilized in terms of primary health care and family planning.

Traditional practitioners form an important element in the private sector delivery of health service. Traditional practitioners, both healers (guérisseurs) and traditional birth attendants (matrones) are found throughout the country. It is estimated that 90 percent of the population avail themselves of health services from these traditional practitioners. Traditional healers are more accessible, more affordable, and more desirable than modern practitioners to large numbers of Senegalese. Use of traditional healers remains quite common in urban areas as well as the countryside.

The status of traditional healers is extralegal; i.e., no laws as yet recognize or constrain their practices. Although several efforts have been made to organize traditional healers or to enlist their services in formal, "modern" health projects or programs, little real progress has been made at tapping them as a resource in promoting prenatal care, child spacing, family size limitation, oral rehydration therapy, prevention and treatment of STDs, community-based distribution of contraceptives, and other primary health care activities.

At the nonprofit end of the private sector spectrum, in addition to the 68 private Catholic health posts mentioned above, there are 13 Croix Rouge (Red Cross) medico-social centers, and 2 ASBEF (Association Sénégalaise pour la Protection de la Famille — Senegal Association for Family Well-Being, the IPPF affiliate) clinics (in Dakar and Louga). Such NGO services probably cover 5-10 percent of the population. The Catholic health posts offer a range of curative and preventive primary health care services, including counseling about natural family planning, although they do not provide other family planning services. The family planning services delivery activities of ASBEF are quite important, though limited. ASBEF currently operates a Model Family Planning Clinic in Dakar, and has another, smaller clinic in Louga. Model clinics are an important feature of a nascent family planning program; such sites serve as examples and experimental "laboratories" for appropriate, high quality women's health and family planning service delivery. The ASBEF clinic in Dakar is by far the most prolific of the service points in the private sector program, one component of the USAID-funded Family Health and Population project discussed below.

As in many developing countries, workplace provision of health services is not uncommon in Senegal, especially among the larger employers and parastatal companies. Many have on-site clinics or cover services through social insurance programs (such as Institutions de Prévoyance Maladie or

IPMs, which are group funds to cover partial costs of members' medical care). Employers of 100 or more personnel are required to establish such funds through payroll deductions and contributions.

On-site company health facilities range from one-room first aid stations to the full-scale hospital at the parastatal sugar company in Richard Toll. Thus, they have a widely varied capacity to provide primary health and family planning services to their employees and their dependents and the surrounding communities. On the other hand, IPMs have generally fared poorly as a private mechanism for health sector financing. The exact working of IPMs, and indeed of the health services of the Caisse Nationale de Sécurité Sociale or CNSS (social security), and their place in private sector provision of health and family planning is not yet clearly understood. Information needs to be gathered about what services are covered; the extent of dependents' coverage; the financing of benefits; the distribution of facilities; the existence of any legal constraints to expanded coverage and access; and the potential carrying capacity of such operations.

Population Covered by Private Sector Health Care Services. Although little definitive information is available on the size of the population covered by private sector services, the modern private sector — the nonprofit NGO providers of care, the for-profit urban practitioners, and the health services provided by employers at company clinics and through social insurance — may be the provider of choice for as much as 20-30 percent of the population. If one includes traditional practitioners (healers and traditional birth attendants) in the scope of the private sector, then virtually 100 percent of the population of Senegal patronizes the private sector for health and family planning services. Further, 1 in 10 health posts throughout the country is private (essentially the private Catholic health posts). The 1986 DHS found that more than half of modern method family planning acceptors had used a private source for their contraceptives. Such figures begin to give an idea of the reach and size of current private sector involvement.

Brief Overview of USAID/Dakar-Funded Health and Family Planning Activities in the Private Sector. Through the Volet Secteurs Privé et Para-public (VSPP), one component of the Projet Santé Familiale (PSF) (1985-1992), USAID/Dakar has laid the groundwork for private sector activities in the health and population area.

The VSPP was to have been a \$1.5 million effort (of the total PSF budget of \$20.6 million); as of this writing, it has expended only one-third of that amount, all PSF activities have stalled, and there will be no further funds for VSPP under the current configuration. Activities are expected to carry on under a new subcontract with SANFAM, a new Senegalese NGO composed essentially of the VSPP staff.

VSPP's official mandate was to establish family planning service delivery activities within the health services of private or parastatal entities (employers); less formally, it has also included private clinicians, laboratories, and pharmacists. As of the end of 1989, the number of participating organizations was 26, with 40 family planning service delivery activities in 6 regions.¹¹ Thirty of the centers (or more accurately, service points) provide counseling and services for modern family

¹¹The largest VSPP client organizations (those with over 200 recorded acceptors in 1989) were the main ASBEF clinic (by far the largest single service point, with 2,500 recorded acceptors in 1989), the PMI at SOTRAC/Thiaroye (a bus authority site), and two CNSS (social security) sites, all in the Dakar region; the RCFN clinic (railroads) and the rural CSPT clinic, both in the Thies region; the village SOS in Kaolack; and the municipal dispensary in Pikine. VSPP also works with 9 Croix Rouge sites (3 in the Dakar region). The VSPP service points outside the Dakar region are noticeably less successful in attracting acceptors; only four sites had more than 200 acceptors in 1989 (in Kaolack, Thies, and Saint Louis).

methods; 10 provide natural family planning information. A VSPP survey found that a further 18,000 couple years of protection (CYP) were provided by private physicians and pharmacies during 1989.

VSPP has been instrumental in organizing orientations for pharmacist groups with regard to their potential role in reaching national family planning child survival objectives. In June 1989, VSPP organized a meeting between the MOPHSA and the National Association of Pharmacists. Sixty pharmacists participated, including representatives from all regions of Senegal. The conference endorsed a program that would strengthen information, education, and communication (IEC) activities for family planning and child survival, including the social marketing of condoms and ORS. One outgrowth of that conference was the decision by the GOS to remove tariffs on condom imports.

The VSPP has many more project possibilities, including working with private clinics (in training and provision of contraceptive supplies), establishing a program to help install un- or under-employed medical practitioners in poorer neighborhoods (for general practice with family planning included), and launching a much-studied but as yet unspecified social marketing effort.

Commercial Infrastructure: Contraceptive and Health Products. The commercial contraceptives market in Senegal is composed of ethical products — those products such as oral contraceptives and injectables which are distributed under government regulations, and non-ethical products such as condoms and vaginal tablets whose distribution is not limited by government regulations. The availability of Norplant is currently restricted to public sector clinical trials.

Oral Contraceptives. Two of the major international contraceptive manufacturers, Wyeth and Schering, are well represented in the oral contraceptive market in Senegal; Ortho, Smith-Kline and Roussel are also evident. At least 12 brands of pills are available, including high dose, low dose, and triphasic. Prices vary widely for one cycle of pills; the lowest priced pills are in the range of 350 CFA per cycle, approximately \$1.35 at today's exchange rate. Even though these prices make pills considerably cheaper than condoms which sell for 200-300 CFA per unit and vaginal tablets which sell for about 100 CFA for one unit, they are outside of the price range of most consumers.

Brand	Manufacturer	Price
Minidril	Wyeth	407
Trinordiol	Wyeth	1,236
Adepal	Wyeth	515
Steridril	Wyeth	951
Gynovlar	Schering	445
Milli-Anovlar	Schering	359
Miniphase	Schering	616
Trentovlane	Schering	400
Triella	Ortho	352
Planor	Roussel	2,459

In 1988, the commercial oral contraceptives market was estimated to be around 156,430 cycles per year; today, it is estimated to be approximately the same size. Wyeth is presently the market leader with its biphasic pill, Adepel, with estimated monthly sales of 3,200 cycles. Steridril is second with about 2,000 cycles monthly. Schering's best selling product is also the biphasic pill, Miniphase, with monthly sales of about 2,000 cycles.

Oral contraceptives are distributed by three distribution firms: Laborex, UPIA, and Senepharma. Laborex is the largest distributor with an approximately 80 percent market share. Each of these distributors services the approximately 150 pharmacies, 100 private clinics, and 200 local pharmaceutical depots which serve as the ethical pharmaceutical network. Since about 100 of the pharmacies and the majority of the private clinics are in Dakar, this network is not extensive. However, it does service urban and peri-urban centers relatively well.

Condoms. The current condom market (May 1990) has a variety of brands and presentations (3 pack, 6 pack, and 12 pack). Unit prices make them a relatively expensive method. In 1988 the commercial market volume was estimated to be in the range of 390,900 units annually, with the Derby condom being the market leader because of its availability and low cost.

The pharmaceutical code restricts distribution of condoms to pharmacies. However, there has been an unofficial sanction to increase distribution to small retailers as a result of AIDS and social marketing interventions.

Black market or "Marché des Voleurs" (informal private sector) prices are approximately 50 CFA per unit. These prices were identified in earlier reports and confirmed through informal checks during January 1990. In April 1990, the VSPP director reported that duties on condoms had been eliminated (duties had been composed of 60 percent import duty and 20 percent VAT). Because of this change, condom prices were rechecked during August 1990. There was little evidence of a reduction in prices from earlier reports. Prices are still very expensive — in many cases, even more expensive. Prices may reflect old stocks or the fact that distributors or pharmacists have not passed along savings.

Brand	Unit Price (May 1990)	Unit Price (August 1990)
Derby	173 CFA	200 CFA
Hansaplast	184	
Innotex	243	300
Manix		
Contract	214	200
Future	208	
Infini	404	
Olla	225	
Select	258	
Sidex	167	
Sure	200	
Thermofina	238	200
Supratex		230-250
Control		200

Pharmacists noted an increased demand for condoms, but stated unequivocally that men found prices very high. Universally, they reported that when men found out the price they elected to buy the small packages or to buy by the piece. One of the pharmacies visited only had packages of 12 and reported that men wanted to buy smaller quantities but the pharmacy was not interested.

Vaginal Spermicide. Cones Rendelle contraceptive suppositories, the market leader, are packaged in a vial of 10 cones and sell for 1,000 CFA. Pharmatex suppositories, although widely available, are almost twice the price — 2,000 CFA for 10 and 20 for around 3,500 CFA. Distribution, though not formally restricted, is limited to government-approved channels. Most pharmacies visited did not have vaginal spermicide. There is little demand for this product.

Injectables. The only injectable contraceptive on the market is Schering's Noristerat, which is sold for around 200 CFA per unit. This product requires clinical administration but it is sold primarily in pharmacies. Women obtain prescriptions and then purchase the product in the pharmacies, returning to centers for administration. The present sales volume of Noristerat is minimal, about 500 units per month.

Oral Rehydration Solution. There is presently no commercial market in oral rehydration solution. Since 1985, UNICEF has distributed 700,000 packets through the public sector. Senegal's estimated annual need, however, is in the range of 2 million packets. The private sector has not moved to cover this gap, and to date, no effort has been made to encourage its participation.

Summary of Findings. The private sector in Senegal is, on the whole, a significant force, contributing 85 percent of the GNP and employing 92.5 percent of the labor force. There is potential for an expanded role in the delivery of health and family planning goods and services.

In the area of services delivery, the private sector consists of individual private practitioners and their small clinics (located primarily in Dakar); and there are institutional, nongovernmental providers of services — nongovernmental or private voluntary organizations (NGOs/PVOs), employers, parastatal insurance carriers, and private hospitals. With the exception of the traditional healers and a few of the institutional providers, the private health care sector is not large or highly developed, and access to its services is limited, primarily because of high prices and maldistribution. The private health sector is almost exclusively oriented toward the provision of curative care. Most providers have not received adequate training in preventive care; indeed, the concept of preventive health care, including family planning, does not appear to be generally recognized or of great interest.

In the area of private sector delivery of health products, contraceptives are available on the commercial market and networks exist to be exploited to further develop these markets. Social marketing studies already exist that characterize these potentials. They remain to be implemented. Oral rehydration salts packaging and distribution does not exist in the private sector, although studies have proposed how this might be accomplished.

**3. Major Policies Affecting Health
and Population Sector
Services Delivery**

3. Major Policies Affecting Health and Population Sector Services Delivery

System Reform Policies

Structural Reform. Over the last decade, Senegal, with the assistance of the World Bank and its agencies, has grappled with the need to reform its economy and the functioning of the public sector. This has led to a number of policies which have resulted in GOS cutbacks in staff and budget as well as GOS efforts to streamline, decentralize, and divest itself of inefficient and burdensome organizations and activities. A few notable activities generated by this GOS effort include the following:

- reorganization of the Ministries of Public Health and Social Development into one ministry with fewer departments;
- encouragement and enactment in the 1980s of a policy of "autogestion": fees collected for health services, resulting in funds which are managed at the community level to replenish medicines, etc.; and
- decentralization and "deconcentration" (i.e., dispersal or delegation of powers) of the planning and decision-making process to the regions.

These activities have had the support of the donor agencies, with USAID leading the way, especially with regard to the development and implementation of user fee systems and decentralization of the planning and decision-making process in the health sector.

The newly formed Ministry of Public Health and Social Action (MOPHSA) has felt the impact of this process, experiencing cutbacks in its personnel and operational budgets. The GOS has also moved to divest itself of its parastatal organizations and improve its overall management of public resources. Greater efforts are called for in this latter area, however, to better allocate resources, e.g., between wage and non-wage expenditures and in the improvement of the revenue base.¹²

User Fees. The Belgians, the Dutch, USAID, and many other donors have been assisting the GOS in primary health care in Senegal since the late 1970s. These donors have been instrumental in experimenting with user fees in health clinics.

The USAID Rural Health Delivery Services Project helped the MOPHSA devise ways user fees could be used to finance recurrent costs such as supervision, regional training, and health education materials production. (Regulations promulgated by other ministries, however, often conflicted with these efforts and it was not possible to get the regulations changed within the framework of the project.) Based on this project's experience and one funded by the Belgians, the MOPHSA has initiated a nationwide system of user fees at health centers and health posts. In 1983-84, a study in the Peanut Basin found that receipts collected under the user fee system amounted to 80 percent of health center and health post recurrent costs (excluding salaries). Fifty-eight percent of the receipts were used to purchase pharmaceuticals (Micka, 1990).

¹²World Bank Development Report, April 1990. (Annex 11-15)

Decentralization and Regionalization. Senegal has been moving to decentralize governmental activity for over two decades. The VIIIth National Economic-Social Development Plan lists the following as key dates in this process:

- 1964 reinforcement of departmental authority and the creation of regional development committees, local development committees, and rural expansion centers;
- 1972 territorial administrative reform tested in Thies and expanded throughout the country up to 1984, paving the way for local collectives (communes and rural communities) and regional planning commissions;
- 1985 launching of the Regional Integrated Development Plans and the Community Investment Plans which sought to give substance to regional and local participation in the problem identification and planning process.

As discussed in Chapter 2 of this report, within the last few years, the MOPHSA has begun to encourage the development of Regional Health Development Plans. This effort has been supported by the donor community and USAID plans to fund the first four plans developed that are workable. USAID has also amended the Rural Health Delivery Services Project to help the GOS attain a more thorough decentralization in terms of planning and administration. The National Health Policy (discussed below), which is the product of much donor support, provides a blueprint for the necessary structural changes and systemic improvements.

MOPHSA Program Policies

Population Policy. The GOS adopted a national population policy in 1988 calling for reduced population growth, but the full development and implementation of this policy has been hindered by conservative elements in the society. Senegal is a traditional, polygamous, rural, Islamic, ethnically diverse society. The influence of marabouts (religious leaders) and other traditional leaders is strong, even among urban dwellers. Family ties and values are strong and men are the decision makers. In addition, the diversity of languages and cultural norms in a predominantly illiterate population presents special problems for IEC campaigns.

The country's medical establishment is also highly conservative. Senegal derives its Western medical tradition from France. The Conseil de l'Ordre de Médecins (basically, a medical trade group) tightly controls medical decisions and resists participation by paraprofessionals in areas which are considered to be the purview of professionals only. For example, the group opposes allowing nurses and midwives to provide family planning services and favors excessive regulation of oral contraceptives. This tradition has also been slow to accept a "public health" perspective, favoring instead the provision of curative care for the wealthy elite. Although Senegal legalized contraception in 1980 and embraced the Alma Ata Declaration (Health for All by the Year 2000) in 1978, change has been slow with resistance coming from the highest levels of the medical community.

The development of a family planning policy has also been slowed by bureaucratic constraints. In line with the country's French colonial past, health systems have been centralized and hierarchical, with barriers at any point in the system capable of stopping progress further down the line. Budgetary flow (both allocations and disbursements) and distribution of personnel follow the same pattern.

Despite this environment, there have been two recent and most significant achievements — the elaboration and approval of a National Population Policy (Déclaration de la Politique de Population in April 1988) and the elimination of restrictions on the prescription of oral contraceptives. A variety of USAID- and UNFPA-funded policy activities (RAPID presentations, study tours, technical assistance missions, studies, meetings, and policy dialogues) contributed to the achievement of these milestones. The policy calls for reduction of population growth rates and integration of population policy into global development strategies. The VIIIth National Economic-Social Development Plan (November 1989) drew on this policy in its call for enhanced child spacing activities. In addition, management directives recently handed down from the office of Senegal's president to the MOPHSA contain quantitative family planning service delivery targets.

A.I.D. funded Family Health International to conduct three country hormonal studies which culminated in an international symposium on contraception in Dakar in February 1990. The experts attending the symposium (including key Senegalese clinicians) recommended suspension of requirements for laboratory tests (liver function studies, cholesterol, etc.) prior to prescribing oral contraceptives. This recommendation was subsequently accepted by the MOPHSA. Once this decision is made known to all Senegalese health providers, it will pave the way for wider pill prescription, and in time, community-based distribution.

Policy and bureaucratic progress still needs to be made in the following areas:

- The creation of a national family planning program. Such a plan exists on paper, but was hastily put together in response to a World Bank requirement and needs to be revised, finalized and implemented.
- Clarification of restrictions on the role of nurses. Nurses, who are usually men, reach deeper into the community than midwives. Unfortunately, they sometimes act as blockages to family planning in that they characterize their role as not including provision of family planning counseling and services and therefore downplay its contribution and importance.
- Experimentation with community-based distribution. Senegal must soon begin to experiment (perhaps through operations research) with delivery modes using community-based agents, so that the family planning program can expand to rural areas.
- Reduction of duties on commercial contraceptives. Reduction of tariffs could stimulate commercial sector involvement. More information needs to be gathered on this topic to facilitate discussion.
- Commitment to limiting family size. Language to this effect appears in official documents but is not endorsed in public statements.

Health Policy. A National Health Policy (Déclaration de Politique Nationale de Santé) was developed in June 1989, with the assistance of the donor agencies including a great deal of input from USAID. The major focus of this policy declaration is on systemic improvements to further the structural reform efforts of the GOS, the decentralization of planning and activity control, as well as implementation of a primary health care perspective in service delivery and professional preparation. The policy lists 13 objectives, which if implemented would constitute a major reorganization of the manner in which activities are carried out at the central and regional/departmental levels. Strategies are given for each of these objectives, including improved health coverage for rural zones; improved

maternal and child health care; development of educative and preventive actions; rationalizing curative care activity; and rationalizing and developing human, material, and financial resources.

The health policy does not outline any plans of action or programs for the realization of these significant changes. Objective 9, for example, calls for the reinforcement of decentralization and a dispersal (deconcentration) of management authority governing the use of financial, human, and material resources, a reinforcement of the capacity of the chief regional medical officer to assure the coordination, implementation, and evaluation of health activities in the region, and an elaboration of regional and departmental health plans. Implementation activities for these steps are, as yet, undeveloped. Donor organizations, however, are prepared to play a large role in this process.

Nutrition Policy. The GOS does not have an independent nutrition policy, but the VIIIth National Economic-Social Development Plan outlined ambitious objectives for a program of nutritional surveillance and rehabilitation. This program is being redesigned and will address, among other issues, both the maternal and child health issues of under-nutrition.

Summary of Findings

The GOS has recently initiated a number of structural reform policies including the reorganization of the Ministries of Health and Social Development into one Ministry of Public Health and Social Action; the development of guidelines to aid community groups in the collection and control of user fees at local health centers and posts; and the promotion of decentralization and delegation of authority from the central level to the regions.

The GOS has also initiated two new major program policies: 1) a population program policy that calls for the reduction of population growth rates and the integration of this policy into overall program development strategies (the policy does not, however, call for a commitment to limiting family size); and 2) a health policy that outlines the systemic improvements needed to implement the structural reform efforts underway. Neither policy outlines nor is accompanied by any plans of action for the realization of the called-for changes. A new nutrition policy remains undeveloped.

4. Major Programs

Primary Health Care

Early Bilateral/Multilateral Donor Activities. During the 1970s, a number of bilateral and multilateral donor activities began in the area of health care assistance in Senegal. Four were of particular interest to later U.S. efforts because they acted as testing grounds for the provision of basic health care services to rural populations which later became known as primary health care service programs.¹³

The Gossas Project in Sine Saloum received \$900,000 from the Canadian government to extend health care to the village level by training villagers, placing laboratories in health posts, and establishing a "cold chain" between health posts and villages for an immunization program. Many of its aims were never fulfilled. Senegalese involvement was minimal and when the Canadian staff departed in 1979, the health facilities were subsumed under the USAID-funded Sine Saloum Rural Health Project.

The Basic Health Services Project in Fatick, funded by the Dutch government in 1977, was to provide primary health care services throughout the region by improving health post operations, expanding maternal and child health activities, and introducing self-sufficient village level health workers whose activities were financed in part by fees for consultations. Efforts to develop genuine community participation failed, however, and by 1984 all project-funded village health huts had closed. Even so, an evaluation carried out by the Dutch, five years after the end of the project, found that approximately 50 percent of the male volunteer community health workers continued on the job and 75 percent of the female volunteers (matrones).

The UNICEF Maternal and Child Health Project in Sine Saloum began in the early 1970s to introduce village pharmacies and maternity centers, to improve village sanitation, and to train traditional midwives in MCH activities. The benefits of this project waned when funding ceased, and village-based facilities were closed and/or incorporated into the USAID-funded Rural Health Project.

The Pikine Basic Health Services Delivery Project has been continuously supported by the Belgian government since 1975. In contrast with other attempts to establish sustainable, community-based primary health care projects, this project has successfully introduced a fee-for-service, community-based primary health care system in this suburb of Dakar, where some 700,000 (1988 census) persons live. The project continues as a useful urban model for the delivery of basic health care supported by community participation and expatriate technical assistance.

Since the start-up of these early attempts at improving the delivery of primary health care services to unserved communities, other donors have initiated projects and programs in health-related areas. These include the Association Française des Volontaires du Progrès in Tambacounda; an Italian nongovernmental organization (COSPE) operating in Ziguinchor and Bignona; Entraide Internationale Medicale in the Department of Oussouye; and several other small programs.

¹³Project outlines below were excerpted from Bloom, 1988. (Annex 11-1)

USAID Primary Health Care Project Experience. Since 1977, USAID has funded the Rural Health Delivery Services II project in the Sine Saloum Region (now Kaolack and Fatick Regions). This project has been extended to September 30, 1991. During this extension period, \$3.7 million of unexpended funds and \$2 million in child survival funds have been programmed to fund 1) activities that directly support decentralization within the MOH; 2) in-country public health training to bring about a public health orientation in the Senegalese system; and 3) child survival interventions in immunization, diarrheal disease control, malaria control, and nutrition in four regions of Senegal. The original project purpose was revised to add an emphasis on key systems development and decentralization in the primary health care system as part of developing community level maternal and child care services. The activities planned during the extension period will test the MOPHSA's commitment to undertake important systemic changes and will also set the stage for future USAID involvement in the health sector. Activities are focused on strengthening the organization and management system of the MOPHSA; increasing decentralization in the MOPHSA with the emphasis on primary health care; and improving public health training.

Most of the original project outputs were attained. During phases I and II (1977-1989), the project established a system of 625 community-based health huts, representing about one-half of all the health huts in Senegal. Over three-fourths of these remained fully operational during the life of the project: the facilities were staffed by community health workers (CHW); the villages utilized available services; and a revolving drug fund was sufficient to maintain the provision of essential medicines. This system provided about half of the villagers in the regions of Fatick and Kaolack with access to primary health care.

Approximately 3,500 CHWs working in this system were trained in the provision of rudimentary health services, health education, and community mobilization, as well as in the prevention of diarrhea, malaria, and malnutrition. Additionally, the project established a system for the distribution of essential medicines from the regional pharmacy to the health hut. A regional training center was set up in Kaolack to provide initial training and continuing education for the CHWs. Another 150 health professionals (physicians, nurses, midwives, and administrative personnel) benefitted from specialized training. These health professionals included nine individuals who obtained a masters degree in public health and another two who pursued doctoral studies in public health.

Two major reasons have been cited for the success of project activities:

- Decentralization of project management — Each region has the authority to formulate its work plans, to define its operational strategies, and to manage directly resources allocated by the project.
- Involvement of the local population in project implementation — This has included the construction of health huts, the selection of CHWs, participation in project financing and management, as well as active involvement in project coordination at all levels.

Although no final evaluation of project activities has been undertaken, during the later stages of project life, this project and previous USAID health projects were studied, focusing on the sustainable and lasting effects of project activity. The study concluded that very little has been accomplished with regard to sustainability despite the apparent success in meeting project objectives. Both the economic stagnation of the 1980s and the, at best only moderate, national political commitment to the goals of primary health care were cited as reasons for this lack of success.

Perhaps the more important question to be asked, however, is whether or not health interventions have had any impact. A few of the measurement problems that make an answer to this question extremely complex include the following: the definition of health is extremely variable and subjective; little is known about the dynamics of the pertinent cause and effect relationships; certain variables are not measurable; the quality of available data is often questionable. Thus, in a situation where explicit, quantitative, outcome indicators would be ideal, it may only be possible to look at implicit, qualitative, process indicators.

Data sets from 1982 and 1989 for the Fatick region can be examined to determine if there are any significant changes from the middle to the end of the Sine Saloum Project. The 1982 data come from the Sine Saloum Family Health Study of that year whose purpose was to assess the health needs of women and children in order to provide baseline information for the implementation and evaluation of Phase II of the Sine Saloum Rural Health Project. The 1989 data come from a detailed analysis of health service records by a Fatick medical team at the time when the USAID project had just ended. Table 12 on the next page compares selected indicators from the two time periods.

These indicators seem to show that the Rural Health Project had little impact on the ecology of diseases in the region, as might be expected in so short a time period and without good baseline data from the 1982 period with which to compare what might have been slight but significant changes in health status. Infrastructure was strengthened, however, and it does appear that several indicators show improvement: vaccination coverage, acceptors of family planning (although for no specified duration), an increase of pregnant women coming for prenatal counseling, and an improvement in the number of assisted deliveries. This suggests that quality of care is an important issue to local populations. Also, improvements in reporting of cases cannot be ruled out when examining the indicators that appear to show negative change (e.g., indicators such as mortality of infants, tetanus cases, and tetanus vaccination levels). A follow-up study of the village health system is planned as the thesis for a masters in public health.

Traditional Medicine. WHO defines traditional medicine as the sum total of all the knowledge and practices used in the diagnosis, prevention, and elimination of physical, mental, or social imbalance, with an exclusive reliance on practical experience and observation handed down from generation to generation, whether verbally or in writing. A traditional therapist is recognized in his or her community as one who is competent to provide health care using animal, vegetable, mineral, or other substances based on knowledge and beliefs linked to physical, mental, and social well-being, as well as being conversant in the etiology of illnesses and handicaps prevalent in the community.

Since 1972, WHO has played an active role in encouraging research in traditional medicine because 1) traditional medicine is compatible with the concepts of primary health care and community participation; it is consistent with the concept of appropriate technology; 3) it is growing in popularity as countries develop pride in their indigenous resources and achievements; and 4) it is seen as a possible way to decrease dependency on costly modern medicines that are often not available.

Traditional medicine continues to play an important role in both rural and urban Senegal. Traditional medicine should be understood as including both resort to traditional health practitioners (healers and midwives) and self-medication with traditional remedies. Senegal has a rich traditional pharmacopeia which has been the subject of at least one major (30-year) study.¹⁴

¹⁴Kerharo, 1974. (Annex 11-6)

Table 12

Comparison of Selected Health Indicators

Indicators	1982 - Family Health Survey	1989 - Service Statistics
Infrastructure	Construction of health huts has provided greater access to health services. The question of functionality of the huts is not addressed.	295 bed health huts exist, with a population to hut ratio of 1,572 to 1. Unfortunately the majority of these huts have not been functional since the end of the project.
Personnel		<p>The majority of village health workers trained during the project (male and female) quit when it was terminated. It was clear they were not going to receive salaries from the government, and community financing was not forthcoming.</p> <p>The project had no impact on stemming the tide of health workers leaving Fatick for "interesting" posts, i.e. those in Dakar.</p>
Health Indicators	<p>Child morbidity and mortality is high, the three most important diseases being diarrhea, respiratory infections and malaria. The infant mortality rate is estimated to be 72, 113 after adjustment.</p> <p>2% of children with diarrhea are treated with ORT.</p> <p>Vaccine coverage of children is low.</p> <p>Tetanus immunization for pregnant women is low.</p> <p>Most chloroquine use for children is curative rather than prophylactic.</p> <p>About 1% of child mortality is due to tetanus, most in the neo-natal period.</p> <p>The use of modern family planning is practically non-existent.</p> <p>About 1/3 of pregnant women had at least one prenatal visit.</p> <p>About 20% of deliveries were in a health facility.</p>	<p>Fever and gastro-intestinal disorders and respiratory infections account for 56% of all patients seen by the health system. The infant mortality rate is estimated to be 86.</p> <p>No data available on ORT.</p> <p>Vaccine coverage of children is high, 70% of infants under 1 year. This is a result of the accelerated EPI supported by UNICEF.</p> <p>Tetanus immunization for pregnant women is low - 32%.</p> <p>Only from 11 to 16% of the target population of children (0-5) are seen in MCH clinics, with virtually no preventive well-baby activities.</p> <p>84 cases of neo-natal tetanus were recorded, most in the rainy season.</p> <p>There are an estimated 454 active acceptors, 0.4% of women in the 15 to 49 age group.</p> <p>55% of pregnant women had at least one prenatal visit.</p> <p>About 27% of deliveries were assisted by a trained person.</p>

Source: From a detailed analysis of health service records by the Fatick medical team at a time when the USAID project had just ended.

Traditional Practitioners. Traditional practitioners include both healers and traditional birth attendants (TBA) and are found in all parts of Senegal. It is estimated that over 90 percent of Senegalese turn to traditional practitioners for both preventive and curative health care at one time or another — either because their services are preferred, because they are less costly, and/or because there is no access to modern health care. In rural areas, traditional practitioners are probably still the main source of basic health advice and care. A large percentage of the urban population also uses the services of traditional practitioners, often while simultaneously going to hospitals and modern-sector practitioners for the same problem. Factors such as self-diagnosis of illness, perceived effectiveness, cost, distance, and socio-cultural acceptability ultimately determine the "hierarchy of resort" between modern and traditional medicine.

The status of traditional health practitioners is extra-legal, meaning that no laws either recognize or constrain their practice. Senegal's current national health policy states as one of its objectives the elaboration of legal texts related to the practice of traditional medicine.

Traditional Healers. Traditional healers are collectively referred to in French as "guérisseurs." In the local languages they are known by many more specific terms, indicating areas of specialization. Some are generalists while some specialize in areas such as bone-setting, sterility, venereal disease, psychotherapy, and leprosy. Some base their practices chiefly on herbal medicines, others chiefly on spiritual or religious approaches, but most probably use some of both.¹⁵ Some guérisseurs are women, but women also go to male guérisseurs. Many marabouts are also healers.

Guérisseurs probably remain the healers of first resort in many villages. They are relied on exclusively in cases perceived as mental illness or illnesses of sudden onset, in which it is believed that illness is the work of malevolent spirits. Herbal healers and bone-setters are found in many villages. In some rural areas, fractures are still treated by traditional healers, even when a health post is accessible.

Several efforts have been made to organize traditional healers or to enlist their services as allies with formal-sector health programs. In Fatick, guérisseurs have formed an organization which has had some interaction with the formal sector and studies have been conducted (with participation of the Institut de Santé et Développement at Mbour). Similar activities may also be under way in Thies. Perhaps the greatest headway had been made in Pikine. In the Pikine Project (discussed above) some guérisseurs early on were chosen to receive training as secouristes (first aid workers). In partial collaboration with that project, the Community Center for Appropriate Health Technology in Pikine has conducted numerous activities in this area. In 1984 it helped create an association of therapists collaborating with modern medicine (Cercle des Tradi-Practiciens de Pikine). In 1987 it conducted a survey of 1,228 traditional therapists in the Department of Pikine. It has produced manuals of Wolof proverbs and Koranic verses and hadiths related to health matters; it is working to develop an ORT solution based on traditional mixtures; and it has sponsored a workshop to evaluate activities.¹⁶ Overall, efforts are just beginning to recognize the contribution that healers can make toward serving health needs, especially those of the estimated 60 percent of the population unserved by the formal health system.

¹⁵A doctoral dissertation based on research in Pikine (Fassin 1988, available at USAID/Dakar), provides an excellent understanding of the dynamics of traditional medicine in Senegal.

¹⁶Ministère de la Santé Publique, 1987. (Annex 11-9)

Traditional Birth Attendants. The term "matrone" is used to designate both the traditional village birth attendant or TBA (accoucheuse traditionnelle) as well as young village women trained in basic midwifery skills by some project. "Matrone" is used in project documents, but it is often not clear which type is being discussed. Both are distinct from the formally schooled sage-femme (nurse-midwife) in that they work at the village level and do not have the latter's more technical training.

Efforts to train and work with matrones in modern-sector programs began with UNICEF in the early 1970s. UNICEF's first effort in Senegal, its Maternal and Child Health Project in Sine Saloum, trained matrones in maternal and child health care. When UNICEF funding ceased, village activities either stopped or were incorporated into the USAID-funded Sine Saloum Rural Health Care Project.¹⁷ Work with matrones remained an important part of that project.

The number of TBAs today is not readily available, if known. In fact, no document is readily available which discusses TBAs or matrones in any thorough manner or the extent to which the traditional TBA remains an important actor in rural maternity care. The recent Senegal Maternal Mortality study, however, found that, of the two-thirds of women who deliver their children at home, 22 percent were assisted by a TBA and 15 percent by a trained matrone (63 percent being assisted by a family member, relative, or neighbor). Again, here is a clear indication of the usefulness of such health care providers and the need for fuller GOS recognition of the contributions they can make.

Urban Use of Traditional Remedies: Dakar. Traditional medicine and traditional remedies are widely used in urban settings. In a recent household survey, 55 percent of the sample surveyed stated that they use traditional remedies of one form or another.¹⁸ Use of traditional medicines is less common at higher levels of education; nevertheless, urban dwellers at highest educational levels (25 percent of urban residents with more than secondary education) report using traditional medicines. Even urban dwellers with full health insurance coverage sometimes use traditional remedies. This is powerful testimony to the strength of traditional medicine in Senegal, as it is chiefly the professional and more educated Senegalese who have health insurance.

The traditional products most commonly cited are rath, sindiegne, kel, kinkeliba, bissap, dankh, feuilles de goyave, xorom-pole, and nim. The category of symptoms most commonly treated is headaches, followed by parasites, exhaustion, and diarrheas. It is significant that the conditions for which households most frequently use traditional medicines are also ones for which urban Senegalese can buy and treat themselves with modern medicines.

Curative Use of Traditional Medicine. Afflictions for which traditional medicines are declared equally or more effective than modern medicines are frequently chronic diseases or those of long duration (e.g., rheumatism, diabetes, and asthma). This is by no means their only use, however; traditional remedies are also frequently used, for example, for treatment of intestinal parasites.

The seminal research in Senegalese pharmacopeia was done over a period of 30 years by Professor J. Kerharo at the School of Medicine in Dakar. Currently several institutions are interested in continuing applied research in this area. These include a research center in Fatick, the Institute of Health Development at Mbour, and the Community Center for Appropriate Health Technology in Pikine.

¹⁷Bloom, 1988. (Annex 11-1)

¹⁸ENDA Tier-Monde 1988:113-115. (Annex 11-3)

Pregnancy, Childbirth, and Birth Spacing. A branch of traditional medicine of particular interest and public health importance is that related to pregnancy and childbirth. The Department of Pediatrics at the School of Medicine has been working with and training village birth attendants from its rural base at the Center of Social Pediatrics at Khombole. It is now envisioned that the center's activities will be expanded into an integrated maternal and child health program in collaboration with the Department of Obstetrics and Gynecology.

Although the prevalence of modern contraception is low in Senegal, knowledge of birth spacing methods is widespread and is a part of African traditional wisdom. In a recent study on the ecology of maternal mortality, six out of 10 village women stated that they knew about spacing methods. Among the traditional methods most commonly mentioned were abstinence, prolonged breastfeeding, and talismans.¹⁹

Appropriate Technology. Appropriate technology has always been considered an essential element of primary health care. It can be defined as a combination of human resources, techniques, and equipment that are acceptable to, and can be used and maintained by, the people involved with locally available inputs.

Several of the objectives stated in Senegal's National Health Policy relate to the use of appropriate technology: the promotion of the participation of the people in the health effort; reinforcement and development of operational research; promotion of sanitation and hygiene through the widespread distribution of appropriate technologies; and elaboration of texts related to the practice of traditional medicine.

Over the last decade, an active center for research and development in appropriate technology has been the Community Dental Health Center in Pikine which has evolved into the Community Center for Appropriate Health Technology. The center's activities have been encouraged by the MOPHSA and the university, and have been presented several times at Dakar international fairs. The center's activities are well known to international organizations interested in appropriate health technology, such as WHO and UNICEF. A brief description of the center and its programs is provided in Annex 6.

Maternal and Family Health

Within the past few years, the international public health community has become aware that the maternal component of maternal and child health has essentially been neglected in favor of vertical strategies dedicated only to the health of children: e.g., child survival programs, expanded programs on immunization, etc. The World Bank has now stated that adult health is a neglected issue of growing public health importance and that the health of not only children but also of an entire economy depends on the health of parents as well. Programs exist in Senegal for the well-being and health of the family, but up until now they have focused for the most part on the delivery of contraceptive services.

¹⁹The findings of a study specifically dealing with the subject of traditional contraception in Senegal and conducted by a consultant from UNESCO, Mr. Kabwasa Nsans-O'Khan, were made public at a July 1990 press conference given by the Dakar office of the UNFPA.

Studies of Maternal Mortality. With the encouragement and support of the United Nations (WHO and UNDP) and USAID, the subject of maternal mortality has now become a priority concern in Senegal's national health strategy. A study was undertaken in 1989 by the MOPHSA and the Departments of Obstetrics and Pediatrics at the university on the subject of maternal mortality. The investigations were conducted both at the family and community levels and throughout the health system from the health hut to the university hospital. Study findings include several useful for program development:

- An epidemiological index of obstetrical risk was tested. (One out of 5 women were considered to be at high obstetrical risk.)
- The average village woman is characterized by early first pregnancy (69 percent under age 17, median age of 15); high parity and short birth intervals (median of 24 months); high work load, maintained throughout pregnancy; illiteracy and lack of knowledge related to pregnancy and childbirth risk; low economic level; late or inadequate prenatal visits; malnutrition and anemia due to changes in food intake (because of taboos) and workload; deliveries without medical help (60 percent of deliveries unassisted by at least a trained birth attendant); and medical evacuations that are too few and too late.
- Characteristics of the medical system include prenatal consultations inadequate in number and quality; inadequate surgical capabilities; inequitable distribution of personnel; overcrowding of regional and national hospitals; an ineffective system for management, referral, and medical evacuations; poor recordkeeping and an inadequate information system (an estimated 75 percent of maternal deaths are not recorded by medical statistics); frequent absence of essential supplies and medicines; and inadequate transportation and operating budgets.
- A supply and demand analysis of obstetrical care at delivery showed that 83 percent of pregnant women feel a need for modern care, but only 38 percent actually get it. On the supply side only 38 percent of medical services are accessible, available, acceptable, and affordable.
- There is much regional variability. The women of the region of Kolda have the highest risk and the least access to medical services.

Additionally, the study of rural pregnancy care, which was carried out in the region of Kaolack in 1984-85 (see Chapter 1), found, in addition to the risk factors mentioned earlier, that 1) women who had received at least one prenatal consultation had a significantly higher perinatal child survival rate than those without care (94 percent verses 79 percent); 2) all of the health institutions reported a consistent lack of essential supplies including blood, anesthesia, and oxytocics; and 3) the final outcome for patients referred to the center at Kaolack was not often favorable.

As a result of these studies, a national commission and project have been established, studies have been undertaken, and an action plan is in the final stages of development. The headlines in the June 30, 1990, issue of the national newspaper, "Le Soleil," proclaimed that 2,000 Senegalese women die in childbirth every year and that the goal of the government is to cut the maternal mortality rate in half by the year 2000.

National Strategy to Reduce Maternal Mortality. The national strategy to reduce maternal risk is multi-sectoral, integrated with other maternal and child health programs, and phased over three

time periods: the short term, 1991-1993; the medium term, 1994-1996; and the long term, 1997-2000. The strategy consists of two basic components:

- Improvement of women's condition
 - IEC at the family level (men and women)
 - IEC at the community level
 - Decreasing women's workload
 - Increasing women's revenues

- Improvement of the health system
 - Strengthening the existing system
 - Extending health coverage to presently unserved populations
 - Improving management of the system
 - Improving surveillance of pregnancy including home-based records in the villages

Documents giving the details of the proposed national plan are now being readied for presentation to the MOPHSA, the Government of Senegal, and interested international donors.

Family Planning

Senegal as an "Emergent" Country. A.I.D.'s Office of Population Family Planning Services Division categorizes recipient countries into five groups according to contraceptive prevalence (modern methods) and other measurements, from "emergent" countries with less than 8 percent contraceptive prevalence to "mature" countries with prevalence over 50 percent. For each category, A.I.D. has identified key areas of activity that will assist progress towards program maturity and widespread contraceptive availability and prevalence. In the case of emergent countries, these activities include building support and credibility for family planning; training of key personnel; development of policies and strategies; creation of general demand for family planning; meeting the needs of the urban elite; development of clinical services; and donor participation and coordination.

Since 1985, USAID has been pursuing an assistance program in Senegal's population sector that emphasizes the above areas of need outlined by the Office of Population. More significantly, Senegal is the first francophone African country, and one of the first emergent countries, to test these strategies in a large and coordinated manner. In addition, key studies and operations research (OR) efforts have been commissioned to gain insight into special problems and to make appropriate mid-course corrections. Thus, Senegal is an important "test case," particularly for the development of large-scale family planning programs in francophone Africa. (See Annex 7A for a detailed profile of Senegal as an emergent country.)

Early Family Planning Efforts. The country's first organized family planning service was provided by the Mouvement Sénégalais de Planning Familial in 1964 in Dakar. The service began by advising wives and husbands with large families on the means of contraception. It first inserted the IUD in 1966, and by January 1970 more than 1,000 had been inserted by trained midwives at the program's clinic.

In 1974, Senegal's IPPF affiliate, the ASBEF, was established. Its formation was announced by the minister of health at a workshop on population problems and the mass media in sub-Saharan Africa; this was the first indication of a change in the Senegalese government's attitude toward the provision of family planning advice and services. As mentioned in Chapter 2, the ASBEF operates a Model Family Planning Clinic in Dakar, and has another, smaller clinic in Louga.

USAID's Family Planning Inputs. Historically, USAID has always been Senegal's major financial and technical partner in the population sector. To a large degree, the successes of the Senegal program to date are due to USAID assistance. Bilateral assistance to Senegal began in the early 1980s with a now nearly forgotten (and not highly successful) \$7 million, four-year health and family planning project. USAID's latest project, authorized in late 1985 for \$20.6 million, is the seven-year bilateral Family Health and Population project which has the following benchmark objectives:

1. Awareness of modern contraceptive methods to be expanded to include 95 percent of the women of childbearing age in urban areas.
2. IEC efforts to be expanded to include key targets such as policymakers and members of the medical community.
3. Family planning services to be expanded to 150 centers by March 1990. The number of women using modern contraceptives to be increased to 100,000 by March 1990 (50 percent of the 200,000 women need to be covered by 1992 to reduce the Crude Birth Rate from 48 to 42 per 1000).

The design of this project is complex and ambitious. Some features, particularly a Women in Development (WID) component, proved unsuccessful and were not continued. Two aspects of the program design — the private sector component and use of an institutional contractor (International Science and Technology Institute, Inc.) — which were not enthusiastically received by the GOS at the project's start may have been key to the project's achievements. The project is scheduled for an evaluation in FY 1991. This evaluation will answer questions about project design (flexibility, reasonableness of objectives, etc.), program management (difficulties are purported), and the level and appropriateness of technical assistance.

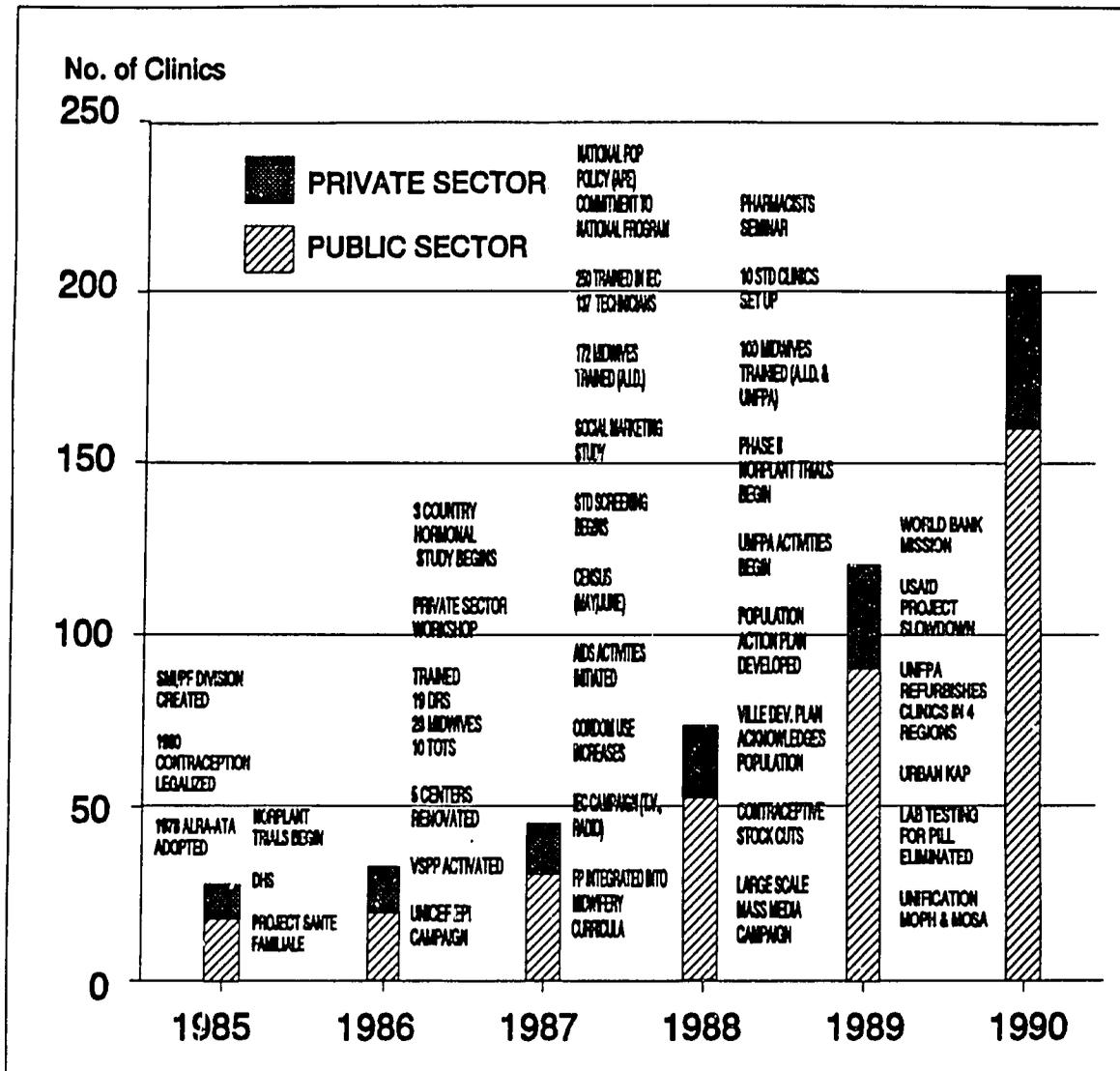
A.I.D. Centrally Funded Family Planning Inputs. In addition to bilateral programs, Senegal has benefitted from \$6.3 million in technical assistance provided by A.I.D.'s centrally funded Cooperating Agencies (CA). CAs form a vital technical resource pool for worldwide population programs; they also constitute A.I.D.'s institutional memory on what works, does not work, and what should be tried. Annex 7B summarizes how 16 CAs have contributed to family planning in Senegal.

In the future, as A.I.D. consolidates its program, CA efforts (whether funded centrally or through "buy-ins") are likely to be more limited in number, but will be larger in terms of budgets, technical assistance, and levels of effort; will use more local and regional resources; and will closely link their annual plans with A.I.D.'s overall sector strategy.

Family Planning Progress to Date. Over the last five years, Senegal's family planning program (sponsored largely by USAID and UNFPA) has made substantial gains. Table 13 on the next page portrays the synergistic relationship between program growth and many types of program activities. The working hypothesis is that an interaction between many different activities will produce maximum program growth; Senegal's experience appears to bear this out.

Table 13

**EVOLUTION OF SENEGAL'S FAMILY PLANNING PROGRAM:
A TIMELINE**



Before 1985, program development was slow and very few acceptors were being served, and most of them were in the Dakar area. Beginning in 1986, the program began to take off. As reported in USAID/Dakar's 1989 annual report, numbers of acceptors rose significantly:

1985	16,543
1986	18,509
1987	31,988
1988	42,769
1989	53,769

This rise in acceptors corresponded to an increase in the number of public and private/parastatal clinics offering services, from fewer than 25 in 1985 to about 120 by the end of 1989, and over 200 (including new clinics opened through the UNFPA project) by the end of 1990. At the same time, it is clear from supervision reports and user data that not all clinics are operating at their peak service potential and that many women are not getting optimal quality care. Low continuation and high drop-out rates are causes for concern, as are regular stock-outs of contraceptives at the clinic level. Field reports by International Science and Technology Institute (ISTI) consultants and discussions with MOPHSA personnel suggest possible causes of low utilization and high drop out rates (as well as a lack of demand). Causes include poor treatment of clients by providers; lack of counseling or poor clinical skills; health personnel, including the midwives and nurses themselves, unaware that midwives and nurses can supply oral contraceptives; poor record-keeping; and lack of supervision. Still, the existence of some 200 equipped and staffed clinical service points represents an enormous infrastructural investment upon which to build.

The investment (mainly USAID's) in human resource development over the period is equally impressive. Clinical family planning training, including IUD insertions, was provided between 1986 and 1989 to 300 nurses and 68 physicians. Training in techniques of family planning motivation and IEC was provided to some 438 persons, mainly social workers. This is a large reservoir of trained personnel. Their activities have begun to build credibility and support at local levels for family planning.

Over this same period there were a number of IEC activities, most notably a large mass media campaign (June 1988 to July 1989). The campaign included an innovative "family planning train" which attracted nationwide publicity. UNFPA launched family planning service activities in the four regions not yet covered by the USAID project (Diourbel, St.Louis, Louga, Tambacounda) and the idea of a "national" program began to solidify among Senegalese and donors alike.

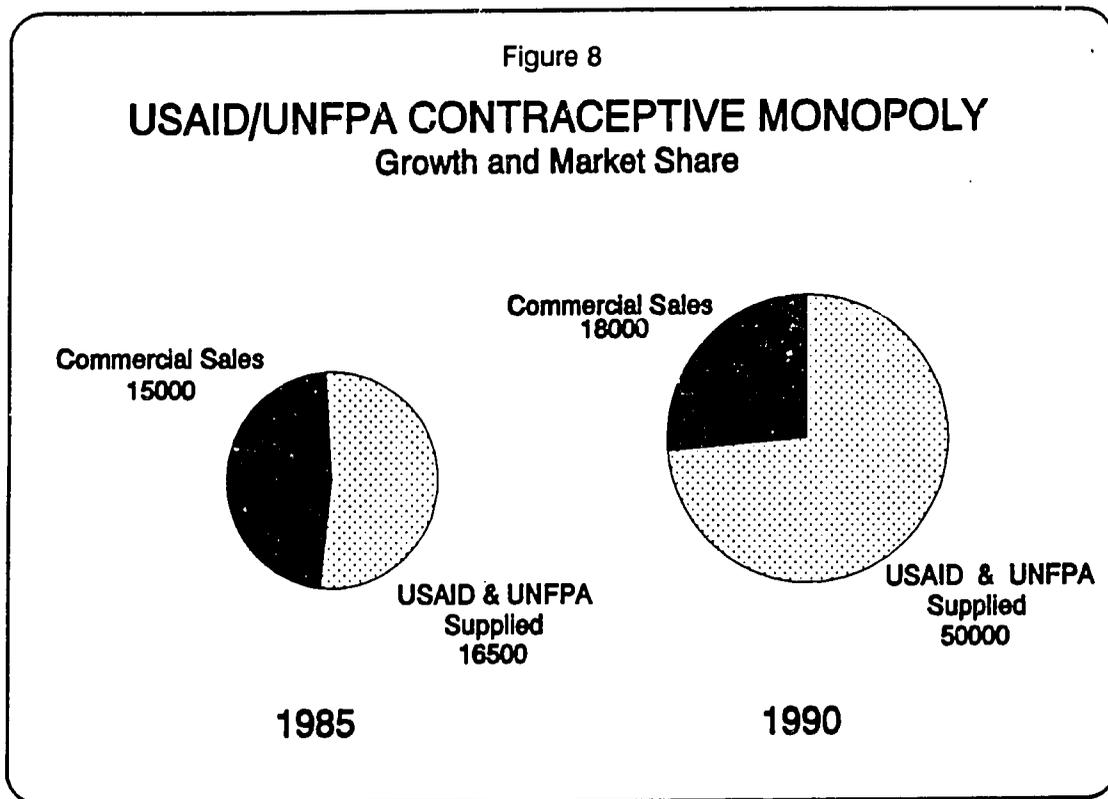
By mid-1989, however, there were signs that the family planning program was straining under the weight of rapid expansion. The most dramatic evidence was provided by the contraceptive stock-outs at both the national and clinic levels. Other indicators were poor clinic performance and administrative inefficiencies and irregularities. Program and technical assistance priorities have been adjusted in an effort to balance program growth with quality care. At this point, donor coordination and continued GOS commitment are key to further progress. Technical assistance is probably also a vital program input at this point.

At present, Senegal relies mainly on USAID and UNFPA to forecast and provide contraceptives which are delivered to Senegal's airports and warehouse. Shelf-life considerations, lead times required for contraceptive orders and the high cost of contraceptives make large "buffer stocks" imprudent and midcourse corrections more difficult (though not impossible) to make. USAID and

UNFPA coordinate exceptionally well in Senegal. USAID supplies pills (Lofemenol and Ovrette), IUDs (Cu-T380A), and condoms, while UNFPA provides injectables (Depo Provera) and pills (Ovral).

USAID currently makes the largest financial commitment of any donor towards contraceptive procurement. Projections through 1992 are as follows: 1990 — \$ 510,618; 1991 — \$ 322,124; 1992 — \$ 430,069. These figures do not include contraceptives for a social marketing program, but do include condoms for use in AIDS/STD programs. Unless the GOS or other donors (e.g., World Bank) begin to assume some costs, USAID's recurrent cost burden for contraceptives will continue to increase, as will its responsibility for managing this in-kind donation.

The burden placed on the GOS, USAID, and UNFPA to supply Senegal's contraceptors is made even heavier due to the lack of a "safety net" for users in the form of affordable commercially available contraceptives. The figure below gives a rough proportional representation of the growing USAID/UNFPA monopoly on both absolute numbers and "market share" among Senegal's contraceptors.



Communicable Diseases (Grandes Endémies)

The MOPHSA's recent reorganization has not yet produced a clear regrouping of programs as called for in the 1989 National Health Policy. It appears that the programs for EPI, malaria, AIDS, and STDs, as well as other programs such as that for leprosy, are still to be grouped under the central control of the Service National des Grandes Endémies, which is currently without a director and has been so for some time.

This centralized program office approach is a holdover from the pre-independence French regional structure that organized centralized program offices in Upper Volta (now Burkina Faso) and in Dakar in order to organize and direct mass, military-like (in fact, they were carried out by the military) health campaigns to combat major endemic diseases throughout the region and the country. At independence, the former French West African territories continued this approach by organizing in 1960 the multinational Organization for Coordination and Cooperation in the Control of Major Endemic Diseases (known by its French acronym OCCGE) as a central agency for coordination and technical cooperation. This agency continues to receive funds and technical assistance from the French, and Senegal duplicates this centralized structural approach in the organization of the Ministry's Service des Grandes Endémies.

This approach has proved to be increasingly cumbersome and unable to deal with the immediate needs of individual regions and to aid in fielding decentralized program guidance. With the decision in 1985 to establish fixed vaccination centers, for example, as opposed to the earlier strategy of fielding centrally run mobile team campaigns, such a centralized approach to programming became obviously unwieldy. Now that regions have begun to develop their own roles and service infrastructure (albeit along lines similar to the central structure), the central office needs to redefine its functions so that it can effectively support the work of the regions in developing integrated services and sustainable vaccination program systems.

Expanded Program of Immunization. The EPI program is managed by the Service des Grandes Endémies at the national level and by a regional office under the control of a Médecin-chef des Grandes Endémies in the office of the regional Médecin-chef. His major responsibility is to ensure the functioning of the "cold chain" for vaccine supplies for the region and to act as assistant to the regional Médecin-chef. At the departmental level, a Médecin-chef de la circonscription médicale has the responsibility for the management and coordination of vaccination activity at centers throughout the department.

Since its inception in the late 1970s, Senegal's immunization program has undergone some important changes, most notably the extension of coverage from two regions in 1979-1982 to the entire country and a shift from a mobile team approach (pre-1985) to that of working from fixed centers. In addition, as a signatory to the Bellagio Conference of 1984, Senegal committed itself to achieving universal immunization coverage (defined as 80 percent of children under 5) by 1990, starting from a coverage level that even more than a year later was less than 20 percent for children 0 to 5 years of age.

Promoting the WHO concept of development of fixed centers for immunization, UNICEF has acted as the major funding agent for the program. It provides equipment, supplies, training supervision, monitoring, and evaluation. UNICEF responds to directives from headquarters and is also prompted by the knowledge of program needs of personnel in-country. The resulting strategy supports decentralization and the development of regional and departmental capabilities to sustain routine vaccination activity, but also supports the continuation of periodic national campaigns. The results of such a dual strategy can perhaps be demonstrated through an examination of the findings of several assessments conducted during the 1987-1990 campaign period.

Between November 1986 and April 1987, a national vaccination campaign was conducted with the announced objective of vaccinating 75 percent of children under two years of age. The results of the campaign showed coverage levels for children 12 to 23 months that were significantly higher, representing a 35 percent coverage rate for all children, up from a pre-campaign level of 20 percent.

These impressive results were not without drawbacks, however, which included little attention given to sustainable elements required for ongoing programs and no plan of operation for the post-acceleration period. Therefore, when a follow-on campaign scheduled for early 1988 was delayed until the end of that year, it showed a pre-campaign coverage level of nearly that of the pre-1987 campaign levels shown above.²⁰ In other words, within little more than a year's time, coverage had dropped to percentages in the low 20s and 30s again.

There is no question that both campaigns generated the widespread involvement of government, media, and religious leaders, dramatically increased national awareness of vaccination, and raised coverage levels. But both campaigns were followed by similar drops in coverage levels and a loss of initiative, as shown by the following:

	7/87	12/87	3/89	5/89 ²¹
BCG	92%	46%	88%	**
DPT1P1	81	40	84	**
DPT2P2	69	29	68	**
DPT3P3	47	25	55	**
MEASLES	63	31	60	**

In early 1989 an attempt was made to recover some of the initiative lost after campaigns and steps were taken to decentralize responsibility for mobilization of the program. Since then UNICEF has worked with the government to plan an integrated approach and develop a permanent mobilization effort.

A follow-up assessment made by a visiting UNICEF team in 1989 outlined the major issues still facing the national program.

1. The lack of a consistent national mobilization strategy since the 1987 campaign has left many individual efforts to improve Senegal's immunization program without centralized guidance and support. Without reliable material support and policy directives from the central government, many such efforts have been frustrated and fail to live up to their full potential. Many health workers and aid officials believe that the short-term focus of the campaign distracted from working toward long-term development of a better preventive health care system.

2. The history of social mobilization for EPI in Senegal over the last two years highlights an absence of sustainability considerations. Each campaign generated widespread involvement of government, religious, and community leaders, and the mass media in support of the MOPHSA's efforts to dramatically increase immunization coverage levels to 75 and then 80 per cent. But each campaign was followed by a loss of initiative for mobilization efforts and significant drops in coverage almost to pre-campaign levels.

3. Despite its relatively sound infrastructure and good potential access to immunization services, the service delivery system suffers from some serious attitudinal, technical, and managerial problems:
a) Much of the coverage shortfall can be attributed to insufficient attention to the needs of the

²⁰Follow-up assessment, 1989.

²¹Complete data were not available, but data from two regions — Dakar and Kaolack — showed that coverage had dropped back to almost pre-campaign levels.

beneficiaries, e.g., only rarely do health workers consider the possibility that mothers may not be satisfied with the quality of the service they have been getting and decide not to return, nor do they take full advantage of opportunities to educate mothers about immunization when they come to the clinic. b) Although there are village health committees around the country, their role in orienting health care delivery to community needs has not yet been adequately recognized by nor included in the health system. c) Although a cold chain system to keep vaccines safe and potent extends throughout the country, it is not adequately maintained or distributed for routine use, especially at the health post level. d) Although EPI training has given most health staff a knowledge of the basics of immunization, application of this knowledge has not been consistent, and many health workers need more systematic and supportive supervision and increased motivation. e) Many opportunities to vaccinate women and children are missed, and children who have failed to complete their full schedule of vaccinations are not pursued with any regularity.

Still, according to the follow-up assessment:

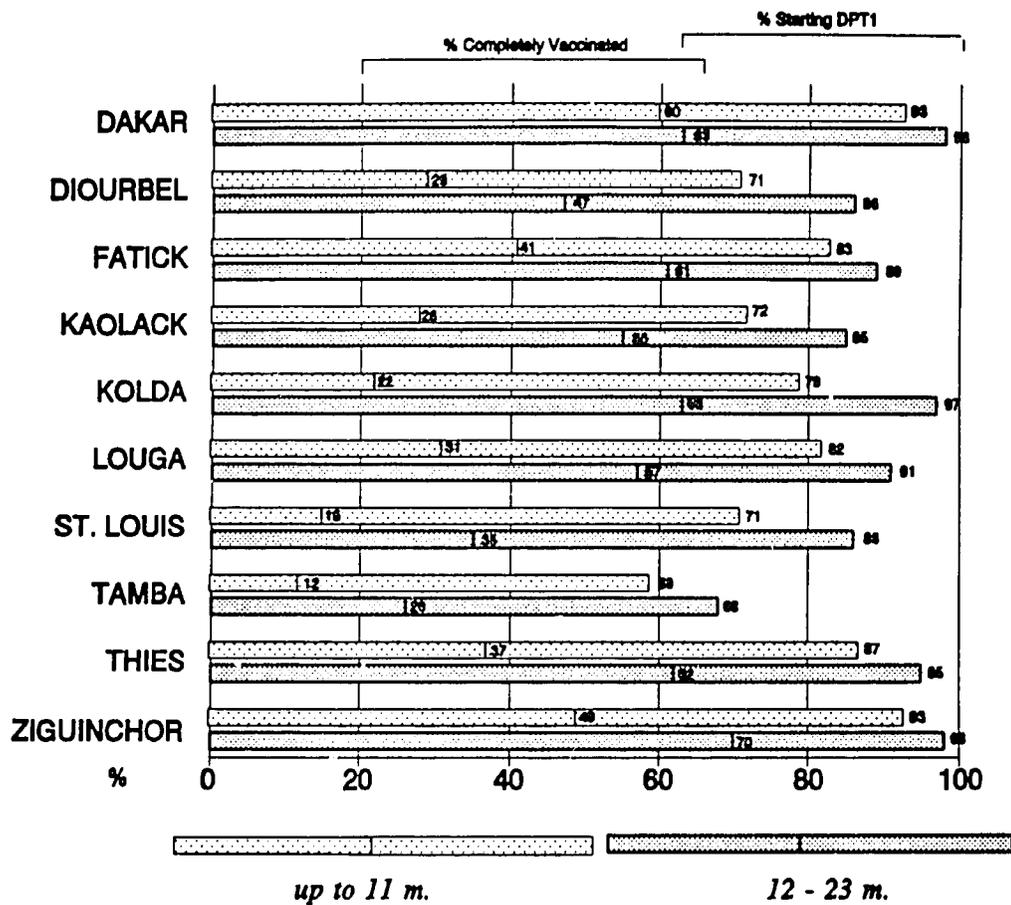
Senegal has developed potentially accessible services. This is reflected by BCG and DPT1 coverage rates above 85 percent. The campaign of 1986-1987 led to the adoption of an EPI strategy using all fixed facilities and outreach immunization services rather than mobile teams...this has given potential access to immunization services from fixed facilities and their outreach points to over 80 percent of the population...(the remaining 20 percent can be) served by mobile teams which are generally run at the regional and departmental levels.

A study completed in June 1990 looked at the overall immunization program in Senegal, not just activity during and around campaign times, and noted the following findings which suggest some success in recent efforts at decentralization and points out needs for further efforts:

- Under the age of one year, children had a coverage rate of 85 percent, those under two had a coverage rate of 94 percent for BCG with only a small loss in coverage between this and the DPT1P1 vaccination, suggesting that access to the program is high.
- From this point onward, however, coverage drops for the under one year olds and two year olds to 37 percent and 55 percent, respectively for the final vaccination in the series, indicating lack of follow-up and parental understanding of the need to complete the program. (See below for tables and graphs demonstrating this occurrence.)
- Anti-tetanus coverage for women having delivered within the last year who came to health centers was a low 37 percent, while 52 percent of women came for at least two visits, suggesting some opportunity lost to capture more women in the program.
- The overall technical capability of staff to administer vaccines was good.
- The information system reporting vaccination activity functions well although the epidemiologic surveillance reporting system does not function as well.
- On the whole, the cold chain functions adequately from the national to the departmental levels although there is evidence of poor training and understanding of proper management of the cold chain. That is to say, the equipment appeared to be in adequate working order although staff were not always clear on procedures regarding temperature and vaccine storage.

Three major issues stand out from these studies: the lack of appropriate targets (targets are now seemingly 'no high to maintain), the need for follow-up, and the need for improved maternal neonatal tetanus efforts. Figures 9, 10, and 11 demonstrate these problems and potentials.

Figure 9
**Immunization Coverage
 by Region**



Senegal June 1990

Source: EPI Evaluation, June 29, 1990

Note: The difference between DPT1 and Completed indicates "loss" through attrition (poor follow-up); e.g., Dakar (< 1 yrs.) 93% DPT1 Coverage
 - 60% Completely Vaccinated
 33% Drop-out

Figure 10

Vaccination Coverage for Senegal as a Whole

Antigenes	Up to 11 Months	12-23 Months
BCG	85%	94%
DPT 1	81%	91%
DPT 2	70%	83%
DPT 3	47%	63%
Oral Polio	53%	68%
Measles	48%	76%
Yellow Fever	46%	75%
ECV	37%	55%

Figure 11

Anti-Tetanus Coverage for Women Having Delivered
in the Past Year in Senegal as a Whole

	VAT 1	VAT 2	VAT 3	VAT 4
%	53%	37%	6%	1%

Malaria Control Program. Also located under the control of the Service des Grandes Endémies, the national anti-malaria program operates as a fully integrated service with distribution of medicines made through the national and regional pharmaceutical system.

As outlined in the VIIIth National Economic-Social Development Plan (1989-1995), the objectives of the malaria control program are to reduce childhood morbidity and mortality by 75 percent during the plan period. The strategy calls for the use of both chemoprophylaxis and chemotherapy for children and pregnant women. It employs an integrated approach which provides weekly chloroquine prophylaxis to children aged 0-5 years and to pregnant women; provides presumptive therapy in all cases of fever; and treats all laboratory confirmed cases of malaria.

It should be noted that this approach has caused confusion in the field and exacerbated supply problems. In addition, according to WHO, the use of chemoprophylaxis, on a large scale and for a long time, may result in other problems such as the appearance of drug-resistant parasites and of toxic reactions which, in the case of chloroquine, is due to long-term accumulation of the antimalarial drug in certain tissues.²² In fact, the approach used in Senegal is no longer recommended by WHO. WHO recommends that programs adopt a presumptive strategy consisting of the following measures:

²²WHO, Draft, January 1989. (Annex 11-15)

- Determine the presence of malaria parasites and provide appropriate treatment. In highly endemic areas, anti-malarial treatment must become routine because a placental infection can exist even in the absence of being able to detect parasites in the blood.
- Administer full doses of chloroquine (300mg. base) weekly, at least during the transmission season.
- Advise people to use a mosquito net at night and to take other personal protection measures to reduce contact with mosquitoes.
- In the event of suspected malaria during pregnancy, despite properly taken chloroquine chemoprophylaxis, microscopic diagnosis of the infection is essential. If positive, treatment with quinine is the only accepted treatment at present, pending the approval of the use of mefloquine or sulfadoxine/pyrimethamine during pregnancy.

Further, a PRICOR Supervision Study conducted in October 1989 in the regions of Kaolack, Fatick, Louga, Tambacounda, and Ziguinchor found serious problems in the administration of the program. Some highlights of their findings were as follows:

- 23 percent of mothers did not understand the length of treatment required;
- 41 percent of under-5 year olds were given incorrect doses per weight;
- 55 percent of health workers did not ask for history of fever, etc.;
- 32 percent did not take temperature (by any means);
- 82 percent gave no explanation to the patient;
- 25 percent of all supervisors did not discuss any observed case management discrepancies with subordinates; and
- 4 percent of all supervisors thought that case management was a problem.

(As this was a case/control study, it should be noted that the Fatick/Kaolack group did no better overall than the other regions in the study, despite the USAID-funded Rural Health Project operating in these regions since 1978.)

Senegal should reassess its policy of chemoprophylaxis for children under 5 years which has had limited success at best, in light of the need for a more systematic approach to presumptive therapy and appropriate follow-up.

Sexually Transmitted Diseases. Knowledge of the extent of the STD problem was sketchy until 1984. Since then, effort and resources have been put into expanding facilities for diagnosis and treatment. The design of the USAID Family Health and Population Project included provisions for the integration of STD education, diagnosis, and treatment with its family planning activities. Provisions were made to equip and renovate 2 national and 10 regional laboratories, and to purchase antibiotics. Supervisory visits have revealed variability in the cleanliness, efficiency, and skill levels of laboratory technicians. Departmental laboratory technicians generally can do gram smears for gonorrhea, wet smears for trichomonas vaginalis, and mycosis and RPR tests for syphilis. Regional laboratories usually can do more complex testing. The European Economic Community (EEC) is also providing technical assistance and supplies to regional laboratories. The governments of Italy and Germany are providing technical assistance in the repair and maintenance of laboratory equipment.

As stated in Chapter 1, 149 cases of AIDS were reported in Senegal by the end of 1988 (0.9 per 100,000); by March 1990, 306 cases had been reported and a rapid expansion is predicted. As

in many African countries, HIV/AIDS is probably under reported. Although testing facilities exist, the health system is generally passive, relying mainly on testing of hospital patients and self-selected clients, or screening blood donors. Seropositivity was estimated by Senegal's AIDS program, Programme National de Prévention du SIDA, at 0.6 percent among controls, 1.3 percent among hospital patients, and 15.8 percent among high-risk groups.

A 1988 study carried out in urban Dakar/Pikine reported that about half the population studied (55.8 percent) recognized AIDS as a sexually transmitted disease (as opposed to about one-third who understood how syphilis is transmitted). The same study estimated that only 30 percent of the population was "well informed" on HIV/AIDS, and that most denied having casual sexual contacts. Still, the study identified some 1,613 prostitutes in the area (with condom use reportedly high among this risk group) who are well informed about AIDS. About one-fifth of the population in the study was determined to be at risk for HIV/AIDS. Embarrassment and lack of knowledge were identified as barriers to condom use. The study recommended an education and condom use campaign directed at the high-risk groups.

The GOS established a Comité National de Lutte Contre le SIDA (National Committee for the Fight against AIDS) in 1986, predominantly under the sponsorship of the MOPHSA, which has carried out a number of studies, educational campaigns, and other activities. With assistance from WHO, it has elaborated an ambitious, detailed medium-term (1990-1991) national program that utilizes national and regional AIDS committees. The program plan calls for epidemiological activities (sentinel monitoring, improvement of laboratory testing, a full-time expatriate epidemiologist, and more), training of health personnel, IEC activities (mass media), enhanced testing, and data collection and follow-up of those testing seropositive. The plan requests further that condoms be donated but does not elaborate an aggressive plan for large-scale condom distribution or social marketing. The program has six objectives: 1) to survey the progression of the epidemic; 2) to diminish transmission; 3) reduce transmission from mother to child; 4) overcome the risk of transmission by transfusion; 5) improve the control of persons who test seropositive; and 6) develop and coordinate research. It is not clear from the current MOPHSA organizational chart whether the program will come under the control of the Service des Grandes Endémies or the Service Nationale de l'Hygiène, as originally envisioned in 1986.

USAID has been responsive to GOS requests for assistance with HIV/AIDS. In 1988 USAID invested \$486,376 in HIV/AIDS activities in Senegal (including \$267,683 through DFA and \$50,000 from the population account). This was about 5 percent of A.I.D.'s \$8.9 million investment in HIV/AIDS in Africa for that year. Obligations for 1990/1991 are planned at \$570,000. USAID has financed conference travel, blood transfusion screening, surveillance, applied research, training, PVO assistance, and public information campaigns.

USAID also provides condoms for STD/AIDS prevention and family planning. Planned condom provision for Senegal is 3.5 million pieces for 1990 (\$170,928), 2.7 million pieces for 1991 (\$142,103), and 3.9 million pieces for 1992 (\$211,147).

Nutrition and Diarrheal Disease Control (Service de l'Alimentation et de la Nutrition Appliquée au Sénégal)

Organized in a manner similar to the Service des Grandes Endémies, the Service de l'Alimentation et de la Nutrition Appliquée au Sénégal (SANAS) is focused upon two major

programs — an anti-diarrheal program and a nutrition program. SANAS operates with its own staff but has also operated with the direct support of the PRITECH project funded by USAID. Until August 1990, it had been without a director for several years.

Anti-Diarrheal Program. Designed at the end of 1985, a national anti-diarrheal program began in the last quarter of 1986 after the development of a series of regional implementation plans. Its goal was the reduction of the morbidity and mortality rates from diarrheal disease through a combination of home-mixed solutions and ORS packets provided through health facilities. Technical assistance was provided by the PRITECH project. The program's major implementation strategies include the following:

- Training physicians and other health workers in hospitals, health centers and health posts in the appropriate management of acute diarrhea. As a result of extensive training efforts during the last two years, personnel in almost all health centers and health posts and some village health workers have received in-service training in the control of diarrheal disease.
- Increasing the number of outlets so that 75 percent of the target population can have consistent and readily available sources of ORS packets.
- Establishing an IEC program to ensure that 80 percent of the mothers know about ORS, including how to prepare and use home-based sugar-salt solutions. Publicity was to be through an intensive mass media campaign of radio broadcasts, TV spots, and the dissemination of improved educational materials.
- Treating 65 percent of diarrheal episodes among children aged 0-5 years with ORS packets.
- Reducing the incidence of diarrhea by promoting basic domestic hygiene aimed at reducing the contamination of food and water.

With the assistance of the PRITECH staff in Dakar, a new proposal has been put forward (August 1990) to improve the effectiveness of the national anti-diarrheal program. The proposal summarizes the current status of the existing program:

Protocols were developed in 1986 and used to train 1,413 workers, including 109 doctors, 385 nurses, 63 nurse-midwives, 110 technicians, 110 hygiene agents, 320 sanitary agents, and 243 persons from related sectors. In addition, the national training schools were given training modules to incorporate into their curricula (prepared by PRITECH). An IEC campaign was developed that distributed posters, pamphlets, cartoons, and used media. UNICEF furnished packets of ORS and distributed them to regional offices for their redistribution to the health posts.

A February 1988 implementation study conducted by the Sahel regional office of PRITECH found the following to be the status of efforts in the field:

- 46 percent of observed cases were correctly evaluated for degree of dehydration;
- 53 percent of cases were properly counseled;
- 39 percent of the visited centers (55) were out of stocks;
- 19 percent of observed cases were shown the ORS mixture procedure; and
- 5 percent of mothers interviewed admitted to having used the solution before coming to the center.

Further, the 1989 KAP study (discussed in Chapter 1) showed that either home or packet solutions were used for the last diarrhea episode in only 34 percent of the cases and that those persons using the home formula could only recite it correctly in 26 percent of the cases (with a serious tendency to overestimate the salt requirement).

In all, the various studies undertaken have highlighted six major problems with the program:

1. The need for coordination and supervision at both the central and regional levels;
2. The necessity to define or review the policies concerning
 - utilization and measures for the home solution
 - utilization by sanitary agents
 - local production or ORS importation
 - commercialization of ORS (social marketing)
 - utilization of medicines (protocols)
 - including ORS as an essential medicine;
3. Frequent stock-outs at the departmental and lower levels;
4. Inadequate control of dehydration cases in the centers;
5. Insufficient basic and in-service training of personnel at all levels; and
6. Weak execution of IEC activity at all levels.

Nutrition Program. A national program for the health and nutritional protection of children under 5 years, pregnant women, and breastfeeding women has been in place since 1973. However, since 1987, when the Catholic Relief Service's participation in the food distribution aspect (through the PL 480 program) of this program ceased, the program has effectively stopped²³ because the MOPHSA has not been able to develop any other national strategy around which to organize program activity. The anti-diarrheal program was to have taken its place. The program had developed the following major objectives targeted at the at-risk population:

1. Enabling the nutrition service to provide advice and counsel on surveillance, education, and rehabilitation.
2. Training health personnel to ensure that all health structures adopt national nutritional strategies.
3. Supporting regional health plans to implement appropriate nutrition plans.
4. Supporting village-based programs consisting of small nutritional units around health huts and rural maternities as well as women's and youth organizations. Mothers were to be encouraged to provide better nutrition to their children through such programs.
5. Rehabilitating severely malnourished children.

²³See VIIIth Plan, p. 84. (Annex 11-8)

Despite the rupture of the food distribution activity in 1988, according to a new PRITECH (August 1990) program proposal, certain health center chiefs, along with certain women's groups, have tried hard to continue program activity and have created means by which monies can be gathered to continue activities. In Fatick, activity continues with the involvement of women's groups, and in other regions such as Tambacounda and Kaolack (in addition to Fatick) the systematic weighing of infants continues along with vaccination activity, affording staff the opportunity to observe the infant's development five times in the first year. In addition, private Catholic dispensaries have continued nutrition activity integrated with other maternal and child health efforts and have sometimes included treatment of identified malnourished children in centers established for recuperation and nutrition education. Also, experiences in rural communities such as Gniby and at the Circonscription Médicale of Kaffrine, show the possibilities of using health centers in support of integrated nutrition activity.

Although the country lacks an integrated, comprehensive nutrition program, some donors have incorporated a nutrition component into their health programs. The UNFPA, for example, includes surveillance, growth monitoring, education, and rehabilitation activities in the 22 urban centers of their 4 target regions. Similarly, the Belgians have incorporated a nutrition component into their health programs serving Dagana, Pikine, and Podor. The World Bank also supports a nutrition program focused on health huts and peripheral areas.

Finally, there is a need for a comprehensive study of malnutrition in Senegal: fragmentary evidence from various sources indicates that moderate malnutrition is fairly widespread and that this condition may be a factor underlying much of the morbidity and mortality occurring in children 0-5 years old.

Other Significant Ministry Services

National Public Health Education Service. This service functions as the MOPHSA's IEC/health education capability. It has worked with donor agencies like UNICEF (in EPI) and USAID (PRITECH in ORT) in national program activities, providing posters, video modules, training booklets, and translations of materials. According to a HEALTHCOM²⁴ preliminary report, approximately a quarter of the service's staff is trained and competent. The service overall, however, does not have enough resources and is not capable of launching its own activities. There is a need for additional training in program management and general IEC, as well as an increased role in future IEC activity.

National Hygiene Service. This service directs the general activities of the regional and departmental "brigades" of sanitary hygiene agents. With the GOS and MOPHSA decentralization efforts under way and no new agents coming into service, it is not clear how this activity will proceed.

Summary of Findings

The GOS commitment to primary health care has been largely implemented through donor-sponsored programs and in-service trainings that have had an arguable impact upon the communities

²⁴An A.I.D. centrally funded health and communications project.

in which they were developed. Out of these efforts, nonetheless, have come valuable lessons and experiences with regard to community participation and system strengths and weaknesses.

Problems regarding maternal and child health and programming needs have surfaced and strategy development efforts have begun. EPI activities have had reasonable success when implemented as campaigns, but more have been difficult to maintain as a routine health post level activity (especially with regard to cold chain problems). The malaria control program has had stock-outs and confusion due to the lack of a clear policy regarding intervention. (At present, no donor works with the malaria program.) The anti-diarrheal program, even with great efforts at personnel training, suffers from a confused policy regarding home solution vs. packets for oral rehydration, and the proper administration of either. The nutrition program has stopped as a nationwide effort, and continues only as a locally supported activity, although a new program proposal for a nationwide program is under consideration. The national family planning program has made great strides at introducing services into both public clinics and private (mostly urban) pharmacies but has suffered from stock-out problems and a lack of central government commitment to stressing family size limitation. The health system has undertaken several activities in the area of STD/HIV-AIDS, a still moderate but increasingly serious problem. Lastly, health education service activities have been organized and launched, although largely through the efforts of the donor community, as the service remains without operational resources to organize activity on its own.

5. Economic and Financial Aspects of Health Services

Economic Profile of Senegal

Real per capita GNP in Senegal has declined over 10 percent since independence in 1960 because of slow economic growth and a rapidly expanding population. Achieving GOS economic objectives would only partially offset this decline by the year 2000. Current trends in per capita agricultural production indicate that the GOS objective of 80 percent food self-sufficiency is unrealistic.

Senegal's economy is two-tiered, consisting of an upper class which is better educated, better paid, better housed, better fed and which maintains an essentially Western life style; and the remainder of the population which is engaged in lower paying jobs, the informal sector, small scale and subsistence agriculture, or is unemployed. The average per capita income of \$650 is unevenly distributed with the top 20 percent of the population receiving over 60 percent of national income, while the lowest quintile receives less than 5 percent.

Industrialization is occurring mainly in urban areas, especially in Dakar. Because urban population growth exceeds the rate of economic expansion, increasing urban unemployment with attendant social and health problems is foreseen.

Expenditures on Health Care

Since 1980, the GOS has invested about 40 billion CFA in the expansion of Senegal's health infrastructure. Over half of these expenditures have been financed through external sources.

Annual health care expenditures are estimated at 40 billion CFA, two-thirds of which is accounted for by the private sector. This sector consists of hospitals, clinics, private practitioners, and pharmacies, most of which are located in Dakar and which cater primarily to the urban elite.

The share of the GOS budget allocated to health has dropped from 9 percent to 5 percent since 1970, resulting in a 60 percent decline in real per capita expenditures. The GOS has expressed commitment to reversing this trend, but has not yet done so. About 50 percent of the health budget is allocated to public hospitals, but these are understaffed and underfunded when compared to the private sector. The budget of the military-run Hôpital Principal equals 80 percent of that for all MOPHSA hospitals combined.

To compensate for its shrinking health budget, the GOS instituted a cost recovery system in the public sector 10 years ago. The system has never been fully implemented in hospitals in which annual reimbursements average 5 CFA per capita. Collections in health centers and health posts are significantly higher, 65 CFA per capita, but there has been no increase in real per capita collections since 1980. There are also large geographic variations in collection levels. Although there is a potential for greatly increasing cost recovery revenues, comprehensive reform is needed to attain the levels projected by the World Bank reforms and to implement the Bamako Initiative.

Health services, especially those provided by the private sector, are also funded through health insurance. The Ministry of Finance operates a plan covering 80,000 public employees and their families. There are 10 private insurance companies offering a variety of health insurance plans. In addition, the GOS enacted legislation in 1975 requiring all firms to establish or join health plans covering their employees and their dependents. Unfortunately, this program has experienced serious problems because of poor design, unsound management and abuse by beneficiaries. (See discussion of the private sector in Chapter 2.)

(See Annex 8 for a fuller discussion of the economic and financial aspects of health services in Senegal.)

Summary of Findings

The economic profile of Senegal is poor. Real per capita GNP has declined and looks as if it will continue to do so over the next decade. Industrialization has occurred in the urban areas and the population is migrating to these areas at a rapid rate. It is unlikely that the rate of economic expansion will keep pace with this rapid urbanization; therefore, increased urban unemployment and an increasingly deteriorating health situation for the urban population is foreseen.

Expenditures on health care have declined to only 5 percent of the national budget, but have stabilized for the time being. Increasingly, Senegal will look to its external (donor-financed) budget to meet health system budget needs. Before increased cost recovery revenues can be realized to ease this tendency, comprehensive reform is needed. Insurance schemes do not look, for the immediate future, to offer much hope of assisting in this situation.

6. Donor Health Sector Activity

USAID Sector Involvement

USAID provides Senegal with approximately \$40 million annually in economic assistance. This amount covers traditional project assistance aid and budgetary assistance. Assistance is focused upon structural and policy reform and encourages the development of the private sector and local private enterprise. The portfolio covers the sectors of soil and forest regeneration, rural health and nutrition, water management, and agricultural production. USAID ranked fourth during the 1978-87 period in general development assistance for Senegal.²⁵

Official USAID records trace the inception of bilateral assistance for health and population back to 1977 with the approval of the Rural Health Services Development Project (685-0210). Direct health assistance to Senegal was prompted in part by the cataclysmic effects of the drought and subsequent famines that ravaged the Sahel in the early 1970s. Another impetus to health assistance was, of course, the encouragement of the basic human needs strategies that were emerging at the same time.

Since 1977, USAID has continuously provided grants to Senegal in health. In addition, it has funded population and family planning activities (the first family planning project began in 1979), has maintained one or more Food for Peace programs, and until recently, has financed health activities as part of integrated rural development and river basin development projects.

USAID has been an influential donor in the health sector. During the 1980s, it was most significant among the donors in terms of the scope and dollar value of its portfolio. Although there were few strictly health sector projects in Senegal, the total value of the USAID bilateral health and population portfolio and centrally funded health and population activities during the decade was well in excess of \$25 million.²⁶

Current USAID priorities in the health sector focus on family planning and child survival efforts through nutrition, oral rehydration therapy, and child spacing. Two large projects continue to address these priorities:

- Family Health and Population Project. The largest donor project in population (almost two times that of the UNFPA project discussed below), this is a seven-year project which began in FY 1985. The project is designed to enable the public and private sectors to carry out an effective nationwide family planning program and to provide the demographic survey and analytic capability required to inform policymakers of the impact of rapid population growth. Activities include expansion of the current public sector clinic-based programs carried out by the MOPHSA; expansion of family planning/family health services in the private non-governmental sector; improvement of the country's demographic data base; and assistance in increasing the awareness of the relationship between rapid population growth and

²⁵USAID, *An Overview of the Current USAID Program in Senegal, 1990.* (Annex 11-14)

²⁶Bloom, 1988. (Annex 11-1)

development. The project finances training, technical assistance, advisory services, commodities, and other costs. The project completion date is 1992. Total cost of the project is \$20.6 million.

- **Rural Health Delivery Services II/Child Survival Project.** The largest rural health project during the 1980s, this is a follow-on to the Rural Health Project. The project was designed to build on the gains of the first project, to establish a sustainable, community-based primary health care system, and to standardize and improve specific child survival interventions. Its extended completion date is September 1991, and it now includes unused monies augmented (\$3.819 million to which was added \$2 million) and redirected to strengthen organization and management systems of the MOPHSA in general, increase decentralization to the regions and departments with a focus on implementation of primary health care programs, improve and increase the child survival interventions for children under five years and mothers, and to improve training in public health planning. Its activities are no longer region-specific and rural health oriented; its new focus is on systemic improvements. The project extension will include a continuation of funding for some activities already under way prior to the amendment and extension period.

Tables 14 and 15 on the following pages provide a summary of past and present health sector projects and centrally funded sector support.

Other Donor Sector Involvement

Since the start-up of early attempts at improving the delivery of primary health care services to rural (or unserved) communities, other donors have initiated projects and programs in health-related areas. An outline of the activities of the major donors follows.

Belgium. The Belgian government continues to play a very active role in the health sector in Senegal. Its activities are concentrated in Pikine providing assistance to the Coopération Technique Belgo-Sénégalaise (CTBS) and Medicus Mundi Belgium for the development of primary health care activities through the Pikine Rural Health Project. The Belgian contribution has focused on supervision, logistic and technical assistance, and the improvement of facilities and services which has included the construction of 2 health centers, 21 health posts, and 9 maternities. Financial assistance has been particularly focused on managing the drug supply. The current phase of the Pikine project will continue through 1992 and will be extended on the expected request of the Senegalese government.

An important dimension of the ongoing work has been the formulation of standard drug protocols for use in the "essential medicines" program of the World Bank's Human Resources Development Project.

Canadian International Development Agency (CIDA). Ranked seventh in overall development assistance during the 1978-1987 period, Canada began bilateral assistance to Senegal in 1965 with projects in the education sector. In 1973 CIDA began to diversify its Senegal activities and is currently financing projects in agriculture, food aid, energy, forestry, institutional support, and transportation.

Table 14

A Summary of USAID-Funded Health Sector Support, 1977-1988

(FY) Year Approved	LOP (FY)	Project Number	Project Name	Project Content				Total LOP Cost (\$000)	Status Completed/ Active
				Health	Population	Nutrition	Water/Sanit.		
1967	67-69	AID/afr-468GTS	Water Resources Survey & Development Project, Central Senegal				X	579	C
1977	77-85	685-0208	Bakel Crop Production Small Irrigated Perimeters	X			X	8,574	C
1977	77-84	685-0210	Rural Health Services Development	X		X	X	4,063	C
1978	78-85	685-0205	Casamance Regional Development	X				32,604	C
1979	79-85	352-0217	Senegal Family Planning		X			2,548	C
1980	80-83	685-9801	PL-480, Title I			X			A
1984	84-91	685-0242	Rural Health Delivery Services II	X				12,125	A
1985	85-92	685-0248	Family Planning Services II		X			20,600	A

Includes current projects as well as those which had terminated three or more years prior to mid-1988.
Does not include regional Onchocerciasis Control Project which never had activities in Senegal as planned.

Table 15

Centrally Funded Activities
Health, Population & Nutrition Office
 (Thousand U.S. Dollars)

Proj. No.	Title	Approx. Funding	Start Date	Completion Date	Contractor
698-0474	HIV/AIDS Prevention in Africa	40	87	91	Host Country
936-3004	Population Communication Services	30	86	91	John Hopkins University
936-3018	Contraceptive Procurement	1,100*	83	92	Various
936-3023	Demographic and Health Survey I and II	880	35	92	Westinghouse
936-3030	Columbia University Operation Research	900	84	89	Columbia University
936-3034	Family Planning Private Enterprise	50	85	90	John Snow, Inc.
936-3037	Extending FP through 3rd World Women	28	87	90	Center for Dev. & Pop.
936-3038	Family Planning Logistics Management	100	86	91	Center for Disease Control
936-3039	Family Planning Management Training	50	85	90	Mgmt. Sciences for Health
936-3041	Expanded Trial of Norplant	103	86	90	Family Health Intern'l
936-3041	Les Inactives	60	90	91	Family Health Intern'l
936-3045	JHPIEGO Regional Training Center	320	87	92	Johns Hopkins University
936-3049	Assoc. for Voluntary Surgical Contraception	30	85	92	Asso. Vol. Surg. Contraception
936-3050	Population Council	50	90	92	Population Council
936-5920	PRICOR II	153	87	91	Center for Human Services
936-5927	REACH	60	87	90	John Snow Inc.
936-5965	Global Program on AIDS	100	86	90	WHO
936-5969	Health Financing and Sustainability	200	89	93	Abt Association Inc.
936-5969	Oral Rehydration Therapy - PRITECH	180	85	92	Mgt. Sciences for Health
936-5970	Technical Advisors in AIDS & CS	532	88	91	Center for Disease Control
936-5972	AIDS/Communication	100	87	92	Academy for Educat. Dev.
936-5972	AIDS/Technology	190	87	92	Family Health Internat'l
936-5984	HEALTH COM II	75	90	91	Academy for Educat. Dev.

* Of which \$380,000 of IPPF/FPIA contraceptives to GOS and \$30,000 of IPPF contraceptives to ASBEF.

CIDA has also financed health and population activities. Participating in the 1988 census, along with USAID, UNFPA, and UNDP, CIDA focused on the implementation of the census, with funds budgeted for enumerator salaries, a post-census survey, data analysis, and the publication of results. CIDA provided a grant to Inter Pares, a Canadian NGO, to support the production of audiovisual materials on child spacing issues. CIDA also supports a small-scale rural development project with a small health education component in Tambacounda.

European Economic Community (EEC). The EEC ranked second in overall development assistance to Senegal during the period of 1978-1987, with an average (per year) input of \$46.5 million. In the past the EEC has not been an active participant in the health sector in Senegal. It has provided some assistance to the Hôpital St. Louis and to a few health centers, but it has not been involved in any large-scale health projects. However, in the framework of the new \$50 million Human Resources Development Project proposed by the World Bank (see below), the EEC has been asked to match the \$20 million the Bank will provide. According to an EEC official, the EEC has \$30 million to spend in Senegal on agriculture and health activities and will decide how it will be apportioned.

France. During the 1978-1987 period, France ranked consistently as the number one (overall) donor in Senegal, providing an average of \$110 million per year in general development assistance. In 1990, in the public health sector alone, France will double its contributions of the last five years (20 million French francs) to give 40 million in French francs.

Through its Comité Ministériel Franco-Sénégalais, France will offer the technical assistance of 98 professionals in positions at the Institut Pasteur, the Faculté de Médecine et de Pharmacie, Hôpital Principal Dakar, Hôpital le Dantec, CHU Fann, and 15 public hospitals in Senegal. This assistance will focus on issues of curative care, technical and management issues, aid in the development of blood analysis for HIV/AIDS in blood banks in Dakar and St. Louis, and hepatitis research. In addition, France will offer assistance in a sanitation program in the Senegal Oriental region and will build an extension to the Hôpital de Ziguinchor. Finally, the Comité will supply vaccines to the Grandes Endémies service for their EPI activity.

Italy. During the three years of 1985-1987, Italy established itself as the fifth largest donor in Senegal with assistance totaling \$15.7, \$31.0 and \$45.4 million, respectively, in general development assistance. In the health sector their assistance has focused on supplies of equipment (hospital, vehicles, construction), monies for UNICEF activities in EPI, and support for several NGOs (CARITAS and COSPE, the latter an Italian NGO operating in the Ziguinchor area).

Japanese International Cooperation Agency (JICA). Japan ranked ninth in official development assistance to Senegal over the period of 1978-1987. Originally focused on Asian development, JICA is gradually expanding into other regions and has been active in Senegal since 1984. Most of the JICA activities have been in small-scale rural development, rural water supplies, fisheries development, and food aid. Other contributions have been as diverse as a transmission electron microscope and acoustic equipment for a theater. The most significant JICA contribution to the health sector was a large grant to Kaolack Hospital for renovation and equipment.

This scattershot approach results from the fact that JICA provides grants or technical assistance on a request basis and relies almost exclusively on the use of single-year financing. JICA's family planning division, the Japanese Organization for International Cooperation in Family Planning, is not yet active in Senegal.

United Nations Children's Fund (UNICEF). UNICEF has played an important role in shaping Senegal's health strategy. Following the 1984 Bellagio Conference, "Protecting the World's Children," Senegal became a model country for an accelerated vaccination program. On September 5, 1986, during the visit to Senegal of the UNICEF executive director, the president of Senegal announced the target of completely vaccinating 75 percent of the children under 2 years by April 1987. As a result, Senegal became the lead country in this effort in West Africa.

UNICEF supports four projects in rural areas that specifically address the needs of women. One objective of these projects has been to increase women's incomes in order to help them earn enough money for their basic well-being and the needs of their children. To this end, UNICEF has provided assistance for productive activities of women's village groups (groupements féminins villageois).

UNICEF also continues to be very active in child survival activities in Senegal, having chosen to focus, at a national level, on the further development of a sustainable EPI and ORT program. The latter program is, as yet, not clearly outlined and has been able to deliver only a small quantity of the needed supplies of ORS packets. On a regional level, UNICEF will work to support decentralization of programs and the planning process (Plan Régional Développement Sanitaire and the Plan Départemental Développement Sanitaire) in the five regions where it now has WID projects (St. Louis, Thies, Tambacounda, Kolda, and Ziguinchor), with the emphasis on safe motherhood, nutrition, and essential drugs.

United Nations Development Program (UNDP). Since 1988, the UNDP has supported the study and program strategy development activity that addresses the maternal mortality health problem. It plans to continue such support as the strategy is developed into plans of action, and dialogue with other donors is sought.

In addition, in its current IVth Senegal Program (1987-1992), the UNDP has emphasized assisting the GOS in dealing with five areas of concern:

1. Demographic trends and the problems of urbanization
2. Preserving natural resources especially with regard to water and vegetation
3. Cereals production
4. Reorientation of the productive system
5. Development of an overall planning capacity that is needed to deal with structural adjustment and economic reform in the country

With regard to activities dealing with the population-urbanization issue, the UNDP aided the 1988 census; has promoted the integration of demographic variables into the planning process; and has helped define a medium- and long-term strategy for population programming (along with UNFPA).

United Nations Population Fund (UNFPA). The UNFPA considers Senegal a priority country and has invested \$9.8 million in population and family planning since 1972. Its Phase-I program, based on a 1977 population needs assessment and begun in 1979, earmarked a budget of \$5.5 million over four years. Due to UNFPA constraints, however, a slower program schedule was followed than planned, continuing through 1986. Projects funded have included maternal and child health and family planning; population IEC activities; and basic data collection and analysis. Activities have been coordinated by the Ministry of Planning and Coordination; executing agencies have included the United Nations, ILO, WHO, UNICEF, UNESCO, and the Government of Senegal.

In 1985 a joint UNFPA/World Bank team conducted a second population sector assessment in Senegal; UNFPA developed its Phase-II program for Senegal based on this assessment. This four-year program, begun in 1987, has a budget of \$4 million (\$2.8 directly from UNFPA funds and the balance to be requested from other donors). Projects include several continued from Phase-I and also the following:

Family Life Education for Women Project (1988-1990, executing agency: ILO). This project introduces population and family life education to young women in Louga province through women's cooperative groups. UNFPA funding: 1988 — \$39,628; 1989 — \$75,272; 1990 — \$58,000.

Improvement of Family Welfare Project (1988-1991, executing agencies: Government of Senegal, UNFPA, Université Libre de Bruxelles). This project focuses on the promotion of maternal and child health and family planning and the reduction of maternal and infant mortality through training, renovation of health centers, research, and contraceptive procurement. With this program, family planning assistance to Senegal has been effectively geographically divided with UNFPA taking primary responsibility in the four regions of Diourbel, Louga, Tambacounda, and St. Louis. (The USAID Family Planning Project is active in the other six regions.) Funding for the UNFPA project is provided by the three executing agencies of the United Nations and the Government of Senegal, totaling \$1,267,734.

The implementation of the national population policy adopted by the GOS in 1988 will necessitate the national coordination of the UNFPA project with that of the USAID, with particular attention to the supply of contraceptives (irregular contraceptive supply has interrupted the activities of both projects). UNFPA plans a third assessment visit in January 1991 to develop Phase-III of its program. It hopes that this assessment and USAID design activities will lead to further coordination of both agencies' efforts, thereby eliminating provincial divisions, assisting in the pooling of resources, and bringing about standardized logistical systems.

World Bank. The World Bank (through its International Development Agency), during the period of 1978-1987, ranked as the third largest overall donor in Senegal. In the last two years, however, it has ranked second and is therefore becoming a major influence in the donor community.

For the 10 years following its first involvement in Senegal (a railway development credit operation in 1966), the World Bank perceived Senegal as having generally sound economic management policies and provided several loans for infrastructure and institution building programs. Major problems began to surface in the late 1970s, however. In 1977, the Bank undertook the First Parapublic Sector Reform Project, and in 1980 made the first structural adjustment loans.

The current World Bank Country Strategy Paper (1989) discusses Senegalese efforts to pursue the comprehensive reform program initially outlined by the Bank in 1985, the importance of continued progress toward reform, and the "modest" prospects of Senegal's economy even with such adjustments. For the health sector, specifically, this document cites the importance of rearranging budget allocations to reinforce rural and preventive care.

The World Bank has been active in the health sector, notably in the promotion of nutrition through health huts and through its "Essential Medicines Program" for decentralized distribution. The Bank's First Human Resources Development Project, proposed to begin in 1991, has as its objectives the reduction of fertility and population growth rates and the improvement of access to basic health services. A sum of \$50 million has been proposed for the overall project with \$30 million for the population/family planning and maternal-child health program and \$20 million for other health activities. The Bank plans to provide \$20 million in International Development Agency financing and has solicited other donors to complete the amount. A second project will follow with attention to the education and training sector.

World Health Organization (WHO). In Senegal, WHO has adopted a technical support role, for the most part, although it has supported some training programs focused on primary health care. Currently the organization is seeking to increase its technical staff.

Overview of Amounts of Donor Assistance

For the period of 1987-1990, 63.3 percent of the investment budget of the GOS in health/nutrition will come from donors. For the same period, an additional 30.8 percent of the desired budget is in negotiation. The GOS will develop 5.9 percent of the investment budget required from internal sources. This 94.1 percent external budget amount represents 8.2 percent of all bilateral and multilateral investment assistance to the country.

Expenditures for primary health care account increasingly for a greater share of sector expenditures (42 percent in 1987) with most coming from USAID, UNICEF, and Belgium. Research,

management, and training accounted for 11 percent in 1987 of expenditures with most coming from WHO, France, and Italy. Prevention and control of disease accounted in 1987 for only 6 percent of expenditures with most coming from UNICEF for EPI. In 1988 it grew to 11.8 percent with the launching of a large UNICEF vaccination campaign, supported by Italy and France. Development of potable water schemes accounted in 1987 for 50 percent of expenditures, with most coming from Italy, Japan and the African Development Bank. According to a UNDP report on donor activities, in 1988 the percentage rose to 59.4 percent with a large donation made by Saudi Arabia for the development of village hydraulic systems.

(See Annex 9 for a breakdown of donor assistance for the period 1987-1988.)

Donor Collaboration

Donors began meeting together informally in 1987 during the period of the organization and development of the 1988 Census, in order to discuss contributions, problems, and input status. UNFPA chaired this series of meetings. Out of this informal arrangement developed the series of meetings that currently take place between donors. Principal and regular participants have been USAID, Belgium, France, UNICEF, WHO, and UNFPA.

In 1988, the group split into two groups to focus more specifically upon issues related to health and population. Belgium was chosen to chair meetings for the health group, and the UNFPA continued to act as chair for the population meetings. Meetings are held, on average, every month, with a circulated agenda.

Partly as a result of these meetings, but also as a result of the continuing dialogue between USAID and other donors, USAID (in its 1992 ABS) has outlined the roles it believes the various donors can play in the period of development activity ahead (1992-1997). Those roles are as follows:

- UNFPA and USAID taking the lead in the development of national family planning activities;
- UNICEF playing the lead role in immunization efforts and in the Bamako Initiative (decentralized fee-for-service and local control of medical re-supply);
- the World Bank taking the lead role in the policy and central reorganization dialogue with the GOS intended to lead to a private or semi-private sector functioning of the central pharmaceutical procurement system; and
- USAID working jointly with the EEC, Belgium, France, and Italy in planning for and supporting the development of regional/departmental health plans.

Summary of Findings

USAID, ranked fourth (France has consistently been number one) among the donor community overall in the decade of the 1980s, has focused its general assistance efforts upon structural and policy reform activity. In the health and population sector, it currently finances two large projects, one in health and one in family planning.

Other active donors in the health and population sector have included Belgium (supporting an urban primary health care clinic network), UNICEF (leading the EPI efforts), the UNFPA (with a program in family planning), and recently, the UNDP (with support for and interest in evolving the new maternal mortality strategy). As the World Bank is poised to promote the implementation of its huge \$50 million structural reform program for the health and population sector, it stands to become a major donor in this group.

Donors began meeting together informally in 1987, and now meet monthly. Principal and regular participants have been USAID, Belgium, France, UNICEF, WHO, UNFPA, and the World Bank. Partly as a result of these meetings, but also as a result of the continuing dialogue between USAID and other donors, USAID has outlined the roles it believes the various donors can play in the period of development activity ahead (1992-1997), e.g., UNFPA and USAID taking the lead in the development of national family planning activities, and UNICEF playing the lead role in immunization efforts and in the Bamako Initiative (decentralized fee-for-service and local control of medical re-supply).

7. Analysis of Key Issues

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Socio-Demographic Issues

Three significant trends regarding the population of Senegal form the major socio-demographic issues that must be dealt with over the coming decade and beyond.

High projected population growth rate. The population of Senegal is simultaneously increasing rapidly, getting younger, and shifting in geographic orientation from rural to urban areas, a situation that makes it essential to examine demographic trends. Population Reference Bureau data show a decrease in the Crude Birth Rate and the Total Fertility Rate during the period 1970 to 1990 from 49 to 46 and 7.0 to 6.4, respectively. Though this decrease is encouraging, analysis of the data reveals that any such decreases will be far outpaced by increased survival, resulting in a significant overall increase in the population of Senegal. Whether projections put the population in the year 2000 at 9.4 million or as high as 10.3 (World Bank), this size population would place enormous stress on the country's carrying capacity. Quite clearly, especially given the modest economic growth forecasts for the period, the GOS will have to deal openly and forcefully with this phenomenon. With the support of the donor community, the GOS will need to find a way to deal effectively with the most sensitive question of family size limitation.

Extremely high desired family size. In the 1986 DHS, only 19 percent of married women in Senegal were limiters and wanted no more children. However, 61.6 percent of those limiters already had 6 or more children and 59 percent were over 45 years old. These women are limiters only because they have achieved their desired family size. Nevertheless, the virtual non-availability of long-acting methods (surgical contraception and Norplant) indicates that the current program is not even beginning to meet these women's needs.²⁷

There is some interest in the spacing of children in Senegal. Almost 40 percent of women in the 1986 DHS reported wanting to wait two or more years for their next child. Desire to space births accounts for the vast majority of the present contraceptive prevalence of 11.3 percent, as well as the 32.6 percent who have ever tried contraception. This latter group includes women primarily using post-partum abstinence with only 6.3 percent having ever tried modern contraceptives and only 2.4 percent currently using a modern method.

However, when the natural birth spacing provided by breastfeeding is considered with the median desired birth interval, which is between 14 months (after the first birth) and 19 months (after the 5th or later child), it becomes obvious that there is little demand for modern contraception for spacing since women say they are already spacing children as much or more than they want. An exception to this pattern are urban and literate women who breastfeed for significantly shorter periods and return to fertility sooner. Urban women breastfeed on average 16.2 months and become fertile after 12.4 months; literate women breastfeed 15 months and return to fertility after 10.4 months. The earlier return to fertility indicates a reduction of the intensity of breastfeeding in the

²⁷Initial pre-introductory Norplant trials funded by USAID with technical assistance from Family Health International have been undertaken. Most of the 50 women in the first trial were relatively young (31.1 years), had five or more children, and had never used contraceptives.

final months. The urban population is at greater risk of short birth intervals and has generated the existing demand for modern contraceptives by replacing a traditional form of contraception (breastfeeding) with a modern one. Nevertheless, the majority of the data available indicate a very limited demand for modern contraceptives for the purposes of either spacing or limiting.

Therefore, to reduce fertility, it will be essential to address the extremely high desired family size by introducing the concept of limiting family size. This must be done with extreme care, working closely with opinion leaders, since MOPHSA personnel have identified the public's perception that family planning is "to stop having children" as a significant constraint on current demand. In the medium term, the program needs to encourage a longer continuation of contraception by women who are spacers, as well as educating women to be limiters, while emphasizing the child spacing and child survival benefits of family planning.

Traditional fertility limitation practices vs. modernizing trends. Trends in proximate determinants of fertility are both discouraging and encouraging. In general, trends which tend to modernize (urbanization, women in the economy, literacy, etc.) favor fertility reduction, usually through delayed marriage and use of modern contraceptives. DHS and programmatic data document that urban, younger, educated Senegalese women use contraceptives more and have lower fertility. According to the DHS, 22 percent of women who have received secondary level education use a modern method of contraception, in contrast to 6 percent of women who have not gone past the first level of education, and 1 percent of those who have not received any education. This positive trend is further substantiated by data presented in the figure below which presents the profile of an active family planning user drawn from a very recent Columbia University record review study at urban clinics in six regions of Senegal. (This profile is similar to that of women in the top 20 percent of the socio-economic sector.)

Figure 12

Profile of a Modern Contraceptive User

- 28 years old
- 4 living children
- Wolof (2/3)
- Married
- Muslim
- Urban
- Literate
- Husband salaried
- Not hypertensive
- Uses pill: 10 months
- Uses IUD: 18 months
- Heard about FP from a friend or health center

While modernization can be positive, it also carries with it the risk that traditional practices such as breastfeeding and post-partum abstinence, which have a positive impact on child spacing, will be practiced for shorter periods than the desired time or will stop altogether. Although a decline in traditional fertility regulation practices is to some extent inevitable, program planning needs to

encourage such practices to the extent possible, in particular when alternatives (i.e., access to modern contraception) are not readily available.

Few data exist to date on breastfeeding trends as they affect fertility. Most studies focus on maternal-infant nutrition, adequacy of breastmilk, and newborn diarrhea or growth patterns. The 1986 DHS estimated that 31 percent of married women of reproductive age were in a state of post-partum amenorrhea,²⁸ 99 percent of women breastfed up to four months, and 60 percent supplemented with only water. The average duration of post-partum amenorrhea was 16 months. This represents a positive phenomenon.

Supplementation (and diarrhea) seem to begin around three months, with a negative trend towards increasingly earlier supplementation. In rural areas women feed often and on demand, but sometimes consume inadequate calories during the famine season. Anecdotal evidence suggests that breastfeeding duration and frequency may be decreasing among urban women, especially elites, although this is not yet perceived to be an important health problem. Senegal's current family planning program appears to be relatively passive on breastfeeding.

A hidden factor with regard to fertility limitation practices is the issue of female literacy. Simply put, women with even a minimum of primary education deal more effectively with the health problems of both themselves and their family, in particular their children. An overall strategy to improve the health status of women and families should find some way to encourage this perspective in the GOS and other sector program plans, particularly those in the education sector.

Health Issues

High infant and early childhood mortality. Young children are the most vulnerable segment of the Senegalese population. While they make up one-fifth of the population, they account for nearly 60 percent of all deaths. The problem is especially acute among infants. Over 10 percent die before their first birthdays. Six causes of death account for over two-thirds of all infant mortality and nearly three-fourths of the mortality in children under five years of age: diarrheal disease; respiratory disease; malaria; measles; tetanus; and meningitis.

What is striking about the information known regarding cause of death and symptoms at the time of death (fever, diarrhea, cough) is the small number of diseases and associated symptoms implicated as the major causes of death among young children, as well as the extent to which these problems are amenable to relatively straightforward technical interventions. This suggests that well-targeted, interrelated interventions could produce dramatic results. Such an approach would note urban vs. rural distinctions with regard to prevalence and comprehension of the disease and its symptoms. It would also focus upon good perinatal care (including family planning for spacing), EPI, malaria prophylaxis, and control of diarrheal disease.

²⁸Post-partum amenorrhea -- the absence of menstrual periods following the birth of a baby -- comes about because ovulation (and thus the ability to conceive a child) is frequently suppressed for up to one year when a woman fully breastfeeds on demand. Since post-partum amenorrhea is dependent upon the amount of breastfeeding done by the newborn, full, on-demand feeding with little or no supplementation is normally required to achieve a contraceptive effect through breastfeeding. Worldwide, more births are averted through breastfeeding than by any other method of family planning.

Studies cited in this report demonstrate that, generally speaking, mothers know what kills their children and generally know what conditions contribute to their children's illnesses. But these studies and program effectiveness studies (see the program section discussion of ORS, immunization, and malaria earlier in this report) point to confusion over the significance of early signs of disease, what to do when symptoms appear (i.e., early treatment), and where to go to seek assistance. The need is for clarification of policy regarding treatment for these diseases and improved knowledge regarding what to do and when.

High maternal mortality. The major issue with regard to maternal mortality is simply that it is very high and that most women are not aware of the risk factors. Even when they do know there is risk, many do not know what options they have or decide to take action too late. The tendency is to accept the situation fatalistically.

Frustrating the ability to get at the problem are a number of socio-cultural factors. Although the age at first marriage has increased slightly in recent years, especially among urban women, the cultural norm is still early marriage, arranged by parents at their daughter's birth, before puberty, or at the time of puberty. Reasons for early marriage are both socio-cultural and economic. Virginity at marriage is very important; therefore, to ensure virginity, girls are married at a young age. Also, marriage and female sexuality have been viewed as existing only in direct relationship to fertility. Once a girl reaches puberty, she should be eager to prove her fertility, fertility being considered a gift from God. In addition, many women want large families because Islamic tradition denies the wife any rights over the wealth of her deceased husband, thus many children ensure old-age security for her.

Many traditional practices associated with pregnancy are beneficial, many are neutral, but some are harmful, e.g. early marriage and the practice of concealing the pregnancy during the first four months, or as long as possible. The latter eliminates early prenatal consultations and makes it difficult to administer two doses of tetanus toxoid prior to delivery, when the policy is to only vaccinate pregnant women. Dietary intake is neither of the quantity nor quality necessary for an optimal pregnancy outcome. Weight gain averages from six to twelve pounds at best, depending when the pregnancy occurs during the agricultural year. The reason for this very low weight gain is not only because of food scarcity and heavy labor, but also because many women try to minimize weight gain, believing (correctly) that weight gain will cause a large baby and thus a difficult delivery.

Other factors also affect a woman's ability to understand and act in her own best interests during pregnancy. For example, many cultural beliefs and nutritional taboos influence the kinds of food consumed and avoided; as many births are at home, many are also without assistance and in those with assistance, more than half of the assistants arrived after the birth; and many traditional practices are followed throughout the labor and delivery that provoke contraction, hasten expulsion of the placenta, and speed recovery.

Clearly, any strategy of services and information organized to positively affect the behavior of women will have to understand and build upon known practices, understandings, and customs to be effective.

(See Annex 10 for a discussion of the socio-cultural factors in Senegal affecting women's health.)

Increased prevalence of STD/HIV/AIDS. As noted earlier, Senegal at present has a low to medium prevalence rate for HIV/AIDS. With the organization of the National Committee for the Fight against AIDS, the country has effectively taken concrete steps to address the spread of this disease. Its presence will no doubt increase, however, and efforts to educate and provide screening must continue. Fortunately, relative to some other African countries, the GOS is committed to dealing with this problem openly.

Among other sexually transmitted diseases, gonorrhea is showing a great increase in resistance to penicillin (most probably due to easy access and misuse by both health workers and people who are self-medicating). It is very important to undertake efforts to identify, treat, and prevent the spread of these diseases. They have negative effects on pregnancies and delivery outcomes, and are a contraindication for insertion of IUDs, thereby frustrating efforts to provide effective birth control and healthy birth situations. It is eminently logical, therefore, to include efforts to curb the spread of STDs in the package of essential services aimed at mother and child.

Health and Population Sector Infrastructure Issues

The MOPHSA's inability to operationalize plans and objectives has long been identified as a major constraint to improvements in the delivery of services in the health system. Overcentralization and the absence of an operations-level, problem-solving perspective have been discussed among the root causes of this situation. A great deal of activity is currently under way to alleviate this situation. The MOPHSA, itself, is in the process of a major reorganization. At the central level divisions and departments have been abolished or combined in order to streamline activity. A call for the integration of services has been made in new policy guidelines. Proposals for new staffing patterns at facilities have been put forward and are under consideration. Medical officer and paramedic curricula are under redesign or review in order to make them more responsive to needs of service delivery. Proposals for the downgrading or relocation of health facilities have been put forward in order to extend appropriate service coverage. Guidelines for greater autonomy by local communities with regard to the generation and use of health service user fees are in development and early adoption stages. Regions have been directed to develop their own regional and departmental health plans.

All in all, the situation is characterized by a tremendous amount of proposed and actual change, posing real challenges for the MOPHSA and the GOS. The central issue, therefore, is the question of how the government will follow through to accomplish these tasks. Some of the more important management and structural needs of this basic redesign effort are discussed below.

Management Issues

Lack of an operationally focused, problem-solving perspective in the planning activity. Although first steps have been taken to change the structure of the planning process in the MOPHSA, a full outline of the new perspective required to approach and complete the planning process remains to be developed. Terms like "decentralization," "integration," and "key level of operation" have been employed and partially explained, but have not yet been put forward as part of a fully developed planning philosophy. Such a complete philosophy will not be easy to develop, and certainly not without the aid of donor agencies who have had experience implementing such a perspective. USAID/Dakar will need to continue to play a key role.

Lack of clearly defined central/regional roles, planning processes, service priorities, and support service requirements. At the central level, the MOPHSA has made a commitment to the development of a decentralized planning system. It has even taken the bold initiative of directing the regions to begin development of their own plans, with the financial assistance of USAID. It has not yet defined, however, in complete and operational terms, the roles of the national, regional, and departmental levels in this process. Priority service delivery areas have not been designated and needs characterized (except by donors working with the National Health Plan strategy). The roles to be played by key support services have not been designated. Performance standards have not yet been outlined, nor have other planning elements such as what technical assistance will be available, what the plan review, evaluation, and approval process will be (again, except by donors who have expressed interest in working with the National Health Plan strategy), and how plans will be monitored and evaluated.

At the regional and subregional levels it is not clear how decentralization is to take effect. New lines of authority and guidelines regarding integration of services have not been developed. Consequently, chief medical officers in the regions are struggling with their plan development activities from whatever understanding they have of how to proceed.

To date, the plan development process has produced less than half of the plans called for. According to an experienced and respected chief medical officer now teaching public health planning to other chief medical officers, those plans which have been put forward have tended to be thought of as belonging to the chief medical officer, himself, and have not been focused on the reorganization and better use of severely limited resources. Rather, the plans have concentrated on what would be needed to conduct essentially the same activities with more success. All of this is a significant first step, but far short of a full understanding of what is to be accomplished.

Several activities under way are aiding this process either directly or indirectly, but in an uncoordinated manner. The USAID-sponsored Comité de Suivi, for example, has toured regions offering advice but without a developed "package" of service objectives and procedures to be emphasized by the regions; in other words, no model has been developed. Similarly, the Institute of Health Development is offering a masters in public health program for chief medical officers but, as yet, places no emphasis on the operational planning or management needs of these field officers. Other efforts include a plan developed by the chief medical officer of Tambacounda region, done with the aid of French advisors. This lack of coordination stems from the lack of an agreed upon "core" of operational objectives, etc., thereby leaving much doubt and a reluctance to risk the energy and enthusiasm that was generated by initial attempts to respond to the decentralization directive. Without more guidance, people will become more cautious, reticent to initiate plans, or cynical regarding the outcome.

Clearly, emphasis is to be upon a strategy of maternal health and child survival activities; the level of focus is to be the district health center; key interventions have been developed by WHO that can be adapted to Senegal; and enough data are available to make "educated guesses" regarding targets and resource requirements. What remains to be done is for someone to take the lead in this process and coordinate it with other donors and the MOPHSA.

Problematic management information system. Although much activity is under way or planned to make the health management information system more useful, an important issue surrounding these proposals is how the system will aid an operationally focused decision-making process to serve all needs of all levels and yet resist being "over developed." Just how the system will be used in

conjunction with staff meetings and supervisory activity at departmental and regional levels, for example, will need clarification to ensure development of a simple, responsive system to meet the needs of health planners, managers, and providers at various levels. Development of such an information system is key to the ability to understand problems and measure the progress of activities.

Undeveloped supervision, monitoring, and evaluation criteria. Problems with the current management information system demonstrate the undeveloped state of the activity monitoring and evaluation process. Because collected data are not generally used to make management decisions or to evaluate progress or situation needs, data are usually inaccurate, incomplete, and presented in such a manner as to be difficult to use for planning or monitoring purposes. In other words, an information "feed-back loop" does not exist, so there is little incentive to improve the system and to make it more useful for local purposes. In addition, supervisory functions have not been spelled out (although such activities, with the help of the PRICOR project, are under way) and the knowledge and skills needed to perform these functions have not yet been outlined or acquired, with the result that many important service delivery functions (concerning ORT and malaria, for example) are not properly carried out by health workers and patients.

Taken together, all of the above-stated aspects regarding the elements of good, modern management indicate that an operationally focused, problem-solving approach to program management has not yet been fully outlined and understood, and therefore it is not practiced. If the decentralization process is to take hold in a constructive and sustainable way, this perspective must be fully developed.

Structural Issues

Maldistribution of staff. The maldistribution of staff throughout the health system, and in the rural areas in particular, has been an issue before the GOS for some time. As a result of pressure from various sources (the World Bank and others), the MOPHSA intends to establish a management plan for human resources that will permit a better distribution of personnel, thereby reducing inter-regional disparities. This plan is to include standardization of staffing patterns and a mechanism for the orderly recruitment, training, deployment, and supervision of personnel.

Two major studies which have outlined what such a management plan should include have been received with skepticism by both the donor community and the GOS. The GOS is, therefore, uncertain how to proceed. The issue will remain unresolved, unless pressure from the World Bank drives the GOS to attempt to adopt one of these two proposed plans. No donor or government body is working on this question, at present.

Inappropriate training. Training in medical and paramedical schools has provided a curative orientation for health services, rather than corresponding to new requirements that call for agents to be public health technicians, managers, and educators. Activities are planned or under way to address the issue of the appropriateness of the basic training of health service personnel. It remains to be seen, however, whether recommendations for curricula, when developed, will be implemented and whether, in the case of the Institute for Health and Development, a way will be found to sustain activities.

Limited access to health facilities. The MOPHSA estimates that only 40 percent of the Senegalese population has access to health care. In general, coverage has deteriorated over time as expansion of facilities has been outpaced by population growth. Accommodating the 40 percent

increase in population projected over the next ten years will require massive investments in the health services infrastructure.

The problem of access is exacerbated by the maldistribution of facilities and services. About three-fourths of all private providers and for-profit health facilities are concentrated in Dakar and cater primarily to the urban elite. Dakar, which accounts for just over one-fifth of the population, also has over half of the hospital beds in the country. Access to care in rural areas is limited by the distance between facilities and the unavailability of transportation. Facilities often are sited based on political considerations with inadequate consideration of service area size and travel distances. Similarly, the scope of services offered at a facility is not necessarily determined by distances to alternative sources of care.

Inadequate support services: research and training. The 1989 Senegal National Health Plan calls for the development of a research capability within the MOPHSA, which would place the capability within the Bureau of Research and Training. As earlier explained, however, the Bureau at present has neither the resources nor the links to the field to develop such a capability; it is dependent upon donor support for the organization and conduct of research activities. Even if the MOPHSA's percentage share of the national budget were to increase, present priorities would appear to prevent any of these funds from going to such research activities. With this reality in mind, the questions then become who will undertake the research activity and who will determine what is needed. USAID can play a key role in the development of an appreciation of the usefulness of research focused on problem-solving in service delivery, based upon the outcomes of its continued operations research efforts.

With regard to training, the inadequacies of the national training plan presented by the Training Division of the Bureau of Research and Training make it clear that this Division has neither the perspective nor the resources to develop an operationally focused plan, i.e., one based upon a clear presentation of established needs. Again, USAID, as the most experienced donor in the area of needs assessment and development of needs-based training, could help develop this perspective and capability.

Inadequate pharmaceutical distribution system. The public sector's distribution arm, the Pharmacie Nationale d'Approvisionnement (PNA), has been the subject of intensive study in recent years, with the following problems having been identified: frequent delays in procuring drugs and drugs not necessarily being obtained from the least expensive sources; unreasonable delays in paying for supplies; some inventory control procedures not being updated in over 50 years; frequent stock outages; poor inventory control/procurement practices at the health facility level; irrational prescriptive practices; and leakage in the fee-generated income process. These problems are the focus of continuing World Bank assistance.

While private drug distribution has been described as dynamic, it is concentrated in Dakar and prices are high. Private outlets are presumably required to carry products on the "liste sociale" promulgated by the MOPHSA but controls on mark-ups have reduced incentives to keep such products in stock. The private sector's contribution, therefore, to health system needs is minimal at present.

Potential of the private sector. The limits of the formal private sector in the provision of health and family planning services in Senegal must be recognized; it is not a panacea, readily available to fill all the gaps left by the public sector service delivery system. Interventions will need

to be specific, appropriate, and adequately supported in both technical and monetary terms, whether they are undertaken with private providers, employers, or community organizations. Acceptor targets for private sector activities must be realistic; often the objectives of the kinds of projects the private sector is most suited to — institutional strengthening, training, marketing — may not be orientated toward or result in the delivery of large numbers of family planning acceptors.

The only private sector avenues for serving large, national populations will involve social marketing, community-based distribution, and traditional healers. Other large scale, national networks do not currently exist for health and family planning service delivery in the private sector, and their creation would be a significant undertaking. However, some structures do exist that can be built upon. The first step, though, will have to be rigorously evaluating what exists, e.g., determining the viability of NGO health facilities, such as ASBEF, the Croix Rouge, and the Catholic health posts, and getting a clearer profile of the private for-profit health sector.

Mobilizing private practitioners and retailers, both modern and traditional, is difficult, as their professional or trade associations tend to be conservative; they do not recognize themselves as the resource for innovation, social change, introduction of new products, etc., that donors perceive them to be.

The VSPP project has worked to implement family planning services with a wide range of private sector partners. The experience has underscored several special aspects of such undertakings:

- The private sector requires its partner (donors) to be willing to share the risk. In effect, what is undertaken when establishing family planning services at a factory or setting up new providers in private practice is a joint venture, and to a business person, that means risk sharing. In other words, most of the risk capital for a new family planning activity must come from the donor, yet co-financing should be assured so that the private sector partner will be prepared to carry on after donor funding ends.
- The commercial infrastructure for health and pharmaceutical products in Senegal is well developed only within urban and semi-urban areas. The commercial market for contraceptives is weak because of the extremely limited size of the present market. Present pricing structures have emphasized skimming policies²⁹ which direct sales to higher income consumers. However, commercial manufacturers and marketers are interested in supporting market development to lower income consumers.
- The severely constrained access to credit/capital may limit entrepreneurial start-up ventures.
- Greater than anticipated amounts of technical assistance may be required. Often, being involved in health and family planning is a new pursuit for private sector partners, and despite the private sector's oft-acclaimed efficiency and effectiveness, there is still a learning curve. Technical assistance in such areas as training, record keeping, IEC, and quality assurance are particularly necessary; ideally local resources will be identified for such assistance so that long-term direct relationships can be built.

²⁹Selling fewer products at a higher margin rather than selling more goods cheaply.

- A supportive government/policy environment is critical to private sector efforts. Senegal is fortunate to have a basically supportive climate for such undertakings. Explicit government concurrence is critical to private sector actors, and government oversight, if not too controlling, can be tolerable and even mutually productive. The public sector may be needed over the medium- and long-term for continuing inputs to private sector health and family planning efforts (as training resources, providers of commodities, etc.).

- To work with the private sector, donors must be flexible, responsive and timely — perhaps more so than in the usual bilateral mode. The private sector is result- and action-oriented and expects those who wish to work in it to be the same. Stock-outs, lapses or delays in funding, or overburdensome reporting requirements will frustrate private sector partners and can scuttle activities.

- Working through organizations such as employers or professional associations enhances cost-effectiveness of private sector service delivery undertakings. Although demonstration projects may be necessary, it is not practical to cover the country one employer at a time, or one provider at a time.

- The identification or creation of local partners to act as "brokers" for private sector family planning is also useful. This may be the local family planning association, a parastatal health, family planning, insurance organ, a private health consultancy, or management venture. Such brokers sell their services in design of programs, training, IEC, or other necessary inputs, to the private sector providers being enlisted.

- Sustainability of private sector family planning services is not only financial; continuing access to technical support services and supplies is crucial. Local technical resources must be identified and direct relationships fostered (i.e., not always through the donor as intermediary).

- Financial sustainability of programs is paramount, as without the commitment and the means to carry on after donor funding ends, even private sector activities will fizzle out. Sustainability planning — making sure the partner is aware from the outset of the need to assume all costs, forecasting requirements for the post-donor period — is critical. Co-financing of such activities from the outset, and good planning, can mitigate the impact of the termination of donor funding.

Potential for commercial distribution of contraceptive and health products. At present, the private sector has targeted its products to the urban elite who can afford to pay higher prices for products and who have easy access to urban pharmaceutical outlets. The commercial market for oral contraceptives has a wide variety of products in Senegal; however, since there is minimal demand, present prices are developed around a skimming strategy and are too high for lower income groups. As of April 1990, condoms can be imported without tax, yet they are still an expensive product for most Senegalese.

Because of the low demand there is little evidence of adequate supply of contraceptives through the pharmaceutical and depot outlets in urban areas outside of Dakar. Increasing demand for contraceptives and reducing prices would create a private sector supply more accessible to the population at large. Demand generation activities will have to introduce the concept of reduced family size and, at the same time, reinforce current patterns of breastfeeding and spacing. Up to now, no effort has been made to address the need for limitation since it is a very sensitive subject in Senegal.

Preliminary sales tests with small retailers indicated that retailers believed they were not officially authorized to sell condoms. Pharmacies need to be assured that there is will be no backlash to extended distribution; ultimately there should be an official recognition of the authority of small retailers to sell condoms.

The public sector is an inefficient and inconsistent source of supply for both contraceptives and ORS and the private sector is relatively inaccessible. Accessible private sources of supply need to be built where they can best meet the needs of the public; the public sector should be relied upon when the private sector cannot meet the need. Therefore, private channels should be reinforced for oral contraceptives in urban and peri-urban areas. Once the prices of private products are reduced in these areas (through the social marketing projects recommended below), public health centers should no longer distribute oral contraceptives and doctors and midwives should prescribe the low-priced social marketing products.

In rural areas where commercial distribution of ethical products is very limited, public centers should continue to distribute products. Other ethical contraceptives which are more expensive and require the clinical services, including IUDs and injections, should continue to be distributed by the health centers. The private sector, where established, should be the major source of condoms and ORS. Both these products can be distributed through consumer channels that serve both urban and rural areas. Once social marketing of these products ensures an affordable price and accessible distribution, public sources in these areas should provide these products only to those who cannot pay. This rationalization of source will allow donor resources to be better spent where they are necessary and allow a greater measure of cost recovery.

There is presently no policy or plan to obtain supplies of ORS other than from UNICEF donations. Efforts to distribute donated packets through public channels have not been successful. It should be possible to develop a commercial market for ORS because of high demand and low price. The ORS product is available in many other countries in the region if the cost of local production cannot be justified. The critical issue will be to ensure a consistent supply source at a price that is accessible to local consumers.

Program Policy Issues

In order for programming to achieve its fullest potential, the following policy issues need to be addressed through continued dialogue between the MOPHSA and donors.

Population policy needs. The GOS has to its credit two recent significant achievements — the elaboration and approval of a National Population Policy in April 1988 and the elimination of restrictions on the prescription of oral contraceptives. At the same time, policy and bureaucratic progress still needs to be made in the following areas: the creation of a national family planning program; clarification of restrictions on the role of nurses; experimentation with community-based distribution; reduction of duties on commercial contraceptives; and commitment to limiting family size.

Health policy needs. A National Health Policy was developed in June 1989 with a great deal of input from USAID/Dakar's HPN office. The policy lists 13 objectives, which if implemented would constitute a major reorganization of the manner in which activities are carried out at the central and regional/departmental levels. Unfortunately, the health policy does not set priorities in areas of need nor outline any plans of action or programs for the realization of these significant changes.

Nutrition policy needs. The major policy issue with regard to the nutritional status of women and children focuses upon what can realistically be done to deal with existing malnutrition (in its several and sometimes essentially irreversible forms) versus prevention. Until this issue is better understood and field studies substantiate the levels that exist (by degree and regionality and seasonality), no national program would appear able to establish sensible goals or realistic objectives and strategies. Nutrition activities can proceed, of course, despite this situation but as components of other integrated family health and primary health care activities.

Public Sector Program Implementation Issues

Curative vs. preventive emphasis in primary health care services. At present, primary health care services in Senegal are of an essentially curative nature. The concept of preventive primary health care has not been translated into implementable community-supported work plans and activities that health service staffs have been trained and prepared to carry out (except where there has been strong donor initiative and continuing support for such activities).

The health system is, understandably, preoccupied with attending to its basic need of providing a minimum of quality services at facilities with limited resources; all from within a centralist framework and mind-set that facilitates a more passive approach to care than is called for by the primary health care approach. This perspective, however, is in transition. As decentralization takes hold, its procedures developed, and the continuing scarcity of resources understood, medical officers and local community groups may well begin to experiment with primary health care strategies on their own. The experiences of the donor-sponsored projects are available and can be used as a basis upon which to attempt local approaches.

Integration of maternal and child health/family planning/STD-AIDS services. Integration of maternal health, child health, family planning, and STD/AIDS program activities at the subregional level is also a key issue in the general MOPHSA effort to redefine its role and to utilize its scarce human and material resources more efficiently. The rationale is clear: family planning will in and of itself reduce maternal mortality; other interventions aimed at reducing maternal mortality can be integrated with contraceptive services; increasing the number of prenatal visits increases the opportunity to provide tetanus toxoid, to ask about the health status of other children (especially with regard to EPI and diarrhea or fever), to identify risks in pregnancy, and to counsel on the need to return after delivery for mother and baby postpartum check-ups; birth spacing is an important but sometimes neglected pillar of child survival; and visits for family planning counseling or contraception initiation (like IUD insertion) facilitate examination for STD infections and provide opportunities to discuss the importance of condom usage both for spacing/limiting and for protection from such infections.

As training for managers and staff is implemented in which the focus upon the interrelationship of key interventions of these programs is promoted, medical officers and staffs should begin to view their resources and system requirements from this perspective more easily. They will thus be able to use resources more efficiently and provide more targeted and effective health care.

Expanded Program of Immunization needs. UNICEF has been the major donor active in EPI in Senegal during the past decade. A recent follow-up assessment made by a visiting UNICEF team in 1989 outlined the major issues still facing the national program: the lack of a consistent national

mobilization strategy since the 1987 campaign has left many individual efforts to improve Senegal's immunization program without centralized guidance and support; the history of social mobilization for EPI in Senegal over the last two years has highlighted an absence of sustainability considerations; inadequate coverage in recent years can be attributed to attitudinal, technical, and managerial problems; and the cold chain system which extends throughout the country is not adequately maintained or distributed for routine use, especially at health post level.

Several key findings have emerged from this assessment that can help guide future development of a sustainable EPI in Senegal and that are also relevant to similar social mobilization efforts in other countries:

- A move to more decentralized strategies consistent with regional potentials that will help turn some of the short-term gains of the campaign into the basis for further development of a sustainable preventive health care system will only succeed with continued guidance and support from the central government.
- Collaborative partnerships with various non-health partners, which benefit all partners, must be sought. One such example is a Ministry of Education program in Senegal that links newborns with middle school children who follow "adopted babies" through the vaccination schedule. In this way, a generation of schoolchildren learn the importance of immunization and babies are tracked during their first year to complete the schedule.
- The improvement of health care delivery must be matched by continued and innovative efforts to educate the public and mobilize families to have their children immunized. Partnerships with non-health partners must be sought out by the MOPHSA to provide greater support for health education and fuller political commitment. Immediate steps toward these improvements during the next year will enhance the chances of achieving universal child immunization and developing sustainable vaccination coverage.

Malaria control program needs. There are a number of issues in the malaria control program which need clarification. Perhaps the most pressing is the need for clearly defined strategy. The present mixed treatment and prophylaxis strategy has not been widely successful in part because of frequent shortages of chloroquine at health facilities, particularly during the rainy season when it is most in demand. It is also a practice no longer promoted by WHO. Compounding the problem is the fact that the rainy season occurs just before the harvest when few rural people have funds available for purchase of chloroquine at commercial outlets. As a result, chloroquine is least available when it is most needed, and so malaria continues to pose a significant health problem in much of the country.

The recent PRICOR supervision study found that many staff at health facilities could not administer the correct dosage of chloroquine and that the drop-out rate was high, indicating a lack of understanding on the part of patients regarding the importance of the full treatment. A further issue regarding the development of any future strategy for control of malaria is the beginning emergence of resistance to chloroquine treatment. As yet, no study has been organized to look into this occurrence. Finally, no donor is working with the MOPHSA to address these issues and develop new strategies.

Confusion with regard to use of ORS. A number of issues plague the development of the national diarrhea control program. Recent studies have shown that there is significant confusion on

the part both of users and health service personnel regarding the proper use and mixture of the home salt-sugar solution and ORS packets. The GOS policy, while designed to deal with the lack of availability of ORS packets, has not resulted in a clear understanding of the use of home packets as an alternative. Despite a great deal of effort to train personnel at health centers, studies have found that users generally mixed the home solution incorrectly, and dangerously so; that is, with too much salt added. Additionally, the issue of whether to produce ORS packets domestically in order to have an adequate supply remains unresolved despite a PRITECH/SANAS study undertaken to assess just such a possibility. The health facilities remain critically short of ORS packets, as a result.

Lack of a national nutrition program. The major issue with regard to nutrition is that the GOS has no functioning program (or policy). The national program was stopped and no program has as yet replaced it. PRITECH and SANAS, however, have proposed a new program that needs to be studied.

Another issue involves the lack of information documenting the nature and extent malnutrition in the country. It is generally conceded that children suffer from some degree of malnutrition and women from anemia, especially during pregnancy. The GOS's previous nutrition program set objectives that focused upon the rehabilitation of children who were found to be malnourished without regard to all that was involved. That is, there was no sense expressed of the burden such ambitious objectives would place on the existing health service delivery system. In reality, the system could hope to do little more than emphasize prevention as a strategy.

Other program services. As with the support services of research and training, the National Public Health Education Service faces a future with insufficient resources. Clearly, therefore, it will be necessary to rely upon donor agencies to continue support of health education activities. Donors will also be expected to support the training and skill development needs of the staff of the National Hygiene Service. Both of these services may play significant roles in future IEC campaigns directed at increasing awareness and use of sanitary health practices.

Economic and Financial Issues in Health and Population Services Delivery

Since independence Senegal has fluctuated between economic stagnation and very modest growth. The country is dependent on foreign assistance for over 10 percent of its income. The outlook includes continued environmental degradation, decreasing food self-sufficiency and growing urban unemployment. Within the context of structural readjustment, the GOS has moved toward privatization and has progressively disengaged itself from the health sector. As a dual economy, Senegal is characterized by a highly uneven distribution of income. The top 20 percent of the population receives over 60 percent of the income. A substantial portion of the remainder is engaged in the traditional, subsistence sector, which is essentially non-monetized. It is against this backdrop that major reforms in health care delivery and financing have been proposed.

The key issue in this area centers on the availability of health care funding from all sources — the public sector, private payment for services, and foreign assistance. Also involved is the question of whether the available resources are adequate and effectively utilized to provide health services of the quantity and quality required to attain and sustain desired improvements in health status. Additional information is needed before this issue can be addressed.

Donor Activity

The basic issue regarding donor activity in Senegal is the extent to which donors will collaborate regarding the systemic, program, and service delivery needs of the public and private health care systems. Certainly, meetings and dialogue will continue, but the real test of a willingness to collaborate will come when discussion focuses on the package and prioritization of needs in the system and the implementation of improvements. Whether donors will be required by home offices to focus on geographic or functional areas of intervention, or a combination of both, as is presently the case with most donors (e.g., UNICEF working in four departments with programs targeted at women's needs, without other donor agreement to do the same in the remaining regions), will test the extent to which they can develop relationships that will lead to an overall, agreed upon agenda. Also, it remains to be seen whether recognized areas of experience and expertise (such as USAID's expertise and interest in private sector strategies, management system improvements, new contraceptive method introduction, etc.) will allow donors to seek each other's advice. Further, it has not yet been fully discussed whether support systems (like information and logistics — especially regarding procurement and supply of contraceptives) can be standardized.

8. Suggested Strategies and Key Activities

8. Suggested Strategies and Key Activities

In matters of primary health care, family planning, and management systems, USAID/Dakar has long been the leading, largest, and most experienced donor in the health and population sector in Senegal. Its program has made substantial progress over the last mission strategy period, and is well positioned to make further, substantial gains. The following discussion of the strategic objectives and the key elements and activities in an effective, overall mission strategy is intended to assist USAID in its CPSP exercise.

Strategic Health and Population Sector Objectives

High population growth is a major obstacle to economic and social development which is the primary objective of the USAID assistance program in Senegal. Increase in access to high quality family planning services is a critical element in promoting reproductive choice and is essential to enable families to participate more fully in opportunities generated by economic and social development. Promotion of family planning in Senegal is closely linked to and integrated with maternal and child health care. MCH interventions to increase child survival and to reduce maternal mortality are based on preventive health strategies and act directly to influence behavior and attitudes for fertility control.

Thus, the USAID assistance program should continue to provide major support to help the GOS carry out an effective family planning and MCH program during the 1990s. USAID's strategic goal can be defined as seeking large increases in contraceptive prevalence by expanding family planning services and fostering major improvements in child survival and family health by expanding and improving the related MCH service delivery system.

The rationale for a continuation of major USAID support for population and MCH activities in Senegal is based upon the following:

- The close linkages between population growth, social development, and economic growth.
- The potential for large gains in fertility reduction and smaller family size as a direct result of increased contraceptive prevalence and, indirectly, as a result of socioeconomic progress, e.g., improvements in health, education, female literacy, female education, female status, and female employment.
- The importance of family health in family decisions concerning family size.
- The close operational ties between different MCH interventions, especially in terms of delivery of family planning and MCH services in rural areas.
- USAID's comparative advantage among donors in providing technical assistance for family planning/MCH programs.

Key Elements and Activities in Overall Strategy

I. Build upon GOS policy and program initiatives.

First and foremost, USAID activities should build upon and should be consistent with the Government of Senegal's increasing recognition of the needs of the population as expressed in its recent population and health policy pronouncements and maternal mortality program strategy; its recognition of the need to take a concentrated, integrated approach to service delivery; and its efforts to find ways to focus limited resources on essential service delivery tasks, as shown by the recent initiation of efforts at reorganization, decentralization, and delegation of authority.

To this end, USAID should

1. Continue dialogue with the MOPHSA regarding population policy and development of policy and program guidelines to promote limitation of family size.
2. Review the SANAS/PRITECH nutrition program proposal and continue dialogue with the MOPHSA and other donors regarding development of a realistic preventive policy.
3. Support implementation of national health policy and program calling for integration of MCH and family planning services.
4. Encourage MOPHSA clarification and implementation regarding the decentralization/regionalization and delegation of authority initiatives taken by the Ministry.
5. Continue dialogue with the MOPHSA and donors regarding clarification of draft guidelines for community organization and control of health center revenues (i.e., user fee collections).
6. Continue dialogue with and push for MOPHSA adoption of WHO guidelines regarding presumptive treatment for malaria.
7. Continue dialogue with the MOPHSA regarding adoption of one national strategy for diarrheal disease control. Review the SANAS/PRITECH proposal for a new national anti-diarrheal program with the MOPHSA and other donors.
8. Review and discuss with other donors and the MOPHSA support for implementation of the recently developed maternal mortality program strategy.

— USAID and the donor community should study the recently proposed National Maternal Mortality Program and, in dialogue with the GOS, find ways to support its implementation as part of an integrated MCH/family planning program. Special suggestions for interventions in MCH activities would include assisting and strengthening the National Maternal/Child Program Office to fulfill its role of coordination of MCH activities, and helping the MOPHSA in its phased approach to strengthening existing facilities and services and extending coverage. This would include assisting in the improvement of the MOPHSA's management information and surveillance systems and continuing support for its population, family planning, and decentralization objectives. Detailed action plans exist for these programs.

9. Support, where appropriate within USAID's overall assistance program, for education, particularly female education and literacy, female status, and female employment.

II. Focus on the operational level needs of a package of linked family planning/MCH service delivery activities.

USAID/Dakar should approach the development of its strategy in the health and population sector from the standpoint of the need for a nationally endorsed package of health care services that is focused on integrated MCH/family planning activities at the health center and health post levels. These activities should be 1) well-targeted (e.g., focus on most at-risk groups and have different emphases for rural and urban populations) in order to be effective; 2) based upon low-tech interventions, to facilitate logistical requirements, sustainability, and community support; 3) selected for their impact and synergistic effect and linked in delivery, to be efficient; and 4) phased, to ensure high quality countrywide implementation.

Such an approach is essential because the operational level (the level at which services are delivered) is the key level in any health system. Further, interventions that help to reduce one major health problem often affect related or other major health/demographic problems. For example, efforts to reduce the number of infant deaths due to diarrhea through reinforcement of good and prolonged breastfeeding practices may also encourage longer intervals between pregnancies, thereby reducing the risks to maternal health posed by frequent pregnancies and promoting smaller family size. Likewise, the encouragement of prenatal visits facilitates maternal tetanus vaccination (thus providing newborns with antibodies), thereby reducing the high number of newborn deaths due to the disease and creating more opportunities to provide family planning counseling. Overall, efforts to lower infant and early childhood mortality play a most significant role in ensuring the success of family planning activities since women tend to have more than the desired number of children when they believe a certain number of children will not survive infancy and early childhood.

The selection of activities should involve the identification of key services needed to deal effectively with major health problems along with a discussion of the synergistic effect of these interventions; the identification of the key support services needed and the service delivery necessary to effect, monitor, and maintain them; and a discussion of where USAID's advantage lies with regard to provision of technical assistance versus implementation, noting when USAID should seek other key donor support for complete support of activity implementation.

To further this strategic aim, USAID should

1. Promote prenatal and post-partum care with emphasis upon maternal risk identification and education, tetanus toxoid vaccination, immunization for children, nutrition counseling for mothers and newborns (to include breastfeeding, hygiene, and weaning practices), counseling (and referral, as capability can be developed) for child spacing and limiting (that is, regarding use of contraceptive methods), and counseling and referral or examination for STD/AIDS. Mothers would also be asked about their children's illnesses and encouraged to bring other children to the clinic for vaccination and examinations.
2. Promote presumptive treatment for malaria following WHO guidelines.
 - Support the use of the CDC to study the emerging resistance to chloroquine and to propose effective interventions and protocols in the treatment of malaria.

3. Promote treatment of diarrhea by oral rehydration therapy.
4. Promote the immunization of all children under 2 years, with emphasis upon children under 1 year.
 - Work with the GOS and UNICEF to outline ways in which more realistic EPI program goals and objectives can be developed and ways in which to ensure the continued functioning of decentralized, sustainable health post level routine vaccination efforts.
5. Help the GOS expand family planning service delivery, particularly with respect to improvement and extension of MCH/family planning community-based services in rural areas.

III. Develop a modern management approach to and strengthen key service delivery support systems.

No package of interventions, however well designed, can be maintained without the identification and effective management of support system requirements. In the modern management approach to service delivery, the development of accurate and timely information and an operations level problem-solving perspective and capability are key. In this regard, a good field-level management information system is needed to provide field managers with information necessary for appropriate and timely action, whether in the relocation of available resources, requests for additional resources, or staff trainings. In addition, the environment must be supportive of attempts to identify and deal with problems at the regional and subregional levels.

To help achieve effective support systems, USAID should

1. Support the development of a management information system, at the regional level and below, for tracking patient utilization and treatment activity, supply needs, and staff skill enhancement needs.
 2. Support the development of patient referral procedures for high risk mothers and children.
 3. Support the development of a package of essential supplies in support of selected interventions.
 4. Support the development of a subregional level management perspective and procedural guidelines (with aid of operations research, as necessary), to include establishment of performance standards, approaches to problem-solving, and monitoring of program service activity.
 5. Support the development of IEC programs and messages, sensitive to target communities, for high risk pregnancies and maternal health, child spacing and limiting family size, STD/AIDs, early childhood disease prevention, and nutrition. Facility staff need to understand how to use and give such messages.
- IV. Participate in key institution building (that is, public and private infrastructure strengthening) activity.**

USAID should continue its dialogue and involvement with the GOS/MOPHSA and donor community regarding plans and efforts to improve infrastructure design and functioning, with

particular emphasis upon those elements that most directly affect the improvement of the delivery of key care and support services in the system. USAID has the experience and interest in this area and should continue to make it available to the MOPHSA. Specifically, USAID should

1. Assist the MOPHSA in the refinement of the national training plan so that proposed training is job-related, competency-based, and task-oriented. Support training consistent with these needs. Ensure that such training includes modern management techniques and perspectives, as well as IEC and clinical skills.
2. Continue the provision of technical support to the Comité de Suivi activity aimed at aiding the regions in the development of practical plans of action for key services and a general, quantitative, planning model.
3. Promote the development of an operations research capability within the MOPHSA in support of line staff in the regions, identifying management and job performance problems and exploring alternative solutions.
 - Expand and implement applied research studies like the PRICOR supervision studies.
4. Undertake a full review of and continue dialogue with the MOPHSA and other donors regarding the redesign of the pharmaceutical system.
 - Support the decentralization of the distribution system and the development of strong regional pharmacies.
 - Support the adoption and implementation of an essential drugs program.
 - Support the rationalization of procurement procedures and inventory control.
 - Provide support for the improvement of pharmaceuticals management at the facility level.
5. Encourage and strengthen the private sector's ability to contribute to increased access to high quality care. Specific activities could include the following:
 - Evaluate and then build on the VSPP experience in the private sector, which has been largely company-based service delivery, with a new emphasis on co-financing and sustainability; this would include the creation of linkages with local technical resources and establishment of a local "broker" for private sector family planning service delivery.
 - Undertake a number of small-scale studies to analyze the private sector, the actual and potential market, etc.
 - Promote commercial delivery of modern contraceptives by developing a social marketing project to expand the present market for contraceptives and ORS. This project should include the major elements of a "late-model" social marketing program: negotiated partnerships with the private sector; a marketing strategy which addresses the opportunity provided by the current market; provision of quality contraceptives with a priority for private enterprise sources; consumer research to determine marketing strategy; development of advertising, promotion, and other campaigns to address consumer motivation and information;

development of an appropriate pricing strategy based on consumer and market information; creation or reinforcement of a distribution system to ensure the continuous supply of contraceptives which are easily accessible to the consumer; and training of physicians, pharmacists, and other retailers to support consumer decisions with appropriate information. Social marketing projects can take up where IEC campaigns leave off by promoting specific products and developing a consistent and accessible supply of products. A social marketing project should be designed to take maximum advantage of the commercial infrastructure, avoiding the use of intermediaries, if at all possible.³⁰

- Expand contacts within the for-profit health care marketplace (private physicians, nurse-midwives, clinics, pharmacies) by setting up a revolving fund to assist *médecins-chômeurs* to establish practices offering basic health and family planning services in underserved areas; organizing, regularizing, and creating incentives for the use of public personnel in their "after hours" private practices for PHC and family planning (e.g., through renting public facilities, receipt of subsidized commodities, etc.); and strengthening professional associations (physicians, *sages-femmes*, traditional practitioners) so that they can assume a larger role in the attainment of national PHC and family planning objectives.
 - Provide technical assistance to existing service delivery NGOs, with an emphasis on management, marketing, entrepreneurship, growth/survival, self-reliance, and quality of care.
6. Support research activity to enhance intervention options for clients, with particular attention to VSC and Norplant.
 - Develop VSC service delivery and counseling/referral capabilities at the university teaching hospital and regional levels. As awareness and acceptance of family limitation increases, programs should be expanded to include active promotion of these services with a target of some 2,000-3,000 procedures per year by 1995.
 - Support regulatory approval and introduction of Norplant, including training of providers and counseling and promotion. Although the method is costly, the mission should evaluate use-effectiveness against initial and program costs, as compared to other methods, before making decisions on subsidizing this method. In any event, private sector promotion is recommended. USAID should subsidize training of private sector providers and facilitate commercial introduction of the method.
 7. Ensure provision of adequate supplies of contraceptives in the framework of achieving a better contraceptive mix and a plan to phase out donor support in the longer run.
 8. Support MOPHSA efforts to integrate family planning, STD/AIDS, and MCH program activities at the regional level and above.

³⁰ The exact nature of any social marketing program depends on current specific needs, emphasizing the elements which are weakest in the current market. Generally, social marketing programs reduce the price of at least one line of contraceptives while, sometimes the effect is to suppress all prices in response to competition and in other situations prices are already at acceptable levels. Social marketing programs make contraceptives more accessible and desirable, thereby increasing both sales and the size of the market for contraceptives. Often increased sales are noted in non-social marketed brands and products as well as project contraceptives. The magnitude of the increase in sales is dependent upon the scope of the marketing effort and any impediments to use of contraceptives.

9. Continue the current level of effort in technical and financial assistance to demographic and health surveys and special studies in order to evaluate program impact.

V. Aid in efforts to enhance overall sustainability of health system activity.

USAID/Dakar should aid efforts to enhance sustainability of activities in the health system with the use of operations research targeted at the management procedural needs in the system; development of community financing and participation schemes and cost-effectiveness analysis; and general research aimed at understanding the different perspectives of urban and rural communities with regard to health/demographic problems and their solution. Again, USAID has the experience and interest to work in this area and should plan to continue to offer assistance to the MOPHSA in this regard. Specifically, USAID should

1. Support efforts to improve cost recovery based on the outcome of current studies and the proposed comprehensive study of health care financing.
2. Evaluate USAID's Rural Health Services II Project with particular attention to components that appear to have been sustained after region-specific activity stopped and should use such a framework in the future development of project activities.

VI. Lead collaboration between donors.

USAID/Dakar should take the lead in collaborative efforts with other key donors to develop and implement the service package. Using the above-outlined approach, USAID would be doing so from a position of strength (based upon experience) that would be consistent with mission policies and goals.

To further the effectiveness of collaboration, USAID should

1. Introduce and obtain support for USAID's strategic approach with regard to the donor community and the MOPHSA.
2. Support UNICEF in its lead in EPI program planning and implementation.
3. Facilitate UNFPA in its multi-donor efforts and focus its efforts (and funding) on areas in which it has a comparative advantage. Use UNFPA's influence to support added donor inputs and to focus new donors (World Bank) in appropriate ways. USAID should encourage UNFPA to continue to fund service delivery training and infrastructure development in the public sector as well as ongoing activities with other government ministries. USAID should enter into active negotiations with UNFPA and the World Bank to determine which agencies take the lead in particular areas. Joint planning needs to take place. World Bank is well positioned to fund infrastructure and other large investment costs while UNFPA should be encouraged to work with the ministries of Plan, Education and Youth and Sports. USAID should maintain its longstanding, strong technical assistance role with the MOPHSA.
4. Place high priority on developing a common policy dialogue agenda between donors. USAID should consider non-project assistance for key policy changes (such as elimination of duties on contraceptives, acceptance of non-clinical distribution of contraceptives, etc.).

5. Plan logistics and commodities procurement at yearly workshops bringing together all parties. Likewise, development of a management information system should be a joint effort between donors and government/private sector partners.
6. Closely manage USAID contractors and collaborating agencies to ensure that coordination/collaboration takes place. Structure objectives designating workplan benchmarks in this area.

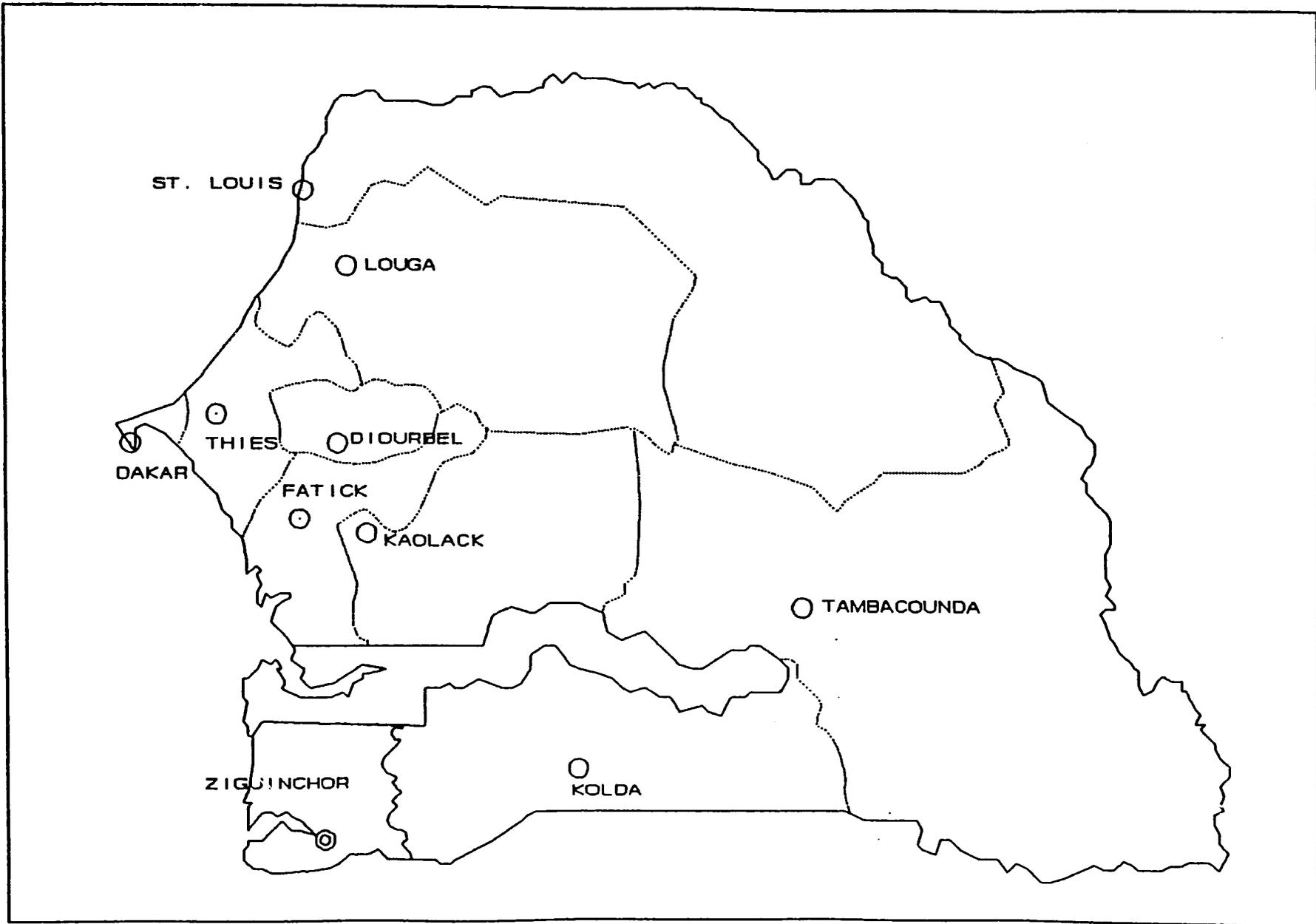
Senegal Health and Population Sector Assessment

Annexes

Annex 1

General Country Background

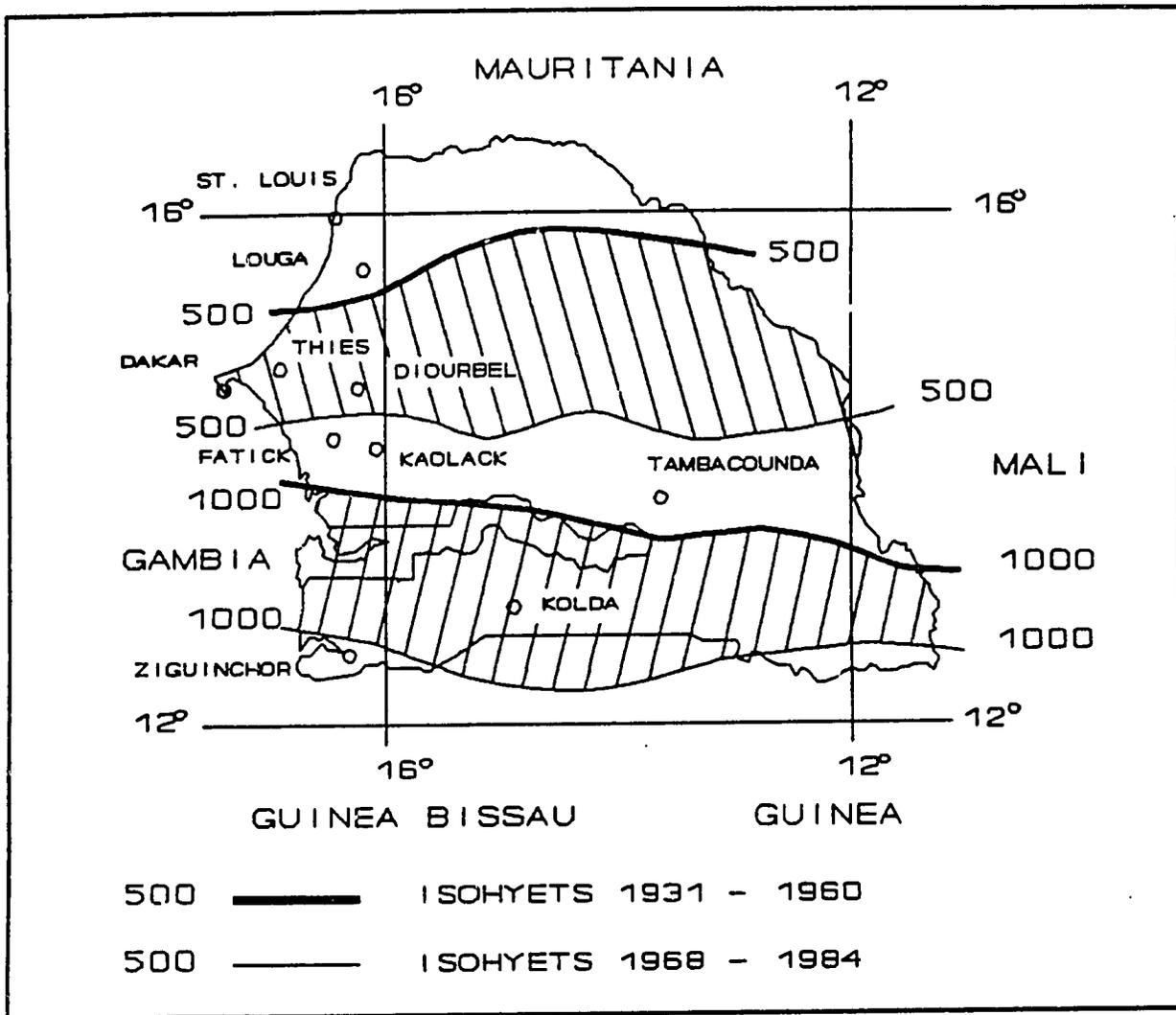
THE REPUBLIC OF SENEGAL



General Country Background

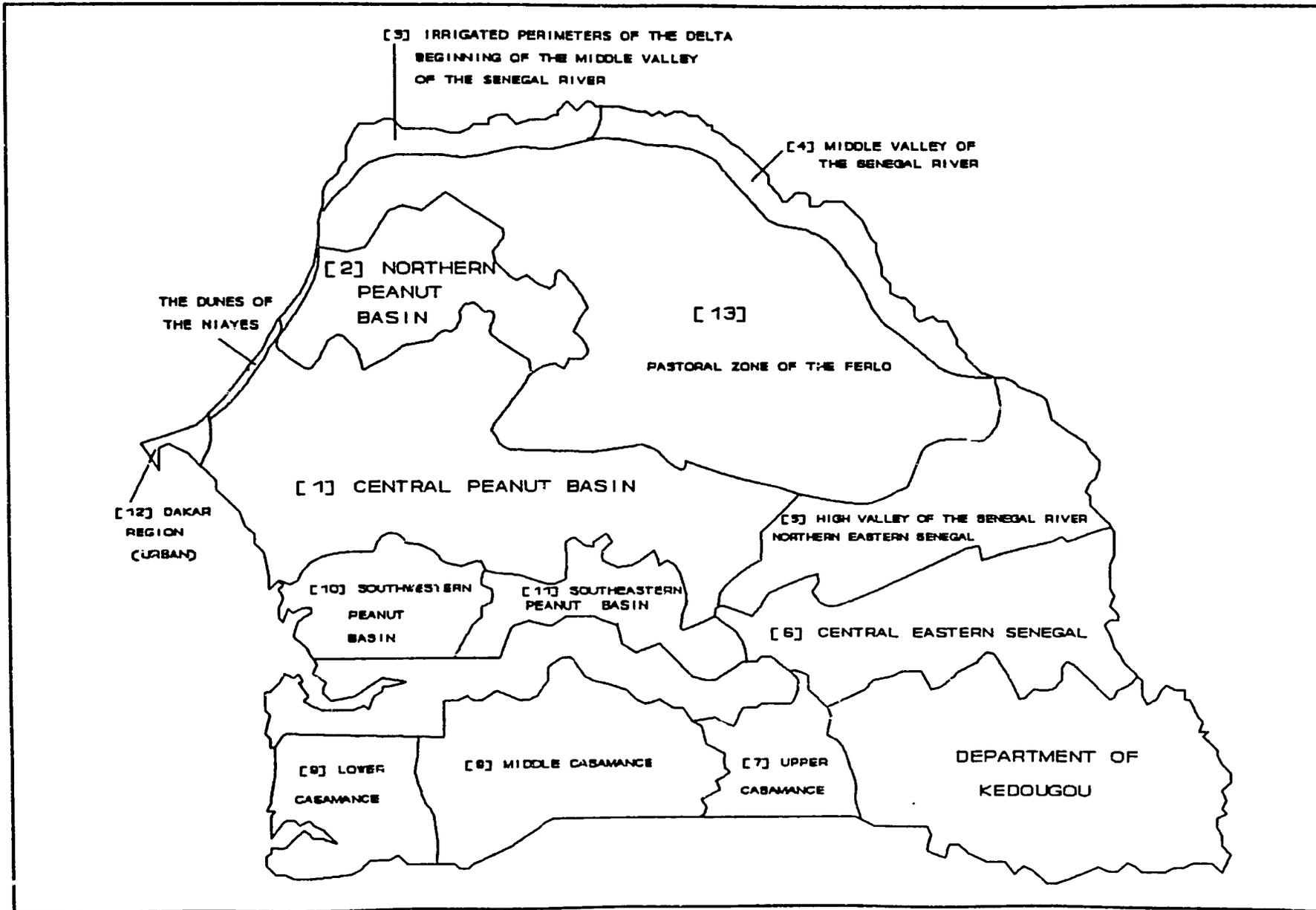
Annex I

SENEGAL: SOUTHWARD MOVEMENT OF ISOHYETS FROM 1968 TO 1984



SOURCE: LE BORNE, J. LA PLUVIOMETRIE AU SENEGAL ET EN GAMBIE.
AVRIL 1988.

SENEGAL: AGRO - CLIMATIC ZONES



SENEGAL: AGRO-CLIMATIC ZONES

REGION 1: THE PEANUT BASIN

- ZONE 1: CENTRAL - HISTORICALLY THE PRINCIPAL AGRICULTURAL ZONE OF SENEGAL
- ZONE 2: NORTHERN - ABANDONMENT OF PEANUTS FOR NIEBE
- ZONE 10: SOUTHWESTERN - SANDY SOIL GOOD FOR CORN
TRYPANOSOMIASIS IN THE WESTERN PART
- ZONE 11: SOUTHEASTERN - HIGH AGRICULTURAL POTENTIAL

REGION 2: EASTERN SENEGAL AND THE CASAMANCE

- ZONE 6: CENTRAL EASTERN SENEGAL - IMPORTANT AGRICULTURAL POTENTIAL
- ZONE 7: UPPER CASAMANCE - SIMILAR TO ZONE 6 BUT WITH MORE RAIN
- ZONE 8: MIDDLE CASAMANCE - MEN AND WOMEN CULTIVATE DIFFERENT AGRICULTURAL ZONES
- ZONE 9: LOWER CASAMANCE - ALSO SEXUAL DIFFERENTIATION IN AGRICULTURAL PRODUCTION

REGION 3: THE VALLEY OF THE SENEGAL RIVER

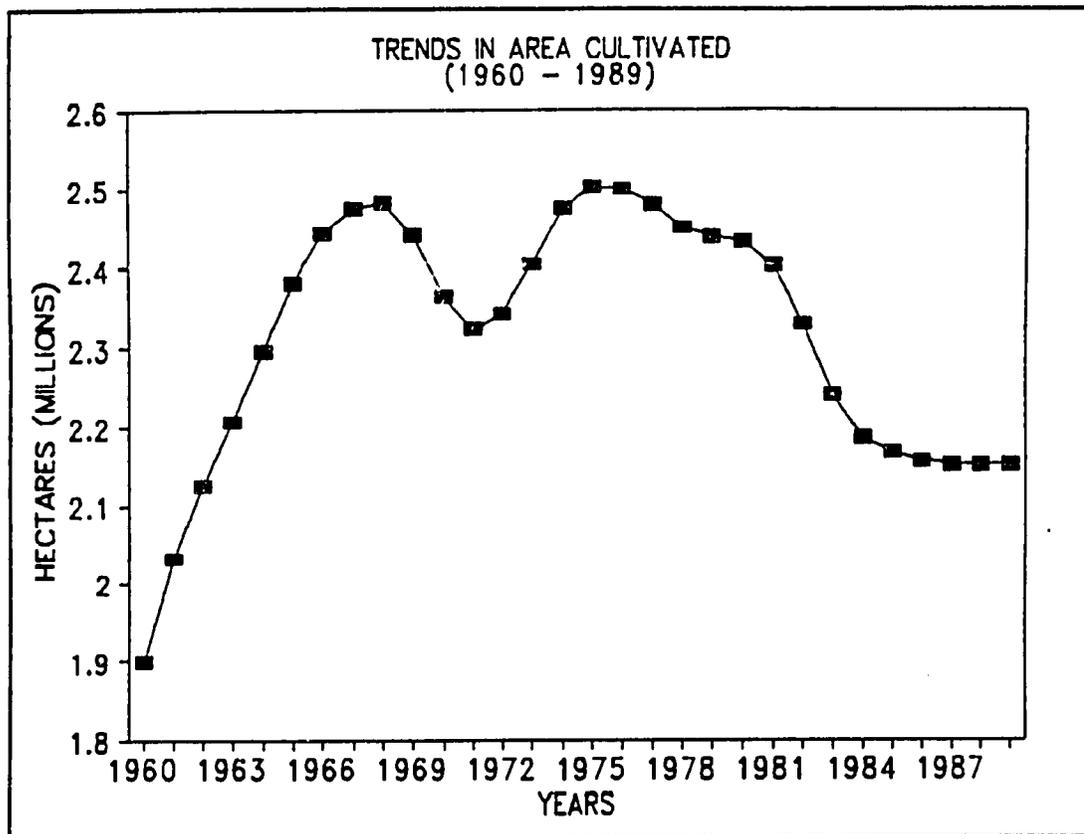
- ZONE 3: IRRIGATED PERIMETERS OF THE DELTA AND BEGINNING OF THE MIDDLE VALLEY
(SALTY SOILS IN THE DELTA)
- ZONE 4: MIDDLE VALLEY - IRRIGATED PERIMETERS
- ZONE 5: UPPER VALLEY - IRRIGATED PERIMETERS

OTHER AREAS OF SENEGAL

- ZONE 12: REGION OF DAKAR - CONSIDERED URBAN, BUT CONSIDERABLE VEGETABLE GARDENING
- ZONE 13: THE PASTORAL ZONE OF THE FERLO
- THE DUNES OF THE NIAYES BETWEEN DAKAR AND SAINT LOUIS
- THE DEPARTMENT OF KEDOUGOU - LITTLE AGRICULTURAL POTENTIAL
SMALL POPULATION
NIOKOLO-KOBA GAME PARK
ONCHOCERCIASIS

SOURCE: MARTIN, F. BUDGETS DE CULTURE AU SENEGAL. MSU INTERNATIONAL
DEVELOPMENT PAPERS, REPRINT NO. 28F, 1988.

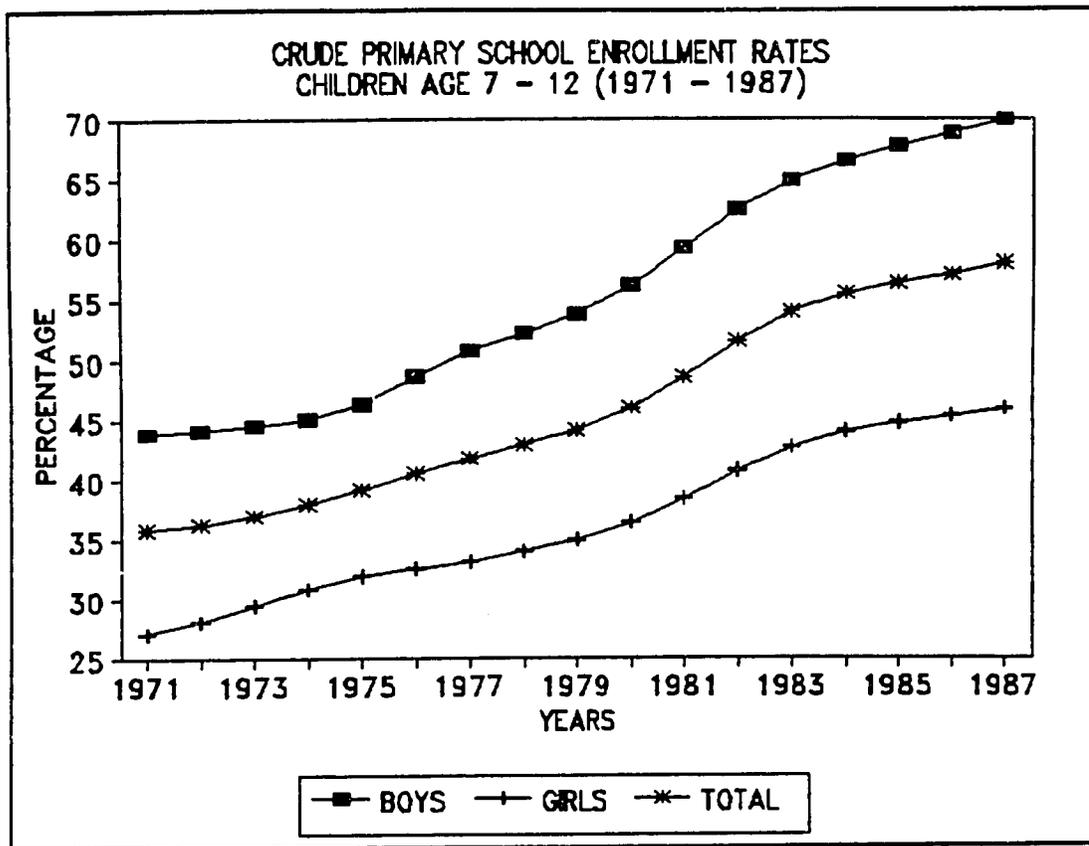
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TRENDS IN AREA CULTIVATED (1960 - 1989)
(MILLIONS OF HECTARES)

YEAR	DATA	
	RAW	SMOOTHED
	AREA	AREA
1960	1.9	1.9
1961	2.1	2.0
1962	2.1	2.1
1963	2.2	2.2
1964	2.3	2.3
1965	2.4	2.4
1966	2.4	2.4
1967	2.7	2.5
1968	2.5	2.5
1969	2.5	2.4
1970	2.3	2.4
1971	2.3	2.3
1972	2.3	2.3
1973	2.4	2.4
1974	2.5	2.5
1975	2.6	2.5
1976	2.5	2.5
1977	2.4	2.5
1978	2.5	2.5
1979	2.3	2.4
1980	2.4	2.4
1981	2.5	2.4
1982	2.4	2.3
1983	2.1	2.2
1984	2.1	2.2
1985	2.3	2.2
1986	2.1	2.2
1987	2.2	2.2
1988	2.2	2.2
1989	2.1	2.2

SOURCE: MINISTERE DU DEVELOPEMENT/DIVISION DES STATISTIQUES AGRICOLES.
RESULTATS DEFINITIFS DE LA CAMPAGNE AGRICOLE 1989/90.
FEVRIER 1990.



NUMBER OF CHILDREN IN THE 7-12 AGE GROUP (1971 - 1987)

YEAR	NUMBER OF CHILDREN			CHILDREN IN PRIMARY SCHOOL		
	BOYS	GIRLS	TOTAL	BOYS	GIRLS	TOTAL
1971	365309	371508	736817	161194	101731	262925
1972	372943	379272	752215	164612	105385	269997
1973	380737	387198	767935	172279	110997	283276
1974	388694	395290	783984	173148	124412	297560
1975	396817	403551	800368	178516	130010	308526
1976	405109	411984	817094	208859	137003	345862
1977	416316	423381	839697	209309	137276	346585
1978	427833	435093	862926	223076	147337	370413
1979	439668	447129	886798	236333	156208	392541
1980	451831	459499	911329	252835	-166913	419748
1981	464330	472210	936540	273085	179594	452679
1982	477175	485273	962448	298338	197728	496066
1983	490375	498697	989072	320189	213205	533394
1984	503941	512493	1016433	339160	227899	567059
1985	517881	526670	1044551	349227	234663	583890
1986	532208	541239	1073447	365409	245537	610946
1987	546930	556212	1103142	384866	258611	643477

THE AGE GROUP 7-12 IS ESTIMATED TO BE 16% OF THE POPULATION

PERCENTAGE OF CHILDREN IN THE 7-12 AGE GROUP IN PRIMARY SCHOOL

YEAR	RAW DATA			SMOOTHED DATA		
	BOYS	GIRLS	TOTAL	BOYS	GIRLS	TOTAL
1971	44	27	36	44	27	36
1972	44	28	36	44	28	36
1973	45	29	37	45	29	37
1974	45	31	38	45	31	38
1975	45	32	39	46	32	39
1976	52	33	42	49	33	41
1977	50	32	41	51	33	42
1978	52	34	43	52	34	43
1979	54	35	44	54	35	44
1980	56	36	46	56	36	46
1981	59	38	48	59	38	49
1982	63	41	52	62	41	52
1983	65	43	54	65	43	54
1984	67	44	56	67	44	55
1985	67	45	56	68	45	56
1986	69	45	57	69	45	57
1987	70	46	58	70	46	58

ABOUT 15% OF THE ENROLLEES ARE REPEATING GRADES
 SOURCE: MINISTERE DE L'ECONOMIE ET DES FINANCES/DIRECTION DE LA
 STATISTIQUE. SITUATION ECONOMIQUE (1975 - 1987)

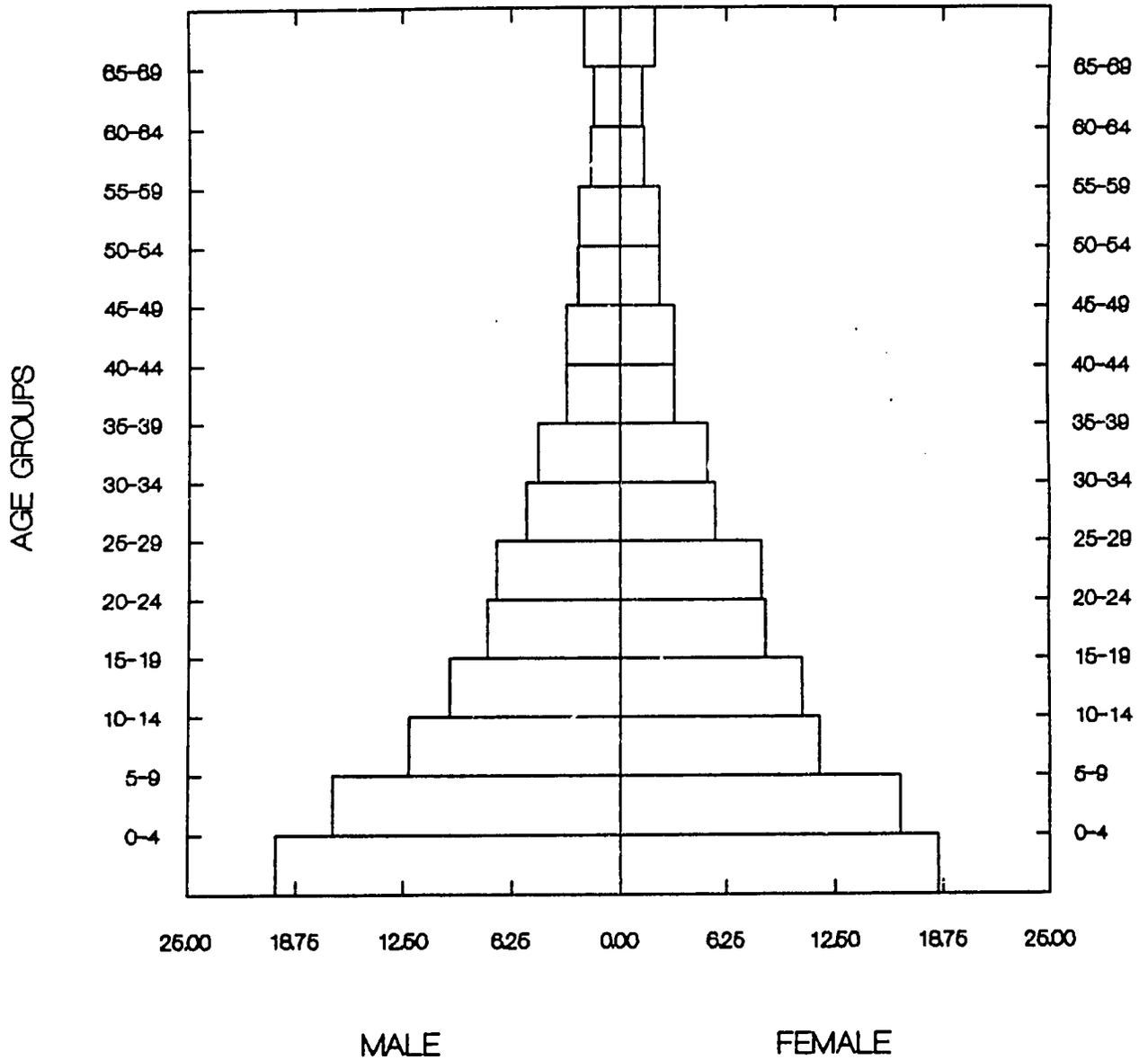
Annex 2

Population Demographic Profile

Annex 2

Population Demographic Profile

POPULATION STRUCTURE - 1988

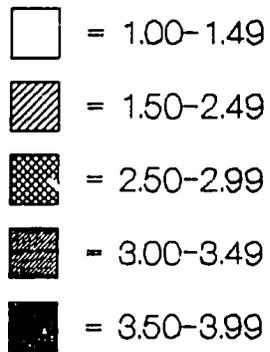


SENEGAL: RESIDENT POPULATION STRUCTURE - 1988

AGE GROUP	SEX		TOTAL	PERCENTAGE		MF RATIO
	MALE	FEMALE		MALE	FEMALE	
0-4	665090	652580	1317670	19.7	18.5	1.02
5-9	554700	573150	1127850	16.4	16.2	0.97
10-14	408000	409060	817060	12.1	11.6	1.00
15-19	329610	374440	704050	9.8	10.6	0.88
20-24	257490	299420	556910	7.6	8.5	0.86
25-29	238360	291620	529980	7.1	8.3	0.82
30-34	180400	196530	376930	5.3	5.6	0.92
35-39	159630	179690	339320	4.7	5.1	0.89
40-44	140120	112260	252380	4.1	3.2	1.25
45-49	104100	111940	216040	3.1	3.2	0.93
50-54	81680	79980	161660	2.4	2.3	1.02
55-59	79820	80110	159930	2.4	2.3	1.00
60-64	57350	50180	107530	1.7	1.4	1.14
65-69	50600	45470	96070	1.5	1.3	1.11
70 +	70800	71150	141950	2.1	2.0	1.00
TOTAL	3377750	3527580	6905330	100	100	0.96

SOURCE: RECENSEMENT GENERAL DE LA POPULATION ET DE L'HABITAT.
 MAI-JUIN 1988. RESULTATS AU DIXIEME: DONNEES PROVISOIRES,
 JUIN 1989.

AVERAGE ANNUAL POPULATION GROWTH RATES (%)
(1976 - 1988)



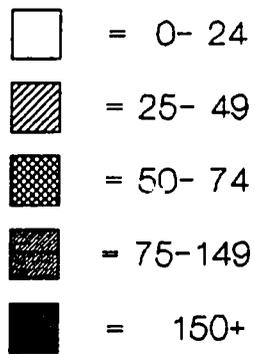
SENEGAL: AVERAGE ANNUAL POPULATION GROWTH RATES (%)
(1976 - 1988)

REGION	ANNUAL RATE
DAKAR	3.96
DIOURBEL	3.20
FATICK	1.87
KAOLACK	2.66
KOLDA	2.97
LOUGA	1.21
ST. LOUIS	1.82
TAMBACOUNDA	2.76
THIES	2.79
ZIGUINCHOR	2.76
NATIONAL MEAN	2.77
MAXIMUM	3.96
MINIMUM	1.21
RANGE	2.75

SOURCE: NATIONAL CENSUS BUREAU

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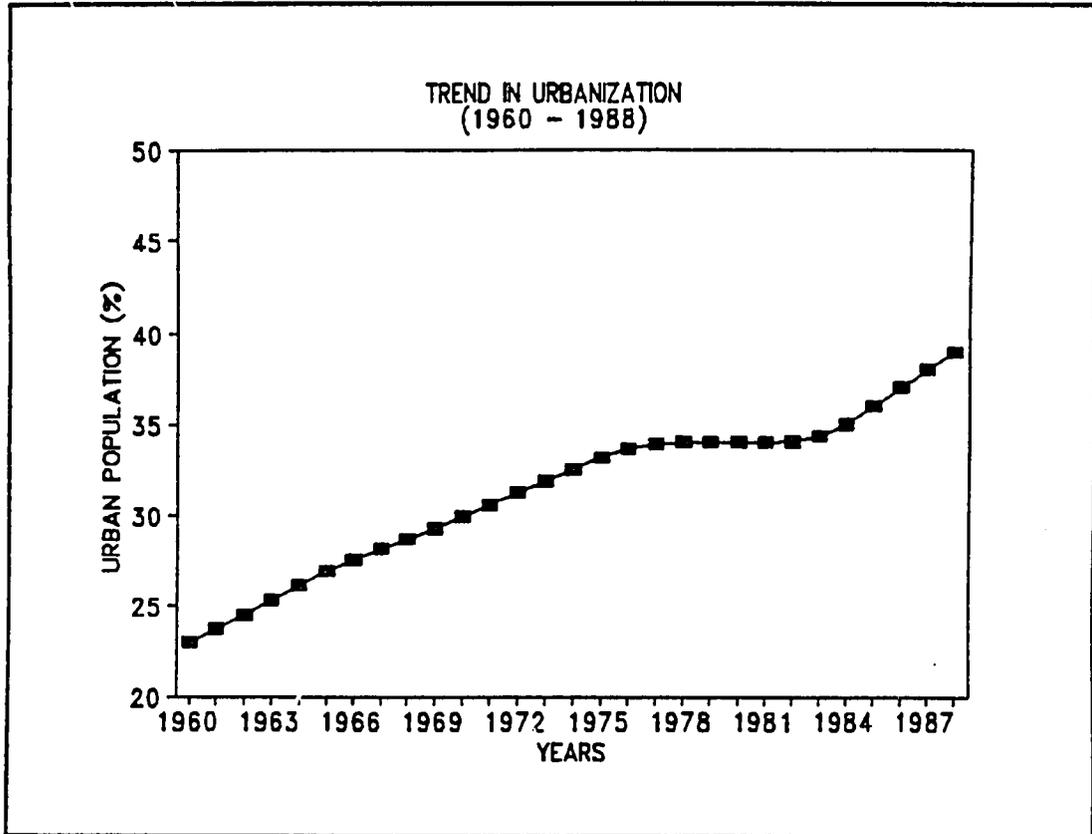
POPULATION DENSITY - 1988
(PER SQUARE KILOMETER)



SENEGAL: POPULATION DENSITY - 1988
(PER SQUARE KILOMETER)

REGION	POP/KM2
DAKAR	2728
DIOURBEL	141
FATICK	64
KAOLACK	50
KOLDA	28
LOUGA	17
ST. LOUIS	15
TAMBACOUNDA	6
THIES	142
ZIGUINCHOR	54
NATIONAL AVERAGE	35
MAXIMUM	2728
MINIMUM	6
RANGE	2722

SOURCE: NATIONAL CENSUS BUREAU



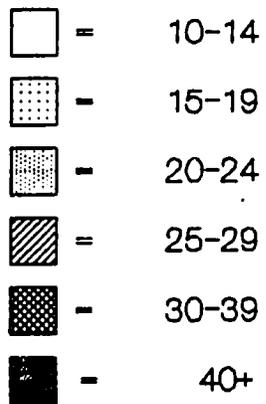
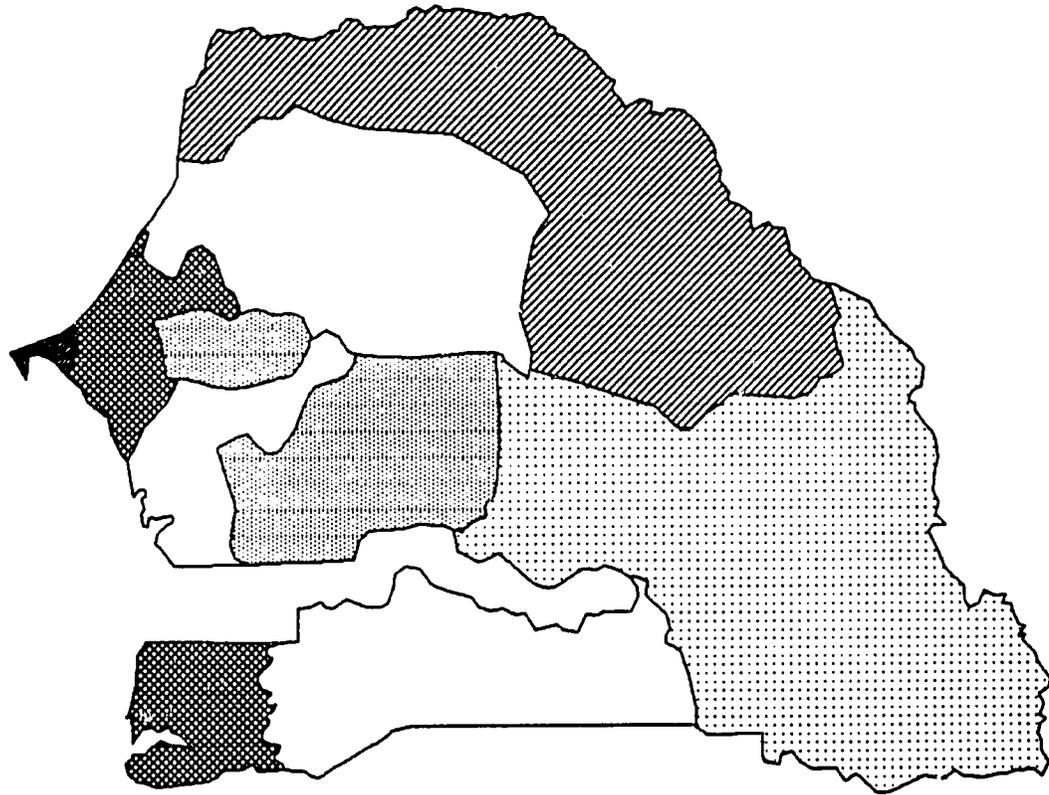
TREND IN URBANIZATION
(1960 - 1988)

YEAR	DATA	
	RAW	SMOOTHED
1960	23.0	23.0
1961	23.7	23.7
1962	24.5	24.5
1963	25.3	25.3
1964	26.1	26.1
1965	27.0	26.9
1966	27.6	27.6
1967	28.1	28.1
1968	28.7	28.7
1969	29.3	29.3
1970	29.9	29.9
1971	30.6	30.6
1972	31.2	31.2
1973	31.9	31.9
1974	32.5	32.5
1975	33.2	33.2
1976	33.9	33.7
1977	33.9	33.9
1978	33.9	34.0
1979	34.0	34.0
1980	34.0	34.0
1981	34.0	34.0
1982	34.0	34.0
1983	34.0	34.3
1984	35.0	35.0
1985	36.0	36.0
1986	37.0	37.0
1987	38.0	38.0
1988	39.0	39.0

SOURCES: BOURQUE, L. ET GAGNON, J-P. STATISTIQUES UTILES POUR L'ELABORATION DE STRATEGIES ET DE POLITIQUES ALIMENTAIRES AU SAHEL. SERIE DOSSIERS NO. 5. LAVAL: CENTRE SAHEL DE L'UNIVERSITE LAVAL. DECEMBRE 1988.

ENDERS, M. DEMOGRAPHIC AND URBANIZATION TRENDS IN SENEGAL. ABIDJAN: USAID. 1989.

RATE OF URBANIZATION BY REGION - 1988
(PERCENTAGE)



RATE OF URBANIZATION BY REGION - 1988
(1=HIGHEST 9=LOWEST)

REGION	URBANIZATION %	RANK
DAKAR	96.5	1
DIOURBEL	21.7	6
FATICK	10.4	9
KAOLACK	22.4	5
KOLDA	10.4	9
LOUGA	14.8	8
ST. LOUIS	27.5	4
TAMBACOUNDA	15.9	7
THIES	34.1	3
ZIGUINCHOR	37.8	2

SOURCE: ENDERS, M. DEMOGRAPHIC AND URBANIZATION TRENDS
IN SENEGAL. ABIDJAN: USAID. 1989.

PROJECTIONS OF THE URBAN POPULATION (1990 - 1999)

REGION	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
DAKAR	1565167	1627461	1692234	1759585	1829616	1902435	1978152	2056883	2138746	2223869
DIOURBEL	142810	147722	152804	158060	163498	169122	174940	180958	187183	193622
FATICK	55708	57385	59112	60891	62724	64612	66557	68560	70624	72750
KAOLACK	192673	198896	205320	211952	218798	225865	233161	240692	248466	256492
KOLDA	67056	69953	72974	76127	79416	82846	86425	90159	94054	98117
LOUGA	76279	78278	80329	82433	84593	86809	89084	91418	93813	96271
ST. LOUIS	189590	195182	200940	206868	212971	219253	225721	232380	239235	246293
TAMBACOUNDA	65523	67875	70312	72836	75451	78159	80965	83872	86883	90002
THIES	347183	361695	376814	392565	408974	426069	443879	462433	481763	501901
ZIGUINCHOR	164867	172633	180764	189278	198193	207527	217302	227537	238254	249476
TOTAL	2866855	2977080	3091683	3210596	3334233	3462700	3596187	3734891	3879021	4028791

PROJECTIONS OF THE RURAL POPULATION (1990 - 1999)

REGION	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
DAKAR	56590	58576	60632	62760	64963	67243	69604	72047	74576	77193
DIOURBEL	513486	529475	546048	563139	580766	598944	617691	637024	656963	677526
FATICK	470385	478617	486993	495515	504187	513010	521988	531122	540417	549874
KAOLACK	656266	672672	689489	706726	724394	742504	761067	780094	799596	819586
KOLDA	562095	578003	594360	611180	628477	646263	664552	683359	702698	722584
LOUGA	425394	429606	433859	438154	442492	446872	451296	455764	460276	464833
ST. LOUIS	485931	492880	499928	507077	514328	521683	529143	536710	544385	552170
TAMBACOUNDA	339633	348531	357663	367034	376650	386518	396645	407037	417701	428645
THIES	644495	658417	672638	687167	702010	717174	732664	748490	764657	781174
ZIGUINCHOR	256544	261885	265706	270489	275195	280066	285024	290068	295203	300428
TOTAL	4410740	4507862	4607316	4709263	4813462	4920278	5029673	5141716	5256472	5374013

PROJECTIONS OF THE TOTAL POPULATION (1990 - 1999)

REGION	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
DAKAR	1621757	1686037	1752866	1822345	1894580	1969679	2047756	2128929	2213322	2301062
DIOURBEL	656215	677198	698852	721200	744263	768066	792630	817982	844146	871148
FATICK	526093	536802	546105	556407	566911	577622	588545	599683	611041	622624
KAOLACK	848938	871568	894809	918678	943193	968370	994228	1020785	1048062	1076077
KOLDA	629151	647955	667335	687307	707892	729109	750977	773518	796752	820701
LOUGA	501674	507884	514188	520587	527085	533682	540380	547182	554089	561104
ST. LOUIS	675521	688062	700868	713945	727299	740937	754865	769090	783620	798462
TAMBACOUNDA	405156	416406	427975	439870	452101	464678	477610	490909	504585	518647
THIES	991678	1020112	1049452	1079732	1110984	1143243	1176544	1210923	1246420	1283075
ZIGUINCHOR	421411	433718	446470	459687	473388	487594	502325	517605	533456	549983
POPULATION TOTALE	7277595	7484942	7698920	7919758	8147696	8382978	8625860	8876607	9135493	9402884
% POPULATION URBAINE	39	40	40	41	41	41	42	42	42	43
% POPULATION RURALE	61	60	60	59	59	59	58	58	58	57

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PROJECTION OF GROUPS AT RISK (1990 - 1999)

REGION	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
BAKAR										
CHILDREN										
0-11 MONTHS	67444	70118	72897	75706	78790	81914	85161	88536	92046	95695
12-23 MONTHS	64368	66920	69572	72330	75197	78177	81276	84498	87848	91330
2- 4 YEARS	174665	181588	188786	196269	204049	212137	220546	229289	238378	247827
0- 4 YEARS	306478	318626	331255	344385	358036	372228	386983	402323	418272	434853
WOMEN (15-49 YEARS)										
TOTAL	369761	384416	399653	415495	431964	449087	466888	485396	504637	524642
PREGNANT	82710	85988	89396	92940	96624	100454	104436	108575	112879	117354
DIOURBEL										
CHILDREN										
0-11 MONTHS	27290	28163	29063	29993	30952	31942	32963	34018	35106	36229
12-23 MONTHS	26046	26878	27738	28625	29540	30485	31460	32466	33505	34576
2- 4 YEARS	70675	72935	75267	77674	80158	82722	85367	88098	90916	93824
0- 4 YEARS	124011	127976	132068	136292	140650	145148	149791	154581	159526	164629
WOMEN (15-49 YEARS)										
TOTAL	149617	154401	159338	164434	169692	175119	180720	186500	192465	198622
PREGNANT	33467	34537	35641	36781	37957	39171	40424	41717	43051	44429
FATICK										
CHILDREN										
0-11 MONTHS	21879	22291	22711	23139	23576	24022	24476	24939	25412	25893
12-23 MONTHS	20881	21274	21675	22084	22501	22926	23360	23802	24253	24712
2- 4 YEARS	56661	57728	58816	59926	61057	62211	63387	64587	65810	67057
0- 4 YEARS	99421	101293	103202	105149	107134	109159	111223	113328	115474	117663
WOMEN (15-49 YEARS)										
TOTAL	119949	122208	124512	126861	129256	131698	134188	136728	139317	141958
PREGNANT	26831	27336	27851	28377	28912	29459	30016	30584	31163	31754
KAOLACK										
CHILDREN										
0-11 MONTHS	35305	36246	37213	38205	39225	40272	41347	42452	43586	44751
12-23 MONTHS	33695	34593	35515	36463	37436	38435	39461	40515	41598	42710
2- 4 YEARS	91432	93869	96372	98943	101583	104295	107080	109940	112878	115895
0- 4 YEARS	160432	164708	169100	173611	178244	183002	187888	192907	198062	203356
WOMEN (15-49 YEARS)										
TOTAL	193558	198718	204017	209459	215048	220788	226684	232739	238958	245346
PREGNANT	43296	44450	45635	46853	48103	49387	50706	52060	53451	54880

REGION	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
KOLDA										
CHILDREN										
0-11 MONTHS	26165	26947	27753	28583	29439	30322	31231	32168	33135	34131
12-23 MONTHS	24971	25718	26487	27280	28097	28939	29807	30701	31623	32574
2- 4 YEARS	67760	69786	71873	74024	76241	78526	80881	83309	85811	88391
0- 4 YEARS	118896	122450	126112	129887	133777	137786	141919	146179	150569	155095
WOMEN (15-49 YEARS)										
TOTAL	143446	147734	152152	156706	161399	166237	171223	176362	181659	187120
PREGNANT	32087	33046	34034	35053	36103	37185	38300	39449	40634	41856
LOUGA										
CHILDREN										
0-11 MONTHS	20863	21121	21384	21650	21920	22194	22473	22756	23043	23335
12-23 MONTHS	19912	20158	20408	20662	20920	21182	21448	21718	21992	22270
2- 4 YEARS	54031	54700	55379	56068	56768	57478	58200	58932	59676	60432
0- 4 YEARS	94806	95979	97171	98380	99608	100855	102121	103406	104711	106037
WOMEN (15-49 YEARS)										
TOTAL	114382	115797	117235	118694	120175	121679	123207	124758	126332	127932
PREGNANT	25585	25902	26224	26550	26881	27218	27559	27906	28259	28616
ST. LOUIS										
CHILDREN										
0-11 MONTHS	28093	28615	29147	29691	30246	30814	31393	31984	32589	33206
12-23 MONTHS	26812	27310	27818	28337	28867	29408	29961	30526	31102	31691
2- 4 YEARS	72754	74105	75484	76893	78331	79800	81300	82832	84397	85995
0- 4 YEARS	127659	130029	132450	134921	137444	140022	142654	145342	148088	150893
WOMEN (15-49 YEARS)										
TOTAL	154019	156878	159798	162780	165824	168934	172109	175353	178665	182049
PREGNANT	34452	35091	35744	36411	37092	37788	38498	39224	39965	40722
TAMBACOUNDA										
CHILDREN										
0-11 MONTHS	16849	17317	17798	18293	18802	19325	19863	20416	20984	21569
12-23 MONTHS	16081	16527	16987	17459	17944	18443	18957	19484	20027	20585
2- 4 YEARS	43636	44848	46093	47375	48692	50046	51439	52872	54344	55859
0- 4 YEARS	76566	78692	80878	83126	85438	87814	90258	92772	95356	98014
WOMEN (15-49 YEARS)										
TOTAL	92376	94941	97578	100290	103079	105947	108895	111927	115045	118252
PREGNANT	20663	21237	21827	22433	23057	23699	24358	25036	25734	26451

REGION	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
YHNS										
CHILDREN										
0-11 MONTHS	41241	42424	43644	44903	46203	47544	48929	50359	51835	53360
12-23 MONTHS	39360	40489	41653	42855	44095	45376	46698	48062	49471	50926
2- 4 YEARS	106805	109867	113027	116289	119655	123129	126715	130418	134241	138189
0- 4 YEARS	187407	192780	198325	204047	209953	216049	222342	228839	235547	242474
WOMEN (15-49 YEARS)										
TOTAL	226103	232585	239275	246179	253304	260659	268252	276090	284184	292541
PREGNANT	50576	52026	53522	55066	56660	58305	60094	61757	63567	65437
ZIGUINCHOR										
CHILDREN										
0-11 MONTHS	17525	18037	18567	19117	19687	20278	20890	21526	22185	22869
12-23 MONTHS	16726	17214	17721	18245	18789	19353	19938	20544	21173	21826
2- 4 YEARS	45387	46712	48085	49509	50985	52515	54101	55747	57454	59225
0- 4 YEARS	79638	81964	84373	86871	89460	92145	94929	97817	100812	103920
WOMEN (15-49 YEARS)										
TOTAL	96082	98888	101795	104809	107932	111171	114530	118014	121628	125378
PREGNANT	21492	22120	22770	23444	24143	24867	25619	26398	27206	28045
SENEGAL										
CHILDREN										
0-11 MONTHS	302655	311278	320177	329361	338841	348625	358726	369154	379920	391037
12-23 MONTHS	288851	297081	305574	314339	323386	332724	342364	352317	362592	373202
2- 4 YEARS	783807	806138	829184	852969	877518	902858	929017	956023	983905	1012695
0- 4 YEARS	1375313	1414498	1454935	1496669	1539744	1584208	1630107	1677493	1726417	1776934
WOMEN (15-49 YEARS)										
TOTAL	1659292	1706567	1755354	1805705	1857675	1911319	1966696	2023866	2082893	2143839
PREGNANT	371157	381732	392645	403908	415532	427532	439919	452707	465910	479543

HYPOTHESES:

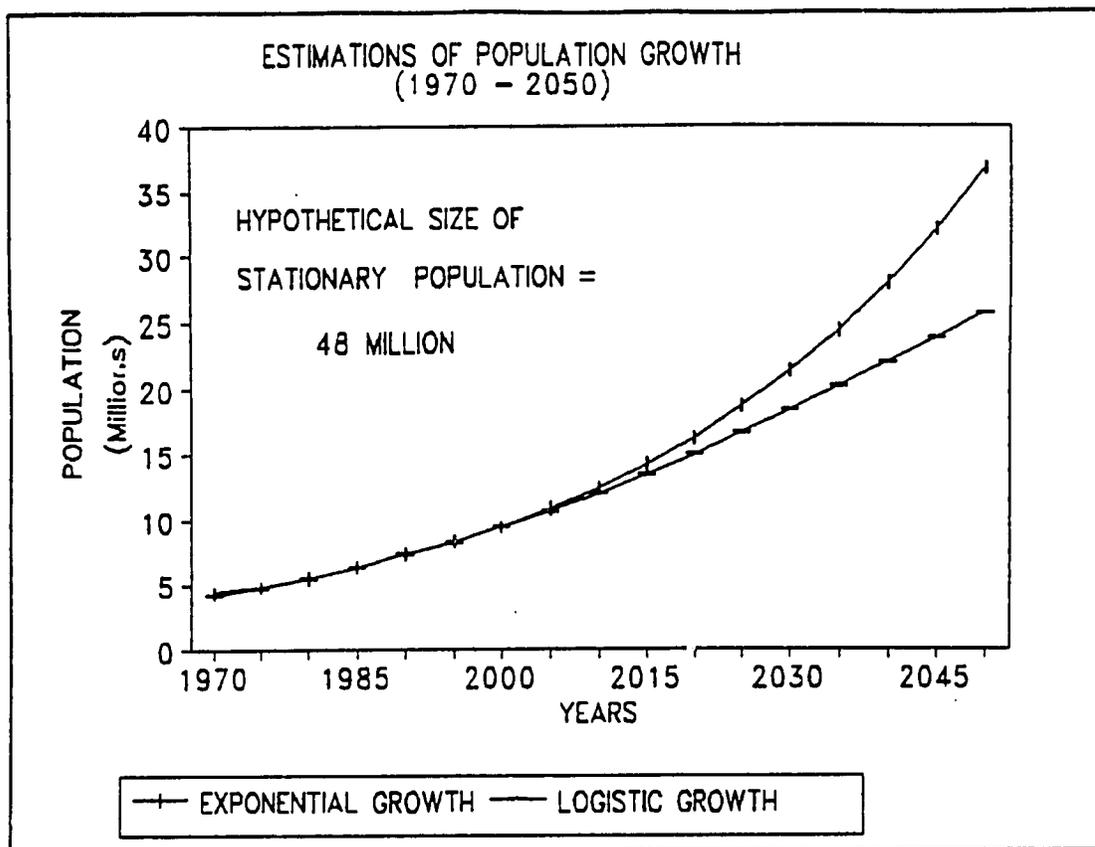
**CONSTANT URBAN AND RURAL GROWTH RATES AT THE REGIONAL LEVEL
(MEAN ANNUAL RATES 1976-1988)**

CHILDREN

0-11 MONTHS 4.16% OF THE POPULATION
 12-23 MONTHS 3.97% OF THE POPULATION
 2- 4 YEARS 10.77% OF THE POPULATION
 0- 4 YEARS 18.90% OF THE POPULATION

WOMEN (15-49 YEARS)

TOTAL 22.8% OF THE POPULATION
 PREGNANT 5.1% OF THE POPULATION



HYPOTHESES:

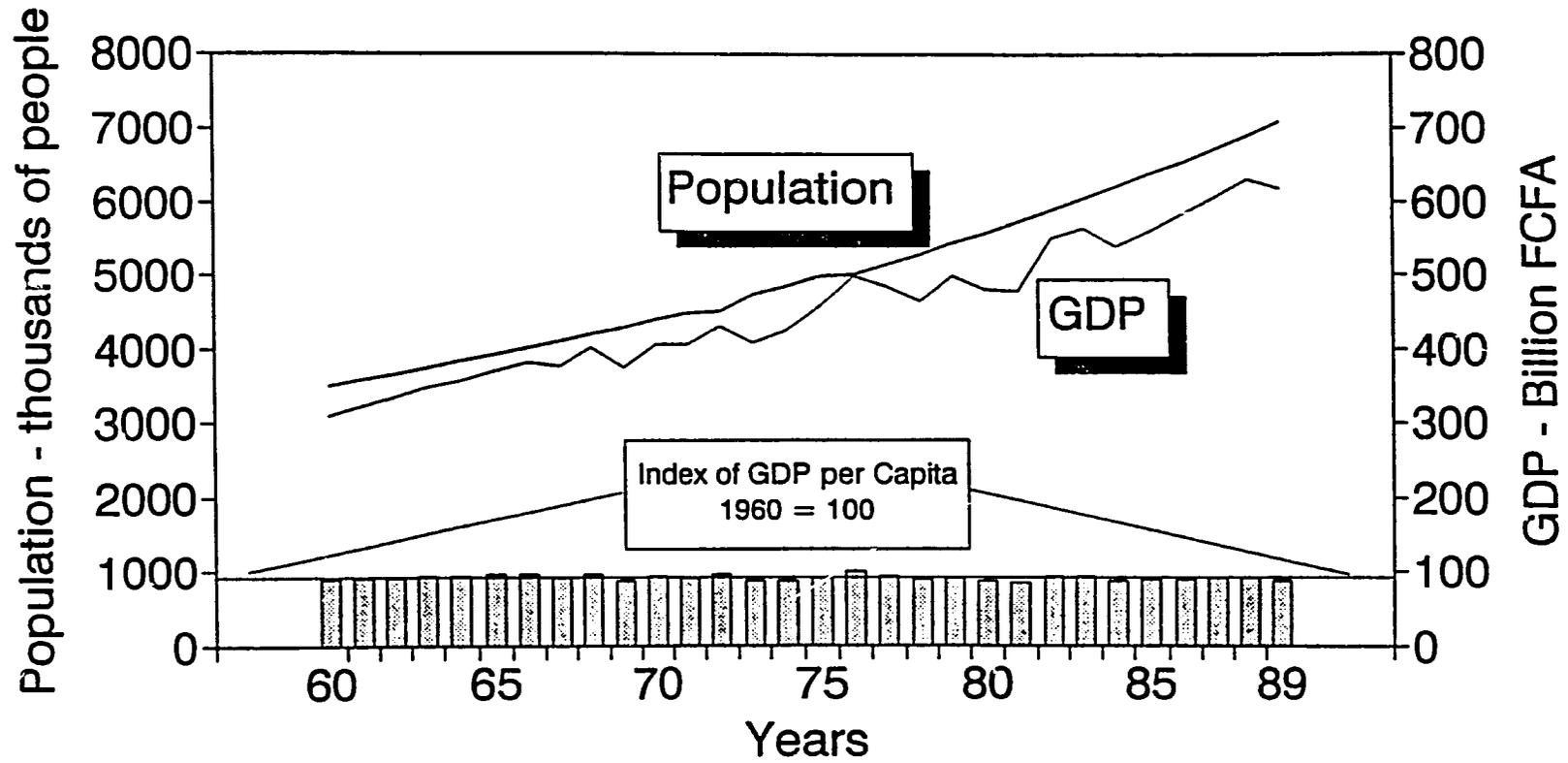
EXPONENTIAL GROWTH: $P_t = P_0(1+0.0277)^t$

LOGISTIC GROWTH: $P(\text{YEAR}-1964) = 48254585/(1+e^{2.54-0.03(\text{YEAR}-1964)})$

SOURCES: OLINICK, M. AN INTRODUCTION TO MATHEMATICAL MODELS IN THE SOCIAL AND LIFE SCIENCES. READING, MA: ADDISON-WESLEY PUBLISHING COMPANY, 1978.

WORLD BANK. WORLD BANK DEVELOPMENT REPORT 1990. NEW YORK: OXFORD UNIVERSITY PRESS, 1990.

Senegal Population and Income



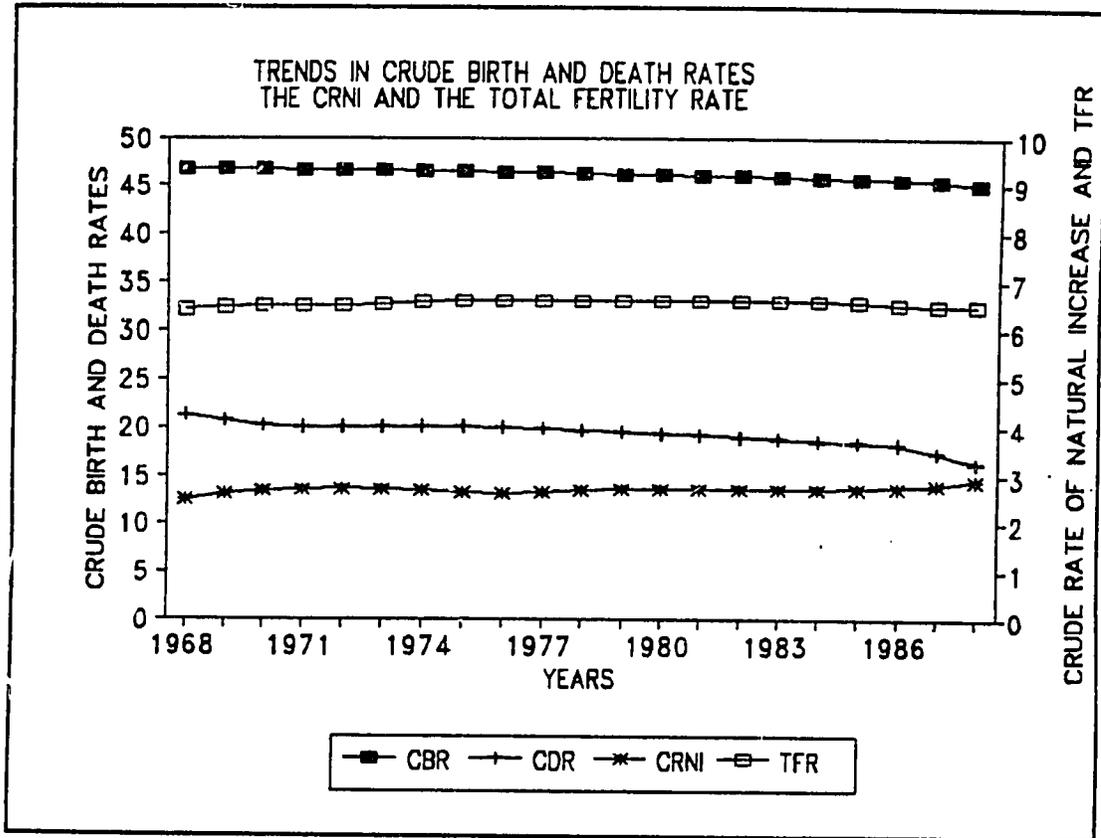
Population
 Real GDP
 GDP per Capita

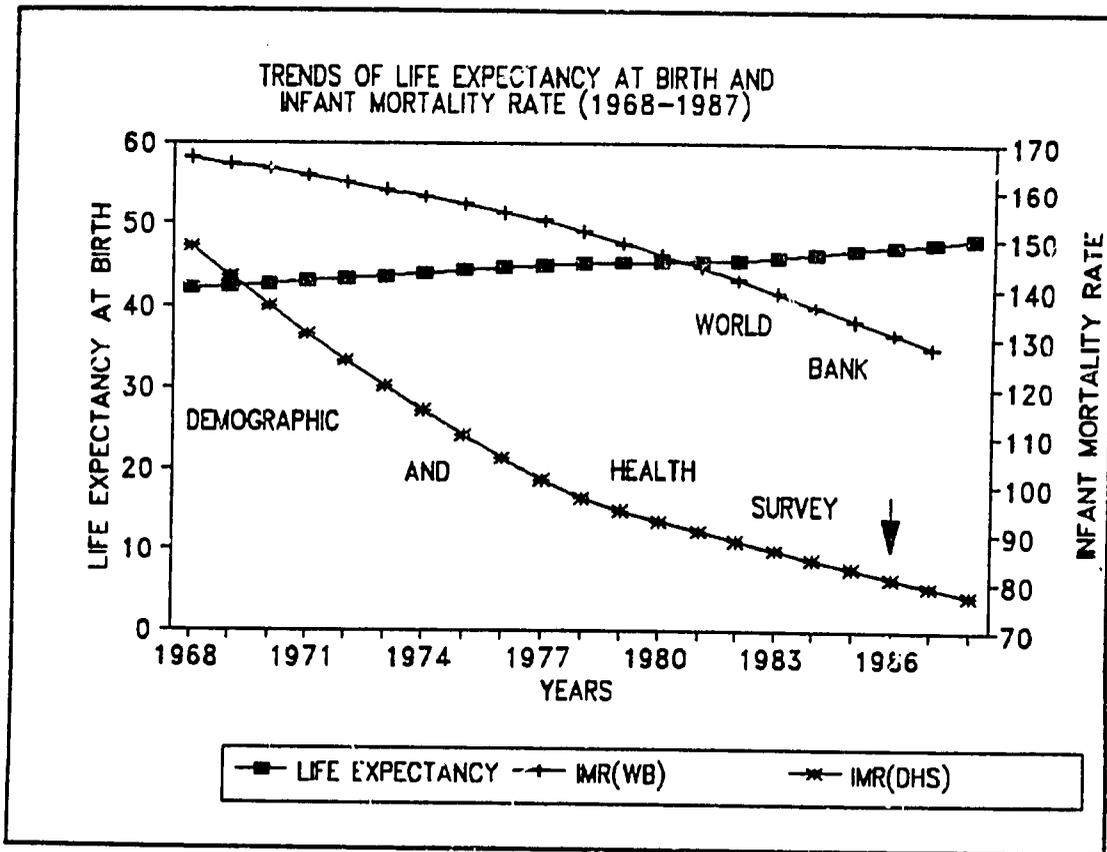
Annex 3

Health and Social Indicators

Annex 3

Health and Social Indicators





TRENDS IN SELECTED DEMOGRAPHIC INDICATORS
(1968 - 1988)

YEAR	RAW DATA							SMOOTHED DATA						
	CBR	CDR	CRNI	TFR	IMR (WB)	IMR (EDS)	LEB	CBR	CDR	CRNI	TFR	IMR (WB)	IMR (EDS)	LEB
1968	46.7	21.2	2.5	6.4	166.8	148.6	42.0	46.7	21.2	2.5	6.4	166.8	148.5	42.0
1969	46.7	20.6	2.6	6.5	165.6	142.4	42.3	46.7	20.6	2.6	6.5	165.6	142.4	42.3
1970	46.6	20.0	2.7	6.5	164.4	136.5	42.6	46.6	20.2	2.7	6.5	164.4	136.6	42.6
1971	46.6	20.0	2.7	6.5	163.2	130.9	42.9	46.6	20.0	2.7	6.5	163.2	130.9	42.9
1972	46.6	20.0	2.7	6.5	162.0	125.5	43.2	46.6	20.0	2.7	6.5	161.9	125.5	43.2
1973	46.5	20.0	2.7	6.5	160.4	120.3	43.5	46.5	20.0	2.7	6.5	160.4	120.2	43.5
1974	46.5	20.0	2.7	6.6	158.8	115.1	43.9	46.5	20.0	2.7	6.6	158.8	115.1	43.9
1975	46.4	20.0	2.6	6.6	157.2	110.1	44.2	46.4	20.0	2.6	6.6	157.2	110.1	44.2
1976	46.4	20.0	2.6	6.6	155.6	105.4	44.6	46.4	19.9	2.6	6.6	155.6	105.3	44.6
1977	46.3	19.8	2.6	6.6	154.0	100.8	44.9	46.3	19.8	2.6	6.6	153.7	100.9	44.8
1978	46.2	19.6	2.7	6.6	151.6	96.5	45.0	46.2	19.6	2.7	6.6	151.6	97.2	45.0
1979	46.2	19.4	2.7	6.6	149.2	94.4	45.1	46.2	19.4	2.7	6.6	149.2	94.4	45.1
1980	46.1	19.2	2.7	6.6	146.8	92.3	45.2	46.1	19.2	2.7	6.6	146.8	92.3	45.2
1981	46.1	19.1	2.7	6.6	144.4	90.3	45.2	46.1	19.1	2.7	6.6	144.4	90.3	45.2
1982	46.0	18.9	2.7	6.6	142.0	88.3	45.3	46.0	18.9	2.7	6.6	141.9	88.3	45.4
1983	45.9	18.7	2.7	6.6	139.2	86.4	45.8	45.9	18.7	2.7	6.6	139.2	86.4	45.8
1984	45.8	18.5	2.7	6.6	136.4	84.5	46.2	45.8	18.5	2.7	6.6	136.4	84.5	46.2
1985	45.7	18.3	2.7	6.6	133.6	82.7	46.7	45.7	18.4	2.7	6.6	133.6	82.7	46.7
1986	45.6	18.2	2.7	6.5	130.8	80.9	47.1	45.6	18.1	2.7	6.5	130.8	80.9	47.1
1987	45.5	18.0	2.8	6.5	128.0	79.1	47.6	45.4	17.4	2.8	6.5	128.0	79.1	47.6
1988	45.0	16.0	2.9	6.5	78.0	77.4	48.0	45.0	16.3	2.9	6.5		77.4	48.0

CBR = CRUDE BIRTH RATE
 CDR = CRUDE DEATH RATE
 CRNI = CRUDE RATE OF NATURAL INCREASE
 TFR = TOTAL FERTILITY RATE
 IMR = INFANT MORTALITY RATE
 LEB = LIFE EXPECTANCY AT BIRTH

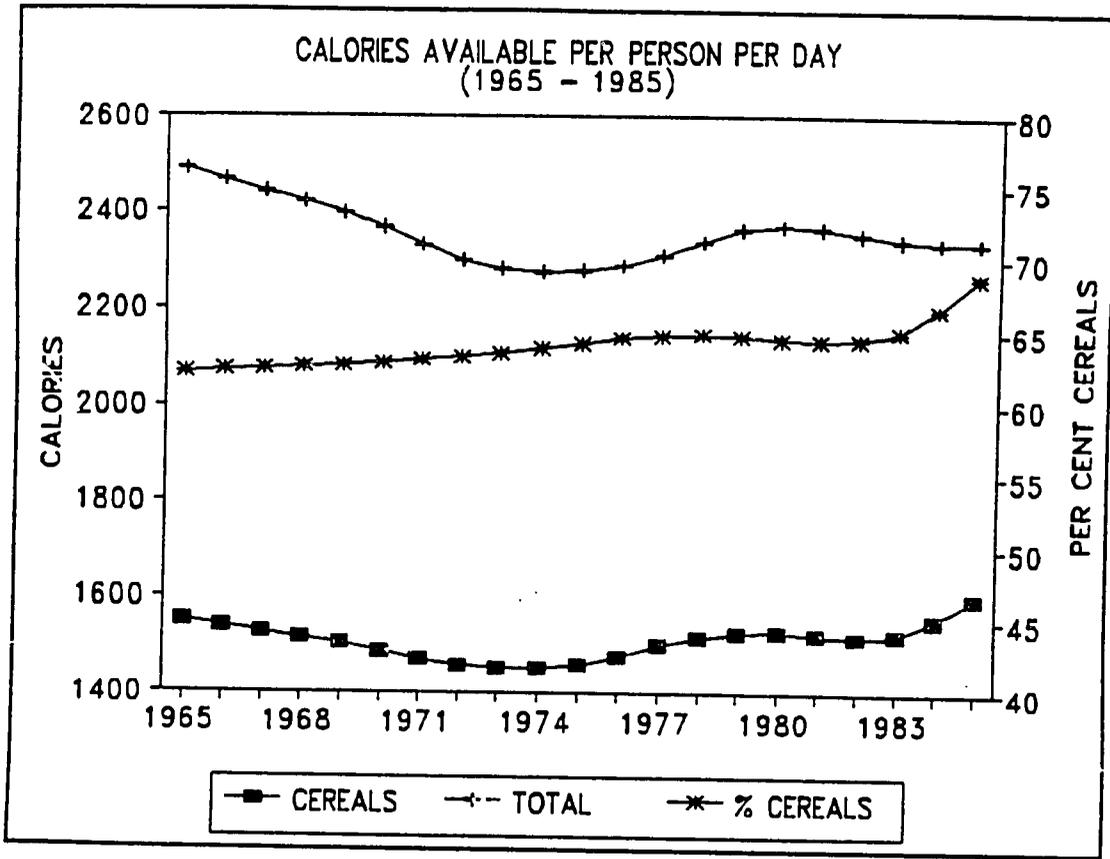
SOURCES: WORLD BANK. WORLD TABLES (1989 - 1990 EDITION)

WORLD BANK. WORLD DEVELOPMENT REPORT 1990. NEW YORK: OXFORD UNIVERSITY PRESS, 1990.

MINISTERE DE L'ECONOMIE ET DES FINANCES. ENQUEST DEMOGRAPHIQUE ET DE SANTE AU SENEGAL - 1986. INSTITUTE FOR RESOURCE DEVELOPMENT/WESTINGHOUSE, MARS 1988.

WONE, IBRAHIMA ET ALIA. MEDECINE ET DEVELOPMENT AU SENEGAL: PREMIERE ANALYSE D'INDICATEURS DE SANTE (1960 - 1979). CAHIER MEDESARHEL NO.1 - 1984.

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AVAILABLE CALORIES PER PERSON PER DAY
1965 - 1985

YEAR	RAW DATA			SMOOTHED DATA		
	CEREAL	TOTAL	% CEREAL	CEREAL	TOTAL	% CEREAL
1965	1551	2490	62.29	1551	2490	62.29
1966	1539	2467	62.40	1539	2467	62.40
1967	1528	2443	62.52	1528	2443	62.52
1968	1516	2420	62.63	1516	2421	62.63
1969	1504	2398	62.75	1503	2396	62.75
1970	1493	2375	62.86	1487	2366	62.91
1971	1466	2323	63.11	1469	2330	63.10
1972	1458	2302	63.32	1456	2298	63.32
1973	1449	2281	63.54	1452	2280	63.54
1974	1441	2260	63.76	1452	2275	63.80
1975	1456	2273	64.06	1458	2276	64.16
1976	1477	2288	64.57	1476	2285	64.53
1977	1499	2303	65.09	1498	2306	64.73
1978	1514	2334	64.88	1516	2336	64.76
1979	1530	2365	64.67	1525	2361	64.66
1980	1545	2397	64.46	1527	2369	64.49
1981	1527	2372	64.39	1523	2364	64.37
1982	1510	2347	64.33	1518	2351	64.44
1983	1493	2323	64.27	1523	2340	65.05
1984	1550	2329	66.53	1552	2336	66.56
1985	1609	2336	68.88	1600	2336	68.72

SOURCE: BOURQDE, L. ET GAGNON, J-P. STATISTIQUES UTILES POUR L'ELABORATION DE STRATEGIES ET DE POLITIQUES ALIMENTAIRES AU SAHEL.
SERIE DOSSIERS NO. 5. LAVAL:LE CENTRE SAHEL DE L'UNIVERSITE
LAVAL, DECEMBRE 1988.

CORRELATION OF GNP PER CAPITA AND THE PQLI INDEX
SELECTED SAHELIAN COUNTRIES - 1988

COUNTRY	INFANT MORT. RATE	LIFE EXPECTANCY AT BIRTH	ADULT LITERACY %	PQLI1	PQLI2	GNP/C
BURKINA	137	47	13	26	24	210
GUINEA	143	43	28	27	29	430
MALI	168	47	17	23	23	230
NIGER	133	45	14	25	24	300
SENEGAL	78	48	28	41	38	650
SENEGAL	127	48	28	33	33	650
GAMBIA	-	44	25			200
GUINEA						
BISSAU	-	40	31			190
MAURITANIA	125	46	-			480

THE PHYSICAL QUALITY OF LIFE INDEX WAS INTRODUCED BY THE OVERSEAS
DEVELOPMENT COUNCIL. TWO FORMULAS FOR THE INDEX WERE FOUND AS FOLLOWS:

$$PQLI1 = ((229-IMR)/2.22 + (LIFE EXP-38)/0.39 + ADULT LITERACY)/3$$

(THIS WAS USED IN THE GRAPH)

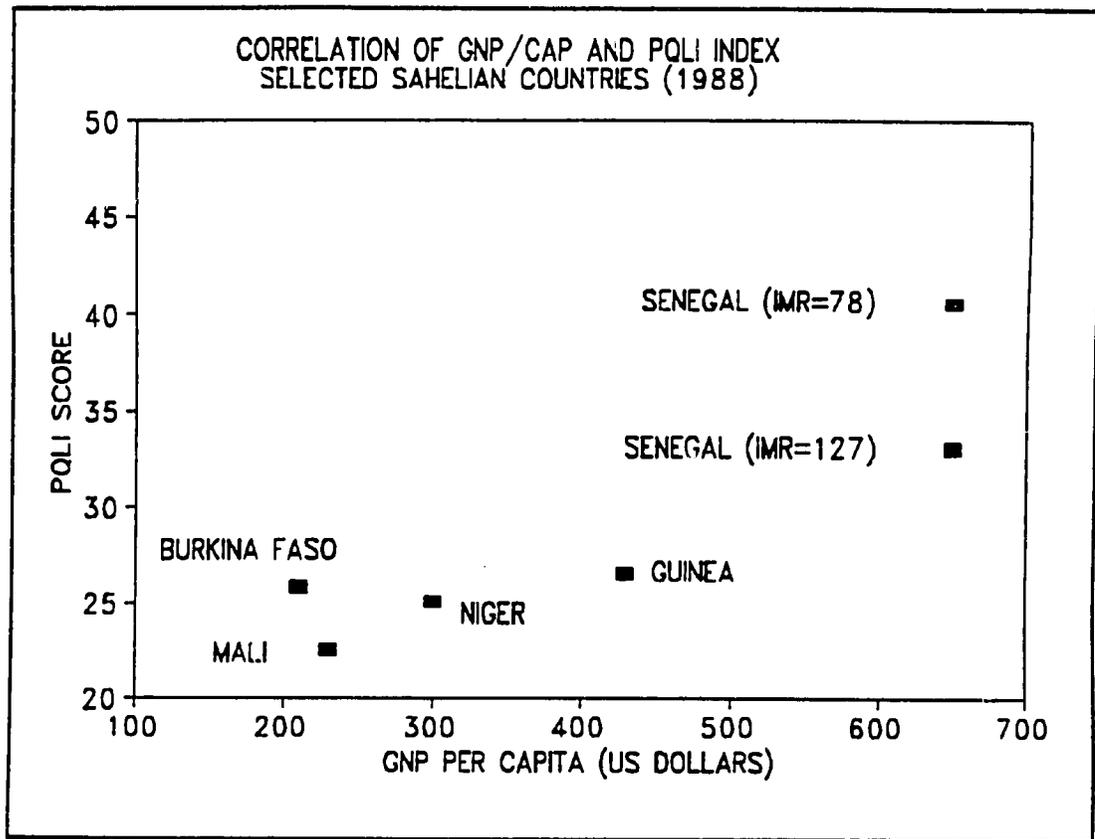
CERESETO, S. AND WAITZKIN, H. ECONOMIC DEVELOPMENT, POLITICAL-ECONOMIC
SYSTEM, AND THE PHYSICAL QUALITY OF LIFE. AMERICAN JOURNAL OF PUBLIC
HEALTH. VOL. 76, NO. 6, JUNE 1986.

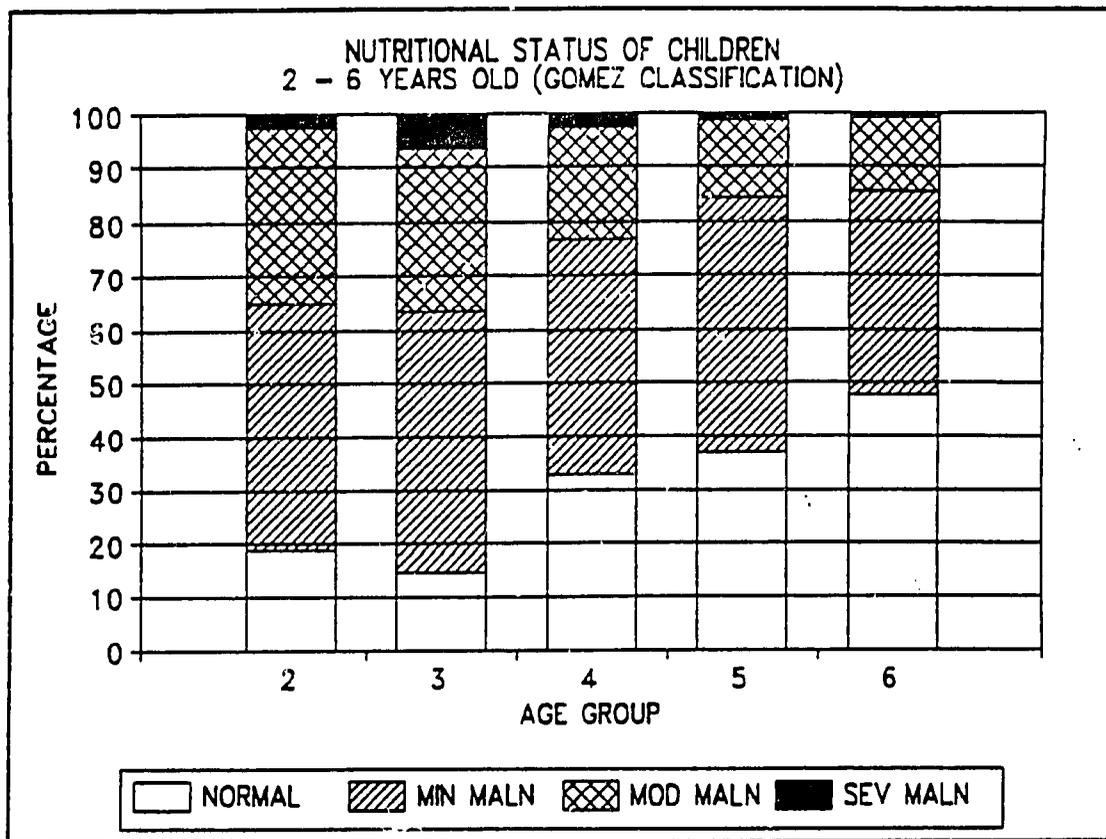
$$PQLI2 = 0.6484 \times LIFE EXP - 0.0977 \times IMR + 0.5278 \times ADULT LITERACY$$

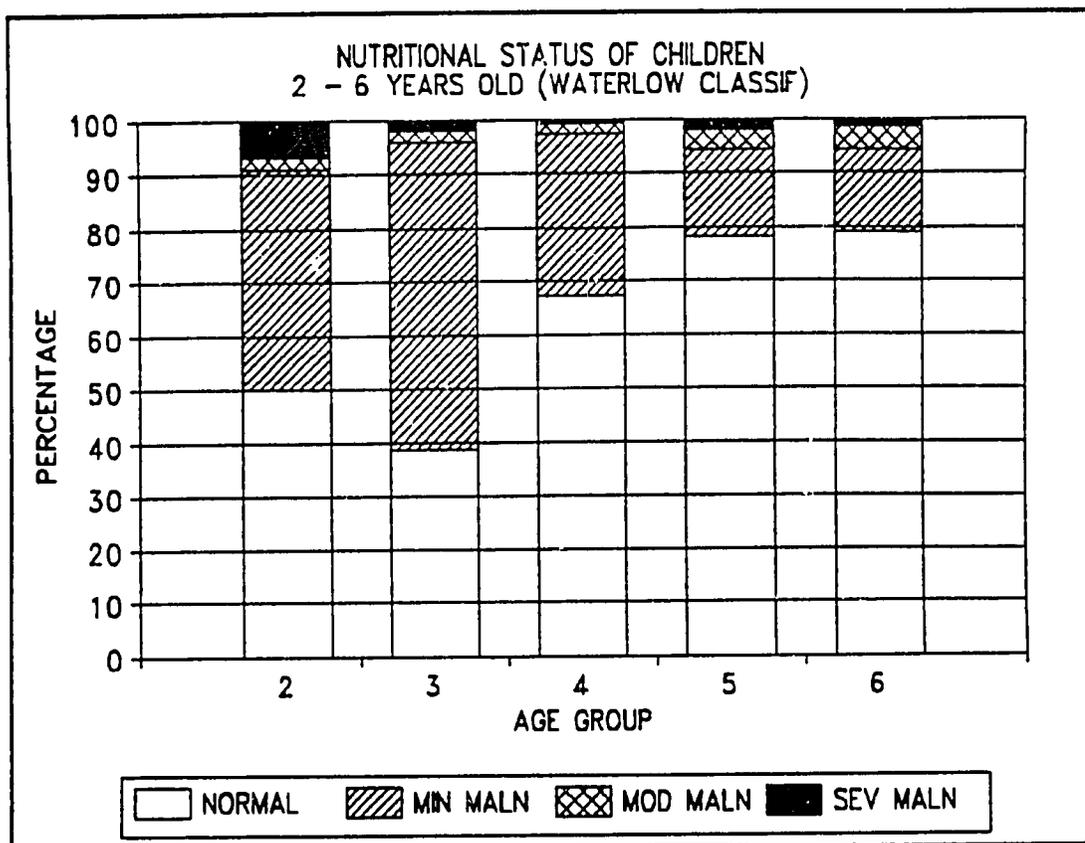
USAID. TANZANIA: HEALTH SECTOR STRATEGY. DAR ES SALAAM, FEBRUARY 1980.

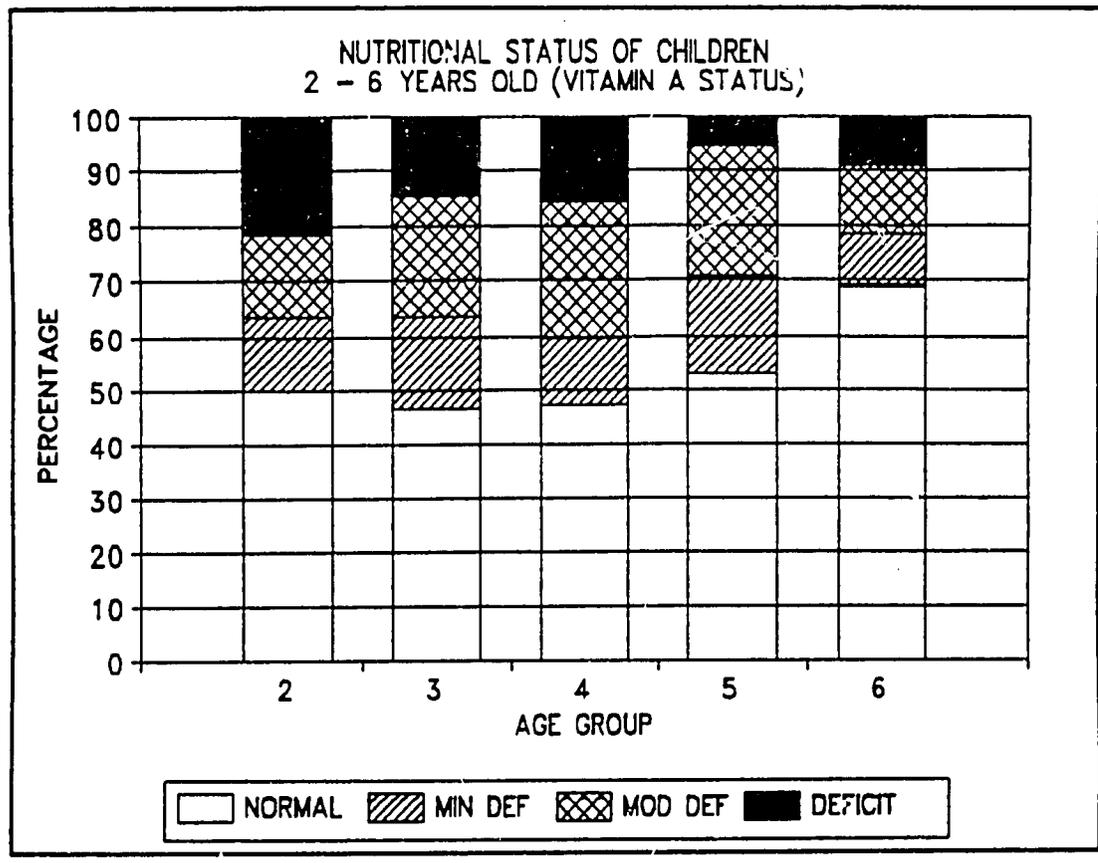
DATA SOURCE: WORLD BANK. WORLD DEVELOPMENT REPORT. NEW YORK: OXFORD
UNIVERSITY PRESS, 1990.

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NUTRITIONAL STATUS OF CHILDREN AS A FUNCTION OF AGE

WEIGHT FOR AGE (GOMEZ CLASSIFICATION)

AGE	NORMAL		MALNUTRITION						TOTAL		
	CASES	%	MINIMAL CASES	%	MODERATE CASES	%	SEVERE CASES	%	CASES	%	% MALN
2	15	19	37	46	26	33	2	3	80	100	81
3	31	15	103	49	64	30	13	6	211	100	85
4	80	33	108	44	51	21	6	2	245	100	67
5	59	37	76	48	23	14	2	1	160	100	63
6	77	48	62	38	22	14	1	1	162	100	52
TOTAL AVE	262		386		186		24		858		69

WEIGHT AND HEIGHT FOR AGE (WATERLOW CLASSIFICATION)

AGE	NORMAL		CHRON MAL ACUTE MALN PRESENT MALN						TOTAL		
	CASES	%	CASES	%	CASES	%	CASES	%	CASES	%	% MALN
2	40	50	33	41	2	3	5	6	80	100	50
3	82	39	121	57	4	2	4	2	211	100	61
4	165	67	74	30	5	2	1	0	245	100	33
5	125	78	26	16	6	4	3	2	160	100	22
6	128	79	25	15	7	4	2	1	162	100	21
TOTAL AVE	540		279		24		15		858		37

EVALUATION OF VITAMIN A STATUS (TRANSFERRED OCULAR IMPRESSION)

AGE	NORMAL		HYPO-VITAMINOSIS A						TOTAL		
	CASES	%	MINIMAL CASES	%	MODERATE CASES	%	SEVERE CASES	%	CASES	%	% AVIT
2	33	50	9	14	10	15	14	21	66	100	50
3	88	47	32	17	42	22	27	14	189	100	53
4	110	47	30	13	58	25	36	15	234	100	53
5	83	53	28	18	38	24	8	5	157	100	47
6	109	69	15	9	20	13	14	9	158	100	31
TOTAL AVE	423		114		168		99		804		47

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DEFINITIONS OF NUTRITIONAL CLASSIFICATION SYSTEMS

WEIGHT FOR AGE
GOMEZ CLASSIFICATION

CRITERIA	NORMAL	MALNUTRITION		
		MINIMAL	MODERATE	SEVERE
WEIGHT FOR AGE % OF THE NCHS REFERENCE MEDIAN	≥90	<90 AND ≥75	<75 AND ≥60	<60

NCHS = NATIONAL CENTER FOR HEALTH STATISTICS. WASHINGTON DC.

WEIGHT AND HEIGHT FOR AGE
WATERLOW CLASSIFICATION

WEIGHT CRITERIA (% OF NCHS MEDIAN)

HEIGHT CRIT. % OF NCHS MED.	WEIGHT/AGE (%) <80	WEIGHT/AGE (%) ≥80
WEIGHT/AGE (%) <90	CURRENT CHRONIC MALNUTRITION	PAST CHRONIC MALNUTRITION
WEIGHT/AGE (%) ≥90	ACUTE MALNUTRITION	NORMAL

VITAMIN A STATUS
TRANSFERRED OCULAR IMPRESSION

MUCUS CELLS	NATURE OF EPITHELIAL CELL	STAGES	TEST RESULT
PRESENT	MANY, SMALL, CLUMPED	NORMAL	NEGATIVE
	SMALL CELLS CLUMPED LARGE CELLS SEPARATED	SLIGHT DEFICIT	NEGATIVE
ABSENT	SMALL CELLS CLUMPED LARGE CELLS SEPARATED	MODERATE DEFICIT	POSITIVE
	LARGE AND SEPARATED	DEFICIT	POSITIVE

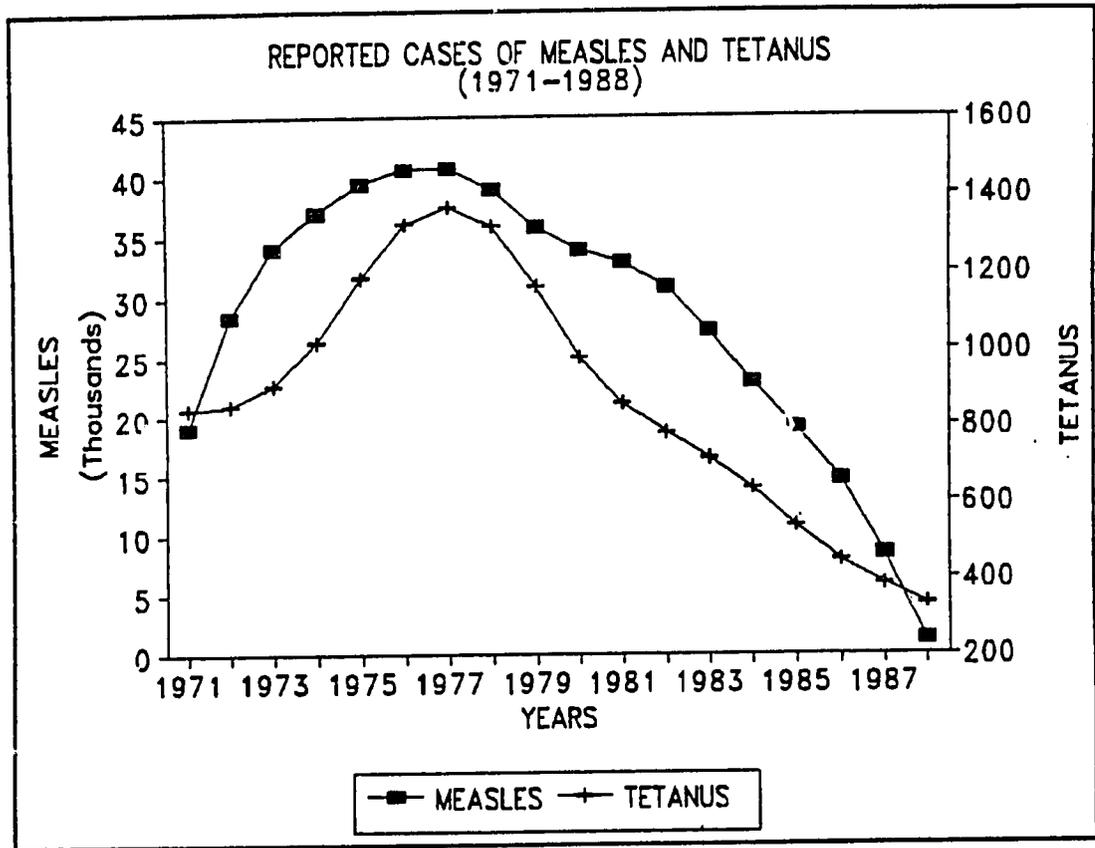
SOURCES: CARLIER, C. ET AMEDEC-MANESME, O. PREVALENCE DE LA MALNUTRITION
ET DU DEFICIT EN VITAMINE A DANS LES REGIONS DU DIORBEL ET DE
FATICK AU SENEGAL. DAKAR: INSERM/ORANA, 1988.

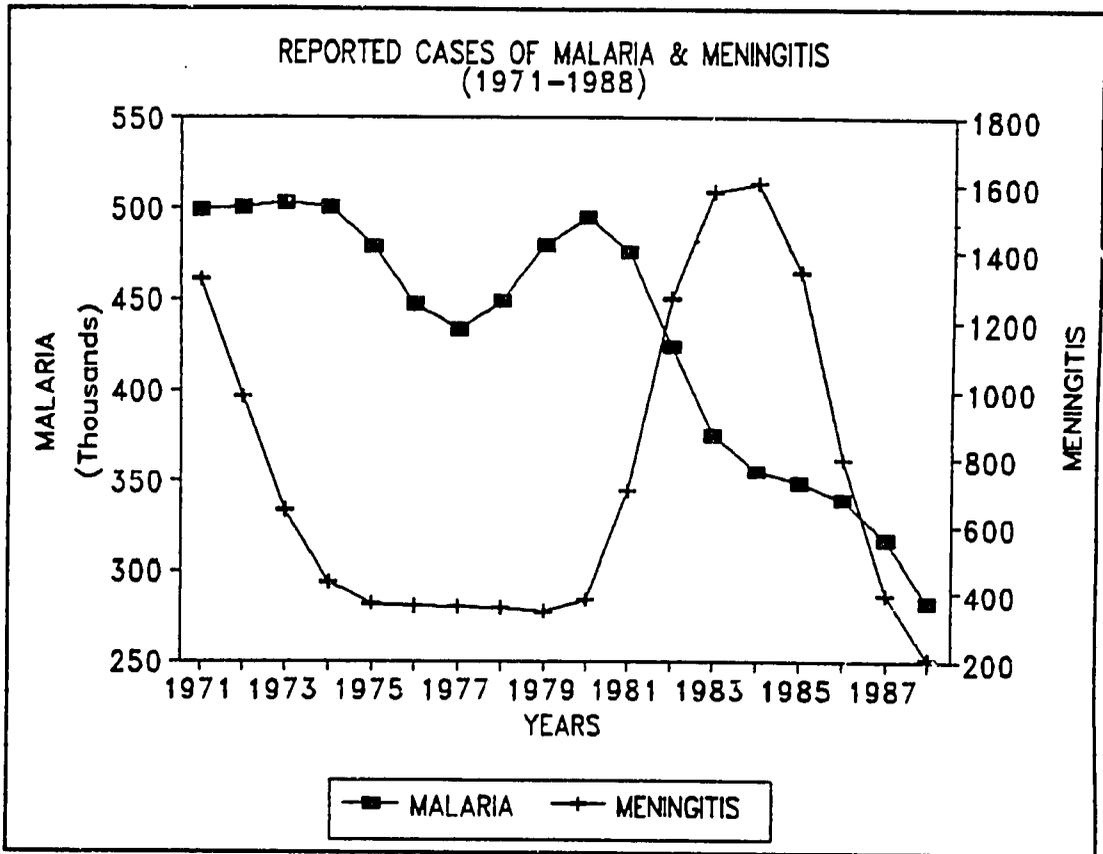
WHO. A GROWTH CHART FOR INTERNATIONAL USE IN MATERNAL AND CHILD HEALTH.
GENEVA: WORLD HEALTH ORGANIZATION, 1978.

Annex 4
Major Health Problems

Annex 4

Major Health Problems



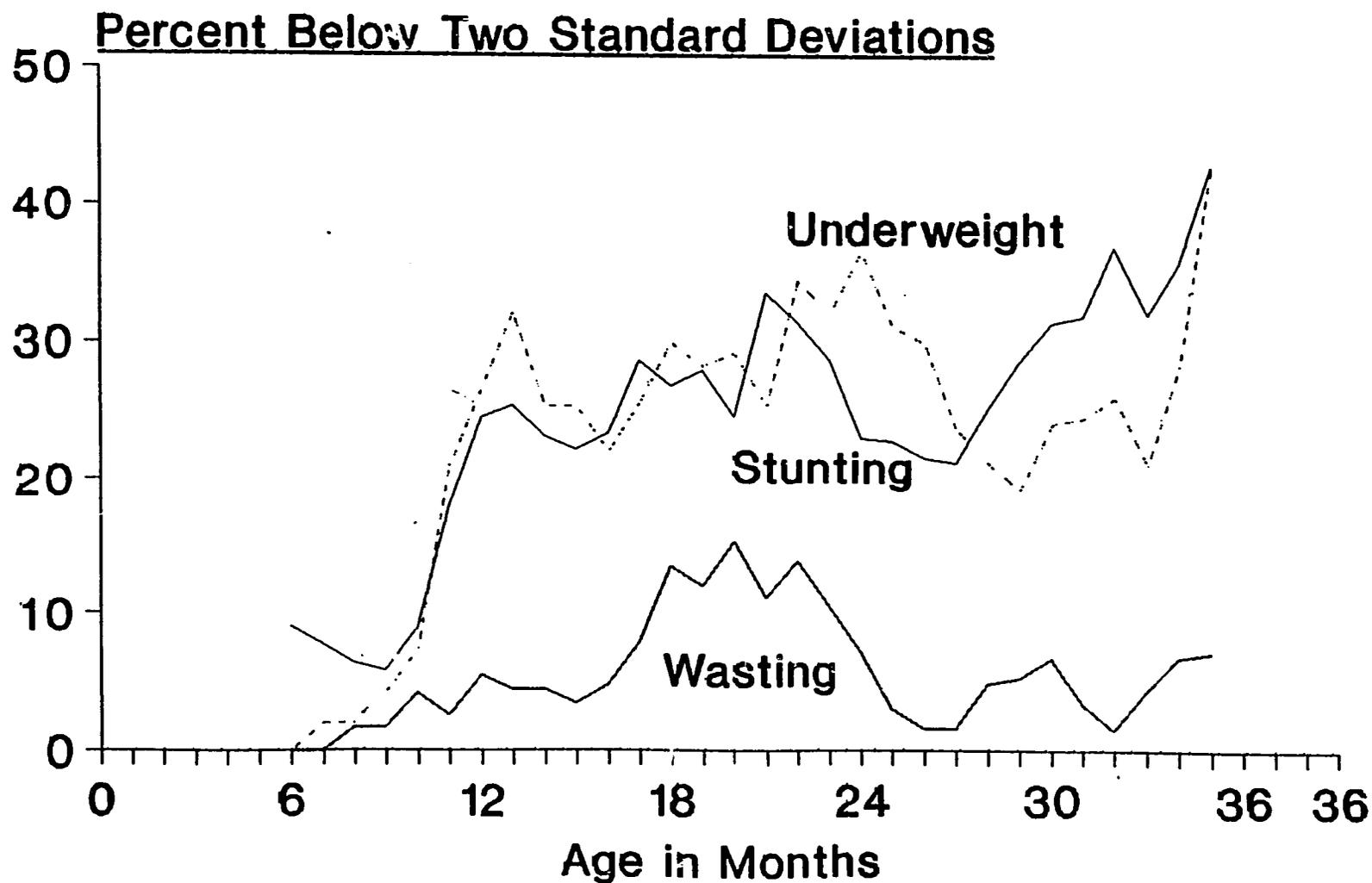


REPORTED CASES OF MEASLES, TETANUS, MALARIA AND MENINGITIS
(1971 - 1988)

YEAR	RAW DATA				SMOOTHED DATA			
	MEASLES	TET-ANUS	MALARIA	MENIN-GITIS	MEASLES	TET-ANUS	MALARIA	MENIN-GITIS
1971	16458	865	499130	1322	19063	843	499130	1322
1972	31185	832	472048	1131	28408	854	500563	983
1973	36788	855	521181	368	34098	904	503114	647
1974	35069	1069	555925	445	37025	1018	500235	433
1975	26567	1086	483773	367	39353	1184	478769	369
1976	46309	1498	443841	247	40637	1321	447514	363
1977	44844	1391	366967	363	40650	1365	433727	361
1978	29383	1334	414031	377	38910	1315	449024	355
1979	39138	1095	508010	358	35808	1160	479619	348
1980	28794	1010	522837	336	33896	976	494917	381
1981	34516	691	498895	360	32827	855	475657	703
1982	32380	704	394287	961	30712	779	424221	1268
1983	26481	1035	374086	4523	27110	710	375492	1581
1984	22612	729	330471	2518	22849	631	354951	1606
1985	18742	422	286855	512	19024	533	348590	1347
1986	18102	355	388476	825	14596	443	339237	795
1987	7900	564	379734	393	8370	381	317379	395
1988	1505	332	251118	206	1145	332	282662	206

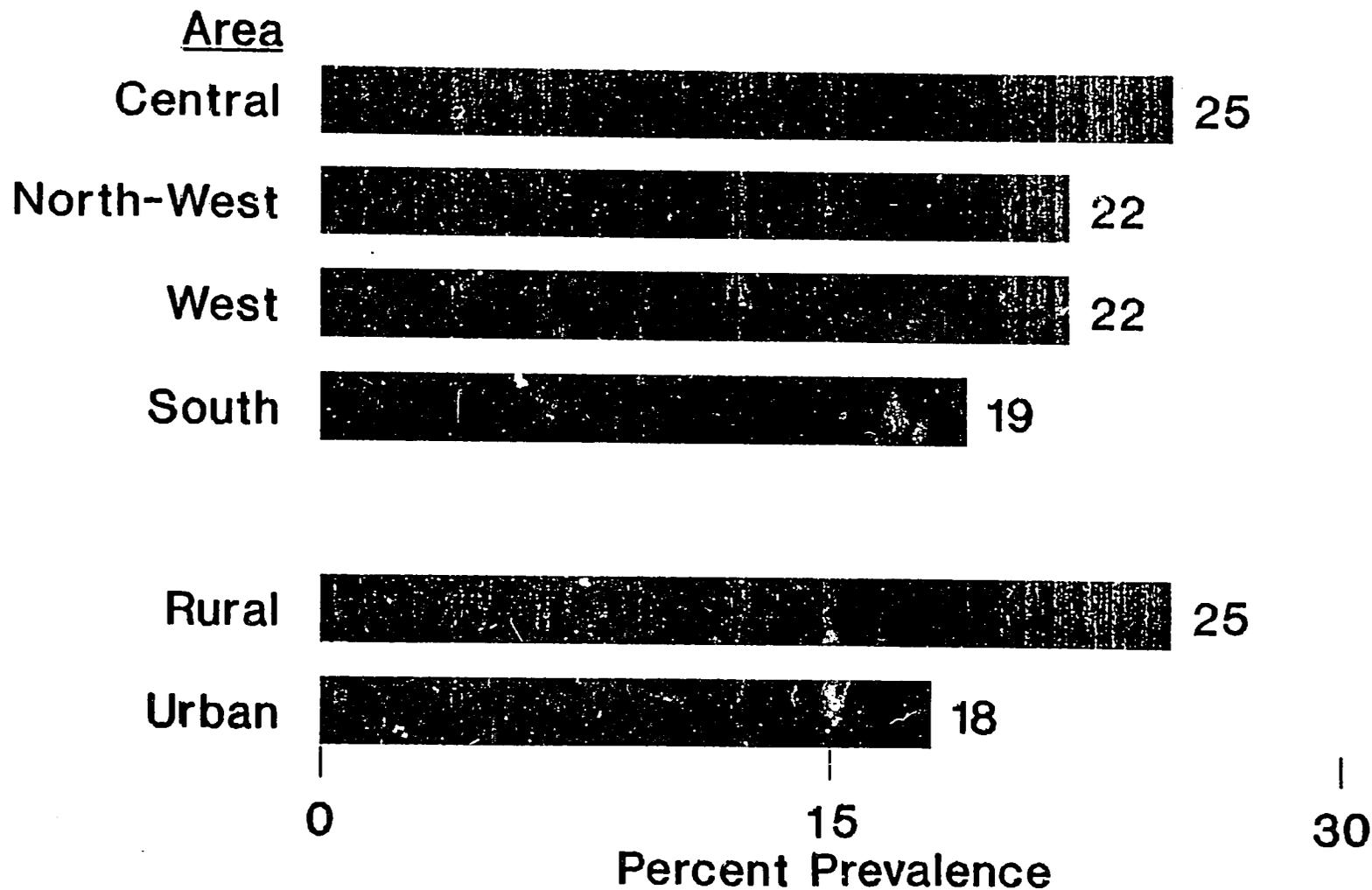
SOURCE: MSP, DRPF/DIVISION DE STATISTIQUES. STATISTIQUES SANITAIRES ET DEMOGRAPHIQUES. 1986 - 1987 ET 1988.

Prevalence of Undernutrition - SENEGAL



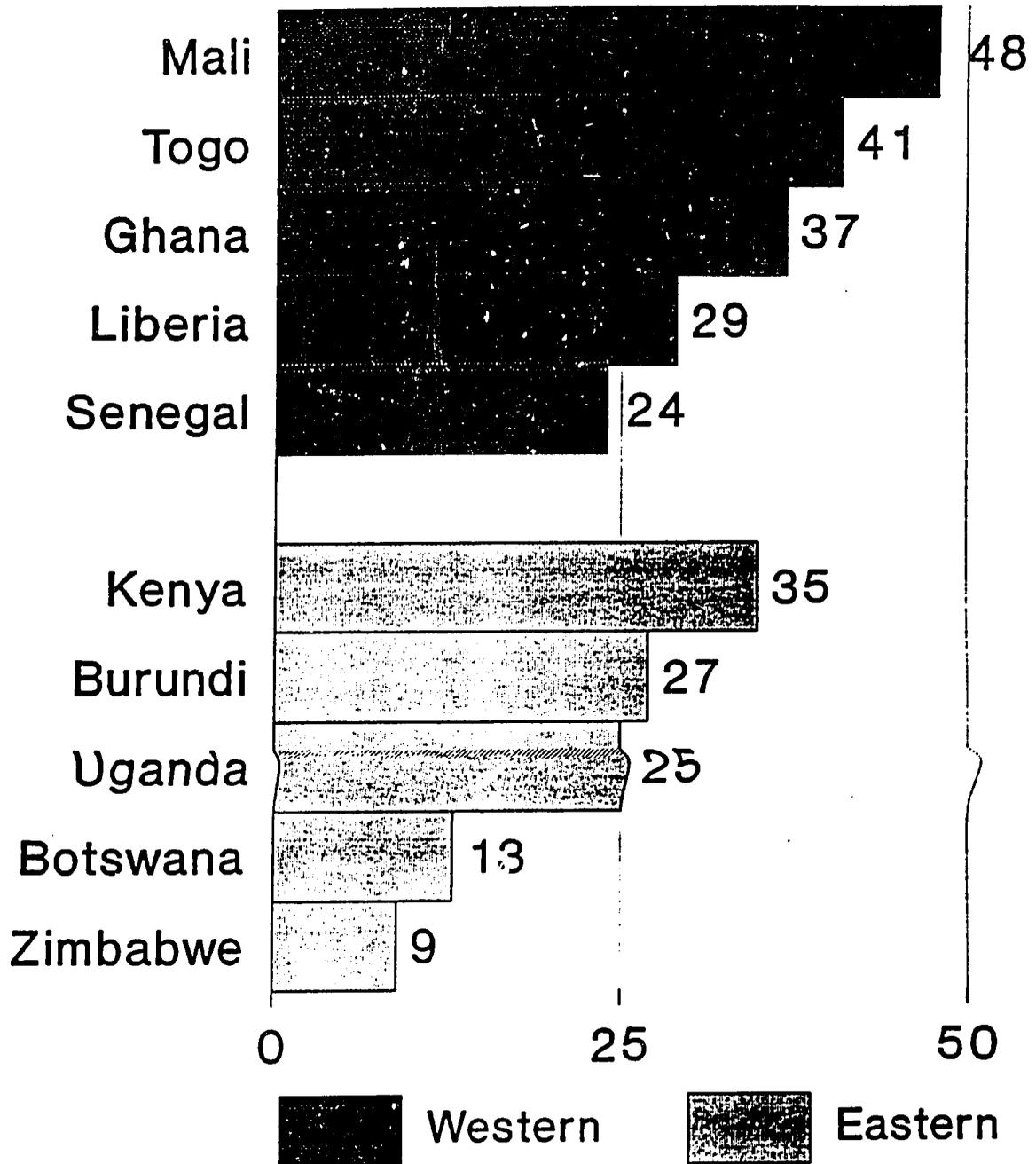
Source: Senegal DHS 1986

Prevalence of Stunting by Area - SENEGAL Children 6 to 36 Months



Source of data: Senegal DHS 1986

Percent Not Eating Food National - Infants 6 to 11 Months African Countries



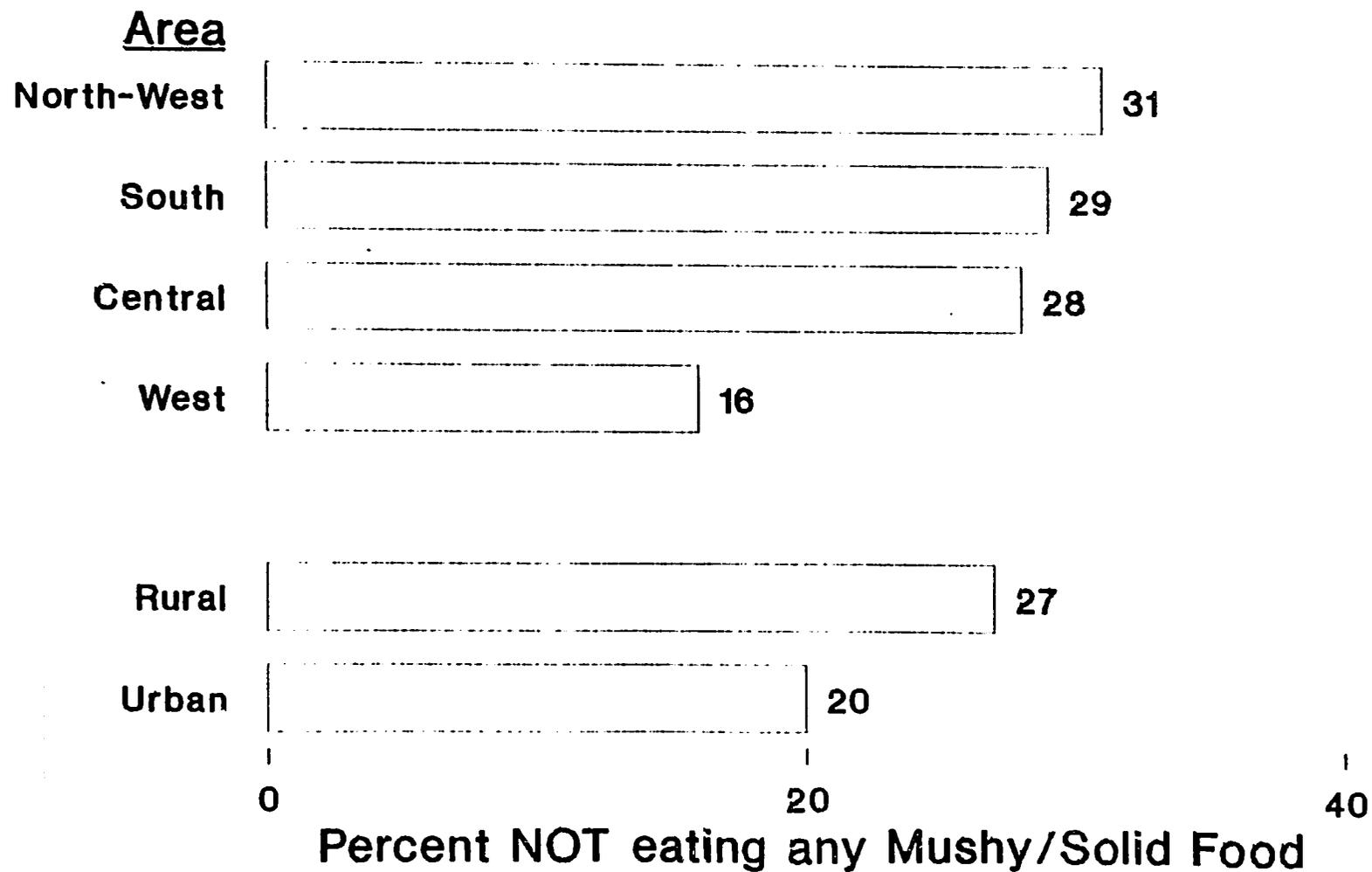
% NOT eating any Mushy/Solid Food in Past 24 Hours

Data from DHS 1986-9

Graphed by INU/LTS

157

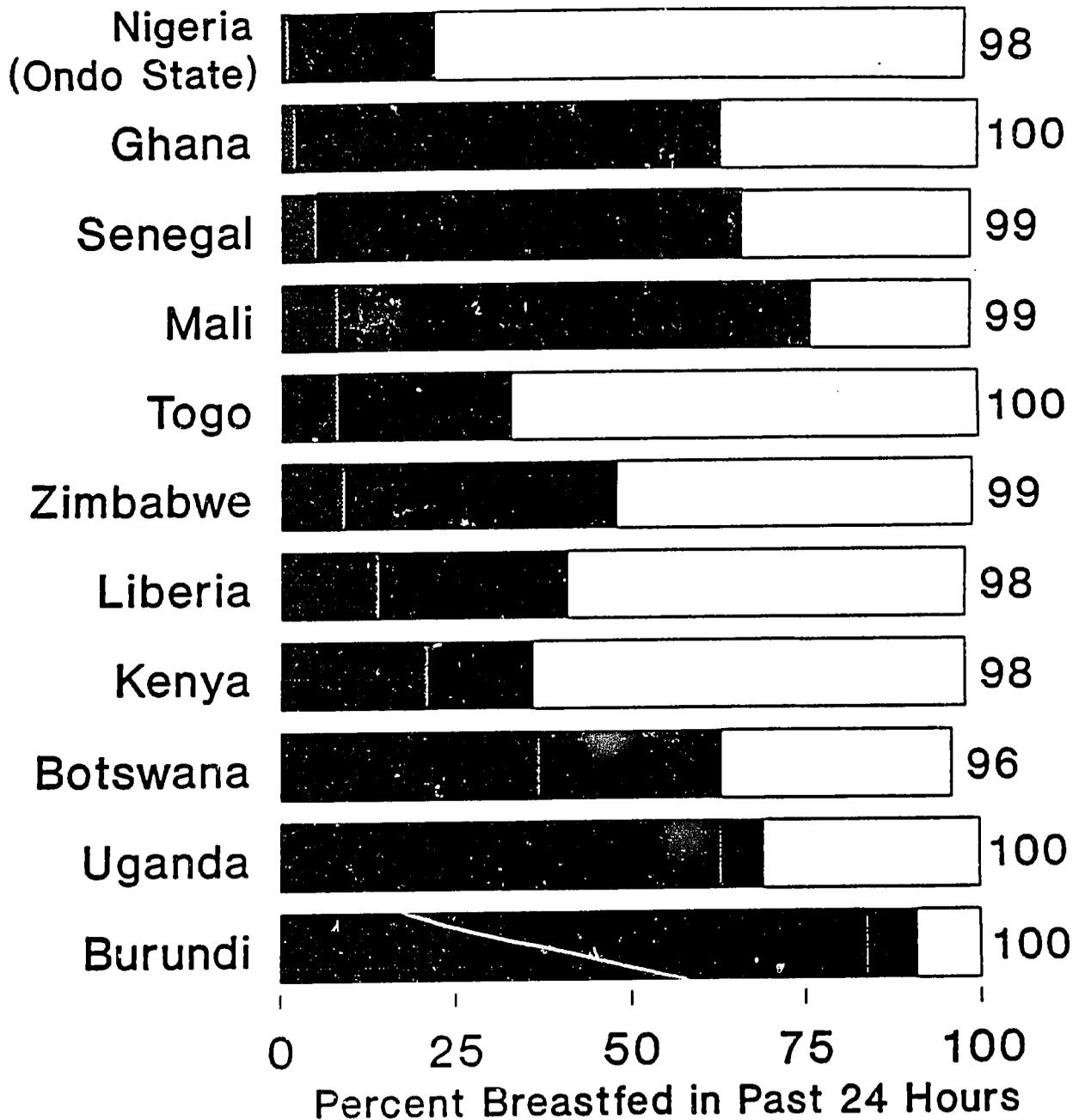
Percent Not Eating Solid Food Infants 6 to 11 Months - SENEGAL



Data from DHS Senegal 1986

Percent of Infants 0-4 Months Breast Fed By Country - Africa

[Ordered by Level of Exclusive BF - Lowest to Highest]



■ Exclusive BF ■ BF with Water □ BF with Other

Data from DHS 1986-9

Graphed by LTS for NCProject

157

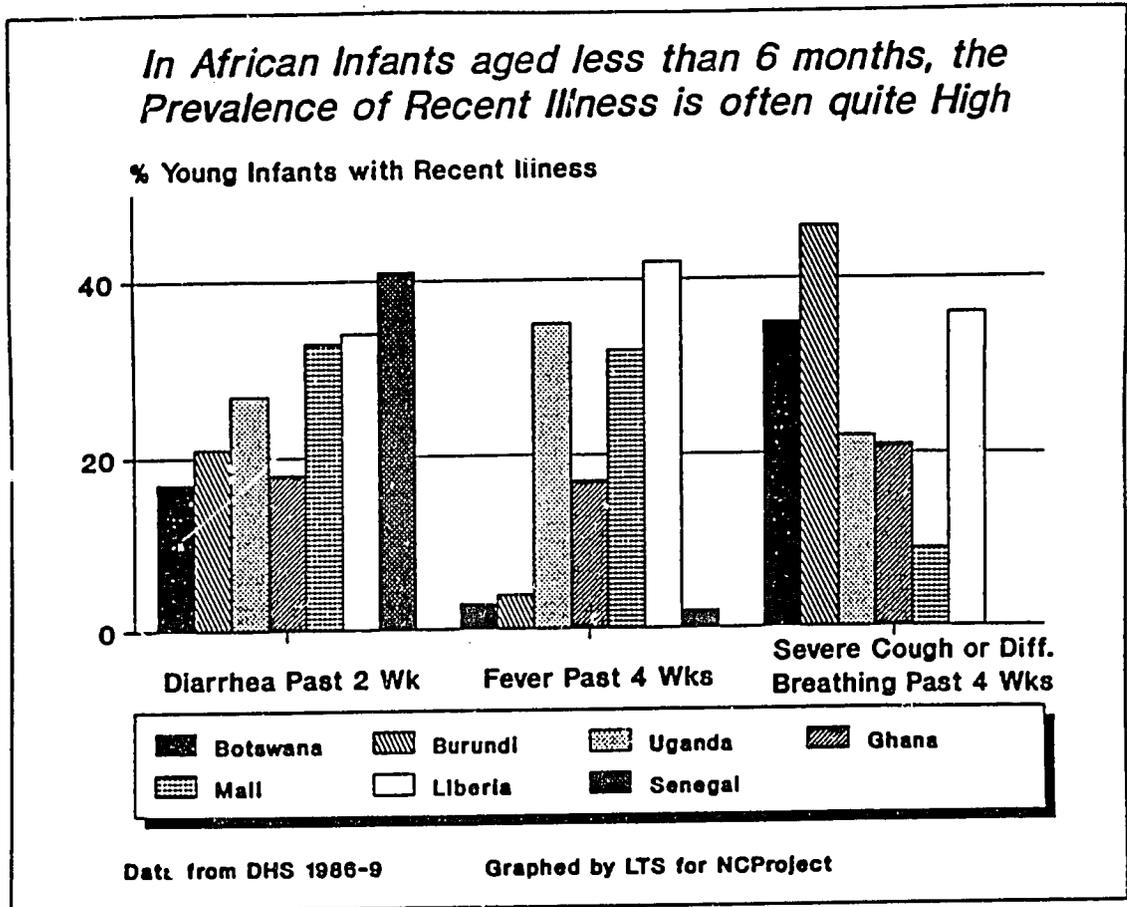
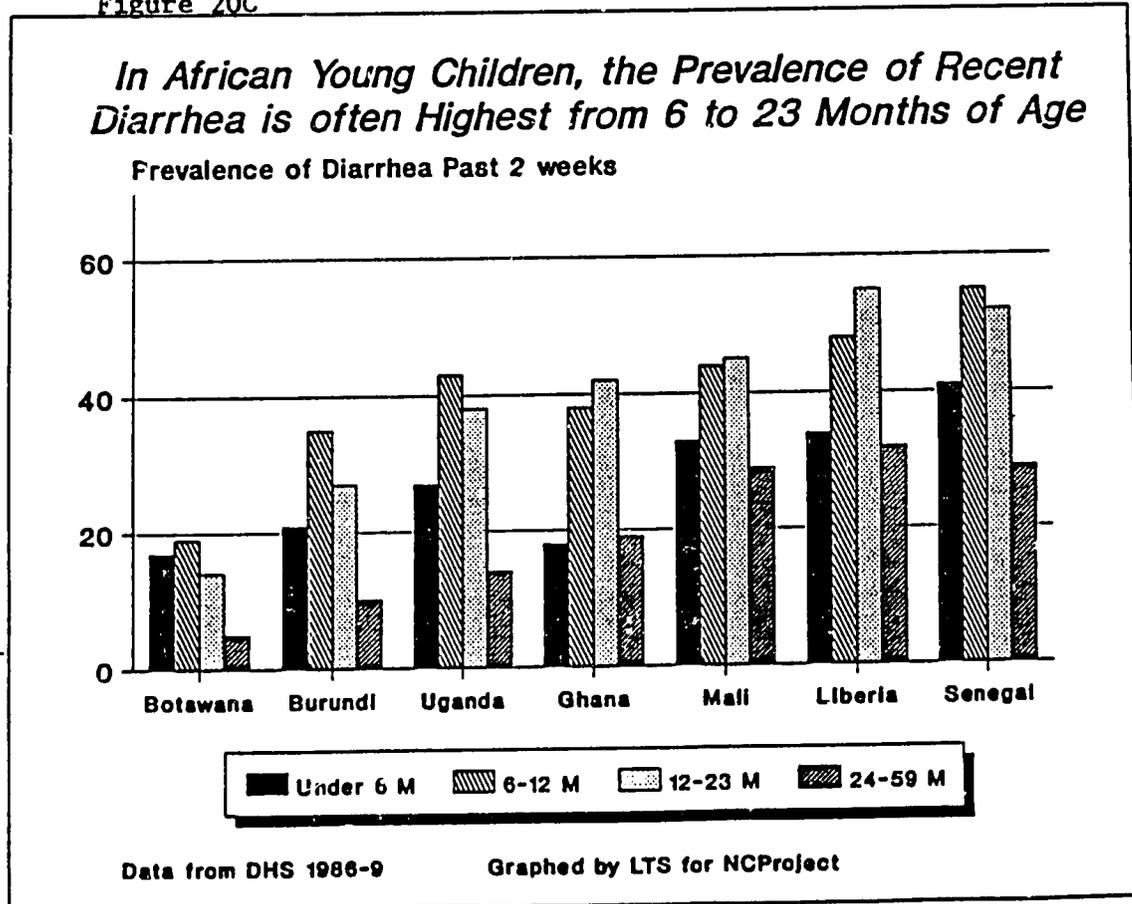
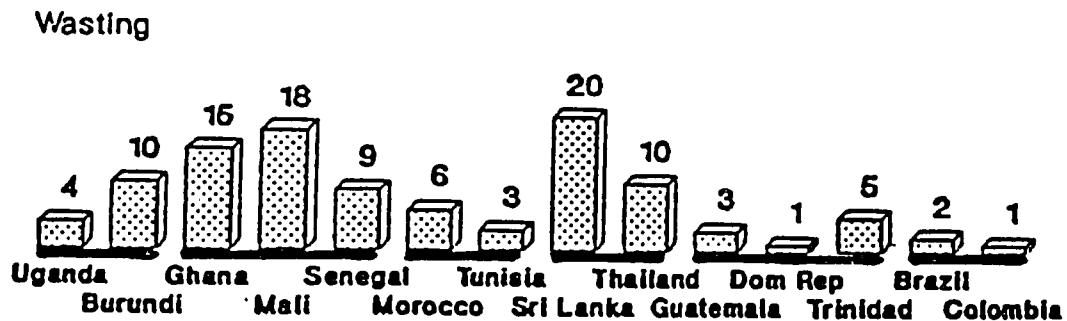
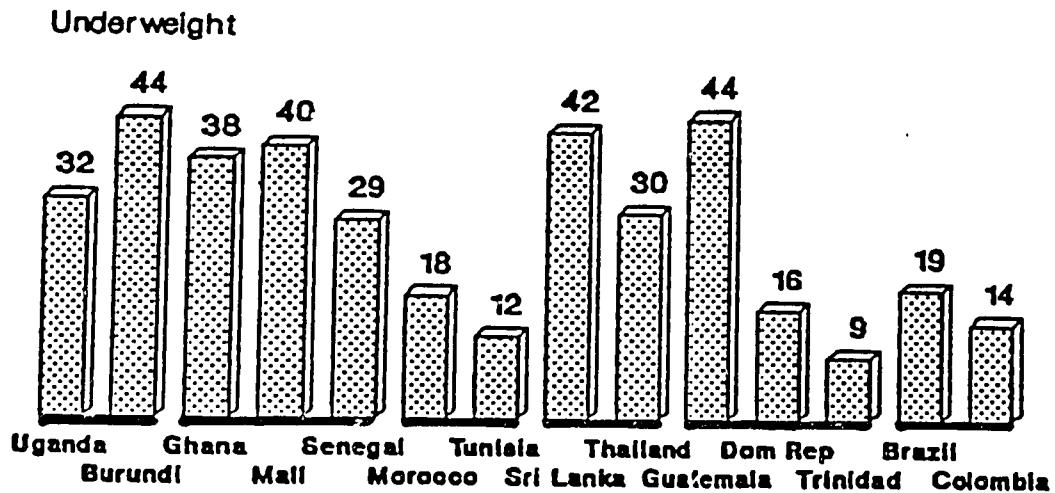
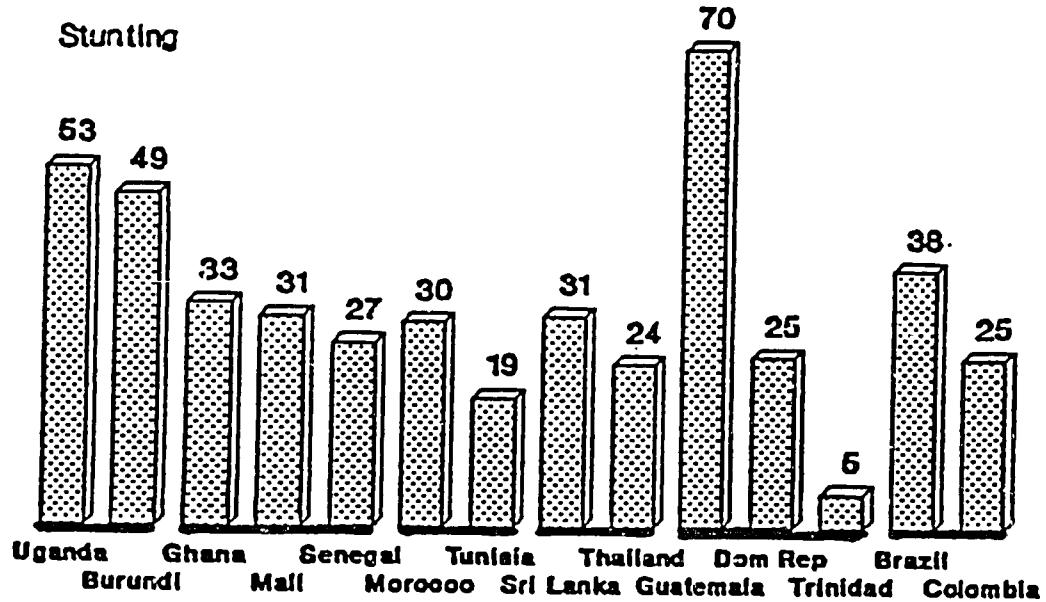


Figure 20C



160

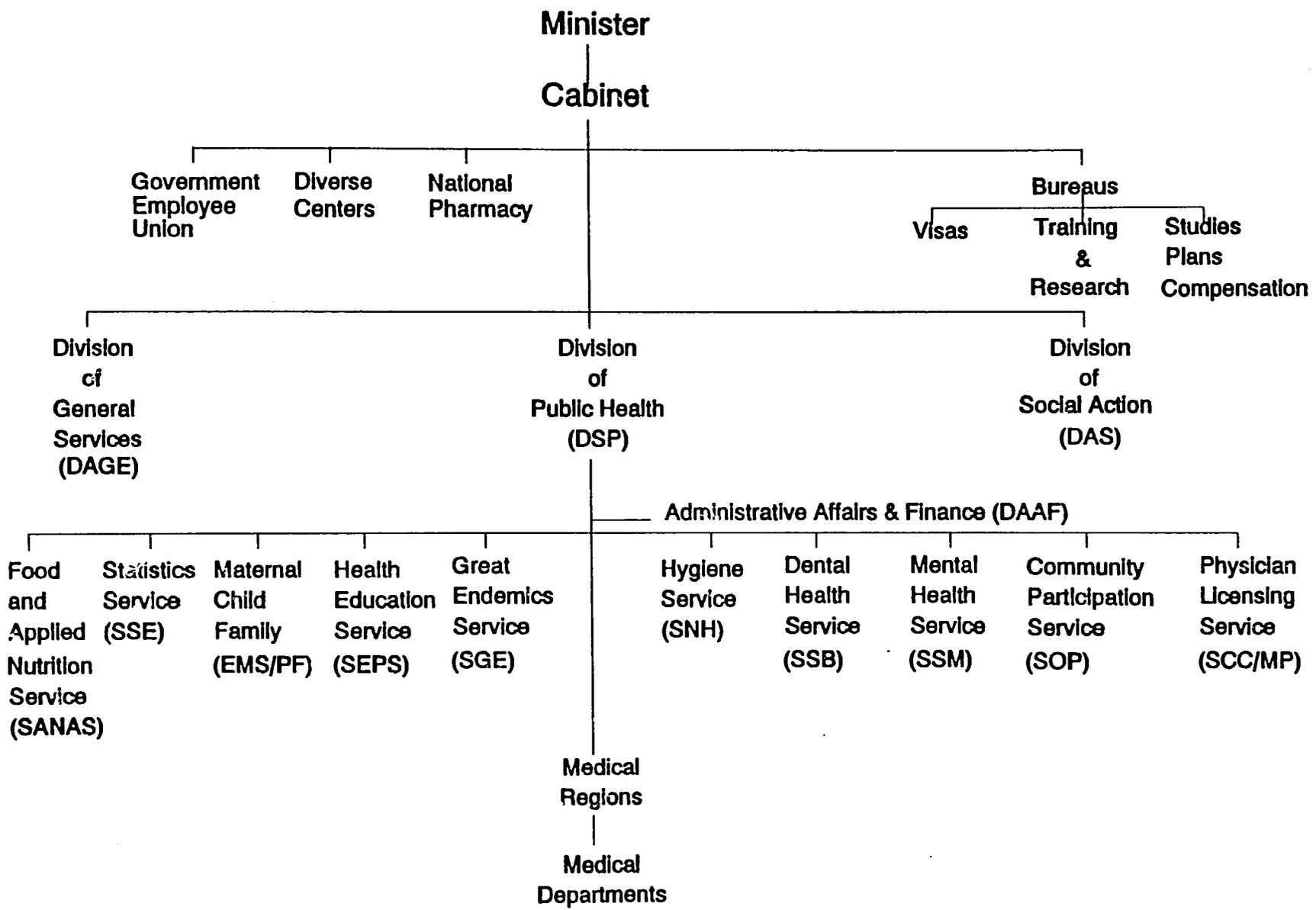
Prevalence of Undernutrition - by Country Children Aged 12 -23 Months



161

Annex 5

**Health Resources
Ministry Organization
Infrastructure Personnel**



Annex 5
 Health Resources

Supervisory Organizational Structure (in Transition)

Level

Central

**Director
Public Health**

**Assistant Director
Public Health**

Chief Regional Medical Officer (MCR)

Chief Medical Officer, Great Endemics

Regional

**Primary
Health
Service
Supervisor
(SSP)**

**Maternal
Child
Family
Planning
Service
Supervisor
(SMI/PF)**

**Health
Education
Service
Supervisor
(SEPS)**

**Expanded
Program
Vaccination
Service
Supervisor
(PEV)**

**Regional
Diarrrhea
Control
Bureau
(BRAN)**

Chief Medical Circumscription Medical Officer

**Departmental
(Medical Circumscription)**

**Primary
Health
Service
Director
(SSP)**

**Maternal
Child
Family
Planning
Service
Director
(SMI/PF)**

**Health
Education
Service
Director
(SEPS)**

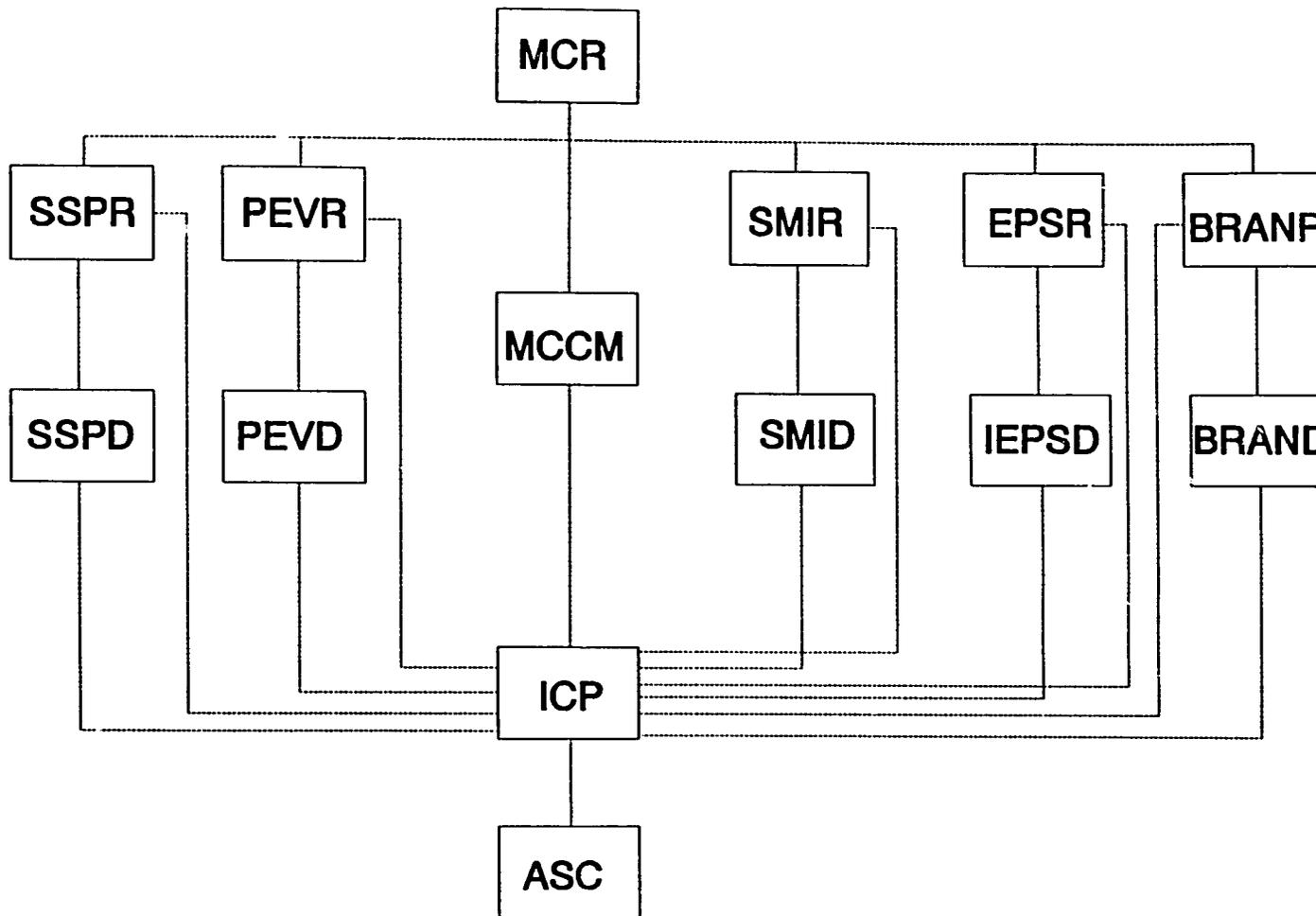
**Expanded
Program
Vaccination
Service
Director
(PEV)**

**Arrondissements
Village**

Chief Nurse, Health Post (ICP)

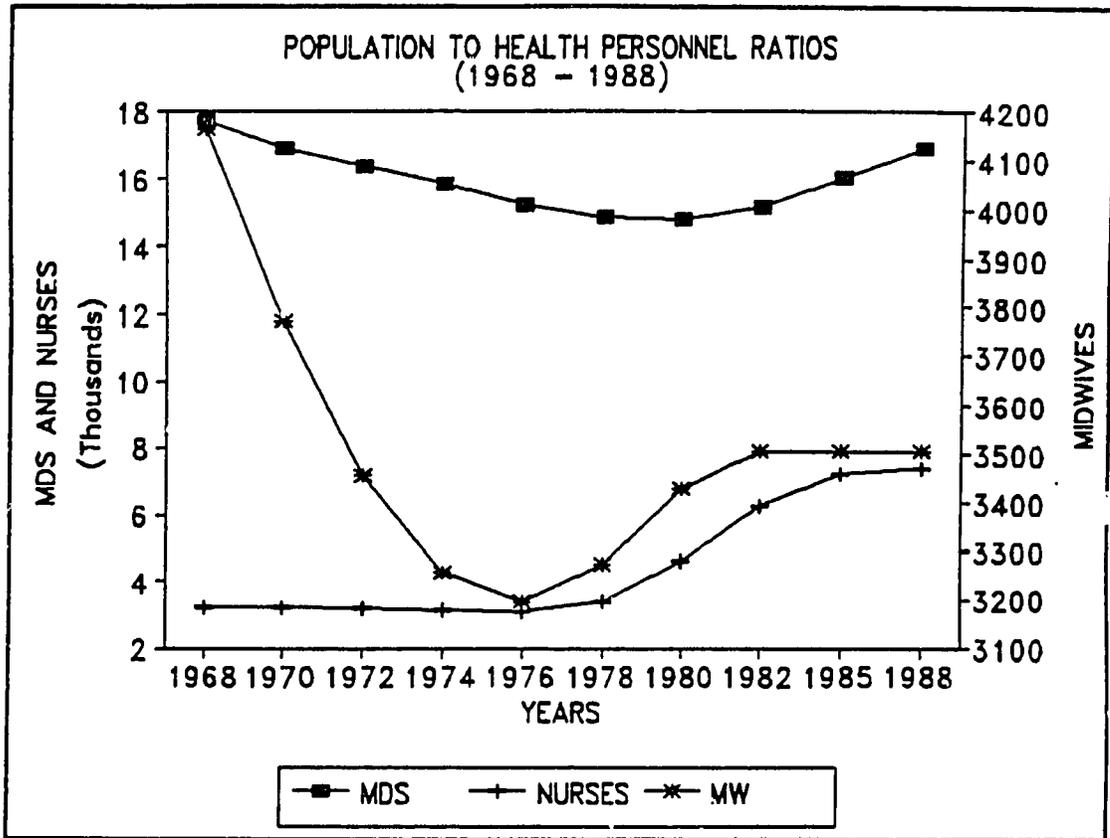
Sanitary Agent, Health Hut (ASC)

162



Actual Operating Style
of
Supervisory Structure
(In Transition)

1/20/51



REFERENCE POPULATION FOR MIDWIVES = WOMEN (15-49)

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POPULATION TO HEALTH PERSONNEL RATIOS
(1968 - 1988)

YEAR	POP	WOMEN (15-49)	MDS	NURSES	MID- WIVES	CALCULATED RATIOS			SMOOTHED RATIOS		
						POP/ Y.D	POP/ NURSE	WCBA/ MIDW*	POP/ MD	POP/ NURSE	WCBA/ MIDW*
1968	3961881	903309	220	1227	217	18009	3229	4163	17703	3229	4163
1970	4190838	955511	265	1299	256	15814	3226	3732	16914	3218	3773
1972	4433027	1010730	275	1413	288	16120	3137	3509	16374	3189	3455
1974	4689211	1069140	281	1412	330	16688	3321	3240	15849	3143	3257
1976	4960200	1130926	311	2357	380	15949	2104	2976	15227	3098	3196
1978	5238801	1194447	391	1519	419	13398	3449	2851	14862	3391	3273
1980	5533050	1261535	412	1861	326	13430	2973	3870	14797	4600	3427
1982	5843827	1332392	367	663	343	15923	8814	3885	15142	6258	3504
1985	6343025	1446210	395	800	424	16058	7929	3411	16015	7193	3504
1988	6881919	1569078	407	934	474	16909	7368	3310	16909	7368	3504

* WCBA = WOMEN OF CHILD-BEARING AGE

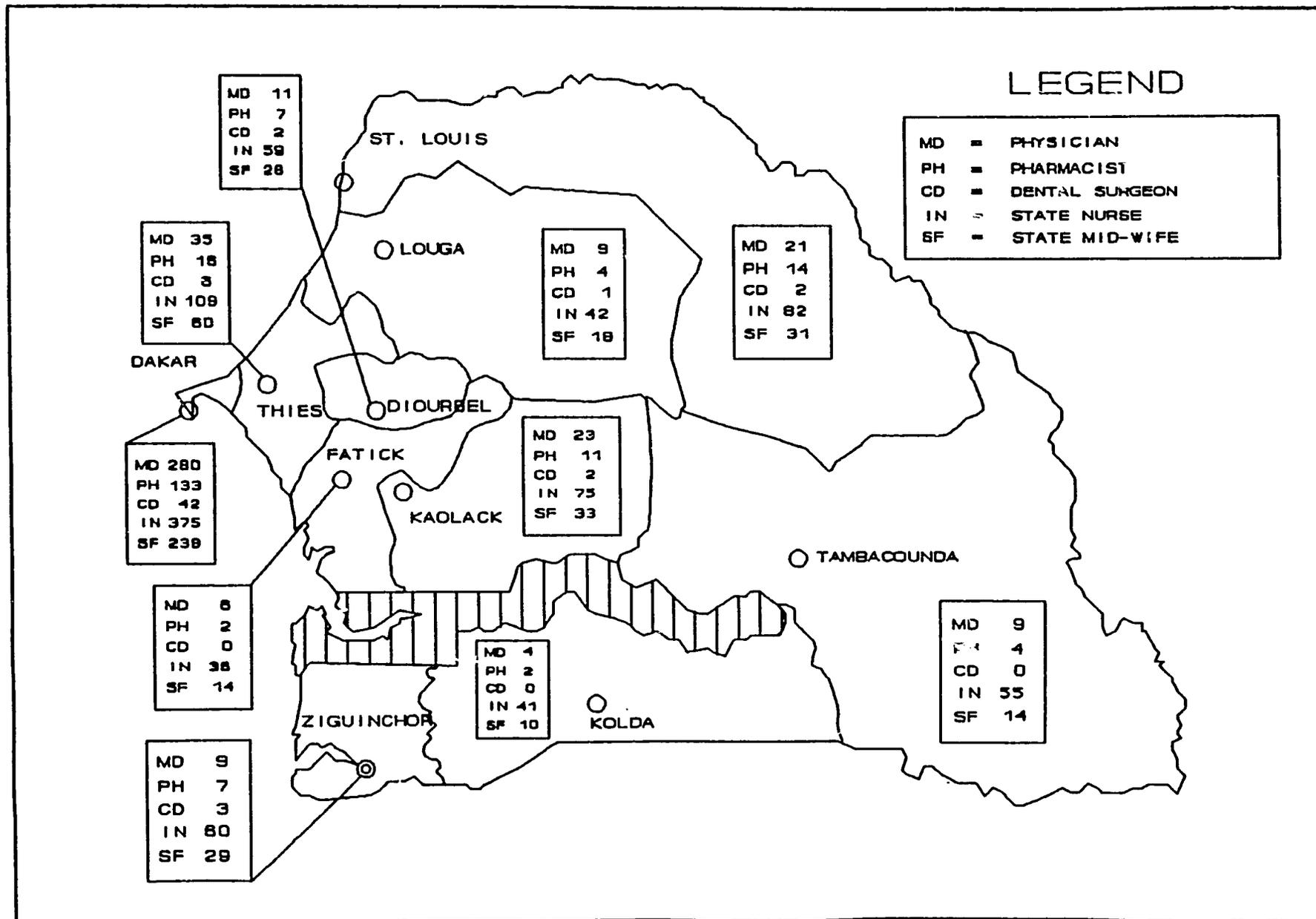
SOURCE: MSP, DRPF/DIV. STATISTIQUES
STATISTIQUES SANITAIRES ET DEMOGRAPHIQUES
1986 - 1987 ET 1988

POPULATION TO HEALTH PERSONNEL RATIOS - REGIONS BY RANK - 1988
(1 = BEST 10 = WORST)

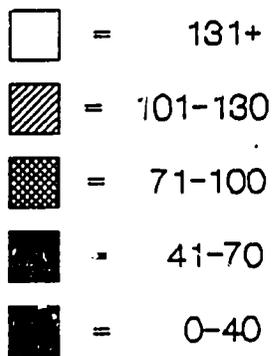
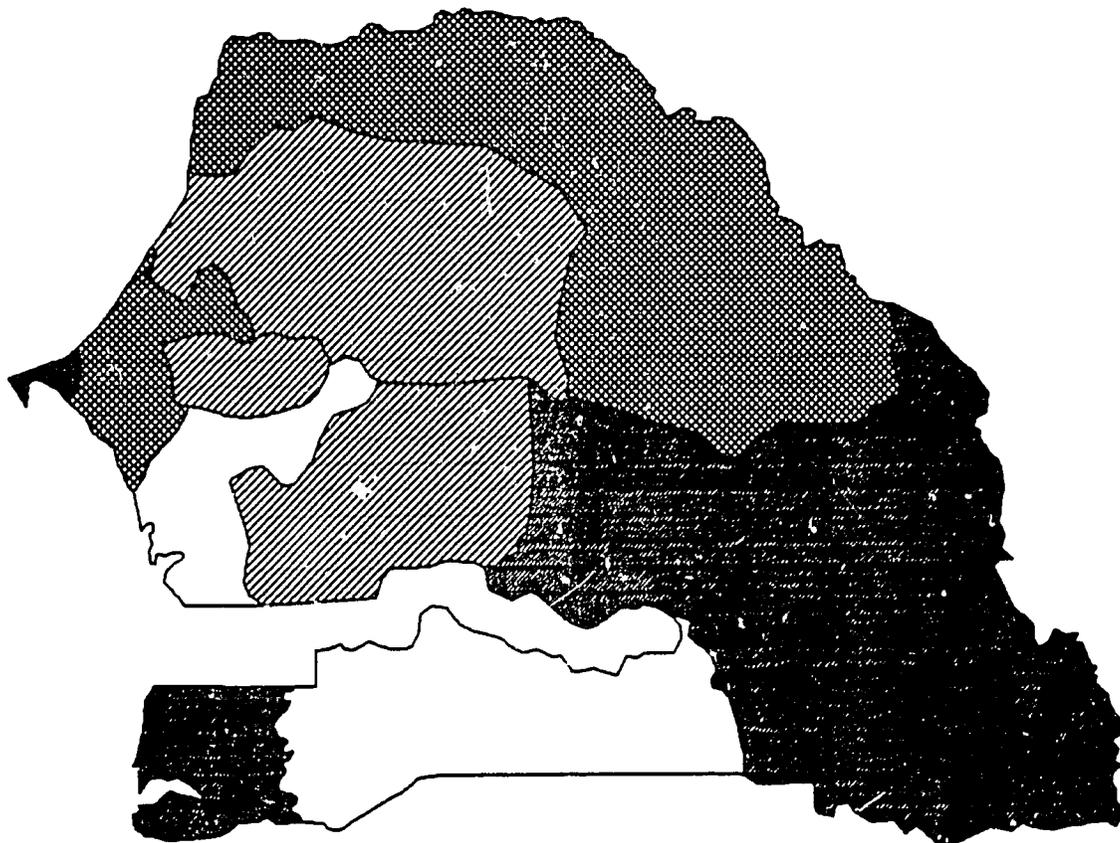
REGION	POP/MD RATIO	RANK	POP/NURSE RATIO	RANK	WCBA/MW RATIO	RANK	POP/PHARM RATIO	RANK
DAKAR	5359	1	4001	1	1431	1	11282	1
DIOURBEL	56017	8	10444	6	5403	5	88026	6
FATICK	84474	9	14079	9	8254	9	253422	9
KAOLACK	35019	4	10739	7	5565	6	73222	5
KOLDA	148300	10	14468	10	13525	10	296600	10
LOUGA	54392	7	11655	8	6201	7	122382	8
ST LOUIS	31010	3	7942	4	4790	4	46515	2
TAMBACOUNDA	42619	5	6974	3	6247	8	95893	7
THIES	26783	2	8600	5	3562	3	58588	4
ZIGUINCHOR	44230	6	6634	2	3130	2	56867	3
NATIONAL AVERAGE	16909		7368		3310			
WHO NORMS	10000		3000		750			
% OF NORMS ACHIEVED	59		41		23			

MD = PHYSICIAN
WCBA = WOMEN OF CHILD-BEARING AGE
MW = MID-WIFE
PHARM = PHARMACIST

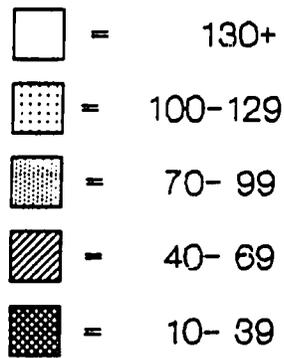
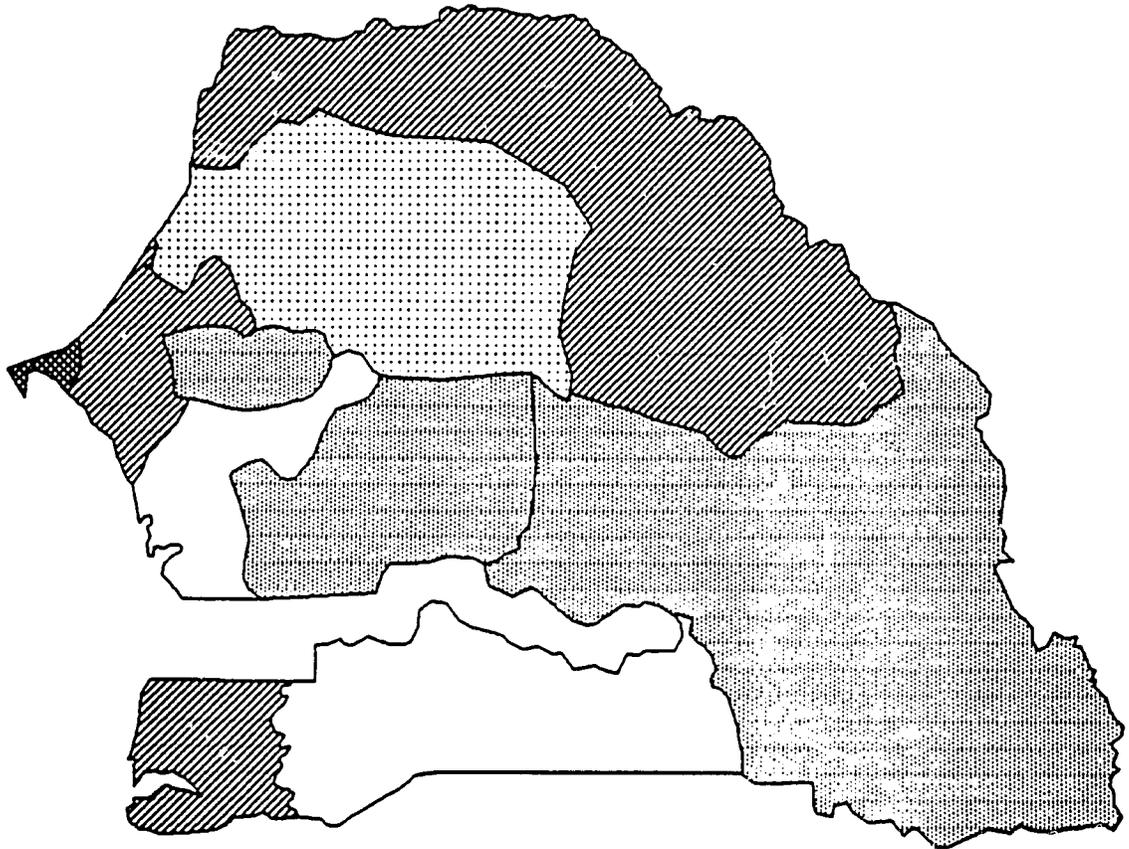
DISTRIBUTION OF HEALTH PERSONNEL BY REGION - 1988



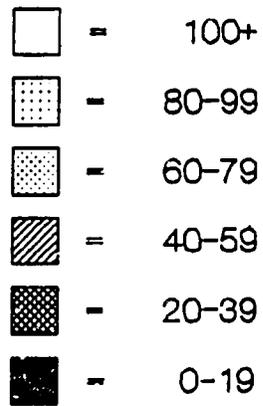
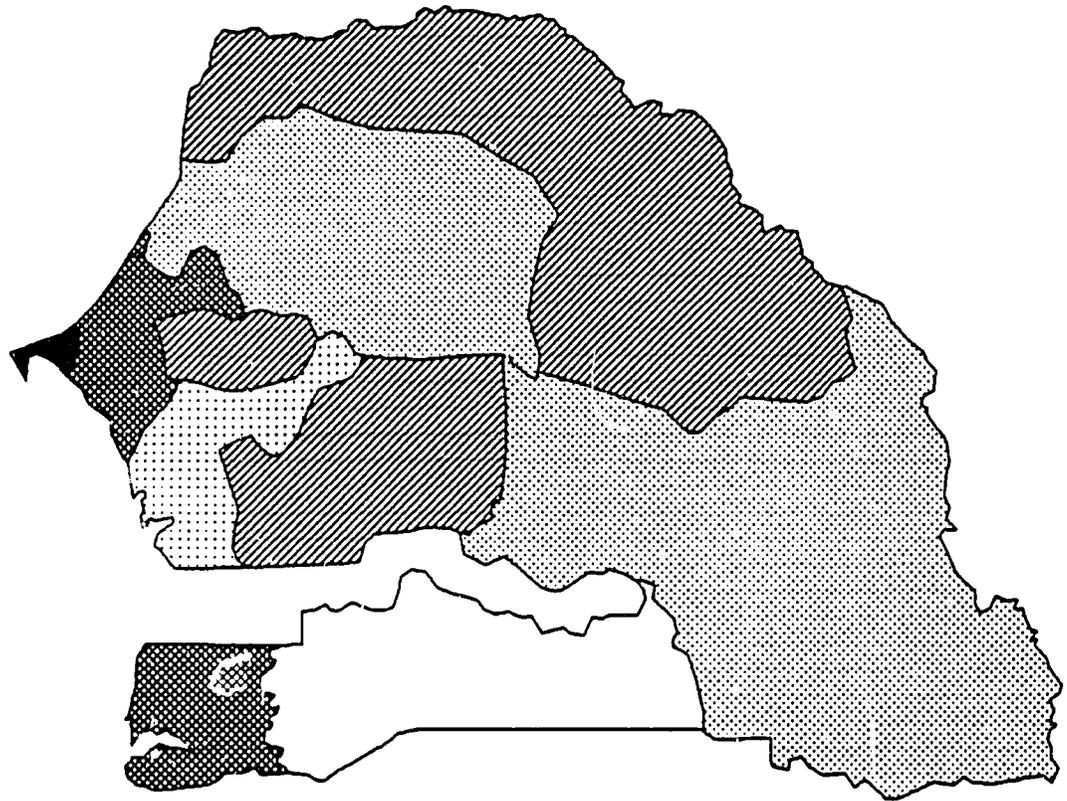
POPULATION PER NURSE
(HUNDREDS)

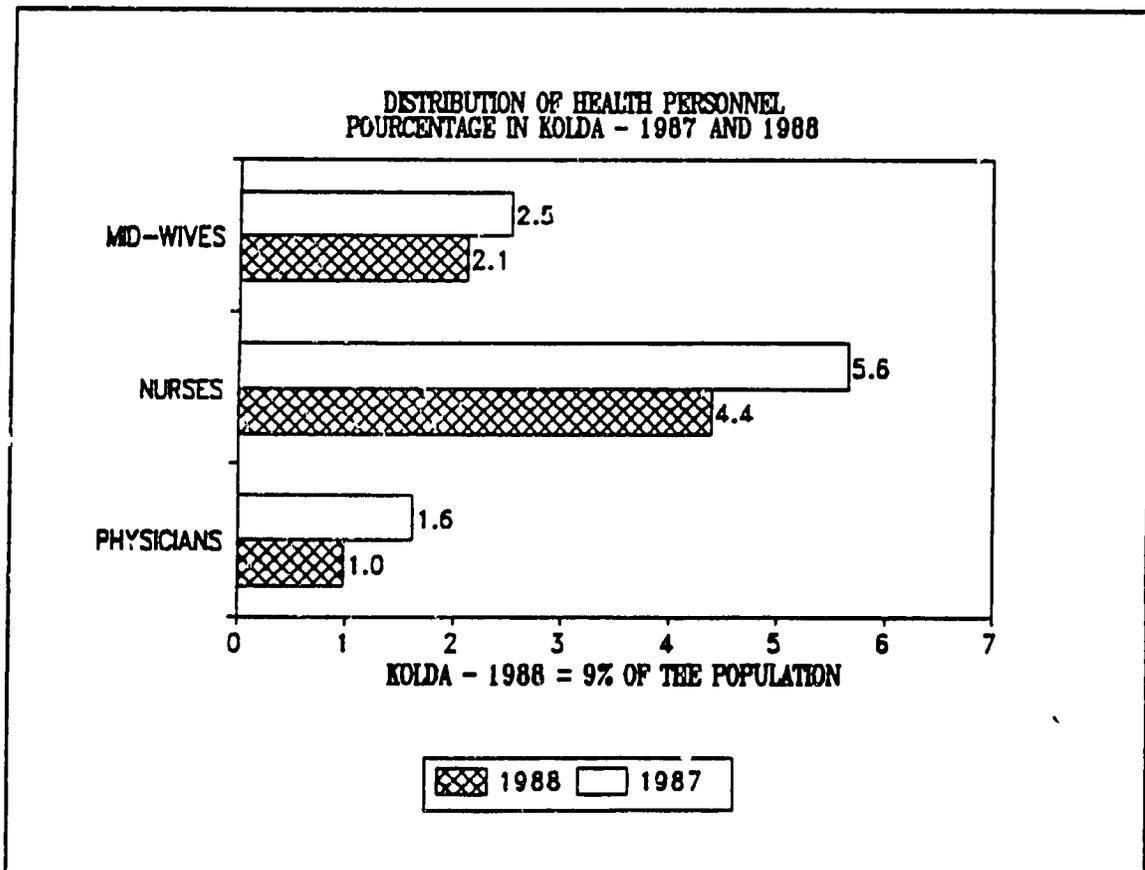
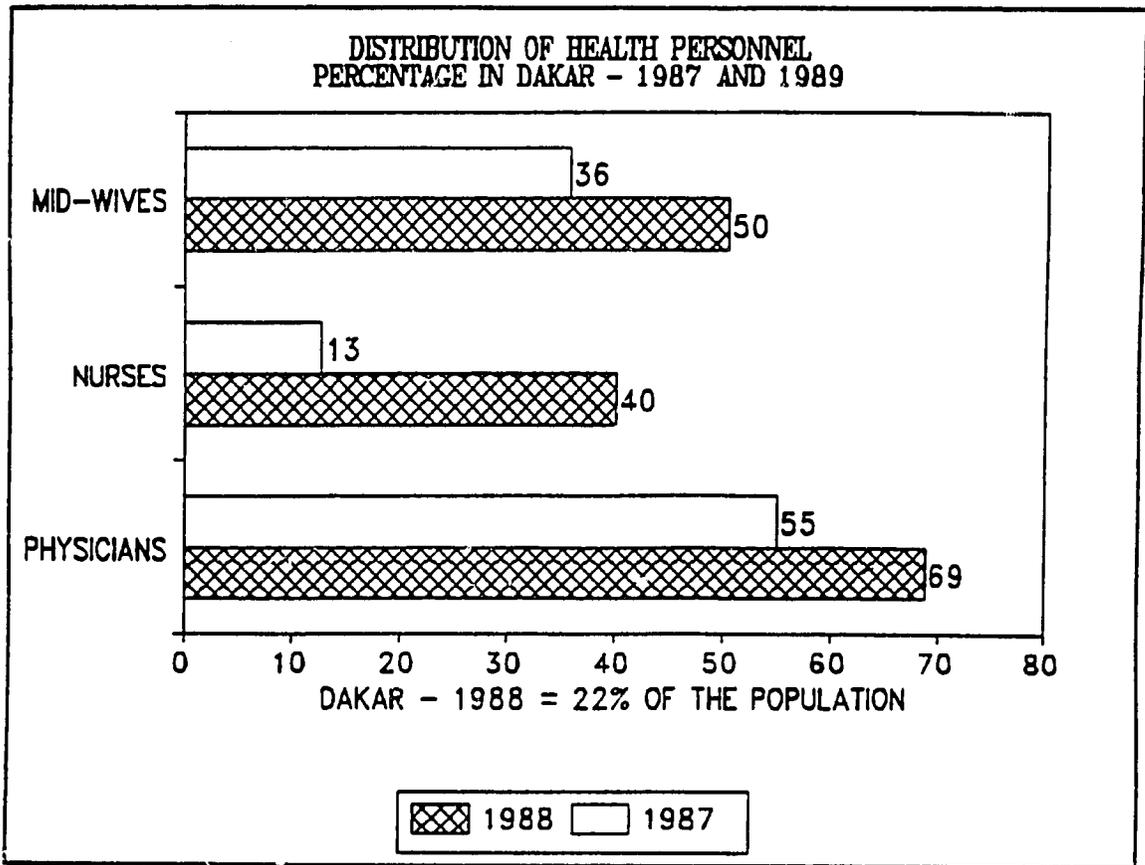


POPULATION PER PHARMACIST - 1988
(THOUSANDS)



WOMEN OF CHILD-BEARING AGE PER MID-WIFE
(HUNDREDS)





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DISTRIBUTION OF MEDICAL RESOURCES BY REGION - 1987

VARIABLE	DAKAR	DIOURBEL	FATICK	KHOLACK	KOLDA	LOGGA	ST LOUIS	TAMBACOUNDA	THIES	ZIGUINCHOR	TOTAL
POPULATION (1987)	1443442	602012	494173	782089	574217	478759	632972	370147	910227	385727	6673764
AREA	550	4359	7935	16010	21011	29188	44127	59602	6601	7339	196722
POP/KM SQUARED	2624	138	62	49	27	16	14	6	138	53	34
PERSONNEL (1987)											
PHYSICIANS	170	7	6	18	5	11	30	7	31	24	309
POP/PHYSICIAN	8491	86002	82362	43449	114843	43524	21099	52878	29362	16072	21598
RELATIVE TO DAKAR	1.0	10.1	9.7	5.1	13.5	5.1	2.5	6.2	3.5	1.9	
NURSES	210	96	87	180	94	106	288	150	270	185	1666
POP/NURSE	6874	6271	5680	4345	6109	4517	2198	2468	3371	2085	4006
RELATIVE TO ZIGUIN	3.3	3.0	2.7	2.1	2.9	2.2	1.1	1.2	1.6	1.0	
MID-WIVES	127	22	13	31	9	15	36	8	67	28	356
POP/MID-WIFE	11366	27364	38013	25229	63802	31917	17583	46268	13585	13776	18747
RELATIVE TO DAKAR	1.0	2.4	3.3	2.2	5.6	2.8	1.5	4.1	1.2	1.2	
INFRASTRUCTURE (1987)											
HEALTH CENTERS	7	4	5	4	3	4	4	4	9	3	47
POP/HC	206206	150503	98835	195522	191406	119690	158243	92537	101136	128576	141995
RELATIVE TO TAMBA	2.2	1.6	1.1	2.1	2.1	1.3	1.7	1.0	1.1	1.4	
HEALTH POSTS	52	44	59	65	49	41	103	58	82	68	621
POP/HP	27758	13682	8376	12032	11719	11677	6145	6382	11100	5672	10747
RELATIVE TO ZIGUIN	4.9	2.4	1.5	2.1	2.1	2.1	1.1	1.1	2.0	1.0	
MCH CENTERS	23	3	5	5	3	3	6	3	10	4	65
POP/MCH CENTER	62758	200671	98835	156418	191406	159586	165495	123382	91023	96432	102673
RELATIVE TO DAKAR	1.0	3.2	1.6	2.5	3.0	2.5	1.7	2.0	1.5	1.5	
RURAL MATERNITIES	12	36	54	53	88	5	34	16	44	155	497
POP/RURAL MAT.	120287	16723	9151	14756	6525	95752	18617	23134	20687	2489	13428
RELATIVE TO ZIGUIN	48.3	6.7	3.7	5.9	2.6	38.5	7.5	9.3	8.3	1.0	
HEALTH HUTS	11	82	266	403	151	28	115	217	79	96	1448
POP/HEALTH HUT	131222	7342	1858	1941	3803	17099	5584	1786	11522	4818	4689
RELATIVE TO TAMBA	76.9	4.3	1.1	1.1	2.2	10.0	3.2	1.0	6.8	2.4	

SOURCE: MSP/MDS. RAPPORT DE LA DEUXIEME MISSION D'IDENTIFICATION POUR LA
 REDUCTION DE LA MORTALITE MATERIELLE AU SENEGAL. SEPTEMBRE 1989.

DISTRIBUTION OF MEDICAL RESOURCES BY REGION - 1988

VARIABLE	DAKAR	DIOURBEL	FATICK	KHOLACK	KOLDA	LOUGA	ST LOUIS	TAMBACOUNDA	THIES	ZIGUINCHOR	TOTAL
POPULATION	1500459	616184	506844	805447	593199	489529	651206	383572	937412	398067	6881919
AREA	550	4359	7935	16010	21011	29288	44127	59602	6601	7339	196722
POP/SQUARE KM	2728	141	64	50	28	17	15	6	142	54	35
PERSONNEL											
PHYSICIANS	280	11	6	23	4	9	21	9	35	9	407
POP/PHYSICIAN	5359	56017	84474	35019	148300	54392	31010	42619	26783	44230	15909
RELATIVE TO DAKAR	1.0	10.5	15.8	6.5	27.7	10.2	5.8	8.0	5.0	8.3	...
PHARMACISTS	133	7	2	11	2	4	14	4	16	7	200
POP/PHARMACIST	11282	88026	253422	73222	296600	122382	46515	95893	58588	56867	34410
RELATIVE TO DAKAR	1.0	7.8	22.5	6.5	26.3	10.8	4.1	8.5	5.2	5.0	
DENTAL SURGEONS	42	2	0	2	0	1	2	0	6	3	58
POP/DENTIST	35725	308092	-	402724	-	489529	325603	-	156235	132689	118654
RELATIVE TO DAKAR	1.0	8.6	-	11.3	-	13.7	9.1	-	4.4	3.7	
NURSES	375	59	36	75	41	42	82	55	109	60	934
POP/NURSE	4001	10444	14079	10739	14468	11655	7942	6974	8600	6634	7368
RELATIVE TO DAKAR	1.0	2.6	3.5	2.7	3.6	2.9	2.0	1.7	2.1	1.7	
MID-WIVES	239	26	14	33	10	18	31	14	60	29	474
POP/MID-WIFE	6278	23699	36203	24407	59320	27196	21007	27398	15624	13726	14519
RELATIVE TO DAKAR	1.0	3.8	5.8	3.9	9.4	4.3	3.3	4.4	2.5	2.2	
INFRASTRUCTURE											
HOSPITALS	6	1	0	1	0	1	3	1	2	1	16
POP/HOSPITAL	250077	616184	-	805447	-	489529	217069	383572	468706	398067	438120
REL. TO ST. LOUIS	1.2	2.8	-	3.7	-	2.3	1.0	1.8	2.2	1.8	
HEALTH CENTERS	7	4	5	4	3	4	4	4	9	3	47
POP/HC	214351	154046	101369	201362	197733	122382	162802	95893	104157	132689	146424
RELATIVE TO TAMBA	2.2	1.6	1.1	2.1	2.1	1.3	1.7	1.0	1.1	1.4	
HEALTH POSTS	78	46	58	63	48	59	101	67	71	68	659
POP/HP	19237	13395	8739	12785	12358	8297	6448	5725	13203	5854	10443
RELATIVE TO TAMBA	3.4	2.3	1.5	2.2	2.2	1.4	1.1	1.0	2.3	1.0	
MCH CENTERS	23	4	6	5	3	3	12	3	13	4	76
POP/MCH CENTER	65237	154046	84474	161889	197733	163176	54267	127857	72109	99517	90552
REL. TO ST LOUIS	1.2	2.8	1.6	3.0	3.6	3.0	1.0	2.4	1.3	1.8	
RURAL MATERNITIES	3	39	54	49	56	56	34	15	33	163	502
POP/RURAL MAT.	500153	15800	9386	16438	10593	8742	19153	25571	28406	2442	13789
RELATIVE TO ZIGUIN	204.8	6.5	3.8	6.7	4.3	3.6	7.8	10.5	11.6	1.0	
HEALTH HUTS	11	82	306	364	163	28	109	193	48	105	1409
POP/HEALTH HUT	136405	7514	1656	2213	3639	17483	5974	1987	19529	3791	4884
RELATIVE TO FATICK	82.4	4.5	1.0	1.3	2.2	19.6	3.6	1.2	11.8	2.3	

SOURCE: MSP/MS. RAPPORT DE LA DEUXIEME MISSION D'IDENTIFICATION POUR LA
 REDUCTION DE LA MORTALITE MATERNELLE AU SENEGAL, SEPTEMBER 1989.

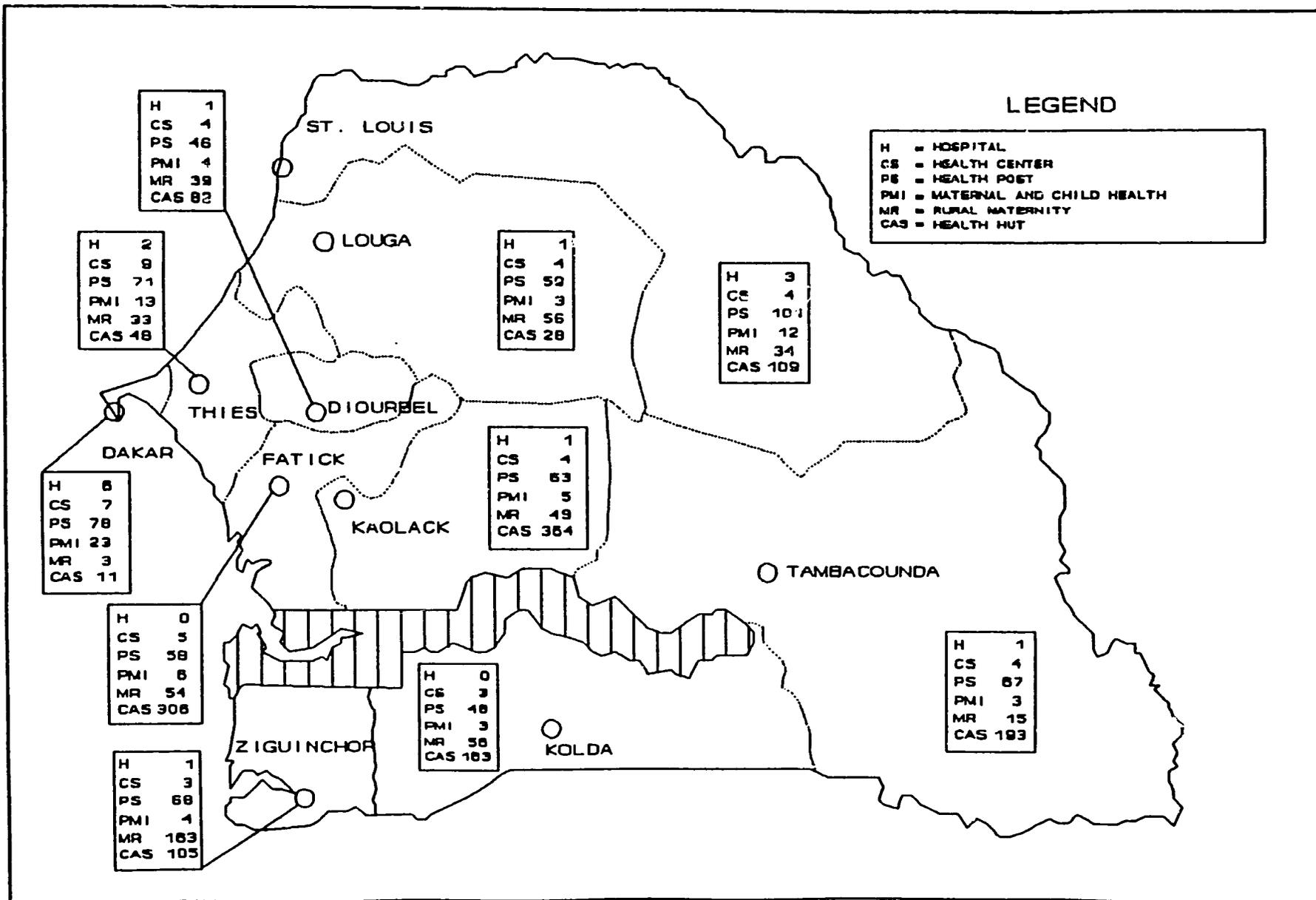
176

POPULATION TO HEALTH INFRASTRUCTURE RATIOS - REGIONS BY RANK - 1988
(1 = BEST 10 = WORST)

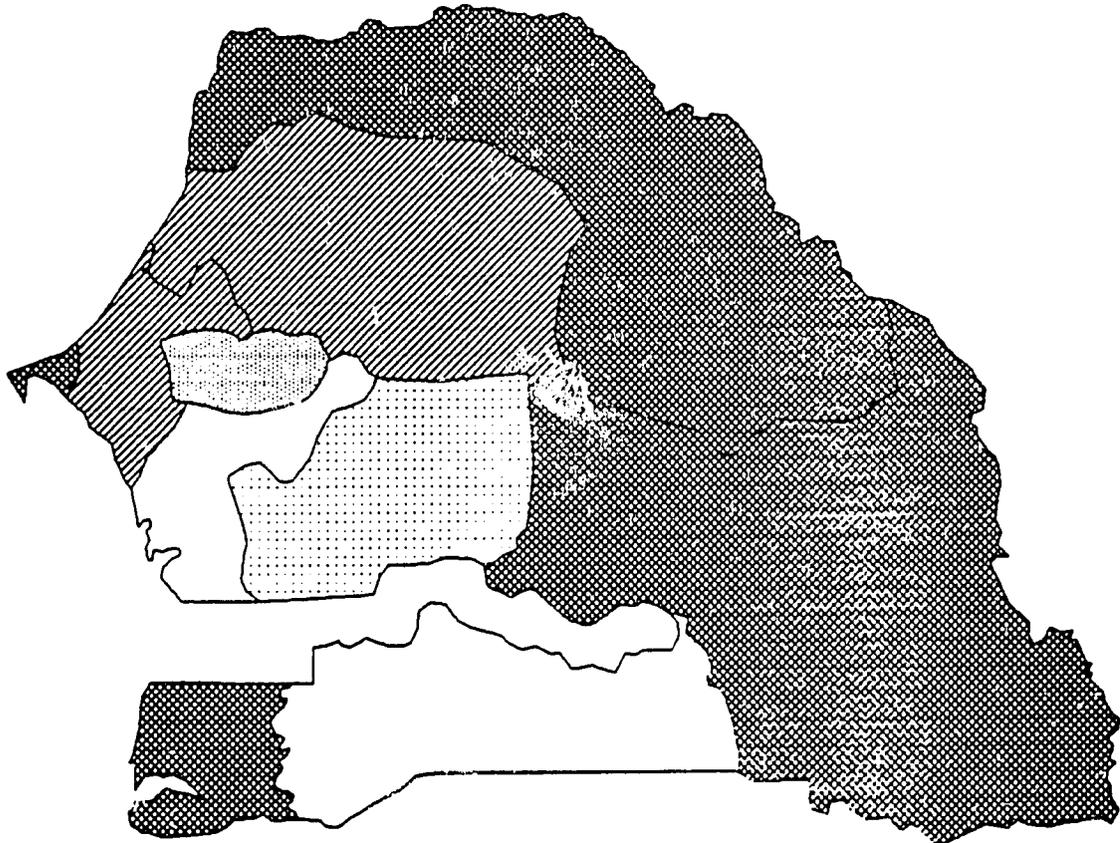
REGION	POP/HOSP RATIO	RANK	POP/HC RATIO	RANK	POP/HP RATIO	RANK	POP/MCH RATIO	RANK	POP/RM RATIO	RANK	POP/HH RATIO	RANK
DAKAR	250077	2	214351	10	19237	10	65237	2	500153	10	136405	10
DIOURBEL	616184	7	154046	6	13395	9	154046	7	15800	5	7514	7
FATICK	-	9	101369	2	8739	5	84474	4	9386	3	1656	1
KAOLACK	805477	8	201362	9	12785	7	161089	8	16438	6	2213	3
KOLDA	-	9	197733	8	12358	6	197733	10	10593	4	3639	4
LOUGA	489529	6	122382	4	8297	4	163176	9	8742	2	17483	8
ST LOUIS	217069	1	162802	7	6448	3	54267	1	19153	7	5974	6
TAMBACOUNDA	383572	3	95893	1	5725	1	127857	6	25571	8	1987	2
THIES	468706	5	104157	3	13203	8	72109	3	28406	9	19529	9
ZIGUINCHOR	398067	4	132689	5	5854	2	99517	5	2442	1	3791	5
NATIONAL AVERAGE	430120		146424		10443		90552		13709		4884	

HOSP = HOSPITAL
HP = HEALTH POST
MCH = MATERNAL AND CHILD HEALTH CENTER
RM = RURAL MATERNITY
HH = HEALTH HUT

DISTRIBUTION OF HEALTH INFRASTRUCTURE BY REGION - 1988

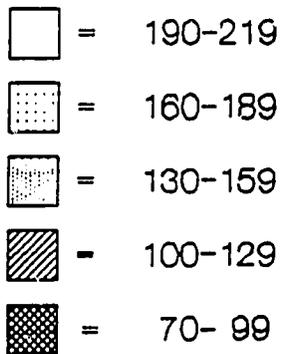
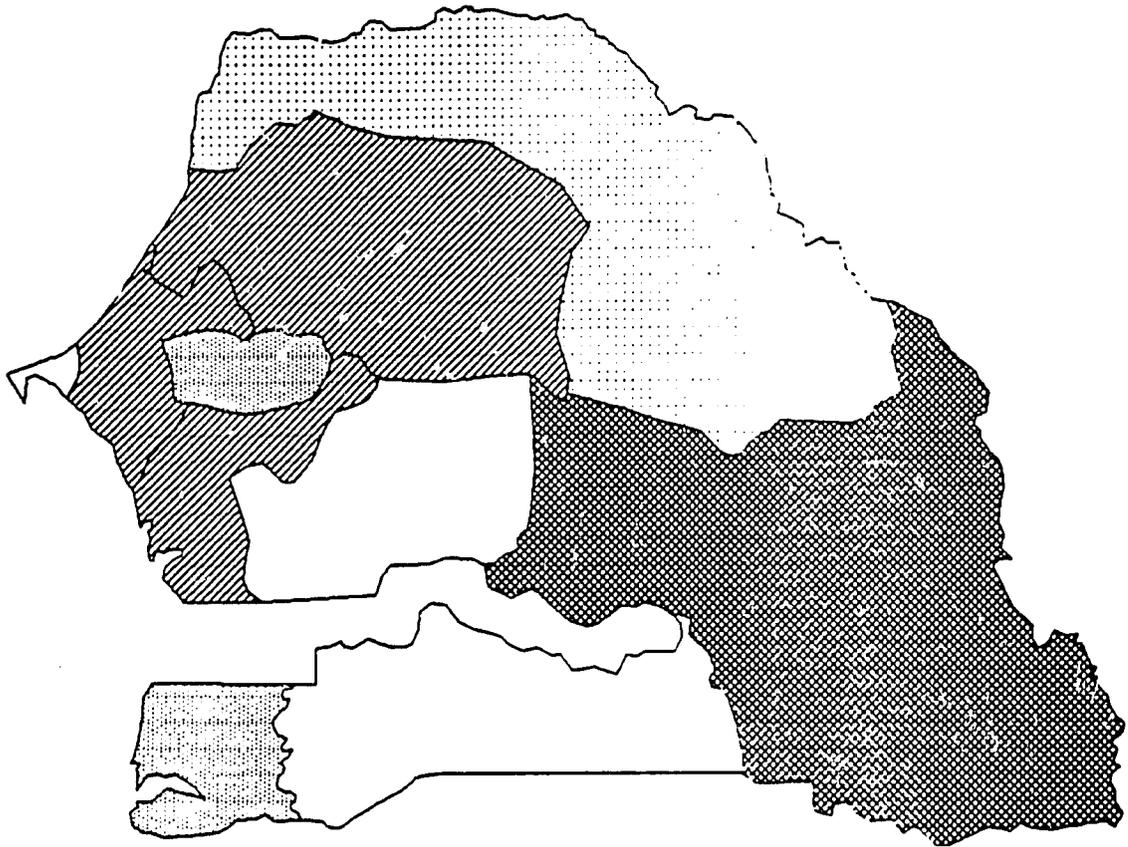


POPULATION PER HOSPITAL - 1988
(THOUSANDS)

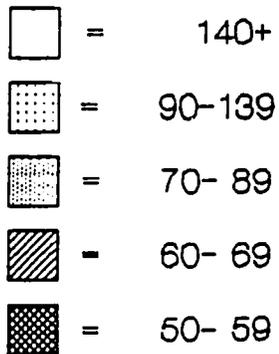
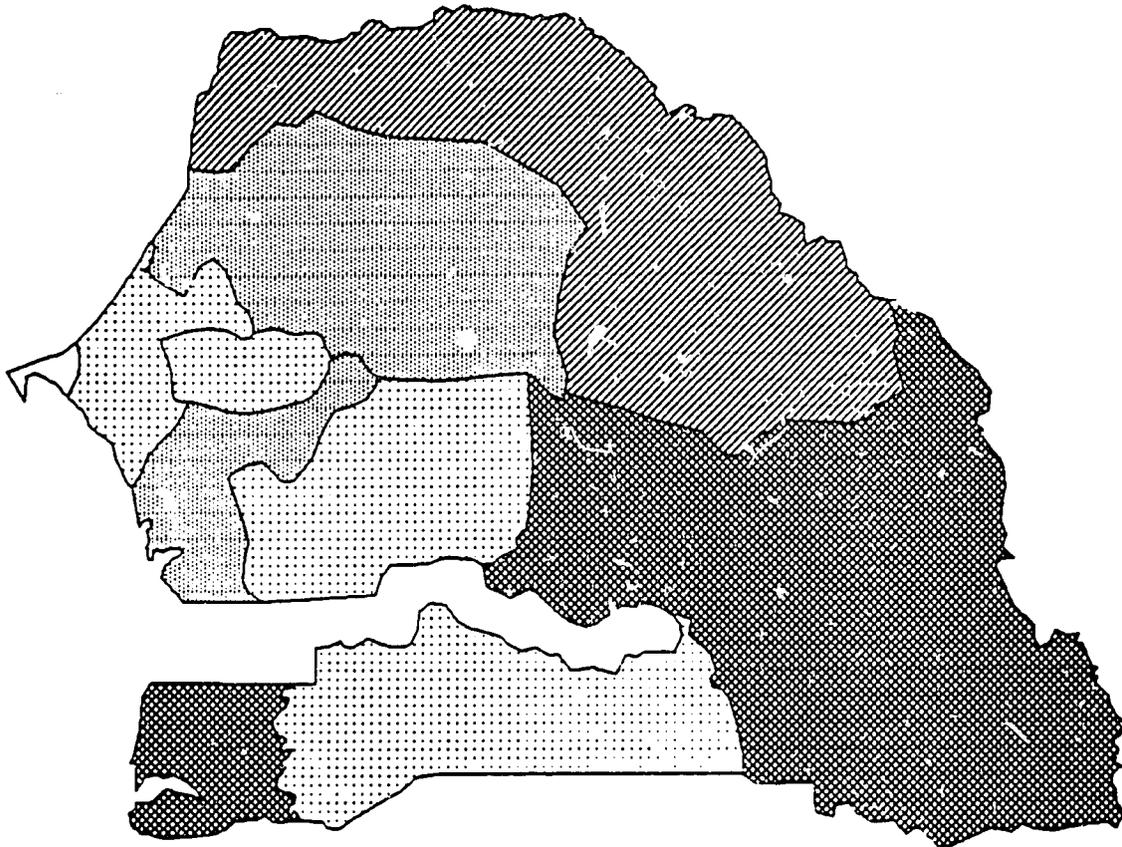


-  = NO HOSP
-  = 800-999
-  = 600-799
-  = 400-599
-  = 200-399

POPULATION PER HEALTH CENTER - 1988
(THOUSANDS)



POPULATION PER HEALTH POST - 1988
(HUNDREDS)

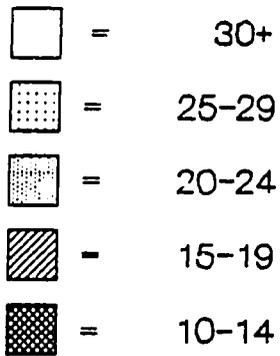
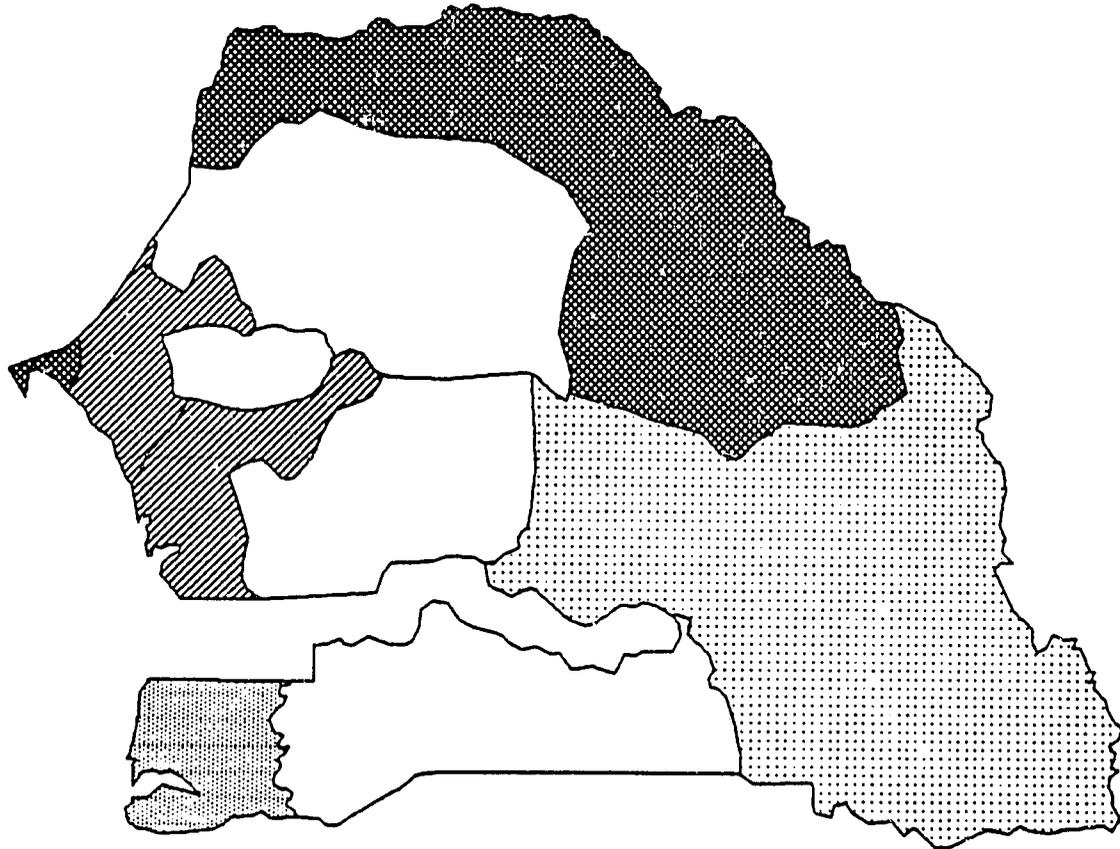


POPULATION PER HEALTH HUT - 1988
(HUNDREDS)

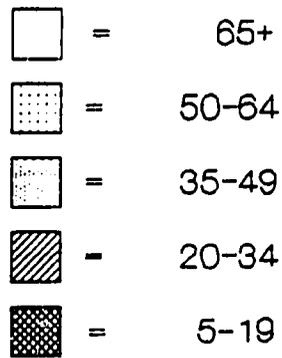


-  = 76+
-  = 61-75
-  = 46-60
-  = 31-45
-  = 16-30

WOMEN OF CHILD-BEARING AGE PER MCH CENTER - 1988
(THOUSANDS)

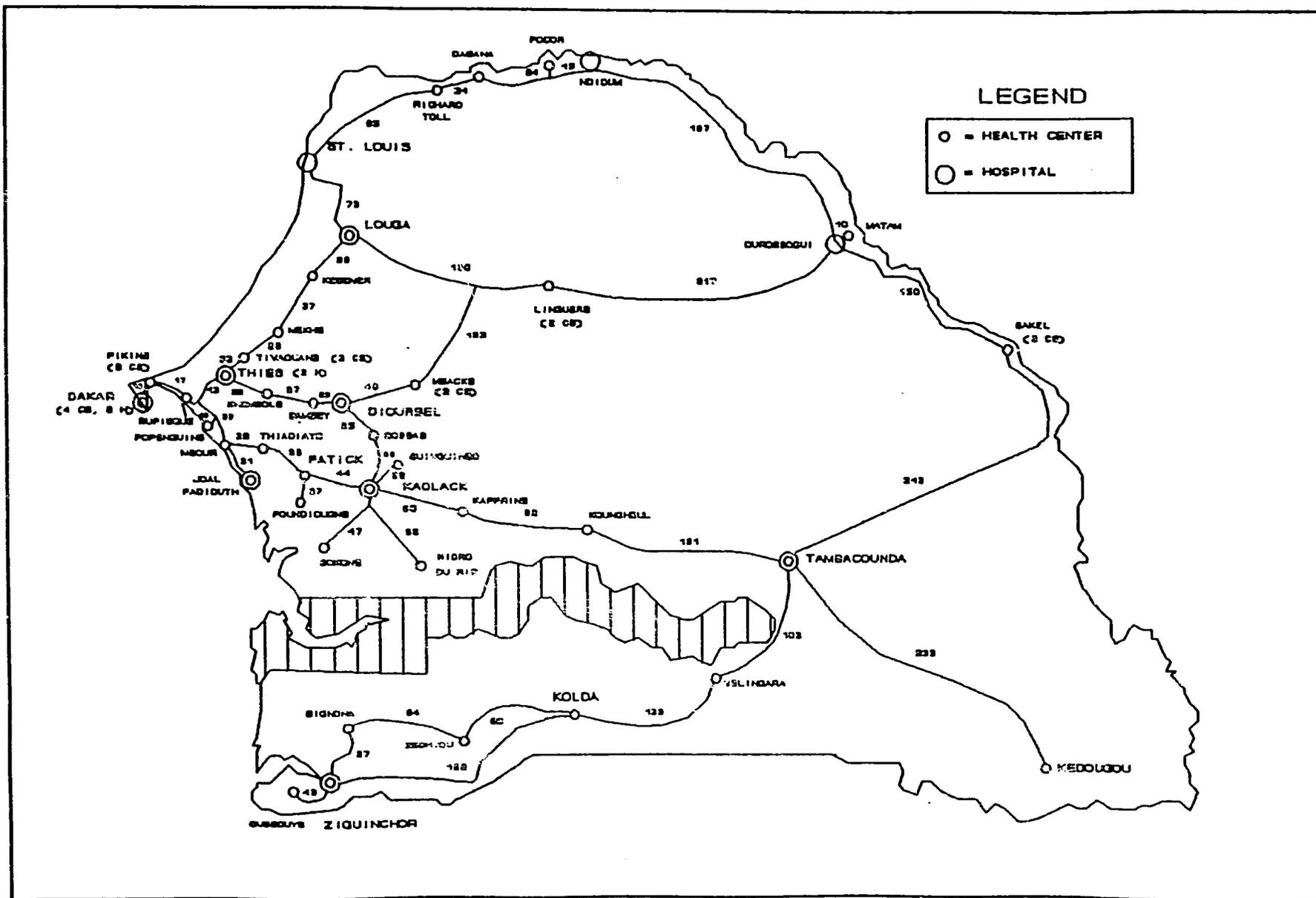


WOMEN OF CHILD-BEARING AGE PER RURAL MATERNITY - 1988
(HUNDREDS)



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MEDICAL EVACUATION ROUTES



Annex 6
Appropriate Technology

Annex 6

Appropriate Technology

COMMUNITY CENTER FOR APPROPRIATE HEALTH TECHNOLOGY

- I. General Objective
Help people to solve their health problems by themselves in using to the extent possible the resources of the community

- II. Domains of intervention
 - A. Health information, education and communication
 1. Objective: Identify and promote socio-cultural and religious principles related to health improvement
 - Traditional stories and legends
 - Proverbs and sayings
 - Verses from the Koran and sayings of the Prophet Mahomet in national languages
 - Information campaigns and public debates on tuberculosis, mental illness, sexually transmitted diseases, etc.
 2. Achievements
 - A manual of 70 Wolof proverbs
 - A manual of 50 Koranic verses and hadiths
 - A manual on bucco-dental hygiene for students and parents
 - A manual on the "fecal peril" for students and parents
 3. Forthcoming
 - A manual of anatomy, physiology and diseases in Wolof
 - B. Water and Sanitation

Water

 1. Objectives
 - Help people identify problems related to the provision and storage of water
 - Develop and distribute simple, effective technologies for the treatment and storage of water: water jar with a faucet, manual pumps for wells, chlorination of drinking water, washing hands before meals with soap
 2. Achievements
 - Water jars with faucets (Cement and clay)
 - Teapot and support for hand washing

Sanitation

1. Objectives

- Elaborate and disseminate techniques for the disposal or recycling of garbage and dirty water: horse carts to haul garbage, pits for dirty water, latrines

2. Achievements

- Horse drawn garbage carts

III. Nutrition

1. Objectives

- Identify nutritional problems, causes and solutions
- Improve and enrich traditional dishes
- Educate people regarding the importance of monitoring the growth and development of their children

2. Achievements

- Demonstrations on the preparation of "ceebujen" without burning the oil
- Production and village testing of a baby scale made from plywood

IV. Mental Health

1. Objectives

- Identify problems, causes and appropriate therapies
- Participate in the rehabilitation of cured patients in the activities of the center: carpentry, smithery, pottery and gardening

V. Traditional Medicine and Pharmacy

1. Objectives

- Conduct a census of therapists in Pikine
- Identify therapists favorable to cooperating with modern health personnel
- Determine modalities of cooperation between the two medical systems
- Organize traditional therapists and encourage them to participate in public health programs
- Help traditional therapists improve and expand their repertory of working instruments and materials
- Establish a repertory of traditional remedies related to illnesses of public health importance
- Assure that plants used by practitioners do not disappear (create a botanic garden)

Annex 7A

**Senegal as an
Emergent Country**

<u>Program Characteristics</u>	<u>Emergent Countries Overall</u>	<u>Situation in Senegal</u>
Contraceptive prevalence rate (modern methods)	8 percent	All Methods: 11.3 percent Modern Methods: 2.4 percent (Enquête Démographique et de Santé au Sénégal 1986 = EDS '86)
Use higher among urban "elites"	Yes	"Practically all" modern method users live in urban areas. 6.7 percent of urban women use a modern method; 0.3 percent of rural women do. (EDS '86)
Status of family planning service delivery	Only limited services available through government and private providers.	At the end of 1989, FP services were available through the Projet Santé Familiale (PSF) (USAID) at 94 public and 30 private sector service points (plus 10 more offering natural family planning) in 6 regions, and the UNFPA sponsored Projet Bien-être Familial had an additional 27 sites in the 4 other regions. For comparison, the MOHSA health infrastructure currently consists of 10 regional hospitals, 43 health centers, 659 health posts and over 1400 "cases de santé." As MOHSA summarized through Dec. 1988, FP had been established at 25 percent of hospitals, 26.7 percent of PMI centers, 62 percent of health centers, 5.8 percent of health posts, and 1.6 percent of rural maternities, or 3.7 percent of the whole health infrastructure, not including cases de santé.

A.I.D.'s Office of Population Family Planning Services Division categorizes A.I.D. recipient countries into five groups according to contraceptive prevalence (modern methods), from "emergent" countries with less than 8 percent CPR to "mature countries", with prevalence over 50 percent.

Program Characteristics

Emergent Countries Overall

Situation in Senegal

Status of family planning services delivery (cont'd)

Services not widely known

80 percent of currently married women (CMW) who knew a given method knew where to get it, except for pills and condoms; over 28 percent of women who know of pills and condoms did not know where to get them. (EDS '86)

Methods not widely known

67.6 percent CMW know at least one modern method (87.5 percent of urban CMW, 58.1 percent of rural) 23.8 percent CMW know a traditional method (90.1 percent of urban CMW, 30.9 percent of rural). Note: highly variable by region. Women most knowledgeable about modern methods in West, then in order, Center, South and Northeast. (EDS '86)

Columbia Maternal Mortality Study found that 50 percent of women knew any method of child spacing; 10 percent knew of a modern method.

The MOHSA identifies a positive association between educational attainment and knowledge of FP methods; the level rises from 46 percent of women with no schooling, to 87 percent among women with primary education, to 97 percent among women with secondary education (or beyond).

**Socio-economic
Characteristics**

Emergent Countries Overall

Situation in Senegal

Total fertility rate	6.4	6.4 (1990 World Population Data Sheet, Population Reference Bureau '90) 6.6 (EDS '86)
Life expectancy	49 years	46 years (PRB '90)
Infant mortality rate	116/1000	128 (PRB '90) 125 (child Surv. Rpt. to Congress, '90) 86.4 (EDS '86) Note: there is much regional and urban/rural variability. A 1988 ORANA study in Diourbel and Fatick estimated IMR at 300/1000.
Labor force in agriculture (percent)	76 percent	81 percent (1980) from Economically Active Population Estimates and Projections, 1950 - 2050, ILO, 1986
GNP per capita per year (\$)	\$347	World Bank estimates for per capita GNP increased from \$510 ('87) to \$650 ('88). Most feel this is an artifact not reflective of real gains.
Urban population (percent)	26 percent	36 percent (PRB '90)

Program Needs of Emergent Countries Overall

Build support and credibility for FP

Situation in Senegal

In the last ten years there has been slow but steady progress in this area, in the context of "child spacing." In 1980, contraceptives were legalized. In 1981, the Direction de Planification Familiale was created at the MSP. A favorable national population policy was articulated in April 1988. However, most observers note that the medical community is ambivalent about family planning, and that there is only weak integration of FP into, /primary health care. The historic split between FP and public health (which were housed in different ministries) is being ameliorated by the merger of the Ministère de la Santé Publique and the Ministère du Développement Social into the Ministère de la Santé Publique et de l'Action Sociale.

Training of key personnel

In 1988, there were 407 physicians, 1,600 nurses, 474 midwives, and 1,131 "agents de santé. Since 1984, clinical FP training has been provided to 65 physicians, 32 nurses, and 300 sages-femmes. In IEC, 300 agents de santé and 512 voluntary female workers have been trained. In addition to expanding clinical FP training of MSP health personnel, specific needs currently identified include training in FP management for PSF administrators and in interpersonal communication (for all).

Develop policies and strategies

National population policy exists, as does a current policy/strategy document (July 1990). Strategies are based on three key "principles" or objectives: (1) to provide services to identified target populations (post-partum women; risk groups of women under 20 and over 45; and "spontaneous demand"); (2) to extend access to services (by integrating into PHC, working with private sector, mobilizing community-level health resources, and development of social marketing); and (3) to pursue the "paramedicalization" of FPSD which now lies completely within the scope of physicians and sages-femmes only (by involving the whole range of health personnel in service delivery; doctors, sages-femmes, nurses, matrones, and agents de santé). The following table indicates who could offer which services:

	VSC	IUDs	Pills	Injectables	Condoms	Spermicides	Referral
MDs	x	x	x	x	x	x	
Sages-femmes	x	x	x	x	x	x	
Nurses	x	x	x	x	x	x	x
Matrones		x	x	x	x	x	x
Agents de santé			x		x	x	x

**Program Needs of Emergent
Countries Overall**

Develop policies and strategies
(cont'd)

General demand

Situation in Senegal

Current focus is on regional and departmental health plans (PRDS and PDDS) which must address population issues and strategies. It is not clear how well these plans will fulfill this requirement, now how their implementation will proceed.

A public education campaign (mass media) was undertaken in 1988-89 including TV/radio spots, TV/radio dramas, radio telethons, advertising, etc. With 67.6 percent of CMW knowledgeable of a modern FP method, and 37 percent who say they either want no more children or to space their next child, one challenge is to translate that knowledge and that desire into demand for services (presentation at a services point) and correct use of method.

While services are not adequate to meet existing demand, neither is existing demand sufficient to impact population growth significantly. Further demand must be generated.

Program Needs of Emergent Countries Overall

Meeting needs of urban elite

Develop clinical services (create service delivery, clinical training, and referral capabilities)

Donor participation and coordination

Situation in Senegal

The majority of acceptors are urban dwellers and majority of services point are in urban areas. Various social marketing of contraceptives schemes are under discussion, which would also primarily serve urban dwellers. Since Senegal is nearly 40 percent urban, and the trend is continuing, serving this population well would be significant start. Serving rural woman will require the national family planning program to make one or more of the following innovations, in addition to integrating FP into services at the health post level (which is already a stated priority): operationalize some kind of outreach system using community-based motivators and/or service providers, access the informal private sector, or incorporate traditional health practitioners.

This is the area of greatest need. MSP (and USAID) must decide between strategies which would expand the number of service points and those which would improve the quality and effectiveness of services currently (theoretically) available at existing sites. Logistical considerations are also paramount (assuring continuous adequate supplies, etc.). Clinical FP training facilities and capabilities exist in-country, but efforts to improve and expand them are also needed.

It has been calculated that foreign aid accounts for 70 percent of the national budget for primary health. In this environment, donor coordination has become a major effort in the last three years. The World Bank, the UN agencies, USAID, and other bilateral donors meet regularly.

Annex 7B

**Cooperating Agency
Contributions to USAID
Senegal Family Planning Activity**

Annex 7B

Cooperating Agency Contributions to USAID Senegal Family Planning Activity

Sixteen cooperating agencies' contributed to Senegal's program, as follows:

- AMERICAN COLLEGE OF NURSE MIDWIVES (ACNM). Through the ISTI contract, important TA was provided in clinical management, service protocols, etc.
- FAMILY PLANNING INTERNATIONAL ASSISTANCE (FPIA). Funded, through the National Council of Negro Women, the precursor project of the VSPP (private sector component of the bilateral).
- COLUMBIA UNIVERSITY. Conducted several important OR efforts in rural and urban areas; also conducted a non AID-funded maternal mortality study.
- FPMT (Management Sciences for Health). Provided U.S. and Senegal-based training and support in management and systems development.
- FPLM (JSI) and CDC. Provides assistance in preparing contraceptive procurement tables (CPTs) and forecasting annual contraceptive requirements.
- ENTERPRISE PROGRAM (JSI). Organized a workshop (with ISTI) on work-based FP which gave VSPP added momentum.
- FHI. Organized NORPLANT pre-introduction trials and various studies.
- POPULATION COUNCIL. Has just opened a regional office in Dakar. Potential exists for a key role in policy dialogue, operations research and NORPLANT introduction.
- PROGRAM FOR INTERNATIONAL TRAINING IN HEALTH (INTRAH). Assisted early training and TOT efforts; did initial feasibility review for private sector.
- RAPID/OPTIONS (Futures Group). Contributed to development of Senegal's population policy and assisted USAID in defining the

1991

impact of population growth on development.

- ASSOCIATION FOR VOLUNTARY SURGICAL CONTRACEPTION (AVSC). Has patiently and sensitively promoted VSC among Senegal's conservative OB/GYN elite.
- BUCEN (UNITED STATES BUREAU OF CENSUS). Provided essential TA to conduct 1988 census and provides assistance in analyzing census results.
- CENTER FOR DEVELOPMENT AND POPULATION ACTIVITIES (CEDPA). Provides a link with Senegalese women's programs and their concerns through small, community-based efforts.
- JHPIEGO (JOHNS HOPKINS). Contributes to training of doctors and other health professionals, especially in TOT and STDs. Becoming involved in private sector health professional training.
- JHU/PCS. Provided TA to ISTI/GOS's mass media campaign.
- DHS. Conducted demographic and health survey in 1986.

Annex 8

Economic and Financial Aspects of Health Services in Senegal

**ECONOMIC AND FINANCIAL ASPECTS
OF HEALTH SERVICES IN SENEGAL**

**Jérôme Du Moulin
Arthur Lagacé**

15 November 1990

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1.0. PURPOSE

The purpose of this analysis is to:

1. Describe the economic environment in which health services are delivered;
2. Identify key economic factors affecting health status and health care delivery;
3. Describe how health care is financed;
4. Identify major health care financing issues;
5. Present options for dealing with economic factors and addressing health care financing.

2.0. METHODOLOGY

The analysis is based on a review of primary and secondary data sources including reports from a number of GOS ministries, and a variety of studies conducted by the GOS and by members of the donor community. Information from these sources was corroborated or supplemented through discussion with key GOS and Mission staff.

A major problem encountered in preparing this document was the paucity of health services utilization and financial data, which tend to be fragmentary and at times inconsistent. It was frequently difficult to reconcile information found in various studies and even within the official documents of the Ministry of Health and Social Action (MSPAS) and the Ministry of Finance. This underscores the need for the comprehensive health care financing study proposed by USAID in 1991 and, more fundamentally, for the creation of an effective MSPAS management information system, which includes a sound financial reporting mechanism.

3.0. THE ECONOMIC ENVIRONMENT

3.1. Income Level

With a per capita Gross National Product of \$650 (1988), Senegal is classified by the World Bank as a "lower middle-income economy".

3.2. Trends in National Income

As is shown in Table 1, the Gross Domestic Product (GDP) expressed in constant 1977 prices rose from 310 billion FCFA at independence in 1960 to approximately 617 billion FCFA in 1989. During the same period the population increased from 3,110,000 to 7,079,000, resulting in a 13% decline in real per capita GDP from 99,700 to 87,000 FCFA despite modest economic growth over the last ten years.

TABLE 1: Trends in Gross Domestic Product and Population Growth

	<u>GDP (1977 prices)</u>	<u>Population</u>	<u>GDP per capita</u>
1960	- 310 billion FCFA	3,110,000	99,700 FCFA
1989	- 617 " "	7,079,000	87,200 "
1999	- 810 " "	9,043,000	96,200 "

Source: Table II.3, USAID database 1990 (Direction de la Statistique and MEF)

The "Projet de Plan pour le Développement Economique et Social (VIIIe Plan)" projects an annual economic growth rate of 3.5% through 1995. Extending this trend to the turn of the century as is done in the RAPID II study and assuming an exponential population growth rate of 2.77 percent per year, yields a 10% increase in real per capita GDP over the next ten years. However, the net effect of this sustained growth would be a real per capita GDP still 5% below the 1960 level.

Aggregate savings declined from 13% of the GDP in 1960 to half that level in 1989. Real per capita savings are 60% below 1960 levels. Since the mid-sixties, the country has lived beyond its income, depending on borrowing and foreign assistance to sustain a level of demand unwarranted by productive capacity. Foreign assistance accounted for 11.4% of its GNP in 1988 and has been utilized primarily for capital expansion.

3.3. Composition of the Economy

The gradual decline in per capita GDP since independence masks significant sectorial shifts within the economy. The agricultural sector has declined from 23% of the GDP to 17% in 1989, while the share of the industrial sector increased from 17% to 25%. Fluctuations in agricultural output due to inconsistent rainfall account for much of the variation in GDP. Throughout this period the tertiary sector share has remained fairly constant at about 40% of the economy.

Population growth has outstripped gains in agricultural production resulting in a 35% decline in per capita agricultural production from 23,000 FCFA in 1960 (1977 prices) to 15,000 FCFA in 1989. According to the 1988 RAPID II Analysis, Senegal's goal of 80% food self-sufficiency by the year 2000 is overly optimistic and the country will have to further increase output if it is to maintain its current level of 60% food self-sufficiency. The study projects a 10% increase in food self-sufficiency by the year 2011. This would require a 130% increase in cereals output. However, it is doubtful whether the carrying capacity of the land is sufficient to support an expansion of this magnitude. Failure to attain the projected increases in agriculture output would result in greater reliance on food imports with consequent economic and health implications.

The growth of the industrial sector has occurred primarily in the Dakar area, further exacerbating the disparity in income between Dakar and the rest of the country. In 1986 wage earners constituted only 20% of the urban labor force, while 62% of the work force were in the informal sector. Unemployment was estimated at 18%.

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TABLE 2: Structure of the Urban Workforce

	<u>1986</u>	<u>2011</u>
- Wage earners	20.3%	12.3%
- Informal sector	61.9%	49.5%
- Unemployed	18.0%	38.2%

Source: RAPID II, Etude Démo-économique sur les Perspectives de Développement Economique et Social du Sénégal, 1988.

As shown in Table 2, urban population growth is expected to exceed the job-creating capacity of both the formal and informal sectors, resulting in an increase in unemployment to nearly 40% of the workforce. This trend could have a serious adverse effect on the ability of certain segments of the population to obtain health services.

3.4. Income Distribution

Little information is available on current and past income distribution in Senegal. A recent World Bank survey indicates that the most affluent 20% of the population accounts for 62.5% of the national income while the poorest 20% receives only 3.3%. Applying these percentages to the estimated 1988 per capita income of \$650 (195,000 FCFA) yields the following estimates of income distribution:

TABLE 3: Income Distribution - 1988

<u>Group</u>	<u>Percent of Income</u>	<u>Mean Income</u>	
- Highest 20%	62.5%	\$2,030	610,000FCFA
- Middle 60%	34.2%	370	110,000
- Lowest 20%	3.3%	110	33,000

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As would be expected, the geographic distribution of income shows similar disparities. A 1984 ENDA survey cited by the World Bank revealed that per capita income in Dakar was 226,000 FCFA, while in the remainder of the country it was only 37,000 FCFA. Along similar lines, a 1990 draft report entitled "Adjustment Postponed: Economic Policy" by Elliot Berg Associates shows that the mean income of government employees was nine times greater than the average per capita income. Within the categories cited above, there are broad ranges of income. While these studies are not strictly comparable, they nevertheless indicate that there are extensive differences in purchasing power among the Senegalese.

These inequalities are in part mitigated by the sharing which exists within the extended family, but there is some evidence, as is discussed in the "VIIIe Plan", that increased geographic and social mobility is gradually eroding this solidarity and that this social safety net is becoming progressively more porous.

The economy of Senegal can be viewed as a two-tiered structure consisting of an upper class which on the whole is better educated, better paid, better housed, better fed, with access to higher quality health care. This group maintains an essentially western life style. The remainder of the population is engaged in lower paying jobs, the informal sector, small scale and subsistence agriculture or is unemployed.

As the government disengages itself from the financing of health care and greater reliance is placed on private payment for services, the income redistribution effect of public financing is reduced and the burden is shifted to those who are less able to pay for health services. It is therefore essential that various mechanisms for increasing cost recovery ensure that no one is denied needed health care because of inability to pay.

4.0. HEALTH CARE FINANCING

This section focuses primarily on operating expenses associated with the delivery of health services. Although investments in health infrastructure

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will be examined briefly, a detailed discussion of capital expenditures is beyond the scope of this analysis.

4.1. Estimated Health Sector Expenditures

It is extremely difficult to ascertain the magnitude of the Senegalese health sector since so little is known about private expenditures for health care and about expenditures by other government agencies. Various estimates of total annual per capita health expenditures range from \$10 to \$30. For example a 1989 study by Kodjo Evlo of REACH estimated 1981 expenditures from all sources, including foreign assistance, at 5000 FCFA (\$17.50) per capita. (Evlo, 1989)

The following data from a variety of sources provide a rough approximation of overall expenditures on health care. The component entitled "Other Ministries" includes the Armed Forces, but excludes the Hopital Principal. This institution, which is actually operated by the military, functions primarily as a community hospital and is therefore classified as private.

Table 4: Estimated Health Sector Expenditures

<u>Component</u>	<u>Public Sector</u>		<u>Source: date</u>
	<u>Amount</u>		
- Ministry of Health	11.0	billion FCFA	MEF, 1989
- Other Ministries	1.5	" "	PNS, 1989
- Participation communautaire	0.5	" "	MEF, 1988
Total Public	13.0	billion FCFA	
- Hopital Principal	4.0	billion FCFA	Vogel, 1988
- Hopital St Jean (Thiès)	2.0	" "	Est. based on Vogel
- Private clinics	2.0	" "	Gaye, 1985
- Private physicians	4.0	" "	Est.: A. Dieng(int)
- Private pharmacies	15.0	" "	CREDES
Total Private	27.0	billion FCFA	
TOTAL HEALTH	40.0	billion FCFA	

As shown in Figure 1, public sector expenditures account for about one third of total expenditures while private hospitals and clinics account for 30% and private pharmacies for 37.5% of total expenditures. The expenditure level estimated at 40 billion FCFA is equivalent to 3% of the GDP, and about 6000 FCFA (\$20) per capita.

4.2. The Private Sector

If the data cited above approximate reality, the private sector accounts for about two-thirds of all Senegalese expenditures for health care. What is striking is the extent to which this sector is concentrated in Dakar: 19 of 24 private clinics are in Dakar, as are 112 of 137 private practitioners, 25 of 28 private dentists and 66 of 100 drugstores.

As is stated by Pape Amadou Gaye (the Private Sector in the Provision of Health Services in Senegal, 1985), these private for profit facilities fill a particular need for a certain segment of the urban population, the more affluent, who demand a higher standard of quality. However, the role of private pharmacies is considerably broader and any plan for health sector reform must incorporate these outlets and their distribution system, especially when considering health products such as contraceptives and oral rehydration salts.

In addition to the for-profit private health sector serving the general population, there are numerous public service companies and large private companies which operate health programs for their employees and their families. Examples for these include the electric company (SENELEC) which serves 10,000 people, the water company (SONEES), the public bus company (SOTRAC) and the postal service (OPTS). Among the most prominent private industry health programs are those operated by the mining industry serving 9,000 beneficiaries, and the sugar company (CSS) in Richard Toll serving 8,000 employees and their families.

4.3. The GOS Budget

Senegalese economic policy during the 1980's has been dominated by the dictates of economic reform and structural adjustment aimed at resolving problems associated with the government deficit, the negative trade balance and a mounting external debt. While current programs are presumably aimed at reducing government employment and expenses, as well as eliminating the extensive system of government subsidies, the GOS share of the GDP has remained unchanged at 15-16% over the last twenty years, as shown in Table 5.

In contrast to the constant GOS share of the GDP, the health share of the GOS budget has dropped from over 9% to 5% since 1970, with most of this decline occurring in the 1970's. Despite a resolution passed by the National Assembly in 1981 expressing commitment to the 9% level advocated by the World Health Organization, there has been no progress in restoring this level of funding. In fact, if one examines actual rather than projected expenditures, health accounted for less than 4% of GOS expenditures over the last five years. In real terms, per capita health expenditures by the GOS have declined by nearly 60% since 1970, and by 25% since 1980. This puts in question the GOS commitment to "Health for All" by the year 2000.

TABLE 5: GOS and Health Budgets as a Percentage of GDP

	GOS			Health		
	<u>GDP</u>	<u>Budget</u>	<u>% GDP</u>	<u>Budget</u>	<u>% GOS</u>	<u>% GDP</u>
1970	240 bFCFA	38 bFCFA	15.8%	3.5 bFCFA	9.3%	1.5%
1975	406	55	13.5	4.1	7.5	1.0
1980	628	106	16.9	6.6	6.2	1.1
1985	1152	178	15.5	9.6	5.4	0.8
1989	1436	227	15.8	10.9	4.8	0.8

Source: Various GOS documents.

These changes in the operating budget have primarily affected non-personnel costs. As a consequence, these costs, which include drug expenditures, have dropped from 40% of the budget in 1980 to about 30% in 1989. This reduction has been only partially offset by private payment for services and foreign assistance.

According to the "Politique Nationale de Santé, 1989", hospitals consume 50% of the GOS budget, including 40% of the personnel budget and 86% of the drug budget. These figures suggest a serious misallocation of resources in favor of the hospital sector. In reality, Senegal's public hospitals are understaffed and underfunded. By contrast, the Hopital Principal, a military institution reputed to be the best hospital in the country, incurs annual

expenditures equal to nearly 80% of those of all other public hospitals in Senegal. It serves military personnel and their families, as well as civilians who can afford to pay. (Vogel, Cost Recovery, 1988).

4.4. Foreign Assistance and Capital Expenditures

The GOS health investment budget covers health facility construction, expansion and renovation as well as the purchase of equipment. Funding is obtained from numerous sources including the GOS, local governments, fee for service, the private sector, NGO's and foreign assistance. Little other information is available on capital expenditures.

The GOS relies heavily on foreign assistance to finance capital expenditures within the health sector, as is shown in Table 6. It is estimated that one-third of the capital budget was earmarked for new construction and two-thirds for the renovation and expansion of existing facilities. Approximately one-half of the capital budget was devoted to hospital construction and renovation.

TABLE 6: The GOS Health Investment Budget

	<u>Total Budget</u>	<u>From Foreign Assistance, %</u>
- VIe Plan (1981-1985)	21.3 billion FCFA	12.1 billion FCFA 57%
- VIIe Plan (1985-1987)	17.6 " "	12.5 " " 71%

Source: "Document de Travail pour la Réunion des Bailleurs de Fonds sur le Secteur Santé", Dakar, 1986.

Over the next decade the population of Senegal will grow by 30-40% to nearly ten million people. Half of this population will be concentrated in urban areas. Just to maintain the current level of health care coverage, however inadequate, will require a comparable expansion in health infrastructure. The GOS will probably look to the donor community to fund such an expansion. It is essential that this assistance be provided in a coordinated manner and that projects for capital expansion be consistent with national and regional health plans.

4.5. Private Payment in the Public Sector

Since 1980, the Ministry of Health has promoted a program of private contributions for health services (participation communautaire) to partially compensate for its steadily declining per capita health budget. Toward this end, a network of Associations pour la Promotion de l'Hôpital (APH) and Associations pour la Promotion de la Santé (APS) have been formed. A major role of these health committees is the sale of tickets used to obtain health services and/or medicines.

4.5.1 Associations pour la Promotion de l'Hopital (APH): Little information is available on hospital collections. Because most funds collected revert to the Treasury and are not kept by the hospital, there has been little incentive to collect fees. Collections have been estimated at 3 million FCFA per month (source: CREDES: "Etudes de Gestion et d'Organisation de la Pharmacie Nationale d'Approvisionnement, 1990). Data furnished by the Direction des Formations Hospitalières indicate that the average per capita payment for public hospital services is about 5 FCFA (less than two cents) per year.

An official list of hospital charges was enacted in 1968, but the legislation mandating collections was never effectively enforced. Fees were to be collected from all patients not classified as indigent and sent directly to the National Treasury. In a case of isolated enforcement, the Director of the Hopital St. Louis was removed from office in 1980 for not having complied with this legislation.

This facility provides an interesting example of the current status of hospital cost recovery in Senegal. In 1986, it created an Association pour la Promotion de l'Hopital (APH) to generate funds for hospital improvement. In 1987, the 35% of the paying patients classified as non-indigent generated 70% of total fee income, which was paid to the Treasury. The remaining 65% of the paying patients, classified as "not-so-indigent", generated 30% of total fee income and this amount was retained by the hospital to be used as proposed by the APH. This system is at best very cumbersome and subject to abuse. There

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is a need for legislative and administrative reform aimed at enforcing more effective cost recovery in hospitals and permitting the use of a greater proportion of these funds at the hospital level. (Vogel, op. cit.)

4.5.2 Associations pour la Promotion de la Santé: If the operation of committees charged with collecting fees for services provided by health centers and health posts can be considered a success, it is only relative to the performance of the APH's. In 1980, the GOS promulgated a document entitled "Participation des Populations à l'Effort de Santé Publique: Principes et Directives Méthodologiques", which prescribes in detail a system for the generation of supplemental funds through the collection of user fees. This policy is based on experiences with the Belgian health care project in Pikine and the USAID funded rural health care project in the Kaolack and Fatick regions.

The guidelines include a suggested fee schedule and indicate how collections are to be used to purchase drugs and cover certain operating costs. At the village level fees are to be set by the community through the village health committee. Fees for adult consultations in health posts and health centers range from 50 FCFA to 100 FCFA while the fee for children is 25 FCFA to 50 FCFA. The fees for deliveries range from 1000 to 2000 FCFA. An April, 1990 Bamako Initiative survey funded by USAID revealed that these guidelines are still being followed, with local adaptations and that for the most part fee schedules have not been revised since their inception 10 years ago. As is pointed out by Vogel, op. cit., "leakage" observed in the collection system probably results in a loss of 50% of potential revenues. Some of these losses can be traced to an extensive system of exemptions through which many individuals capable of paying nevertheless receive free care, for example, the relatively well paid government employees, whose salaries are nine times the average per capita income. Other losses are attributed to weaknesses in financial management observed throughout the system.

TABLE 7: APS Receipts and Drug Expenditures

	Drug			1980 Prices	
	<u>Receipts</u>	<u>Expenditures</u>	<u>CPI</u>	<u>Receipts</u>	<u>Per capita</u>
1980	300 million FCFA	..	100	300 million FCFA	54 FCFA
1981	304 "	53	105	289 "	51
1982	-	-	-	-	-
1983	358 "	152	139	258 "	43
1984	-	..	-	-	-
1985	386 "	172	175	221 "	35
1986	-	..	-	-	-
1987	321 "	168	178	180 "	27
1988	385 "	188	175	205 "	30

Source: Various MSPAS documents.

The data in Table 7 show that there has been some growth in collections over the past ten years, with per capita receipts of 55 FCFA in 1988. However, if collections are adjusted for inflation, overall receipts declined by 30% since 1980, while per capita receipts experienced a 45% decline. Nevertheless, funds generated through private payment for services have doubled the resources available for the purchase of drugs. At the health post level, which accounts for nearly 60% of all outpatient visits, essentially all drugs are purchased with fee-generated income.

There are significant differences in per capita revenues across the country. In 1988, Pikine with 9% of the population of Senegal, generated 33% of all APS revenues, whereas Fatick and Kaolack, which account for nearly 20% of the country's population, generated 12% of the APS revenues. Per capita revenues in Pikine were 201 FCFA while Fatick and Kaolack had per capita receipts of 36 FCFA. (MSPAS, 1989).

These two areas are not comparable, since Pikine, the site of the Belgian project initiated 15 years ago, is peri urban with a higher percentage of the economy monetized than the country as a whole. What is surprising however, is that cost recovery in Fatick and Kaolack is less successful than in the remainder of the country even when the Dakar region is excluded. One would have expected much better performance in these two regions since they were the site of the USAID rural health project funded from 1977 to 1989 with major emphasis on community participation and cost recovery. The evaluation of this project scheduled for early 1991 should provide some information on why cost recovery in these regions has been relatively ineffective.

The contrast in cost recovery evident between Pikine and the remainder of the country raises a number of questions regarding the replicability of the Pikine experience. Assumptions on how village health committees should be constituted and how they should function may be consistent with current concepts of primary health care, but the expectation that Western cultural beliefs and democratic values can be superimposed on rural communities ignores the manner in which these communities, with strong traditional and religious ties, actually function.

Similarly, expectations regarding the ability of the MSPAS to oversee the cost recovery process appear to be overly optimistic since the Ministry has been unable to adequately supervise its own health care providers. While there may be potential for greater cost recovery through community participation, there is a need to be more realistic about what can be accomplished at the village level.

Despite the fact that a cost recovery program has been in operation in Senegal since 1980, funds generated by this mechanism remain minimal, accounting for less than 5% of public sector health financing. Several of the health sector improvement plans discussed elsewhere in this analysis, including the Bamako Initiative, the restructuring of the drug distribution system and health facilities reform, would require a very large increase in public fee for service revenues. There is a general assumption that the population has funds with which to pay higher fees. Anecdotal reference is frequently made to payments for the services of traditional healers, but

little is known about household expenditures for goods and services including health care, or about the ability and willingness of the population to reallocate a greater portion of its resources for health care. The health care financing study to be funded by USAID should provide some answers to these questions.

4.6. Health Insurance in Senegal

There are three forms of health insurance in Senegal. These programs are extremely limited and cover only a small segment of the population. While enrollees are nearly exclusively salaried workers in urban areas, coverage among this group is far from universal. There is also considerable variation in the scope of services covered by these programs.

4.6.1. Public Employees: The Ministry of Finance has a program which covers a portion of health care costs incurred by public employees and their families (wives and children). Services covered include hospital care, ambulatory care and diagnostic services. Specifically excluded are drug costs. There are provision for cost-sharing, with employees paying 20% of the costs incurred. As of 1987 only 80,000 employees and their families were covered by this plan. Because coverage is limited some employees obtain supplementary coverage through other sources (ENDA: La Consommation de Médicaments à Dakar, 1983).

4.6.2. Private Health Insurance: Some firms provide health insurance coverage for their managerial and professional staff and their families through private insurance companies. There is considerable variation in the scope of services covered although most include hospital care, ambulatory care, medical evacuation, optical and dental services, as well as drugs. Reimbursement levels vary by type of service, but average 80% of costs. Premiums are paid entirely by the employer, by both the employer and employee, or in some cases solely by the employee, who nevertheless benefits from the lower cost of group policy premiums. There is no information available regarding the number of employees with private health insurance or of total disbursements through these plans.

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In addition to the comprehensive policies described above some companies also offer supplementary policies designed to cover costs not included in other insurance programs, such as the public employee program described above or the Institut de Prévoyance Maladie. While such policies are desirable from the perspective of the employee since they cover all costs of care, they can result in overutilization of health services. Moreover, since average payments tend to be small, a significant portion of the premium for such policies is used to cover administrative costs.

4.6.3. Institut de Prévoyance Maladie: In 1975 Senegal enacted legislation requiring every form of economic enterprise to participate in an "Institut de Prévoyance Maladie (IPM)", or health insurance plan which covers all hospitalization costs, including deliveries, and most of the costs of ambulatory care and drugs. Each firm with at least 100 employees is required to create its own IPM while those with fewer employees must group themselves to form an IPM or join an existing plan.

The plans are financed by matching employer-employee contributions equal to a total of 6% of the employee's salary, with a maximum total contribution of 3,600 FCFA per month. Some IPM's have increased this ceiling and/or have raised the contribution rate. The plans cover employees and their families. Annual disbursements are estimated at 5 billion FCFA.

While reimbursement rates are set at 60% for ambulatory visits and 70% for drugs, there is considerable variation in actual reimbursement levels among plans with some exceeding the set rates. However, it is not unusual to find rates as low as 40% of incurred costs.

According to ENDA, op. cit., this program, managed by the Ministry of Labor, has experienced serious problems since its inception 15 years ago. Although the program is mandatory, participation is not enforced. It is estimated that in 1986, only 75,000 of the 250,000 salaried workers in the economy were covered and that the total number of beneficiaries was less than 10% of the population.

Several of the plans have experienced serious financial problems. A number have gone bankrupt while others have had to curtail reimbursement rates. Physicians and pharmacists complain of protracted delays, frequently several months, in obtaining payment for services rendered.

The reasons for these difficulties are many. Some high level employees covered by the plans are "exempted" from contributing. The premium in the form of a percentage salary deduction is not based on actual loss experience. Moreover, there is no mechanism for risk-sharing or co-insurance among the plans to cover unexpectedly high losses. There is also widespread abuse of the plans by participating employees who obtain reimbursement for relatives and friends not eligible for coverage. Irrational prescriptive practices also create an inordinate drain on the system. These problems are further compounded by open-ended payment provisions and the lack of utilization controls. Clearly, the IPM program requires comprehensive reform if it is to achieve its potential.

In summary, a relatively small segment of the population has some form of health insurance. Because health insurance is a mechanism for paying private providers and these are concentrated in Dakar, most of the population with health insurance coverage resides in the Dakar area. Within this group, those with higher incomes are more likely to have health insurance. According to the 1988 ENDA survey, 90% of households with monthly incomes below 50,000 FCFA had no health insurance coverage while 57% of those with monthly incomes over 300,000 FCFA had all health care costs covered by insurance.

Despite the problems discussed above, there is considerable potential for expansion of insurance coverage in Senegal. Increased emphasis on fee for service within the public sector, especially in hospitals, will increase the demand for health insurance. The challenge will be to extend coverage to a broader segment of the population and to design and operate these programs in accordance with sound insurance and financial management principles.

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5.0 FINDINGS AND RECOMMENDATIONS

Some of the major findings of this study and other segments of the health sector analysis are briefly discussed in this section. Where appropriate, recommendations for future action are included.

1. This analysis was seriously hampered by the lack of sound data on health services utilization, costs and revenues. More fundamentally, accurate data are required on a timely basis for the planning, implementation and evaluation of health services delivery.

Recommendation: That USAID participate with other donors in the provision of technical assistance and funding for the establishment of an effective management information system (HIS/MIS), which includes budgeting and financial reporting.

2. Given the current economic situation, the GOS or the individual consumer can only increase expenditures for health care by reducing expenditures for other goods and services. The key issues are the availability of health care funding from all sources, the public sector, private payment for services, health insurance and foreign assistance; and whether these resources are sufficient, if effectively utilized, to provide health services of the quantity and quality required to attain and sustain desired improvements in health status.

Recommendation: That USAID fund the comprehensive health care financing study tentatively planned for early 1991. This study would compare costs, utilization and productivity of various types of health structures, and would include a household survey of health care utilization and expenditures. Information thus obtained would be essential to the MSPAS in planning its programs and to the donors in planning program support.

3. There are a number of measures proposed by the donor community to improve the supply of health services. These measures are currently being considered or are being implemented by the GOS. Most of these reforms have direct or indirect cost implications.

3.1. The MSPAS is decentralizing health services delivery in order to improve the ability of the system to respond to the health needs of the population. In most cases, the departmental and regional health plans propose a range of services which require initial and/or ongoing external funding.

Recommendation: Donors should only support health activities which are consistent with national and regional plans and only after considering the long term cost implications of sustaining such activities.

3.2. The restructuring of the Pharmacie Nationale d'Approvisionnement (PNA), including more rational drug purchasing, the adoption of an essential drug policy and the promotion of sounder prescriptive practices should result in more effective drug distribution, better inventory control and lower unit cost. However, a more consistent supply could also result in greater utilization and higher total expenditures for drugs.

Recommendation: USAID should continue to support this reform, in conjunction with other donors through the provision of technical assistance and training.

3.3. The World Bank has proposed the redistribution of health facilities and personnel in order to improve access to care and plans to finance this activity in the Dakar, Diourbel and Thiès regions. It is unclear how this restructuring is to be financed in other regions. As is discussed in the HEALTH INFRASTRUCTURE section, the proposed system of health posts and centers does not adequately relate facility size and scope of services to population density and distance from referral facilities.

Recommendation: USAID should not support the redistribution of facilities proposed by the World Bank unless the above mentioned issue is adequately addressed.

3.4. Integration of health programs is an important component of the "Politique Nationale de Santé". Integration can enhance quality of services and reduce duplication of effort, thereby improving efficiency and lowering unit costs. In some cases, integration could require increasing the scope of services. This would improve access to care, but could also increase overall expenditures.

Recommendation: USAID should continue to support the integration of health services, which can improve quality of care and the efficiency of health services delivery.

3.5. As cited in the National Maternal Mortality Strategy Plan (1990) discussed elsewhere in the health sector analysis, the MSPAS is planning to enhance the emergency surgical capability of regional hospitals and of certain health centers. While this would require an initial investment in equipment and training, and would also increase operating costs, this service is critically needed.

Recommendation: USAID should support this concept and should consider providing financial assistance as may be appropriate.

3.6. There is general agreement that the quality of services provided by the public sector is low. Improving quality would require better facilities and equipment, more and better trained staff, more effective management and supervision, as well as better maintenance of facilities and more adequate logistic support.

Recommendation: That the proposed study of health costs address the issue of quality of care as well as the economic feasibility of improving certain aspects of health services delivery.

3.7. The distribution of essential drugs and supplies, including contraceptives and ORS through private pharmacies and their satellites would improve the availability of these products; increasing sales volume would permit these outlets to sell these products at lower prices.

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Recommendation: That USAID consider promoting the role of private pharmacies in distributing essential drugs in conjunction with a long term social marketing campaign.

4. Additionally, a number of activities under consideration by the MSPAS and the donor community would also directly or indirectly affect the demand for health services and related expenditures.

There are several low-cost preventive measures which can improve health and ultimately decrease the demand for health services. These include improved personal hygiene, exclusive breastfeeding during the first 4-6 months and child spacing. Other actions such as improving female literacy and increasing access to potable water can also result in significant improvements in health status.

Some health services are under-utilized. These include family planning, prenatal and postnatal care, well-baby care and immunization programs. Part of the high maternal mortality is directly linked to the unavailability of surgical services. Improving access to these services and promoting their use through IEC campaigns would improve health status but would also increase health care expenditures. This increase may be partially offset by the effectiveness of these services in reducing demand for more costly procedures.

4.1. Two World Bank proposals under consideration would require a substantial increase in collections. The plan to rationalize the distribution of health centers and health posts includes a financial component requiring fees of 500 FCFA per episode. The program to restructure the PNA/PRA would require an increase in annual per capita collections to 250 FCFA over the next fifteen years. UNICEF has also been active in promoting the implementation of the Bamako Initiative through which fee generated revenues would be utilized to improve primary care. The proposed health care financing study will examine whether proposed fee increases are reasonable.

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Several actions must be taken if these proposals are to succeed. The GOS is in the process of adopting a legal framework which will clarify the role of the "comités de santé" in the fee collection process. In addition, a simple, effective financial management system with adequate internal controls must be designed and implemented.

The MSPAS must also devise a mechanism for establishing and periodically revising fees. The system of exemptions must be reformed so that only those genuinely unable to pay are exempted. Additionally, the Ministry must establish an oversight mechanism to ensure that the system is functioning and to take appropriate corrective action when problems are encountered.

Recommendation: That USAID continue cooperating with other donors in promoting the activities outlined above.

4.2. While cost recovery has been modestly successful in ambulatory care facilities, this has not been the case in hospitals, where per capita collections average about 5 FCFA per year. Because revenues collected from the non-indigent must be turned over to the National Treasury, there has been little incentive to implement collection procedures which have been on the books since 1968. APHs have been established by three hospitals in recent years to collect fees from the "not-so-indigent", but there is a need to combine these two parallel collection systems and to enact legislation which would permit hospitals to retain a greater percentage of patient generated revenues. Funds collected could be utilized to improve services and to permit internal reallocation of the MSPAS budget as may be appropriate.

Recommendation: That the USAID comparative cost study examine the potential for more effective hospital cost recovery and that USAID promote the implementation of needed reforms.

4.3. The implementation of more stringent billing and collection procedures for health services could stimulate the demand for health insurance. USAID could play a role in promoting private sector expansion in this area.

USAID should also encourage the GOS to improve the operation of the Institut de Prévoyance Maladie (IPM) program and to expand its role in health care financing by instituting reforms which would:

- Enforce participation in and contribution to the program;
- Establish a cost-based premium structure;
- Limit the scope of benefits;
- Establish a system of deductibles and copayment provisions to control utilization;
- Establish a network of participating providers.
- Establish a system for re-insurance and risk sharing among IPM's.

4.4. The GOS should also consider other sources of health care financing such as local taxes or a surtax on private providers, who assume no responsibility for the care of the indigent.

6.0. SUMMARY

6.1. BACKGROUND

Purpose: The study describes the economic and financial environment in which the Senegalese health sector must function and presents options for dealing with key health care financing issues.

Methodology: The study is based on a review of primary and secondary information sources plus interviews with Mission and GOS staff.

Problems Encountered include the paucity of valid, reliable data on health services utilization and health care financing.

6.2. THE ECONOMY

The World Bank describes Senegal as a "lower middle-income economy," (1988 per capita GNP: \$650).

Trends in Income: Since independence there has been a slight decline in real per capita income. GOS projects partial recovery of this loss by the year 2000.

Dependence on Foreign Assistance is high - 11.4% of the GNP in 1988.

Declining Food Self-Sufficiency and Environmental Degradation: Land carrying capacity is strained by rapid population growth.

Urbanization rate is outstripping expansion of formal and informal sector. Outlook is for increasing unemployment with possibility of growing social and political unrest.

Income Distribution is skewed. The top 20% receive over 60% of the income. Three-fifths of the population is engaged in subsistence and small scale agriculture. Wealth and income are concentrated in Dakar. Public sector incomes are nine times the national average.

Economic Policy: Emphasis is on structural adjustment and privatization. GOS health sector funding is declining. There is growing reliance on private payment for service, resulting in a greater burden on lower socio-economic groups.

6.3. HEALTH CARE FINANCING

Annual health care expenditures estimated at 40 billion FCFA, or about 6000 FCFA (\$20) per capita.

The private sector accounts for two-thirds of these expenditures. The sector consists of hospitals, clinics, private practitioners and pharmacies, heavily concentrated in Dakar and serving primarily the urban elite.

The health share of the GOS budget has dropped from 9% to 5% since 1970, resulting in a 60% decline in real per capita expenditures, raising questions regarding Senegal's commitment to "Health for All by the year 2000".

Public Hospitals which consume 50% of the GOS health budget are underfunded and understaffed. By contrast the Hopital Principal, a military institution which also serves civilians who can pay has a budget equal to 80% of that for all other public hospitals combined.

Capital Expenditures: Over the half of capital expenditures for health are financed through foreign assistance. Health infrastructure will have to expand 30%-40% over the next ten years just to accommodate population growth.

Cost Recovery: The GOS instituted cost recovery in the public sector ten year ago to compensate in part for its shrinking health budget. The hospital collection program was never fully implemented. Health center and health posts collections are higher, 55 FCFA per capita vs. 5 FCFA in hospitals, but collections are inadequate and have not increased since 1980.

There is potential for greatly increasing fee generated revenues, but extensive reform is needed, especially to attain levels projected by the World Bank and required to implement the Bamako Initiative.

Higher health care prices could increase demand for health insurance.

6.4. RECOMMENDATIONS

Based on the findings of this study and other segments of the health sector analysis, USAID should consider or, if currently involved, continue encouraging and/or supporting the following activities in conjunction with other donors:

Health Sector Reform

- Decentralization.
- Regional planning and budgeting.
- Improvement of the health/management information system.
- Improved financial management and reporting.
- Restructuring of the national pharmacy, the implementation of an essential drugs program and the promotion of more rational prescriptive practices.
- Improving access to health services, by relocating facilities and personnel, expanding the scope of services and integrating health services delivery.
- Improving productivity in health services delivery.
- Promoting use of low cost health promotion and disease prevention activities.

Health Care Financing

- Funding the proposed 1991 comprehensive health care financing study.
- Supporting only health activities consistent with regional health plans.
- Promoting efficiency and cost containment measures.
- Supporting reform of cost recovery programs.
- Promoting health insurance.
- Promoting alternative funding, e.g. local taxes.
- promoting private sector expansion.

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Annex 9

**Donor Assistance
1987 - 1988**

Annex 9

Donor Assistance 1987 - 1988

Tableau 25 : PROJETS ET ACTIVITES D'ASSISTANCE TECHNIQUE EN COURS OU PREVUS
(en millions de dollars E.O.)

Secteur: Santé

Projets/Activités	Source d'Assistance	Durée Projet debut fin	Assist. Totale Prévue	Dépenses d'assist en 1987	Localisation	No. coopérants internationaux en 1987	Objet et Nature de l'assistance
<u>Sous secteur:</u>							
<u>Services de Santé</u>							
685-3242 Santé Rurale Phase II	USAID	1984 1989	10125	1695	FATIC KAOLACK	4	Programmes de santé familiale et soins de santé primaires autonome dans les villages. Accent sur la santé de la mère et de l'enfant.
Hôpital de Louga	ITALIE	1984 1988	7208	1442	LOUGA	7	Medicins et matériel sanitaire
Ministère de la Santé	ITALIE	1987 1989	800	400	DAKAR	0	Appui technique
Coopération Sanitaire	ESPAGNE	1984 1987	nd	nd	THIES	0	Cinq coopérants sanitaires à l'Hôpital de "Saint Jean de Dieu" à Thiès
10891/00 Soins de santé primaires en milieu urbain à Pikine.	ADCD (BELGIQUE)	1975 1989	8606	796	Pikine, DAKAR	7	Renforcement des services de santé de base dans le département de Pikine.
1004 Projet de santé et d'hydraulique villageoise dans la région de Thiès.	UNICEF (OPEP/AGFUND)	1986 1991	1778	128	THIES	0	Développement des services de soins de santé primaires; réhabilitation des puits villageois.
1005 Projet de santé et hydraulique dans la région de Tambacoumba.	UNICEF (OPEP/Comité Japonais pour l'UNICEF)	1986 1991	1932	156	TAMBAC.	0	Développement des services de soins de santé primaires; forages des puits activités rémunératrices pour les femmes.
1012 Appui aux programmes	UNICEF	1987 1991	1454	462	DAKAR	0	nd
5604.61.45.062 Etude Hôpital St.-Louis.	FED	1987 1987	127	60	ST. LOUIS	0	Phase III.
Ecole de Formation pour Techniciens d'hôpitaux (EFTE).	GTZ (RFA)	1983 1990	3082	145	DIOURBEL	1	Appui en maintenance et d'équipement
17/SKZ, d'PH.001 Processus gestionnaire pour le développement sanitaire national.	OHS	1987 1987	186	186	PAYS	0	Services communs et fonctionnement du Bureau de l'OHS
17/SKN/PHC.001 Soins de Santé Primaires	OHS	1987 1987	60	60	PAYS	0	Séminaires et conseils sanitaires locaux

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Tableau 25 - suite :

PROJETS ET ACTIVITES D'ASSISTANCE TECHNIQUE EN COURS OU PRETUS
(en milliers de dollars E.O.)

Secteur: Santé

Projets/Activités	Source d'Assistance	Durée Projet debut fin	Assist. Totale Prévue	Dépenses d'assist en 1987	Localisation	No. coopérants internationaux en 1987	Objet et Nature de l'assistance
<u>Sous secteur:</u>							
<u>Services de Santé</u>							
AP/SEN/HMD.009 Bourses d'études.	OMS	1987 1987	270	270	DAKAR	0	Bourses d'études et formation
SEN/6/000 Médecine nucléaire	AIEA	1980 1987	87	8	DAKAR	0	Développement des techniques de radioisotope et des procédures d'images scintigraphiques
Mission médicale chinoise de Ziguinchor	CHINE	1987 1988	80	40	ZIGUIN	17	Formation, Instruments médicaux et médicaments.
Ministère de Santé Publique	FAC (FRANCE)	1986 1988	225	75	DAKAR	1	Appui technique
Direction des Hôpitaux	FAC (FRANCE)	1986 1988	225	75	DAKAR	1	idem
Pharmacie Nationale d'Approvisionnement	FAC (FRANCE)	1986 1988	225	75	DAKAR	1	idem
Centre d'appareillage	FAC (FRANCE)	1986 1988	633	211	DAKAR	4	idem
Centre Hospital Universitaire de Zann	FAC (FRANCE)	1986 1988	1674	550	DAKAR	8	idem
Centre de Transfusion Sanguinaire	FAC (FRANCE)	1986 1988	225	75	DAKAR	1	idem
Banque de sang de St. Louis	FAC (FRANCE)	1986 1988	135	45	ST. LOUIS	1	idem
Institut d'Odonto-Stomato	FAC (FRANCE)	1986 1988	135	45	DAKAR	1	idem
Bourses en France	FAC (FRANCE)	1987 1987	23	23	FRANCE	0	Bourses de perfectionnement
Institut de léprologie	FAC (FRANCE)	1986 1988	588	196	DAKAR	3	Appui technique
Hôpital A. Le Dantec	FAC (FRANCE)	1986 1988	1260	420	DAKAR	8	idem
Hôpital Principal de Dakar	FAC (FRANCE)	1986 1988	5571	1857	DAKAR	25	idem
	FAC	1986 1988	225	75	THIES	1	idem

Tableau 25 - suite : PROJETS ET ACTIVITES D'ASSISTANCE TECHNIQUE EN COURS OU PREVUS
(en milliers de dollars E.O.)

Secteur:Santé

Projets/activités	Source d'Assistance	Durée Projet debut fin	Assist. Totale Prévue	Dépenses d'assist en 1987	Localisation	No. coopérants internationaux en 1987	Objet et Nature de l'assistance
<u>Sous secteur:</u>							
<u>Services de Santé</u>							
Hôpital de St. Louis	FAC (FRANCE)	1986 1988	1215	405	ST. LOUIS	7	idem
Hôpital de Kaolack	FAC (FRANCE)	1986 1988	453	151	KAOLACK	2	idem
Hôpital de Ziguinchor	FAC (FRANCE)	1986 1988	720	240	ZINGUIN.	4	idem
TOTAL SOUS SECTEUR:				10424		104	
<u>Sous secteur:</u>							
<u>Prevention et contrôle des maladies</u>							
N010 Projet national de nutrition et de lutte contre les maladies diarrhéiques par la rehydratation par voie orale.	UNICEF	1987 1991	1795	183	PAYS	0	Vulgarisation de la thérapie de rehydratation par voie orale(RVO). Programme nutritionnelle des enfants de moins de 5 ans et des femmes enceintes.
AF/SEN/RPD.001 Développement et promotion de la recherche.	OMS	1987 1987	18	18	DAKAR	0	Missions-Bourses d'études achats locaux.
AF/SEN/VDT/001 Maladies sexuellement transmissibles	OMS	1987 1987	5	5	DAKAR	0	Stages et séminaires. Achats locaux
AF/SEN/NCH.001 Santé maternelle et infantile	OMS	1987 1987	10	10	DAKAR	0	Bourses et achats locaux
AF/SEN/NOY.001 Nutrition	OMS	1987 1987	13	13	DAKAR	0	Séminaires et achats locaux
AF/SEN/IKH.001 Information du Public et Education pour la Santé.	OMS	1987 1987	25	25	DAKAR	0	Séminaires et achats locaux
N014 Assistances aux cantines scolaires rurales.	UNICEF	1987 1990	200	73		0	Equipements de cuisine, de jarainage et de poulailler pour 40 cantines scolaires pilotes, recevant de l'assistance en nature du PAM.
TOTAL SOUS SECTEUR:				327		0	

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Tableau 25 - suite : PROJETS ET ACTIVITES D'ASSISTANCE TECHNIQUE EN COURS OU PREVUS
(en milliers de dollars E.O.)

Secteur: Santé

Projets/Activités	Source d'Assistance	Durée Projet debut fin	Assist. Totale Prévue	Dépenses d'assist en 1987	Localisation	No. coopérants internationaux en 1987	Objet et Nature de l'assistance
<u>Sous-secteur:</u>							
<u>Hygiène de milieu</u>							
3-P-85-0085 Information et documentation en santé publique.	CRDI (CANADA)	1985 1988	64	9	DAKAR	0	Formation d'une équipe de gestion d'un centre de docu- mentation au sein du Ministère de la Santé Publique.
3-P-86-141400 Four salés dans les nappes d'eau de Cap-Vert	CRDI (CANADA)	1987 1991	263	34	DAKAR	0	Etude
AP/SEN/HST.001 Analyse de la situation sani- taires et de ses tendances.	OMS	1987 1987	11	11	PAYS	0	Collecte des données et forma- tion en planification statistique et gestion.
AP/SEN/CMS.001 Approvisionnement en Eau et Assainissement.	OMS	1987 1987	20	20	PAYS	0	Bourses, achats locaux conseillers temporaires
Stage en groupe au Japon	JAPON	1987 1987	nd	nd	JAPON	0	Stage dans la domaine des evacuation des déchets
Institut d'Hygiène Sociale	FAC (FRANCE)	1986 1988	225	75	DAKAR	1	Appui technique
Hydraulique Urbaine	FAC (FRANCE)	1986 1988	135	45	DAKAR	1	idem
3777/CD/77 Préparation du plan sanitaire de dévelop. de Tambacounda	FAC (FRANCE)	1987	140	140	TAMBA	0	idem
Hydraulique rurale	ODA/OXFAM (ROY. UNI)	1987 1989	47	37	KOLDA LOUGA	0	Education sanitaire dans les villages approvisionnées par le projet ODA d'hydraulique rurale
TOTAL SOUS SECTEUR:				371		2	
TOTAL: SANTE				11122		106	

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Tableau 23

PROJETS ET ACTIVITES D'ASSISTANCE TECHNIQUE EN COURS OU PREVUS
(en milliers de dollars E.U.)

Secteur: Population

Projets/Activités	Source d'Assistance	Durée Projet debut fin	Assist. Totale Prévus	Dépenses d'assist en 1987	Localisation	No. coopérants internationaux en 1987	Objet et Nature de l'assistance
<u>Sous secteur:</u>							
<u>Flux démographiques</u>							
685-0248 Santé Familiale et Population	USAID	1985 1992	20600	2895	PAYS	3	Realisation d'un programme efficace de planification familiale.
SEN/81/P01 Unité de Communication	FNUAP	1983 1987	681	286	PAYS	0	Recyclage et formation des agents de communication et d'animation
SEN/82/P04 CHOBAN	FNGAP	1982 1988	192	67	DIOURBEL	0	Améliorer les conditions de vie sanitaires et économiques (formations, équipements,
SEN/83/P01 Unité de Population	FNUAP	1984 1987	278	85	PAYS	0	Appui à la conception d'une politique de population.
SEN/84/P02 Etat civil	FNUAP	1985 1988	160	55	PAYS	0	Amélioration de l'enregistrement des faits d'état civil.
SEN/85/P01 Recensement	FNUAP	1986 1989	839	424	PAYS	0	Appui au recensement national de 1988. (Équipement, formation
625-0969.85 Initiatives en matière de population dans le Sahel	USAID	1987 1990	100	0	PAYS	0	Assistance au recrutement de 900 recenseurs.
3-P-86-0326 Fécondité des adolescentes	CRDI (CANADA)	1987 1989	26	0	PAYS	0	Etude sur la fécondité des adolescentes.
3-P-86-0326 Fécondité des adolescentes	CRDI (CANADA)	1987 1989	68	0	DAKAR	0	Etude sur la fécondité des adolescentes en ville.
SEN/87/P02 Recensement	PNOD/GOVVT CANADA	1988 1988	620 1060	0 0	PAYS	0	Appui au recensement national de 1988. Co-financé par le CRDI (CANADA)
TOTAL SOUS SECTEUR:				3812		3	
<u>Sous secteur:</u>							
<u>Planification Familiale</u>							
SEN/82/P01 Bien-être familial	FNUAP	1983 1986	551	0	ST. LOUIS LOUGA DIOURBEL TANBA.	0	Planification familiale et activités destinées aux femmes et jeunes d'autre part
TOTAL: POPULATION				3820			

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Tableau 41 :

ASSISTANCE FINANCIERE EN COURS OU PREVUE
(en milliers de dollars ED)

secteur: Santé

Projets/Activités	Source de financement et début des engagements	Finance. engagés Prêts/ Dons Crédits	Montants décaissés en 1987	Localisation	Nombre de coopérateurs internat. en 1987	Conditions des Prêts et Observations	
<u>Sous secteur:</u>							
<u>Services de Santé</u>							
1310-SR Santé rurale	BTBD/AID 1982	15000	2383	PAYS	0	Construction des centres de santé. Durée: 50 ans, Différé: 10 ans, Taux: 0,75%	
Hôpital de Tambacounda.	ITALIE 1987		1600	TANBA.	0	Equipement et formation	
5100.61.45.019 Hôpitaux de St. Louis et Tambacounda	FRD/1982 (CER)	2930	215	ST. LOUIS TANBA.	0	Rénovations	
Unités sanitaires mobiles	ITALIE 1988		232	0	PAYS	0	Equipement
TOTAL SOUS SECTEUR:			3131		0		

Sous secteur:
Prévention et contrôle des maladies

AP/SEN/RPI.001 Programme élargi de Vaccination	OMS 1986	40	0	PAYS	0	Matériels-Vaccins
7009 Programme élargi de vaccination	UNICEF/1986 (ITALIE/ COM. ALLEMAND POUR UNICEF)	6127	1248	PAYS	2	Vaccination des enfants contre sept maladies. Vaccinations des femmes enceintes contre le tétanos neonatal.
15001-Apui au programme élargi de vaccination.	ACDI/1987 (CANADA)	382	359	PAYS	0	Fourniture d'ambulances
TOTAL SOUS SECTEUR:			1607		2	

Sous secteur:
Reconstruction des routes

Assainissement des routes.	ITALIE 1987	10500	7272	ST. LOUIS	5	Durée: 20 ans Différé: 10 ans Taux: 1,5%
5200.73.45.046 Reconstruction canal de la Guinée Fancée	FRD/1984 (CER)	4314	647	DAKAR	0	Durée: 20 ans Différé: 10 ans Taux: 1,0%

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Tableau 8: Ventilation de l'aide au développement en 1988

Secteur Sous-secteur	Assistance Technique			Assistance Financière		Aide au développement			
	Coopérants Internat. Nombres	Décaissement en 1988 1000 \$ EU	% RT (1)	Décaissement en 1988 1000 \$ EU	% FF (1)	Décaissement Total en 1988 1000 \$ EU	Répartition Dans Prôls en %	Variation 1988/1987 en %	
02 Politique de Développement	102	13376	100	0	0	13376	77	23	-0.5
10 Planification de dev.	26	7481	100	0	0	7481	63	37	
30 Administration publique	76	5895	100	0	0	5895	100	0	
03 Ressources Naturelles	39	5365	9	53877	91	59242	41	56	-2.5
10 Cartographie	0	10	100	0	0	10	100	0	
20 Eau et sols	26	1501	5	26491	95	27992	46	54	
40 Ressources biologiques	1	2204	100	0	0	2204	4	96	
50 Energie	12	1650	6	27386	94	29036	23	77	
04 Agriculture, Forêt, Pêche	277	64427	51	61252	49	125679	69	31	137
10 Service de Dévelop. agricole	16	10485	24	32829	76	43314	45	55	
20 Cultures	158	31014	67	15342	33	46356	83	17	
30 Elevage	19	6186	87	1234	17	7420	91	9	
40 Pêche	20	3404	34	6733	64	10137	84	16	
50 Forêts	64	13338	72	5092	28	18430	87	13	
05 Industrie	23	1774	5	35878	95	37652	8	92	13
10 Service de dévelop. industriel	16	1332	20	5342	80	6674	22	78	
20 Industrie manufacturière	7	442	2	27873	98	28315	5	95	
30 Fourneaux	0	0	0	2443	100	2443	0	100	
06 Transport et Communication	16	847	4	21852	96	22699	14	86	-64
20 Transport aérien	2	118	33	241	67	362	100	0	
30 Transport terrestre	3	46	1	8372	99	8418	22	78	
40 Navigation fluviale/transp. maritime	5	293	39	464	61	757	64	34	
60 Télécommunications	6	390	3	12772	97	13162	3	97	
07 Commerce extérieur/Finances	1	183	100	0	0	183	100	0	19
10 Promotion de commerce et assurance	1	183	100	0	0	183	100	0	
08 Population	3	6304	82	1373	18	7677	100	0	100
10 Planification démographique	3	6206	82	1373	18	7679	100	0	
20 Planification sanitaire	0	98	100	0	0	98	100	0	
09 Habitat	8	237	2	14512	98	14749	24	76	5
10 Planification urbaine/villageoise	1	202	12	1543	88	1745	12	88	
20 Habitations et infrastructure	7	35	0	12969	100	13004	25	75	
10 Santé	168	11354	25	33385	75	44739	72	28	3
10 Service de santé	109	9806	76	3084	24	12890	100	0	
20 Prévention et contrôle des maladies	1	320	6	4923	94	5243	100	0	
30 Hygiène de milieu	58	1228	5	25378	95	26606	51	49	
11 Education	766	38472	81	9087	19	47559	96	4	-21
10 Planification	1	44	100	0	0	44	100	0	
20 Système éducation	764	38400	100	0	0	38400	100	0	
30 Infrastructure scolaire	0	0	0	8932	100	8932	76	24	
40 Education non formelle	1	20	17	95	83	115	100	0	
12 Emploi	2	58	9	582	91	640	58	42	-71
10 Promotion et planification d'emploi	1	34	11	258	89	302	11	89	
20 Formation professionnelle	1	24	7	314	93	338	100	0	
13 Secours/Aide humanitaire	5	81	3	2274	97	2355	100	0	4
10 Assistance aux réfugiés	0	0	0	11	100	11	100	0	
20 Secours liés aux calamités	5	31	3	2263	97	2294	100	0	
14 Justice et conditions sociales	3	466	46	544	94	1010	100	0	45
40 Promotion de la femme	3	466	36	360	44	826	100	0	
50 Groupes désavantagés	0	0	0	169	100	169	100	0	
60 Prévention du crime/drogues	0	0	0	15	100	15	100	0	
15 Culture	20	742	9	7943	91	8685	100	0	159
10 Préservation du dev. culturel	20	742	89	93	11	837	100	0	
30 Communication et médias de masse	0	0	0	7750	100	7750	100	0	
16 Sciences et technologies	98	5014	51	4887	49	9901	56	44	-37
10 Promotion de la recherche	94	4242	47	4698	83	8940	52	48	
20 Dev. et transferts de technologie	3	524	73	169	27	713	100	0	
40 Météorologie	1	248	100	0	0	248	100	0	
17 Non-ventilable	55	2777	62	1670	38	4447	100	0	-61
TOTAL:	1586	151477	38	249018	62	400495	87	13	5.4

(1) Le pourcentage de chaque volet est calculé par rapport au total des décaissements de l'aide au développement
SOURCE: PMUD, Service Economique

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Tableau 5 :

Ventilation Globale de la Coopération en 1981
(en millions de dollars EU)

SECTEUR	AMÉRIQ. DU NORD		COMMUNAUTÉ EUROPÉENNE						AUTRES PAYS					MULTILATÉRALES						TOTAL	en %									
	CANADA	ÉTATS UNIS	BELGI-QUE	DARE-MARK	FRANCE	ITALIE	PAYS-BAS	RFA	POT. GREC	ARABIE SAOUD.	CHINE	JAPON	KORÉI	SWISSE	CORÉE DU SUD	PNUD	AVTRES	CEZ	BIRD/ AID			PNL	BAD/TAD	BID	AUTRES MULT.					
AIDE À L'ADJUSTEMENT	0	8075	0	197	50000	0	7200	1111	0	0	2103	0	0	0	1200	0	0	0	12335	39240	57377	12167	0	0	102013	30.1				
AIDE ALIMENTAIRE	2227	7645	0	0	0	0	0	0	0	0	0	0	2067	6	409	0	0	0	6947	1343	0	0	0	0	21510	3.6				
AIDE AU DÉVELOPPEMENT	12075	21270	5643	207	111030	46620	15254	14601	1097	9757	9263	1552	34045	4120	7953	452	9113	19223	25417	35350	0	14330	3357	7060	406495	66.3				
Aide au Développement (1)																														
01 AFFAIRES POLITIQUES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
02 POLIT. DE DEVELOP.	422	23	382	0	4711	322	0	2269	169	0	0	0	0	0	0	0	0	0	1966	0	217	2095	0	0	0	13376	2.2			
03 RESSOURCES NAT.	1054	0	2452	197	13149	14595	65	1500	0	4494	1444	110	0	4120	0	0	0	0	1192	59	1534	3924	0	4697	1500	2247	59242	9.0		
04 AGRIC./PÊCHERIE	5027	13475	695	0	20652	15624	14947	5506	0	5263	1047	0	14062	0	16	436	0	0	1470	4964	10142	5040	0	4043	0	1550	125670	20.0		
05 INDUSTRIE	760	0	0	0	20622	569	0	2615	0	0	0	0	0	0	0	0	0	0	60	0	7760	1100	0	1290	0	2570	37652	6.2		
06 TRANSPORTS/COEN.	3	0	0	90	9154	0	0	1422	0	0	143	0	0	0	0	0	0	0	1739	0	2011	4000	0	1167	0	1370	22690	3.0		
07 COMMERCE INT.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	0	0	0	0	0	0	0	0	0		
08 POPULATION	1373	5369	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	540	395	0	0	0	0	0	0	103	0		
09 HABITAT	35	0	0	0	6	5022	0	202	0	0	1756	0	3273	0	0	0	0	0	0	0	182	1543	0	0	0	0	0	7677	1.3	
10 SANTÉ	406	1222	0	0	6331	10219	0	0	25	0	4073	1302	6017	0	60	0	0	0	632	3441	36	0	2225	0	2730	0	0	14749	2.4	
11 ÉDUCATION	2300	106	1225	0	32096	0	0	0	330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44739	7.4	
12 EMPLOI	0	0	0	0	351	0	0	0	0	0	0	0	0	7077	16	0	0	0	25	175	397	1422	0	367	327	0	0	47559	7.0	
13 SECOURS, AIDES HUM.	90	160	0	0	0	269	242	753	0	0	0	0	0	0	0	0	0	0	15	255	19	0	0	0	0	0	0	640	.1	
14 JUSTICE, COOP. SOC.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	92	1309	0	0	0	0	0	0	0	2355	.4
15 CULTURE	0	0	0	0	1017	0	0	0	0	0	0	140	7417	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1010	.2	
16 SCIENCES/TECHNOL.	344	501	62	0	3205	0	0	0	210	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	8507	1.4
17 NON-VENTILABLE	213	0	0	0	264	0	0	0	0	0	0	0	2470	0	0	0	0	0	121	457	916	6	0	0	0	0	0	0	4447	.7
TOTAL	15102	37996	5643	404	161050	44920	22454	15792	1097	9757	11366	1552	36912	4120	9642	452	9113	17230	39095	62606	57377	26501	3357	7060	404926	100				
POURCENTAGE DU TOTAL	2.5	6.3	0.9	0.1	26.0	7.7	3.7	2.6	0.2	1.6	1.9	0.2	6.1	0.7	1.6	0.1	1.5	2.9	6.5	10.4	9.5	4.4	0.6	1.7	100					
POU	15102	37996	2191	157	50020	24004	22454	0	1024	0	0	230	36912	0	9642	452	9113	15263	25225	0	0	0	0	0	0	206304	46.4			
FÉDÉ	0	0	3452	201	102045	2166	0	0	0	9757	11366	1552	0	4120	0	0	0	0	1967	13070	62606	57377	26501	3357	7060	323722	79.6			

(1) Ventilation par secteur
Source : PNUD, Service Économique

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Tableau 23 : PROJETS ET ACTIVITES D'ASSISTANCE TECHNIQUE EN COURS OU PREVUS
(en milliers de dollars E.U.)

Secteur: Population (08)

Projets/Activités	Source d'Assistance	Durée Projet debut fin	Assist. Totale Prévue	Dépenses d'assist en 1988	Localisation	No. coopérants internationaux en 1988	Objet et Nature de l'assistance
<u>Sous secteur: Flux démographiques</u>							
685-8248 - Population et santé familiale	ETATS-UNIS USAID	1985 1992	20600	5369	PAYS	3	Programme de planification familiale
SEN/83/P01 Unité de population-phase I	FNUAP	1983 1988	243	15	PAYS	0	Experts à court terme
Phase II	FNUAP	1983 1988	26	1	PAYS	0	Formation
SEN/84/P02 Etat-civil	FNUAP	1985 1988	183	23	PAYS	0	Experts à court terme pour amélioration de l'enregistrement des actes de l'état-civil
SEN/85/P01 Recensement	FNUAP	1986 1989	839	257	PAYS	0	Equipement - Formation
SEN/85/P02 Population et aménagement du territoire	FNUAP	1985 1988	187	1	DAKAR	0	Stages de formation
SEN/87/002 Recensement démographique	PNUD	1988 1988	540	540	PAYS	0	Experts à court terme Equipements-appui au recensement national de 1988
TOTAL SOUS SECTEUR:				6206		3	
<u>Sous secteur: Planification Familiale</u>							
SEN/89/P01 Bien-être familial	FNUAP	1988 1991	1246	98	PAYS	0	Experts à court terme en planification familiale
TOTAL SOUS-SECTEUR				98		0	
TOTAL: POPULATION				6304		3	

Tableau 25 : PROJETS ET ACTIVITES D'ASSISTANCE TECHNIQUE EN COURS OU PREVUS
(en milliers de dollars E.U.)

Secteur: Santé (10)

Projets/Activités	Source d'Assistance	Durée Projet debut fin	Assist. Totale Prévue	Dépenses d'assist en 1988	Localisation	No. coopérants internationaux en 1988	Objet et Nature de l'assistance
<u>Sous-secteur : Services de Santé</u>							
10891/88 Soins de santé primaires en milieu urbain	BELGIQUE AGCD	1975 1989	8686	648	Pikine DAKAR	7	Renforcement des services de santé de base
Mission médicale chinoise de Ziguinchor	CHINE	1987 1988	134	98	Ziguinchor	17	Formation, instruments médicaux et médicaments.
685-S242 Santé Rurale - Phase II	ETATS-UNIS USAID	1984 1991	12125	1222	FATICK KAOLACK	1	Programmes de santé rurale et soins de santé primaires.
Direction des Hôpitaux	FRANCE FAC	1986 1988	225	72	Dakar	1	Appui technique
Pharmacie Nationale d'Approvisionnement	FRANCE FAC	1986 1988	225	72	Dakar	1	Appui technique
Centre d'Appareillage	FRANCE FAC	1986 1988	633	358	Dakar	5	Appui technique
Centre Hospitalier/Universitaire de Fann	FRANCE FAC	1986 1988	1674	582	Dakar	7	Appui technique
Centre de transfusion sanguine	FRANCE FAC	1986 1988	225	72	Dakar	1	Appui technique
Institut d'Odonto-Stomatologie	FRANCE FAC	1986 1988	135	72	Dakar	1	Appui technique
Institut de léprologie	FRANCE FAC	1986 1988	588	215	Dakar	3	Appui technique
Hôpital Le Dantec	FRANCE FAC	1986 1988	1268	358	Dakar	5	Appui technique
Hôpital Principal de Dakar	FRANCE FAC	1986 1988	5571	2878	Dakar	29	Appui technique
Hôpital de Thiès	FRANCE FAC	1986 1988	225	72	Thiès	1	Appui technique
Hôpital de St. Louis	FRANCE FAC	1986 1988	1215	788	St-Louis	11	Appui technique
Banque de sang	FRANCE FAC	1986 1988	135	72	St-Louis	1	Appui technique
Hôpital de Kaolack	FRANCE FAC	1986 1988	453	287	Kaolack	4	Appui technique

Tableau 25 - suite

PROJETS ET ACTIVITES D'ASSISTANCE TECHNIQUE EN COURS OU PREVUS
(en milliers de dollars E.O.)

Secteur: Santé (10)

Projets/Activités	Source d'Assistance	Durée Projet debut fin	Assist. Totale Prévue	Dépenses d'assist en 1988	Localisation	No. coopérants internationaux en 1988	Objet et Nature de l'assistance
<u>Sous-secteur : Services de Santé</u>							
Hôpital de Ziguinchor	FRANCE FAC	1986 1988	720	287	Ziguinchor.	4	Appui technique
0.32.1 Hôpital de Louga	ITALIE	1984 1990	6757	2038	LOUGA	7	Médecins et matériel sanitaire
Ecole de formation pour techniciens d'hôpitaux	BFA	1983 1990	2167	368	DIOURBEL	1	Formation de techniciens en maintenance
SEN/6/888 Médecine nucléaire	AIKA	1980 1987	87	nd	Dakar	0	Experts à court terme Développement des techniques de radio-isotopes
TOTAL SOUS SECTEUR :				9886		109	
<u>Sous secteur: Prévention et contrôle des maladies</u>							
SEN/86/007 Mortalité Maternelle	PNOD	1988 1989	363	320	PAYS	1	Elaboration d'un programme national de lutte contre la mortalité maternelle
TOTAL SOUS SECTEUR:				320		1	
<u>Sous-secteur: Hygiène de milieu</u>							
14335/11 Eau potable	BELGIQUE	1988 1989	218	187	DAKAR	2	Dessalement eau de mer
Hydraulique villageoise	CANADA CECI	1988 1990	150	35	PAYS	1	Adduction en eau potable pour 120 villages
377/CD/87 - Préparation du Plan Sanitaire	FRANCE FAC	1987 1988	140	140	TANBA.	0	Experts à court terme pour étude
Institut d'Hygiène Sociale	FRANCE FAC	1986 1988	225	75	DAKAR	1	Appui technique
Institut Pasteur	FRANCE FAC	1988 1990	nd	72	DAKAR	1	Recherche
Service Médical Divers	FRANCE FAC	1988 1988	nd	72	PAYS	1	Appui technique et administratif
0.52.0 Promotion - Eau potable	ITALIE	1985 1989	2443	610	THIERS DIOURBEL	6	Appui technique par ONG
Formation sanitaire	ROY-UNI ODA	1987 1989	47	37	KOLDA LOUGA	1	Composante éducation sanitaire du projet ODA
TOTAL SOUS-SECTEUR				1228		13	

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Tableau 4B :

ASSISTANCE FINANCIERE EN COURS OU PREVUE
(en milliers de dollars KU)

Secteur: Population (08)

Projets/Activités	Source de financement et début des engagements	Finance. engagés Prêts/ Dons Crédits	Montants décaissés en 1988	Localisation	Nombre de coopérateurs internat. en 1988	Conditions des prêts et Observations
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Sous-secteur : Flux démographiques

15839 - Recensement démographique	CANADA ACDI/1988	2000	1373	PAYS	0	Cofinancement du recensement national de 1988
TOTAL SOUS SECTEUR :			1373			
TOTAL POPULATION :			1373			

Tableau 42:

ASSISTANCE FINANCIERE EN COURS OU PREVUE
(en milliers de dollars EU)

Secteur: Santé (18)

Projets/Activités	Source de financement et début des engagements	Finance. engagés Prêts/ Dons Crédits	Montants décaissés en 1988	Localisation	Nombre de coopérants internat. en 1988	Conditions des Prêts et Observations
Sous secteur: Services de Santé						
Hôpital de Ziguinchor						
187/CD/85	FRANCE FAC/1985	500	11	ZIGUIN.	0	Equipement
413/CD/86	FRANCE FAC/1986	80	66	ZIGUIN.	0	Equipement
98/CD/86 Centre d'appareillage	FRANCE FAC/1988	130	7	DAKAR	0	Appui financier
Unités sanitaires mobiles	ITALIE 1988	112	112	PAYS	0	Equipement
Centre de santé	SUISSE 1988	60	60	Koubanao ZIGUINCH.	0	Financement de petites actions
1310-SK Santé rurale	BIRD AID/1982	15000	2378	PAYS	0	Construction des centres de santé. Conditions de prêt
5100.61.45.019 Hôpitaux	CEK FED/1982	3528	36	ST. LOUIS YANBA.	0	Rénovations
AP/SKN/PHC.001 Soins de Santé Primaires	OMS 1988	80	9	PAYS	0	Appui financier
N.010 - Projet national de santé primaire	UNICEF 1987	1795	405	PAYS	0	Développement des services de santé de bases
TOTAL SOUS SECTEUR			3084		0	
Sous secteur: Prévention et contrôle des maladies						
J-P-85-0005 Information et documentation en santé publique	CANADA CRDI/1985	64	21	DAKAR	0	Appui financier au centre de documentation au sein du Centre de la Santé publique
Développement sanitaire 273/CD/87	FRANCE FAC/1987	117	11	PAYS	0	Equipement. Support budgétaire
337/CD/87	FRANCE FAC/1987	130	85	PAYS	0	Appui financier

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Tableau 42 - suite

ASSISTANCE FINANCIERE EN COURS OU PREVUE
(en milliers de dollars EU)

Secteur: Santé (18)

Projets/Activités	Source de financement et début des engagements	Finance. engagés Prêts/ Dons Crédits	Montants décaissés en 1988	Localisation	Nombre de coopérateurs internat. en 1988	Conditions des Prêts et Observations
<u>Sous secteur: Prévention et contrôle des maladies</u>						
583/CD/87 Education pour la santé	FRANCE FAC/1987	21	21	PAYS	8	Support budgétaire
249/CD/86 Epidémie Neurologique	FRANCE FAC/1986	9	6	PAYS	8	Appui financier
014.8 Assistance socio-sanitaire	ITALIE 1975	1883	92	nd	8	Soutien financier par ONG
ET/SN/84/7/6 Etude Santé Enfants	FAD 1984	1800	8	PAYS	8	Conditions de prêt : nd
SEN/88/881 Lutte contre le SIDA	PNUD 1988	368	87	DAKAR	8	Renforcement institutionnel
Programme sanitaire et nutritionnel						
F001	UNICEF 1987	4822	483	ST-LOUIS	8	Améliorer la situation des enfants par assistance financière aux groupements féminins
F002	UNICEF 1987	1228	117	KOLDA	8	Idea
F003	UNICEF 1987	1556	248	ZIGUIN.	8	Idea
R005	UNICEF 1987	1544	112	TANBA	8	Améliorer la situation des enfants par appui au plan régional de développement sanitaire
Programme Elargi de Vaccinations						
15001	CANADA ACDI/1987	382	358	PAYS	8	Fourniture d'ambulances
314/CD/86	FRANCE FAC/1986	178	144	PAYS	8	Appui financier
273/C/DPL/87	FRANCE FAC/1987	288	173	PAYS	8	Appui financier
	ITALIE 1986	5889	1168	PAYS	8	Aide budgétaire
V0889	UNICEF 1986	4461	1813	PAYS	8	Appui financier - Couverture vaccinale de 88% des enfants et des femmes
TOTAL SOUS SECTEUR:			4923		8	

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Tableau 42 - suite

ASSISTANCE FINANCIERE EN COURS OU PREVUE
(en milliers de dollars EU)

Secteur: Santé (10)

Projets/Activités	Source de financement et début des engagements	Finance. engagés Prêts/ Dons Crédits	Montants décaissés en 1988	Localisation	Nombre de coopérateurs internat. en 1988	Conditions des Prêts et Observations
<u>Sous secteur: Hygiène du milieu</u>						
7/201 Plan d'urgence hydraulique rurale	ARABIE SAOUDITE FSD/1984	15398	4873	THIES LOUGA	0	Durée : 20 ans Différé : 5 ans Taux : 3%
Vingt forages équipés	CHINE 1967	4848	1212	PAYS	25	Durée : 15.5 ans-Différé : Taux : 0%
042.0 - Hydraulique villageoise - Programme d'urgence	ITALIE 1987	13300	3736	FATICK KAOLACK	15	Approvisionnement en eau potable de zones rurales
0.12.0-Alimentation en eau de Mpal, Fass, Rao et Sakzi	ITALIE	5668	2471	ST-LOUIS LOUGA	5	Approvisionnement en eau potable de zones rurales
6VNT/6 - Hydraulique rurale d'urgence	KOWEIT FKD/1983	2667	0	THIES TANBA	0	Durée : 24 ans Différé : 4 ans, Taux : 1,3
Hydraulique villageoise	KOWEIT FKD/1988	11333	0	PAYS	0	Conditions: nd
Approvisionnement en eau du milieu rural	JAPON 1988	6584	6817	Kaolack Diourbel TANBA.	0	Poursuite des programmes de 1984 et 1985
Hydraulique villageoise	JAPON 1988	6600	0	nd	0	Approvisionnement en eau potable
Adduction d'eau potable						
78.65.827	RFA 1980	4148	13	PAYS	0	Durée : 30 ans-Différé: 10 Taux : 0.75%
79.65.379	RFA 1981	4284	118	LOUGA ST-LOUIS	0	Durée : 50 ans-Différé :10 Taux : 0.75%
79.65.411	RFA 1981	9213	215	ST-LOUIS	0	Durée : 50 ans-Différé :10 Taux : 2%
86.65.812	RFA 1986	5285	111	PAYS	0	Durée : 50 ans Différé : 10 ans, Taux : 0.7
84.65.619	RFA 1987	26160	0	DAKAR	0	Durée : 50 ans-Différé : 5 Taux : 0.75%
3E.801.0 Hydraulique rurale	ROY.UNI ODA/1985	9800	343	KOLDA LOUGA	0	Matériels pour fonçage de 28 puits et système

Tableau 42 - suite

ASSISTANCE FINANCIERE EN COURS OU PREVUE
(en milliers de dollars EU)

Secteur: Santé (18)

Projets/activités	Source de financement et début des engagements	Finance. engagés Prêts/ Dons Crédits	Montants décaissés en 1988	Localisation	Nombre de coopérateurs internat. en 1988	Conditions des Prêts et Observations
<u>Sous secteur. Hygiène du milieu</u>						
Hydraulique villageoise et pastorale						
0715	BADEA 1983	6666	23	PAYS	0	Durée : 15 ans-Différé: Taux : 6.5%
0.866	BADEA 1988	8180	0	PAYS	0	Durée : 18 ans-Différé: 4 ans Taux : 4%
SE-9001 Hydraulique rurale	BID 1984	8400	720	PAYS	0	Durée : 38 ans-Différé: 5 ans Taux : 8%
1984-SE - Adjonction d'eau services	BIRD/AID 1985	24000	5847	PAYS	0	Durée : 58 ans-Différé: 10ans Taux : 0.75%
097 - Hydraulique villageoise -CEAO II	BOAD 1987	6727	0	ST-LOUIS LOUGA	0	Durée : 15 ans-Différé: Sans Taux : 5.5%
SEN/82/C03 Briqade de puits	PNUD 1983	3899	225	LOUGA	0	Equipements et matériel de fonçage de puits
AF/SEN/HST.001 Analyse de la situation sanitaire et de ses tendances	OMS 1988	35	11	PAYS	0	Appui financier
AF/SEN/HST.001 Approvisionnement en eau et assainissement	OMS 1988	41	41	PAYS	0	Bourses, achats locaux
M.015 Création de points d'eau	UNICEF 1984	579	149	PAYS	0	Assistance financière
R004 Projet régional	UNICEF 1987	730	53	THIES	0	Approvisionnement en eau de 35 villages
TOTAL SOUS SECTEUR :			25378		45	
TOTAL SANTE :			33385		45	

UNICEF Funded Integrated Development Projects

<u>Region</u>	<u>Thies</u>	<u>Tamba</u>	<u>Kolda</u>	<u>Ziguinchor</u>	<u>St. Louis</u>
Departments.....	all.....	all.....	Kolda..	Ziguinchor..	Podor
.....	.....	.....	Veling..	Bignona..	Hutte
Project duration.....	1987-91..	1987-91..	1987-91..	1987-91..	1987-91..
Cooperating agencies.....	LVIA....	AFVP....	AFVP....	PIDAC....	FAO, SAED
.....	EP, TH...	PDESO, SODEFITEX..	CER...	CARITAS(wells)	
<u>Health component:</u>					
Construc./equip. of infrastructure.....	x.....	x.....	x.....	x.....	x.....
Construc./equip of dept. depots.....	3.....	.....	2.....	2.....	2.....
Annual training of nurses and VHws.....	x.....	x.....	x.....	x.....	x.....
Health and nutrition education.....	x.....	x.....	x.....	x.....	x.....
Emphasis on Women's Groups.....	.....	.....	x.....	x.....	x.....
Literacy training.....	.....	.....	x.....	x.....	.....
Logistics: motorized transport, fuel..	x.....	x.....	x.....	x.....	x.....
Supply of vaccines and medicines.....	x.....	x.....	x.....	x.....	x.....
Well construction and improvement.....	x.....	x(Bakel)	x.....	x.....	.....
<u>Explicit interventions supported:</u>					
ORT training and materials.....	x.....	x.....	x.....	.....	.....
Nutrition surveillance.....	x.....	x.....	x.....	.....	.....
<u>UNICEF contribution (in \$1,000):</u>					
Health component.....	348.....	306.....	511.....	424.....	400..
Wells.....	1307.....	1548.....	132.....	?.....	2150..

Agencies: EP: Enfance et Partage
 LVIA: Coomunauté LAICS Volontaires
 TH: Terre des Hommes
 AFVP: Association Française des Volontaires du Progres
 FAO: U.N. Food and Agriculture Organization
 PIDAC: Projet Integré du Développement Agricole de la Casamance
 PDESO: Projet de Développement de l'Eleavage au Sénégal Oriental
 SODEFITEX: Société Nationale d'Encradrement et de Protection de
 Fibres Textiles

Annex 10

**Socio-Cultural Factors Influencing the Delivery
and Use of Health and Family Planning
Services in Senegal**

**SOCIO-CULTURAL FACTORS
INFLUENCING THE DELIVERY AND USE
OF HEALTH AND FAMILY PLANNING SERVICES
IN SENEGAL
(With Special Attention to Women's Health)**

By
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Prepared for
SENEGAL HEALTH SECTOR ASSESSMENT
U.S. Agency for International Development
Dakar

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EXECUTIVE SUMMARY

Purpose of this Report: This report is directed toward two rather distinct aims. These were:

1. To bring together information related to women's health (information which is presently scattered throughout dozens of documents, many in French), so that future personnel working with USAID/Dakar and other donors will have ready access to this basic information.
2. In the absence of recent evaluations, to review project documents (especially social analyses) and provide some preliminary judgments about the sociocultural appropriateness and feasibility of USAID strategies in health and family planning.

Author's Note: This report is very preliminary. It was undertaken during a very short period (only three weeks), while the author was also tasked with contributing to the overall assessment of Senegal's health sector, identifying and analyzing strategy alternatives for USAID, and identifying and orienting a Senegalese sociologist who would continue to produce a more complete analysis of factors related to women's health. Thus it was not possible to also explore and synthesize both sociocultural and women's issues in any thorough manner. Where inaccuracies may be found in the present report, efforts to correct them will be sincerely appreciated!

CONCLUSIONS AND RECOMMENDATIONS

Senegalese women's lives differ dramatically depending on several factors. Among the most important variables are: rural/urban residency, age, and education. These appear more important as determinants of behavior related to health and family planning than ethnicity and religious affiliation.

Among conclusions and recommendations emerging from this analysis are the following:

1. Rural-urban differences in Senegal are great (literacy, education, access to services, influence of media, etc.). These differences are especially significant in the area of adolescent fertility. This calls for two strategies for programming services in urban vs. rural areas.

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2. In health and family planning, reasonable ACCESS to services has been achieved but the QUALITY of services is poor. USAID project assumptions appear to have been unrealistic concerning: the ability of MOH to provide services in rural areas; the nature of local communities; and the willingness of villagers to seek and pay for services. There is a trade-off between improving quality vs. expanding access. USAID should consider:
 - o Placing a higher priority on first improving quality in existing facilities before investing in expansion; and
 - o Working with decentralization efforts in selected regions to improve quality.

3. The mother-child unit: The current organization of services results in many "missed opportunities" for improving child survival, maternal health, and family planning use. Currently most facilities provide services according to a schedule reflecting the traditional vertical intervention-focused division of programs at the central MOH level. Thus, for example: immunization on Monday, prenatal care on Tuesday, baby weighing on Wednesday, etc. Women, having many competing demands on their time, cannot afford time to go back again and again. This is a major reason for low utilization rates (including immunization drop-out rates and non-use of prenatal services). MCH services should be integrated in the health-care facilities. A woman should be able to take care of all basic needs of herself and her children on a single health-post or health-center visit.

4. Demand for family planning appears to be unmet and increasing. Demand is greatest in urban areas and is increasing among adolescents. This is indicated, among other sources, by many knowledge, attitudes, and practice studies. The frequency of abortion is a further indication of unmet demand. Family planning/reproductive health services should be a priority for USAID. Family planning services should be linked, especially in rural areas, to reduction of maternal mortality.

5. Traditional practices and family planning. As more modern thinking begins to penetrate rural Africa, traditional behaviors and values that have kept fertility somewhat in check are beginning to dissipate. Senegal is experiencing increased urbanization, migration, and disruption of traditional life-styles, all factors that contribute to a reduction in breastfeeding and postpartum abstinence. If a significant reduction in breastfeeding duration or intensity

takes place, as has occurred in much of the developing world, the result would be shorter birth intervals and increasing levels of fertility. Under such circumstances, birth rates could quickly increase. Demand for modern contraceptive services is also likely to increase as intervals between births shorten and family size increases - all in an environment where it is increasingly recognized by men and women alike as harder and more costly to support a large family.

6. Support for NGOs working with women's groups. Senegal has many women's groups -- primarily local, grass-roots organizations. Project experience shows, however, the difficulties in trying to reach communities en masse through top-down ministerial approach. USAID should provide support, including management development, to women-oriented NGOs.

7. Continued analysis in these areas. A more thorough analysis and synthesis should be completed, through evaluation or other activity, prior to developing any USAID follow-on projects. It is anticipated that the report being prepared for USAID by sociologist Solange Camara, hired during this activity, will provide USAID with the background synthesis needed concerning women's health issues. UNICEF is also reportedly undertaking an updating of its 1985 "analyse de situation", which contains a very useful section on women's health status and issues.

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I. CULTURAL, RELIGIOUS, AND OTHER SOCIAL FACTORS
AFFECTING HEALTH AND FAMILY PLANNING ACTIVITIES

ETHNICITY, LANGUAGE, AND RELIGION

The territory of Senegal comprises several ethnic groups (ethnies) all of whom follow traditions of their ancestors upon which have been superimposed Islam and Catholicism. Most of the ethnic groups have a social structure based on a caste hierarchy. Many of the traditional beliefs still exist, having been integrated with or reinforced by the dictates of Islam and Catholicism. It is this melange, rather than a single homogeneous tradition, that actually constitutes what is frequently referred to as "traditional beliefs and practices," "traditional culture" or, simply, "tradition."

Numerous differences exist from one ethnic group to another that affect the use of modern health services, including family planning. Differences remain most pronounced in the rural areas. In the cities, intermarriage, although frowned upon by conservative Senegalese, is not uncommon and contributes to a muting of inter-ethnic differences.

Recent studies¹ indicate that two variables -- urban vs. rural residency, and education -- may be more important as determinants of health and fertility behavior than ethnic and religious differences. Nevertheless, the traditions to which Senegalese cling are intimately part of their ethnic identity, reinforced by its religious component. This is true especially in rural areas and among those with less education. Finally, subsistence modes (e.g., in agriculture) appear closely related to ethnicity and this too has a major impact on behavior related to health and fertility.

The major ethnic groups are

1. Wolof -- the dominant ethnic group: 43 percent of the population. Wolof is also the lingua franca (langue véhiculaire). This group is Islamicized but includes some Catholics, descendants from intermarriage with Europeans during the colonial period. Wolofs predominate in the north and center of the country, including the peanut basin.
2. Toucouleur and Peulh: 23 percent of the population. These two groups share much in common, including a common language: Pular (poulard in French). Both were heavily

¹ See the various knowledge-attitude-and-practice (KAP) studies listed in the Bibliography (Part I) below.

7.96'

Islamicized and generally remain conservative Muslims. They predominate in the northeast, Fleuve, and east.

3. Serer: 15 percent of the population. They include both Muslims and Catholics; some remain animists following traditional rites. Serer are traditionally matrilineal (descent and inheritance pass through women), in contrast to the other ethnic groups who are all patrilineal (descent and inheritance pass in the male line).

The Wolof, Serer, Toucouleur, and Peulh constitute about 80 percent of the population. The other prominent ethnic groups are

4. Diola, who include Catholics, Muslims, and adherents of traditional beliefs (ancestral and animist). The Diola live in the south (Basse-Cassamance).
5. Mandinka, who are Islamicized and live in the southwest. They and the Wolof are the ethnicities among whom polygamy is most prevalent.
6. Soninke and Sarakhole, who are heavily Islamicized and live in Senegal Oriental.
7. Lebou, living in Cap-Verte and similar to Wolof in many customs. This group is characterized by its syncretism: for example, dances to bring the rain, a form of exorcism, and rituals using the Koran in incantations.

Each of the major ethnic groups has its own language (except for the Toucouleur and Peulh who share Pular). Many, however, also speak Wolof, especially in the cities. Only about 20 percent of Senegalese speak French, the official language and language of instruction in the schools. Traditionally none of the native languages were written and thus a Senegalese, to become literate, had to learn a foreign language. Since the 1970s standard written languages have been produced for each of the major local languages and materials are now produced in them. French still remains, however, the language of education. Some Arabic is taught in Koranic schools but, beyond the frequent "Salaam alaikum," it is not commonly spoken as a means of communication.

Religion

Islam is overwhelmingly Senegal's dominant religion. According to the 1988 census, 94.4 percent are Muslims, 4.6 percent are Catholic, and 1 percent are animists or follow traditional religions. As noted, many who say they are Muslim, or Catholic, still remain heavily influenced by traditional religious beliefs, especially in rural areas. All Senegalese Muslims are Sunni Muslims.

Islam is not only a major determinant of Senegalese social organization and behavior in all ethnic groups; it is also a powerful political force. Among several Islamic brotherhoods, two -- the Tidjanya and the Mourides -- have great influence on political and social processes from the national level on down to the village. These brotherhoods are hierarchically organized and encompass all of the major ethnic groups.

The Tidjanya, with almost three million followers, can be characterized as the most religiously tolerant of the brotherhoods, generally attracting the most educated and liberal Senegalese, although there are certain extreme elements within this group. The Mourides are less numerous but play an important role in the economy, thereby deriving considerable political strength. For the Mourides, production (agricultural and, by extension, any other) is inextricably bound to religious ideology and work performed for the marabout (religious leader) is tantamount to a prayer. In return for submission, the marabout is responsible for supporting his followers both spiritually and economically in times of need (Posner 1987:19). Throughout Senegal marabouts have great power which extends well beyond narrowly-defined religious matters to all the secular concerns of their communities. In many communities the local marabouts can make or break the activities sponsored by the government and donors.

Many Senegalese, especially among the Toucouleur, are very conservative Muslims who evaluate much that is modern (including family planning and activities for women) in terms of Islam as it has traditionally been practiced among their group. Many practices that are indigenous to local culture are attributed, often incorrectly to Islam (for example, practices of female circumcision). Conversely, many Senegalese often incorrectly believe that various "modern" practices are against Islam (e.g., family planning). (See section III below.)

Catholicism, introduced during the French colonization, is the religion of many of the urban elite and national leaders (including the former president Senghor and various influential gynecologists and other physicians). Also some rural Senegalese are Catholic, especially in the Cassamance region.

RURAL/URBAN RESIDENCY, EDUCATION, AND EMPLOYMENT

Urban vs. rural residency is one of, if not the, major determinant of knowledge, attitudes, and practices related to health and fertility in Senegal. (It is also, of course, a major factor in the provision of health services.) This is shown clearly in the 1986 Senegal Demographic and Health Survey

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(hereafter 1986 "DHS")² and in numerous other studies. Urban residents are less bound by tradition than rural people and more likely to adopt new ways of doing things. Education, likewise, is a major determinant of knowledge, attitudes, and practices related to health and fertility. Type of employment seems to correlate quite closely with education as an indicator of health-related attitudes and practices. (See section IV below.)

DIFFICULTIES OF CHANGING BEHAVIOR AT THE COMMUNITY LEVEL

The rural health care strategy has required several forms of participation, financial and other, from villagers in ways essential to project success and sustainability. How feasible was and is this strategy? How realistic have project expectations been in terms of village participation? Through which village organizations were the projects to work to ensure village participation?

Donors and donor-funded projects typically make certain assumptions about what communities, and community members, will do in the course of a project or program of assistance. Many of these assumptions are based on the current conventional wisdom or ideology coming from WHO, UNICEF, and international theorists and do not give adequate consideration to local deeply-rooted cultural patterns. Too often it is assumed that ministries of health and other central bureaucracies will be able to superimpose schemes on local communities and, because the schemes make sense in principle, have them accepted. Frequently it is assumed that traditional ways of doing things can be changed within the short time-frame (3 to 5 years) of a donor project.

Not surprisingly, this appears to have been the case in Senegal and much can be learned by reviewing the history of primary health care here.³ We see that A.I.D.'s Sine Saloum

²Ministère de l'Economie et des Finances and Westinghouse, Institute for Resource Development. Enquête Démographique et de Santé au Sénégal, 1986 (Senegal Demographic and Health Survey, 1986). Dakar and Columbia, Md., December 1988.

³In order to learn from past mistakes, this history should be immediately available to any assessment, design, or evaluation team working in the health sector. Unfortunately it is not. Several documents exist, however, from which a historical overview can and should be extracted. These are: Senegal: The Sine Saloum Rural Health Care Project (Weber et al. 1980); Prospects for Primary Health Care in Africa: Another Look at the Sine Saloum Rural Health Project in Senegal (Bloom 1984); Projet Santé Rurale, Sénégal/U.S.A.I.D. (1978-1988): 10 Ans d'expérience en matière de S.S.P. au Sénégal (Lo Faye 1988); and An Evaluation

Rural Health Care Project was proceeded during the 1970s by more than half a dozen PHC projects or programs, three in the same Sine Saloum region. These included the Canadian-funded Gossas Project, the Dutch-funded Basic Health Services Project in Fatick, the UNICEF Maternal and Child Health Project in Sine Saloum through which villagers constructed maternity centers and village pharmacies, and a small French NGO project in Sine Saloum. Many of the aims of these projects were not accomplished, none survived the termination of external funding, and all showed that establishing participatory rural health activities would be more difficult and take longer than anticipated.⁴

Yet, when A.I.D.'s Sine Saloum Project was designed in 1977, the project designers built in many of the same activities and over-optimistic assumptions concerning the ease and speed with which new behaviors could be achieved in rural communities. For example, it was assumed that rural people would adopt new participatory forms of financing, management, and maintenance with only a minimal amount up-front guidance, support, and technical assistance from outside the community.

Corrections were subsequently made in the Sine Saloum program, yet many knowledgeable health personnel still remain pessimistic as to whether the project has achieved much. (Subsequent to a mid-project evaluation in 1986, no evaluation has been carried out to examine impact of, or learn lessons from, this project.)

Community Financing of Health Services

Designers of the Sine Saloum project also appear to have made the unrealistic assumption that a health care scheme developed in an urban setting, Pikine, on the periphery of Dakar, would work just as easily in rural areas too. The Pikine community-based health program had been launched (with Belgian funding and technical assistance) in 1975, and soon established a model of community participation in financing and management (cogestion, autogestion, autofinancement). Documents state: "The Pikine program established some important precedents and

of the Sustainability of U.S.-Funded Health Programs in Senegal (Bloom 1988). Much of this is summed up in a doctoral dissertation, Where There Are No Data: The Evolution of Primary Health Care (Bloom 1987), which presents Senegal's rural health programs as an example of the promises and shortcomings of the international primary health care movement. (Does USAID/Dakar have a copy?)

⁴ Bloom 1987:147-157, citing Daly 1980 and Ba 1984.

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engendered the policies and commitment that generated the Sine Saloum project."⁵

The Sine-Saloum project made many assumptions about how village health committees would be constituted and function -- based at least in part on the Pikine model. These plans seemed sound and were in full accord with PHC and development ideology of the mid- and late 1970s. But they appear to have largely ignored the facts of how Senegalese rural communities really function. Instead planners seem to have assumed, naively, that Western cultural patterns and middle-class values could be superimposed on rural Senegalese communities -- and take hold. It appears from project documents that village health committees were expected to have (or adopt) democratic beliefs and values. They were to function like a board of directors, serving terms of limited duration and rotating off at the end of the term. They were to collect fees from other villagers and efficiently manage them in a revolving fund.

Experience, however, showed that many committees, if active, ended up dominated by the local village marabout or other leaders and that the funds collected often disappeared. It is important to note here that village health worker record books showed that fees were indeed collected from clients at most visits and that the health workers were collecting the correct fees. Villagers are poor, yet they have in practice paid for services they value.⁶

Project planners also assumed that villagers would be willing to work as volunteers. Here too the Senegal experience was like that of many other countries: many volunteers performed initially but gradually lost interest or turned to other competing priorities. Furthermore, it appears that the village health workers (agents de santé communautaire) who were supposed to be volunteers, often kept the fee paid by the client that was designed by the donors to go into the revolving fund. It may be that he thought it was a cadeau (gift, as frequently given in Senegalese society when some service is performed); or the volunteer may simply have thought he should be getting some pay for work done, just as others working for the health system are paid. The exact details are not readily apparent. But it is clear that planners back in Dakar were making unrealistic assumptions about what would happen out in the village.

Rural Senegalese have strong traditions of mutual assistance and obligation. Given the traditional patterns of land tenure, mutual aid obligations go beyond the household or extended family

⁵ Ibid.

⁶ Bloom 1987:176.

to the community. What exactly are these traditions and obligations and how might they constrain or facilitate progress in future health activities?

This should be clearly analyzed as part of USAID's planned health financing study, or at least prior to any follow-on projects. It would be instructive, for example, to ask a team of Senegalese sociologists or anthropologists to conduct a mini-ethnography in several representative rural communities to better understand the dynamics of mutual aid, health-seeking behavior, payment for health services and, lastly, how health committees have functioned.⁷

When one examines the PHC experience internationally, Senegal stands out as exemplary in having early on adopted the policy that clients must pay something for services. As other countries, whose governments have long provided free services, now agonize over how to introduce a fee-for-service scheme, Senegal has the advantage of a populace accustomed to paying something. This obviously is very good. Nevertheless, there remains a need to be more realistic about what can be achieved at the village level (cf. Buzzard 1987).

For example, legislation is currently being proposed that would legally require revolving funds to be established and maintained for health care. It appears that this would mean, in essence, saying that the existing tradition-based political power structure may no longer operate and that a system of internal controls would be adopted. How is this to be enforced? When the Ministry of Health cannot even supervise adequately the providers of care, how can it supervise community committees? The

⁷ See also recommendations made at the outset of the Rural Health Project - Phase II (USAID 1984:C-19). For health-seeking behavior, a useful point of departure could be the community-based health care utilization study now being finalized by the Pikine project. This was a survey, based only on responses to a questionnaire, whereas what is recommended here for the rural communities is a more in-depth qualitative study. Nevertheless, the Pikine study should present useful ideas from which to build and a sociologist advisor to that study, Murebwayire Scholas, may have valuable suggestions. Also useful as a source of ideas would be the study La consommation de médicaments a Dakar (ENDA Tier-Monde 1988) which examined use and payment for Western vs. traditional medicine. It might be advisable that such a study be carried out in collaboration with the Institut de Santé et Développement and 2 or 3 of the medecin chefs currently in its "MPH"/(CER?) program. For mutual aid, studies have probably been done in other development sectors (e.g., agriculture) that would provide important information and points of departure.

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legislation may be useful, but it will require more than just legislation to bring about changes in behavior.

Furthermore, to what extent are community members able to pay for services? As noted above, villagers are willing to pay for services, but only for services the value sufficiently. Also they may frequently pay considerable amounts to traditional healers, but often in kind. It may be a big jump to paying for other services (e.g., ORT packets), especially when it requires cash from rural people whose economy is essentially still non-monetized.

This is not to say that revolving funds do not work, but whether they can work at the level of magnitude and efficiency needed to make the whole system function, as is currently discussed in planning documents, is far less certain. The "Bamako initiative" (in which African countries espoused a fee-for-service ideology) may be naively simplistic. This is not to say that there is no potential, or that it can't take place over time. The potential may well exist, and it is good to aim in that direction, but it may take more careful strategizing and much longer to achieve than anticipated.

Village Organizational Structure

Village organizational structure differs in different parts of the country and with different ethnic groups. Nevertheless, a general pattern of multiple organizations prevails throughout Senegal. An analysis of village organizational structure in southern Senegal, Ziguinchor and Sedhiou, is illustrative (Elias 1987:9-10). There the typical village has a village chief, a council of elders, men's and women's groups of age peers (les classes d'âge), and agricultural work groups. The strength, cohesion, dynamism, and role of these units vary widely from village to village. In some villages, for example, the chief is the driving force behind all activities, while in others he is little more than a nominal and weak figurehead. In such villages another charismatic individual (religious leader, progressive farmer, village sage, etc.) takes the de facto leadership role.

Some villages are quite cohesive. In these the council of elders, with representatives from all quarters of the village, may indeed speak for the entire population. Often, however, villages are more fragmented. In these extended family units, or wards within the village, act independently of each other and have separate groups of elders. These villages essentially have a multiple leadership, although there is almost invariably one nominal chief.

The cohesion and role of the traditional age peer groups and agricultural work groups also vary between villages. Age groups, for example, may consist of members from all of a village's

quarters or, alternatively, represent just one single extended family ward. Functions of the age groups also differ. At one extreme, the male young adult group may be a loosely organized social club which sporadically convenes a wrestling match; or it may be a well-structured group with a large collective cash fund generated from regularly hiring out the group's labor.

Memberships of the various traditional village groups frequently overlap. For example, agricultural work groups are often subgroups of the larger age peer groups or may be comprised of males or females from different age groups. Rarely are men and women members of the same group, but groups of different sexes do work together on projects of mutual interest.

Superimposed on this structure of traditional village groups is a plethora of more modern organizations. Some are formal institutions set up under the auspices of national government agencies while others have been organized by NGOs around particular development activities. The most predominant are the Rural Committees, rural councils, Centers for Rural Extension (CER), women's groups organized by the Social Development Ministry, and producer groups organized by PIDAC.

A common constraint to working with village groups is the varying degree of effectiveness and strength among the groups concerned. Reaching a village consensus has been difficult in fragmented or very large villages. Some villages are harder to work with than others. For example, villages that have benefited from "free" donor assistance are usually not very interested in collaborating in projects contingent on village participation.

Other projects have found that a written contract between a project and a village leader carries little weight as far as villagers are concerned. Experience has shown that if a general meeting is convened at which an agreement is communally witnessed and that if the names of individual participants are read aloud at the gathering, and each individual acknowledges concurrence with the agreements presented, there is a strong motivation for villagers to abide by the terms (Elias 1987).

This kind of documented analysis should also be carried out for the health sector, perhaps through the mini-ethnographies suggested above or as part of a well-planned evaluation.

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II. THE STATUS OF WOMEN⁸

Like most African women, Senegalese women have multiple roles: wife, mother, daughter, member of a large family with many obligations, agricultural laborer or worker in other sectors, perpetuators of social and cultural tradition and, increasingly, head of the household. It is misleading, however, to think of "the Senegalese woman." Women's lives differ dramatically depending on several factors. Among the most important variables are: rural/urban residency, age, and education. As noted above, these may be even more important as determinants of behavior related to health and family planning than are ethnicity and religious affiliation.

Anyone who has spent time in North Africa, other Arab and Muslim countries, or in traditional Asian cultures, cannot but be impressed by the freedom and apparent ease with which Senegalese women move about in society. Senegalese women are everywhere: in the fields, in the streets and along the roadside as vendors, in urban offices, in the university and the professions. Senegal is strong witness to the fact that purdah is not part of the creed of Islam.

Nevertheless, women lag behind men in numerous ways -- among them literacy, education, and personal rights.

BASIC DATA ON WOMEN

As Senegalese national statistics are in general incomplete and unreliable, gender-specific data is also inadequate. Unfortunately, much of the available data give a very normative "statistical-average" picture of Senegalese women. As is indicated in the 1986 Demographic and Health Survey (DHS) and the numerous recent knowledge-attitudes-and-practice (KAP) studies sponsored by USAID and other donors, there are significant differences -- between younger vs. older women, rural vs. urban, and uneducated vs. more educated women -- in terms of both health-seeking and contraceptive behavior. These differences must be considered in attempts to increase program effectiveness.

Health Indicators

Female average life expectancy of 49 years, while higher than male life expectancy of 46 years, is nevertheless low even by developing country standards. The estimated maternal

⁸ Given time constraints for this report, information presented in the following sections is not complete and should be complemented by or revised in light of the more detailed report being prepared by Ms. Camara.

mortality rate of 500 to 600 deaths per 100,000 pregnancies means that 1 in 25 Senegalese women will die in childbirth. This is appalling by world standards and high even by developing country standards.

Contributing to this high maternal mortality rate are the extremely high fertility rates, some of the highest in the world: 6.5 children per woman and an estimated crude birth rate of 48 per 1000. The population of approximately 7.6 million is increasing at about 3 percent annually.

Education and Literacy

Educational and literacy levels of women are significantly below those of men. Only 9.2 percent of girls were enrolled in primary school as of 1988 (national census). About 75 percent of women are illiterate. Female literacy as of 1986 was only 15 percent, as compared to about 30 percent for men (DHS). Literacy and school enrollment are both much lower in rural than in urban areas.

Recently many activities have been launched, by both the government and NGOs, to provide non-formal education and training for women, especially in rural areas. This non-formal education usually includes some combination of training in functional literacy and numeracy, vegetable production, animal husbandry, home economics, crafts, and maternal and child care.

Legal Status of Women⁹

Official law declares equality for men and women, and the Senegalese constitution guarantees equality of remuneration for work of equal value, the right to full employment, and equality in education and training.

In 1972 Senegal's National Assembly approved a Family Code which introduced protection of the rights of women with respect to divorce and child support. At the same time, and although the Constitution officially guarantees women equal rights to men, the Family Code continues to give the husband greater rights than women. It includes the following:

- * A woman can no longer be forced to marry against her will;
- * Total repudiation of a wife is forbidden, and divorce must take place according to law;
- * Support from the man or his family is required for the woman after a divorce or her husband's death;

⁹ The legal status of women is discussed in detail in La Condition Juridique et Sociale de la Femme au Sénégal (Boye 1986), available at USAID/Dakar.

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- * The minimum age of marriage is 20 for men and 16 for women;
- * After divorce or annulment, a man can remarry immediately but a woman cannot marry for three months;
- * Both monogamy and polygamy (limited to four wives) are officially recognized;
- * If a woman commits adultery, both she and her partner are to be punished; if a man commits adultery, he is only to be punished if the act took place in his home, and his partner is not punished;
- * A husband may legally forbid his wife from working outside the home.

In 1985 Senegal ratified the International Convention for the Elimination of All Forms of Discrimination against Women. As in all countries, such rights are not uniformly enforced; de facto discrimination continues to affect women due to social and religious laws.

Marriage laws differ for various ethnic and religious groups. Dowry is paid in Islamic and Christian law. Under Islamic inheritance law, the husband is the legal head of the household with complete authority over the wife, family, and choice of domicile.

Senegal's Penal Code (articles 305 and 285) forbids all abortion except for narrowly defined therapeutic purposes. Punishment includes a fine of 20,000 to 50,000 CFA and penalty of imprisonment from 6 months to 10 years for both the woman undergoing an abortion and for the performer (Boye 1986:89).

Access to Resources

Ethnic and religious traditions limit women's access to land, capital, and technology. In Islamic marriages the husband is the legal head of the household and a wife cannot own land or inherit property. Laws and norms deny the wife any rights over the wealth of her deceased husband. The income from cash crop production is usually paid to the male in the household, although women gain access to money through selling products such as palm wine and by cultivating their own peanut crops. Senegalese women cannot work outside the home without their husband's permission. Few have access to credit.

Women's Political Participation

Women have the right to vote and may be elected to national, regional, and local political organizations. In the National Assembly, participation by women has increased and 11 percent of Senegalese deputies are now women. At the municipal level, an increasing number of women are municipal councilors. Rural councils are over 20 percent female. Women have held the positions of Minister of Social Development, Public Health, and

Emigre Affairs. This is not equality but is still fairly impressive compared with many other countries.

MARRIAGE AND CHILDBEARING

The lives of Senegalese women are forcefully dictated by the patriarchal social structure which places supreme emphasis on a woman marrying and producing a large number of children. Marriage, fertility, and childbearing constitute a central element in Senegalese culture -- as will be detailed below. Traditionally a woman's identity has been synonymous with her role and performance as a wife and, especially, mother; her social prestige has long been linked to the size of her family. Not surprisingly, women are ushered into marriage at a young age: the median age at first marriage for women is only 16.1 years (1986 DHS). Women who remain single are socially marginalized and an object of criticism.

Polygamy is widely practiced, especially in rural areas. Nationwide, more women are in polygamous than monogamous marriages (1988 census).

The number of divorced ("repudiated") women is quite low. Islam permits men to divorce their wives, but custom of polygamy, however, makes it possible for a dissatisfied husband to take an additional wife rather than divorce the wife who doesn't meet all his desires. The strong extended family tradition probably encourages keeping the first wife in the family group as the caretaker for the children who are part of its lineage.

Practices have begun to change, especially with education.

Women as Household Heads

Large numbers of women are heads of households. In rural areas, women head one-third of all households. Male migration from rural areas may account for the large number of rural female-headed households. In urban areas, one-fourth of household heads are women. Already substantial, the number of women-headed households may still be under-reported since, for sociocultural reasons, women may be reluctant to admit being without a man as head of the household.

WOMEN IN THE LABOR-FORCE

Women play a major role in the Senegalese economy. They constitute 25 percent of the formal labor force and more than 70 percent of the labor force in rural areas (UNICEF 1985:44). Important sectors, such as commerce, industry, sales and services, and agriculture employ large numbers of women. The

lack of good statistical data, however, may lead to inaccurately low estimates of women's economic activity. Much of women's work is statistically invisible for several reasons. Much of their work is done in or near the home, and often there is not a clear distinction between economic agricultural activities and production for household consumption. In addition, many women are self-employed or in the informal sector and, as a result, do not appear in official statistics.

Urban Employment

In the rapidly-growing urban areas, more women are entering the formal labor force. Typical work are secretarial, health care, domestic household, and social service jobs. The food and textile industries also employ large numbers of women in low-paying, low-skilled jobs. Many other women sell vegetables, nuts, fruits, crafts, and cloth in urban marketplaces.

Women in Agriculture

Women play important roles in agricultural production and the fishing sector. They provide substantial labor for crops traditionally controlled by men, such as peanuts and millet. They also cultivate their own fields, producing crops for family consumption and sale. Women also do most of the wood and water gathering -- all in addition to performing most of the tasks of household maintenance, food preparation, and child care.) The division of labor and women's participation in production varies with both the region and the crop. Land is generally a source of economic inequalities of which women are principle victims due to the persistence of the patriarchal system. As is discussed below, women continue to perform the agricultural tasks described here even while pregnant and nursing an infant.

In Southern Senegal, Diola and Mandingue women are involved in rice production. In the Peanut Basin of central Senegal, Serer and Wolof women are involved in peanut and millet production. Along the coast, Serer, Laboue, and Niominka women work in local fishing industries. Some women also sell fish in the seaside markets. In the Fleuve area, Peulh and Toucouleur women are involved in irrigated farming and animal husbandry.¹⁰

In the Peanut Basin men control most of the fields but women often work on men's fields, providing substantial assistance with planting, weeding, and transport from the field to market. Women may cultivate their own fields, which are generally smaller than men's. Village women's organizations will

¹⁰ Information presented on women in agriculture derives from the background paper on this topic prepared for USAID/Dakar by Jennifer Isern (1990).

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sometimes cultivate peanuts as a cooperative effort to raise money for village projects. Women usually control the money they receive from such sales.

For millet, the gender division of labor inputs is similar. Millet, typically grown as a staple for household consumption, requires great effort for transformation into an edible product. After harvest, it must be threshed, winnowed, dehulled, washed, ground, and sieved--all before it can be consumed. Women have traditionally done much of this work, often relying on communal labor. Such processing consumes enormous amounts of time and is often cited by women as the most onerous of their many tasks. Recent government and donor-sponsored activities have begun addressing this problem by making millet transformation equipment available, especially to women's village organizations. The use of millet grinding machines, often provided with donor assistance and controlled by women's groups, seems to be increasing in many areas, reducing women's workloads and offering women involvement in managing small business operations (Ross et al. 1987).

Rice is a key crop in the Basse-Cassamance, where it is grown primarily as a staple crop, and in the Fleuve regions, where it is increasingly grown in irrigated areas for consumption and sale. In Cassamance, rice is produced primarily by women, though men may help with the heaviest labor, such as land clearing and harvest. Typically a woman's production will not be enough to cover her family needs. She must then earn cash with which to purchase imported rice in the local market.

Vegetables are generally considered a "woman's crop." Typically a woman tends a small garden to produce vegetables for family consumption. Women may tend gardens individually or in groups designed to produce vegetables for sale in a local market. Women contribute nearly all the labor with control over the income from sales usually retained by the women or the women's groups. Vegetable production is increasingly promoted by the government and donor agencies. However, as projects to commercialize vegetable production increase, men are becoming more involved in production and in control of the resulting income.

Significance for health programming. This is relevant to women's health concerns in several ways. First, the woman generally continues her agricultural routines during pregnancy. Second, a mother is considered responsible for the health and welfare of her children and often finances medical care they need from her own household savings earned from growing and selling vegetables or small animals (USAID 1984:C-9). Third, NGOs that USAID might consider funding to conduct family planning activities among village women are likely to place higher priority on assistance in agriculture and agricultural credit. But this might be linked somehow to health and birth spacing education.

III. TRADITIONAL PRACTICES RELATED TO HEALTH AND FERTILITY

TRADITIONAL MEDICINE

Traditional medicine (la médecine traditionnelle) continues to play a very important role in both rural and urban Senegal. "Traditional medicine" should be understood as including both resort to traditional health practitioners (healers and midwives) and self-medication with traditional remedies (remèdes traditionnels). Senegal has a rich traditional pharmacopeia which has been the subject of at least one major (30-year) study.¹¹

Traditional Health Practitioners

The role played by traditional practitioners is extremely important. Traditional practitioners -- including both healers and midwives (or traditional birth attendants, "TBAs") -- are found in all parts of Senegal. It is estimated that over 90 percent of Senegalese turn to traditional practitioners for health care, preventive and curative, at one time or another -- either because their services are preferred, because they are less costly, and/or because there is no access to modern health care. In rural areas traditional practitioners are probably still the main source of basic health advice and care. A large percent of the urban population also uses services of traditional practitioners, often while simultaneously going to hospitals and modern-sector practitioners for the same problem. Factors such as self-diagnosis of illness, perceived effectiveness, cost, distance, and sociocultural acceptability will ultimately determine the "hierarchy of resort" between modern and traditional medicine.

The status of traditional health practitioners is extra-legal, meaning that no laws either recognize nor constrain their practice. Senegal's current national health policy states as one of its objectives the elaboration of legal texts related to the practice of traditional medicine.

Traditional Healers

Traditional healers are collectively referred to in French as guérisseurs. In the local languages they are known by many more specific terms, indicating areas of specialization. Some are generalists while some specialize in areas such as bone-setting, sterility, venereal disease, psychotherapy, and leprosy. Some base their practice chiefly on herbal medicine, others chiefly on spiritual or religious approaches, but most probably

¹¹ Kerharo (1974), cited in Kully (1990).

use some of both. Some *guerisseurs* are women, but women also go to male *guerisseurs*.

Many marabouts are also healers. Associated with them are the very popular gris gris (amulets or talismans), generally a small leather pouch containing herbs or Koranic verses, used to protect the wearer). Evidence of the continued belief in the power of the *gris-gris* is the fact that even many health-workers, even while on the job, wear a *gris-gris*.

Guerisseurs probably remain the healers of first resort in many villages. They are relied on exclusively in cases perceived as mental illness or illnesses of sudden onset, where it is believed that illness is the work of malevolent spirits. Herbal healers and bone-setters are found in many villages. In some rural areas fractures are still treated by traditional healers, even when a *poste de santé* is accessible.¹²

Several efforts have been made to organize traditional healers or to enlist their services as allies to formal-sector health programs. In Fatick *guérisseurs* have formed an organization which has had some interaction with the formal sector and studies have been conducted (with participation of the Institut de Santé et Développement at Mbour). Similar activities may also be underway in Thies.

Perhaps the greatest headway had been made in Pikine.¹³ In the Pikine Project some *guérisseurs* early on were chosen to receive training as secouristes (first aid workers). In partial collaboration with that project, the Community Center for Appropriate Health Technology in Pikine has conducted numerous activities in this area. Among them, in 1984 it helped create an association of therapists collaborating with modern medicine (Cercle des Tradi-Praticiens de Pikine); in 1987 it conducted a survey of 1228 traditional therapists in the Department of Pikine; it has produced manuals of Wolof proverbs and Koranic verses and hadiths related to health matters; it is working to develop a ORT solution based on traditional mixtures; and it has sponsored a workshop to evaluate activities.¹⁴

¹² See USAID 1984, Social Soundness Analysis, Annex C-7.

¹³ Fassin (1988), available at USAID, provides an excellent understanding of the dynamics of traditional medicine in Senegal.

¹⁴ Summarized in Kelly (1990) based on Thiam and Werner (1987) and Ministère de la Santé Publique (1987).

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Traditional Birth Attendants

The term matrone is used to designate both the traditional village birth attendant (TBA, accoucheuse traditionnelle) but also young village women trained in basic midwifery skills by some project. As matrone is used in project documents, it is often not clear which type is being discussed. Both are distinct from the formally-schooled sage-femme (nurse-midwife) in that they work at the village level do not have the latter's more technical training.

Efforts to train and work with "matrones" in modern-sector programs began with UNICEF in the early 1970s. UNICEF's first effort in Senegal, its Maternal and Child Health Project in Sine-Saloum, which established village pharmacies and maternity centers, trained matrones in MCH. When UNICEF funding ceased, village activities ceased or were incorporated into the AID-funded Sine-Saloum Rural Health Care Project (Bloom 1988). Work with matrones remained an important part of that project (USAID 1984 Annex C-7, USAID 1986:43-45).

The number of TBAs today is not readily available, if known. In fact, no document is readily available which discusses TBAs or matrones in any thorough manner or the extent to which the traditional TBA remains an important actor in rural maternity care. The recent Senegal Maternal Mortality study, however, found that, of the two-thirds of women who deliver their children at home, 22 percent were assisted by a traditional untrained TBA and 14 percent by a trained matrone (63 percent being assisted by a family member, relative, or neighbor) (Gueye et al., 1989).

The Department of Pediatrics at the Faculty of Medicine has been working with and training TBAs from its rural base at the Center of Social Pediatrics at Khombole. It is planned that the Center's activities will be expanded into an integrated MCH program in collaboration with the Department of Obstetrics and Gynecology (Kelly 1990).

Urban Use of Traditional Remedies: Dakar

Traditional medicine (la médecine traditionnelle) and traditional remedies (remèdes traditionnels) are widely used in urban settings as well. In a recent household survey, 55 percent of the sample surveyed stated that they use traditional remedies of one form or another (ENDA Tier-Monde 1988:113-115). Use of traditional medicines is less common at higher levels of education; nevertheless even urban dwellers at highest educational levels (25 percent of urban residents with more than secondary education) report using traditional medicines. Even urban dwellers with full health insurance coverage sometimes use traditional remedies. This is powerful testimony to the strength

of traditional medicine in Senegal, as it is chiefly the professional and more educated Senegalese who have health insurance.

Similarly, those with lower incomes are more likely to use traditional medicine, although here again about 25 percent in the highest income bracket still use traditional medicine. The traditional products most commonly cited are: rath, sindiegne, kel, kinkeliba, bissap, dankh, feuilles de goyave, xorom-pole, and nim. The category of symptoms most commonly treated are headaches, followed by parasites, exhaustion, and diarrheas. It is significant that the conditions for which households most frequently use traditional medicines are also ones for which urban Senegalese can buy and treat themselves with modern medicines (automedication).

Afflictions for which traditional medicines are declared equally or more effective than modern medicines are frequently chronic diseases or those of long duration (e.g., rheumatism, diabetes, and asthma). This is by no means their only use, however; traditional remedies are also frequently used, for example, for treatment of intestinal parasites.

TRADITIONAL PRACTICES AFFECTING THE HEALTH OF WOMEN

Infant and Child Feeding

The extent to which child feeding habits are harmful, or discriminate against girls, is not clear. On the one hand, infants are subjected to food taboos (against eggs, leftover couscous, green mangoes, etc.). Observance of these taboos is supposed to permit the infant to avoid illness (e.g., diarrhea and colic). Eggs are believed to prevent acquisition of speech, thus causing permanent "dumbness." Clearly eggs are a useful source of protein and should be eaten. There are also indications that young girls receive the poorest portions of food, being served after adults and brothers. On the other hand are clearly beneficial practices, especially breastfeeding and the fact that breastfeeding is continued during both diarrhea and measles (Kane et al., 1987).

Becoming A Woman: Excision

As a Senegalese girl approaches puberty, or even much earlier, she may undergo two traditionally important, related rites of passage: excision and tattooing. Both are seen as testing her bravery, marking her initiation into womanhood, and preparing her for marriage. The exact nature of these rites and the proportion of girls undergoing them vary from one ethnic group to another. Excision is practiced among the Toucouleur,

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the Mandingue and some Diola, but traditionally not among the Wolof and Serer.¹⁵

Excision marks the change of status from young girl to a young woman ready for marriage. Depending on her ethnic group, it takes place somewhere between 6 and 15 years of age (although some Toucouleur perform this on the eighth day after birth, the traditional day of baptism, or at the age of two or three years). Generally excision is viewed as necessary to restrain the excessive excitability of young girls. Some groups view it as a sort of purification which rids the young girl of the clitoris (the male organ) and confers upon her the status of true woman. Among the Toucouleur, who believe excision is required by Islam, a non-excised woman is not considered sufficiently "clean" for prayer.

As the young girl experiences it, there may be two parts to excision. First is the operation itself -- removal of the clitoris and the labia minora. The degree of removal varies from a small notching of the tip of the clitoris, often chiefly symbolic, to removal of most of the clitoris. The second aspect, among some ethnic groups, is an initiation ritual which usually involves seclusion or confinement for a period of several weeks to several months. This seclusion is part of the establishment of bonds of "sisterhood" and consequent mutual aid obligations.

Tattooing (le tatouage, njam) often performed after the young woman has undergone excision, is of two types: tattooing of and around the lips; and tattooing of the gums. Tattooing is regarded a sign of bravery in most ethnic Senegalese groups, proving that the young woman is mature enough to enter adulthood. (In some ethnic groups facial or bodily scarification is performed for this purpose in place of tattooing.) In some ethnic groups, certain forms of tattooing are recognized as a distinguished mark of membership in a noble caste. Tattooing does not appear to seriously endanger the young girl's health.

Excision, in contrast, often has dire health consequences, especially when it involves removal of most of the clitoris plus the labia minora. Infection, hemorrhage, and even death may be immediate outcomes while longer-term consequences may include difficult childbirth and postpartum recovery (Cook 1982).

In Senegal it appears that both excision and tattooing are becoming modified or less frequently practiced, particularly in the urban milieu. In 1988 a survey of attitudes and practices

¹⁵ See Kamara-Ajavon (1981:370-375) from which this section derives. See also "Pratiques traditionnelles ayant effet sur la santé de la mère et de l'enfant," Vie & Santé, 1990; and Marone 1988/89.

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concerning excision and infibulation was carried out in 7 of Senegal's 10 regions. This recommended a 3-phase program of education and information designed to modify the practice of excision (Marone 1988/89). WHO's Regional Committee for Africa has gone even further. Recognizing that excision is part of deep-seated traditions, but expressing concern about the serious health consequences for large numbers of women, the WHO Regional Committee for Africa has recently recommended measures aimed at eliminating the practice. Specifically, it recommended that member nations adopt both policies and strategies aimed at eliminating female genital mutilation as well as educative measures for both the general public and for health professionals (Toure 1990).

Remaining a Virgin: Personal and Family Honor

According to the tradition of each ethnic group, and further reinforced by Islam, marriage is the sole socially-accepted context for sexual relations. Pre-marital virginity and chastity have thus been the social law for a young woman in all ethnic groups. The loss of virginity, and especially a pregnancy before marriage, was and remains a loss of honor for both the girl and her family. Young men, too, have been expected to abstain from sexual relations until marriage, but this is not so rigidly enforced nor violations punished as for young women.

As the young girl approaches puberty, she begins observing certain food taboos in order to safeguard both her virginity (helping to prevent rupture of the hymen) and her fertility (preserving the quality of her blood). Foods to be avoided include grains of crushed rice and millet flour, certain beverages, and bitter plants (Kamara-Ajavon 1981:364-68).

Traditionally the highpoint of marriage was the deflowering of the young bride. As proof of her virginity, some families demanded, after consummation of the marriage, a white sheet stained with blood (Kamara-Ajavon 1981: 366). Modern urban couples increasingly refuse to submit to this ritual, or other parental scrutiny, but the value placed on pre-marital virginity remains strong.

Early Marriage and Childbearing

As is well-documented, pregnancy, followed by the safe birth of a child, and then many more, has traditionally been the goal of marriage, if not the highest purpose traditional society has had for a woman's life.

Although the age at first marriage has increased slightly in recent years, the cultural norm is still early marriage: arranged by parents at their daughter's birth, before puberty, or at the time of puberty.

When one talks of "married women of reproductive age," in Senegal a large portion of these are adolescents, many who are having their first child when they are so young (12 to 17) as to be medically high-risk. Recent studies have found that more than one-third of women have their first pregnancy as an adolescent girl: at or before the age of 17. Of girls and women studied:

- * 43 percent are married before age 20.
- * 52 percent had their first child before age 19.
- * 5 percent had their first child before age 15.
- * 35 percent had their first child between 15-18.¹⁶

Reasons for early marriage are both sociocultural and economic. The emphasis on virginity at marriage is one important reason. In the urban as well as rural milieu, to protect their daughters' virginity, girls are married at a young age. Recognizing the natural tendency of most adolescents to be sexually active, early marriage assures that sexual activity will take place within the marriage. Important too is the fact that marriage and female sexuality have been viewed as existing only in direct relationship to fertility. Once a young girl reaches puberty, she should be eager to prove her fertility, fertility being considered a gift from God.

Nor is it enough to prove one's fertility; rather tradition demands, and many Senegalese thus want, a large number of children. The fact that Islamic law denies the wife any rights over the wealth of her deceased husband contributes to the desire of many Senegalese women to have a large number of children as a form of old-age security, since they are considered his primary beneficiaries and will, in turn, care for her.

Marriage Forms: Polygamy and Monogamy

In traditional Senegalese society, polygamy and several households living together were the norm. Today, despite a tendency toward monogamy and nuclear family households in the urban environment, the majority of women still live in a polygamous marriage. Whether a woman lives in a monogamous or a polygamous marriage influences her fertility strategies.

¹⁶ The two recent studies provide excellent information for decision-makers on the problems of adolescent fertility and early childbearing (Ndaiye and Sarr 1990 and Camara et al. 1990). They present statistical data on adolescent childbearing, the negative health consequences, traditional values and contemporary attitudes concerning sexuality and childbearing, and current knowledge and attitudes about legislation in this area. See also Ka (1984), Camara (1990), and UNICEF (1983:39-49).

In a monogamous marriage, fertility may be a weapon with which a young bride "consolidates her marriage" early, avoids divorce, and staves off the introduction to her household of a co-wife or additional co-wives.

In a polygamous household the woman also seeks, through the number of children, to assure the stability of her marriage and household. Her fertility may also be a strategy to acquire the status of preferred wife. The youthfulness of a young wife gives her the ability to conceive at a time when older co-wives are "fading" and perhaps approaching menopause. When the co-wives are all young, the rivalry focuses on the ability to conceive and give birth to male children (Camara 1990).

Pregnancy

Many traditional practices associated with pregnancy are beneficial, many are neutral, but some are harmful. Health planners should seek to modify or eliminate the harmful practices and build on those that are beneficial.

Among harmful practices is, first, early marriage -- the fact that a young girl is likely to become pregnant before her own body has finished its growth and become more able to support a healthy pregnancy and safe delivery. Health planners should realize that, barely more than a child herself, the young bride generally follows the dictates, including traditional cultural norms, of older women in the household and has relatively little say in the management of her pregnancy (UNICEF 1985:39-49).

This may help explain the fact that relatively few Senegalese women recognize the signs of a difficult pregnancy or labor. In the recent maternal mortality study, one-fourth of women interviewed could not name even one indication of a difficult pregnancy and nearly one-third could not cite a single indication of a difficult labor (Gueye et al., 1989).

Second is the practice of concealing a pregnancy during the first four months, or as long as possible. This makes it impossible to have early prenatal consultations and difficult to achieve two doses of tetanus toxoid prior to delivery.¹⁷

Third, the work burden remains heavy, especially on rural girls and women. Work is heavy, tasks are numerous, and pregnant women continue working throughout the year, including during the soudure and agricultural harvest season when the workload is especially strenuous. The workload of rural Serer women is illustrative:

¹⁷See World Vision International (1989:46).

"Farming is the sole task of village men between May and October, whereas women work hard all year long with a peak at this period. Women are responsible for preparing meals...and this requires considerable effort (grinding, sieving, carrying heavy receptacles, remaining long periods in front of the hearth during cooking). The women are also responsible for gathering water, wood, and other fuels, involving daily transport of heavy loads on the head over distances which may reach several kilometers. The younger women also participate in farming work during the rainy season, and it is this group that also undergoes its pregnancies, nurses its babies and carries them physically" (Rosetta 1986).

Most women maintain their same activity level throughout pregnancy and some even increase their workload. Among women surveyed in the recent maternal mortality study:

- 70 percent say they maintain their activity level throughout,
- 24 percent say they decrease their activity level, and
- 6 percent say they increase their activity level (sometimes on the advice of matrones) (Gueye et al. 1989:24).

Fourth, dietary intake is neither of the quantity nor quality necessary for an optimal pregnancy outcome. Weight gain is insufficient. Studies suggest weight gain during pregnancy averages from only 12 pounds at best to only about 6 pounds, depending on when the pregnancy occurs during the agricultural year.¹⁸ The reason for this very low weight gain is not just because of food scarcity and heavy agricultural labor, but also because most women try to minimize weight gain, based on the belief that weight gain will cause a large baby and thus difficult delivery.

Many cultural beliefs and nutritional taboos influence the kinds of foods consumed and avoided. Taboos against salt, sugar, oils, and certain fruits cause many women to avoid or significantly reduce their intake (Kamara-Ajavon 1981). In the recent maternal mortality study, 40 percent of women said they follow traditional nutritional taboos during pregnancy. One-third said they eat no salt and 7 percent that they eat no meat. Almost

¹⁸ In adjacent Gambia where patterns are similar, pregnant women lost weight from July to October, probably due to food scarcity and increased agricultural labor, and regained the weight after October. Still, the largest weight gains averaged only 12 pounds, this in women who gave birth during February to August, while weight gain for births during the rest of the year averaged only about 6 pounds (Thomson 1966).

half (44 percent) admitted a craving during pregnancy for unusual substances: most of these eat dirt (a practice known as "pica" or "geophagy") while a few satisfy this craving with coal or green mangoes (Gueye et al. 1989:25). These are all practices that obviously increase risks of malnutrition, anemia, and intestinal parasites.

Labor and Delivery

The majority of deliveries take place at home. The 1989 maternal mortality study found that 62 percent of women gave birth at home, while 38 percent went to a health facility.

Among those who gave birth at home, 3 percent said they delivered alone without any assistance. The remaining said their delivery was assisted:

- 63 percent by a non-medical person,
- 22 percent by a non-trained TBA (accoucheuse traditionnelle),
- 14 percent by a trained matrone, and
- 1 percent by a nurse (Gueye et al., 1989:39).

Surprisingly, however, in more than half of all deliveries, the person "assisting" arrived after the expulsion of the infant (in 59 percent of cases, according to interviewees). What is not clear here is whether some of these mothers intended to deliver alone, as is traditional among the Serer, or whether the assistants simply "didn't get there in time" (as frequently happens in the case of multiparous women who are likely to have short labors).

Among the Serer, tradition reportedly requires a woman in labor to labor alone until after the child is born. One result is that in a Serer village there have traditionally been no experienced traditional birth attendants as in many African villages. A consequence for health programs is that, when a Serer woman is trained as a matrone for the purpose of assisting in delivery, the training program cannot assume that she is experienced at observing births. Furthermore, upon her return to the village, the village women may be reluctant to change traditional ways and call her in to help with delivery. It appears, however, that as a result of project activities in the Fatick area, some Serer women there now do ask the matrone to assist them before and during a birth.¹⁹

The postpartum period is marked by baptism on the eighth day after birth, an important event celebrated at great expense in

¹⁹ From p. 53 in a Sine Saloum project report at USAID/HPNO (title page missing; possibly authored by Mead Over, 1980/81).

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the case of a first child. The postpartum period continues, as is Islamic tradition, to the 40th day after delivery.

Throughout labor and delivery, many traditional practices are followed. For example, certain traditional products are used during labor to provoke contractions, after delivery to hasten expulsion of the placenta, and during the postpartum period to speed recovery.

The traditional practices should be understood by health planners and, where appropriate, incorporated into the procedures used in health care facilities. In many countries it has been found that one reason for low utilization of formal health facilities for delivery is that the health personnel do not permit women to follow traditions that to them are very important. Where traditional practices have no harmful health impact, they should be accommodated.²⁰

²⁰ See Understanding and Evaluating Traditional Practices: A Guide for Improving Maternal Care (Pillsbury et al. 1990) and other publications of the Maternal Nutrition and Health Care Program of the International Center for Research on Women.

IV. TRADITIONAL FERTILITY REGULATING PRACTICES

Over the centuries, all cultures have evolved traditional means of regulating fertility. Senegal is no exception. Despite the general desire for many children, births are currently fairly well-spaced due chiefly to the almost universal prevalence of breastfeeding and its effect in sustaining postpartum amenorrhea.

Throughout Africa, and in Senegal, two types of traditional fertility-regulating practices can be identified. First is the deliberate use of plants and other local substances that local people believe can prevent conception, reduce fertility, or provoke an abortion. Second are behaviors that directly or indirectly extend the interval between births, even though they are not necessarily followed for the explicit purpose of birth-spacing. In a 1989 study, 60 percent of women said they knew about spacing methods. Most commonly they cited postpartum sexual abstinence, prolonged breastfeeding, and gris-gris (Gueye et al. 1989). This indicates that a large proportion of Senegalese women who follow these traditions are unaware of their birth-spacing impact.

Breastfeeding

Breastfeeding is nearly universal among Senegalese women. Prolonged breastfeeding has been the norm. On average, women breastfeed for nearly 19 months. As of the 1986 DHS, almost 90 percent of the infants 11 months old or younger were being breastfed.

As is well-documented globally, breastfeeding has an important effect on birth spacing. Because of the long duration of breastfeeding in Senegal it has one of the longest periods of postpartum infecundity in Africa -- 17 months on average (DHS 1988). In Sine-Saloum, only a small percent of women surveyed in the early 1980s had less than two years between their last two children (Goldberg, M'Bodji and Friedman 1986). In Kaolack, where the average birth interval was 33 months (among women whose last child had survived), extended breastfeeding appeared to be the main factor (FHI 1985:117).

Some inter-ethnic variation in fertility has been found and attributed to variation in the practice of breastfeeding. The Sine Saloum study, for instance, found that: Peulh women tend to have longer birth intervals and lower fertility (and fewer children) than Wolofs and Serers; and that Serer tend to have shorter birth intervals than Wolofs and more children than do women in any other major ethnic group at almost every age. The only factor of consequence in keeping births from occurring close together was judged to be prolonged breastfeeding (an average of 22 months) with correspondingly long postpartum amenorrhea (averaging 19 months).

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Postpartum Sexual Abstinence

Islam forbids sexual relations during the 40 days postpartum and ethnic customs specify significantly longer periods. Postpartum sexual abstinence is clearly a custom facilitated by polygamy, which permits the husband to fulfill his sexual needs with wives other than the wife who has just given birth.

It appears, however, that postpartum abstinence plays a smaller role in preventing a repeat pregnancy than has been thought. In Sine Saloum, for example, it was found that postpartum abstinence was rarely practiced for more than a few weeks or months and also that the vast majority of mothers were still breastfeeding at the time they resume sexual relations. Even though abstinence was practiced by most women, it prevents few pregnancies, since it occurs during a period when postpartum amenorrhea is almost universal anyway (Goldberg et al. 1986).

Traditional Contraceptives and Abortifacients

The second category of traditional fertility-regulating practices is the deliberate use of plants and other local substances for the purpose of preventing conception or provoking an abortion. More than 500 different plants and other substances are used in Africa as contraceptives and abortifacients.²¹ These are prepared in various forms, including oils, decoctions, and vaginal spermicides. At least one institution in Senegal has been investigating the use and properties of plants traditionally used in Senegal for this purpose.²²

Senegalese women believe, for example, that plants which are bitter (*amère*) can provoke an abortion. These "bitter" products thus figure in Senegalese traditional fertility-regulating behavior in two ways. First, they are tabooed items avoided by young girls and women seeking to protect or enhance their fertility and by women seeking to overcome sterility. Second, they are used by women who find themselves with an unwanted pregnancy that they desire to abort. *Nim*, for instance, is considered very bitter and thus a beverage made from *nim* is drunk to induce abortion. The anti-malarial drug Novoquin, also

²¹ Identified by WHO's Indigenous Fertility Research Methods Project. (See U.S. Centers for Disease Control 1985:22).

²² The Community Center for Appropriate Health Technology in Pikine. [VERIFY WITH PAT KELLY.] A study on traditional contraception in Senegal has recently been completed by Mr. Kabwasa Nsans-O'Khan, consultant to UNESCO. [GET REFERENCE AND REPORT FROM PAT KELLY.]

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considered to be very bitter, is therefore avoided by many women who believe it causes abortion.²³

Other plant products used as traditional contraceptives, to prevent conception, include: tamarind; a vaginal douche with lemons used before intercourse (again, the principle of bitterness); and insertion of a certain type of twig in the vagina for a couple of hours prior to intercourse.

In addition to plant products, such man-made products as gris-gris (talismans/amulets) and cordelettes (a knotted thin cotton cord) are used. Gris-gris, from marabouts, are used both to cure sterility and as a contraceptive--the difference in effect depending on how the gris-gris is worn on the body and what Koranic verse a marabout may have placed in it. The cordelette, worn around the waist of a woman, is believed to prevent conception. Some Senegalese also believe that if a man has intercourse with a woman wearing one, he will become impotent.

The efficacy of the various plants used as contraceptives and abortifacients is not certain. Even if not great, however, their use is firm testimony to the fact that many Senegalese women do desire to avoid a pregnancy and to terminate an unwanted pregnancy. The challenge to health programs is to inform these women of more reliable modern means, to make them available, and to provide the counseling required.

Spacing vs. Limitation

While there is clear desire among many Senegalese to space births, traditionally the notion of "limitation" did not exist and for many is still an unfamiliar concept. Traditionally total family size has been limited only by the end of a woman's reproductive years. Even in the mid-1980s, most of the women interviewed in Kaolack did not consider it possible to quantify how many children they desired (FHI 1985:117).

Abortion

There is perhaps no greater sign of demand for contraception than high rates of voluntary abortion. In Senegal few statistics exist but it is well-known that many pregnancies are terminated by abortion and that abortion complications are a major cause of maternal mortality.

The French law of 1920 which outlawed contraception and all abortion except for therapeutic purposes was abrogated in 1980.

²³ Solange Camara (personal communication), Camara et al. (1990), and Kamara-Ajavon (1981).

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The penal code, however, (articles 305 and 285) continues to severely restrict abortion. Penalty for abortion ranges from 20,000 to 50,000 francs and imprisonment from 6 months to 10 years for both the woman undergoing an abortion and for the performer (Boye 1986:89).

Abortions are thus performed under clandestine circumstances with failure, septic abortion, and serious complications frequent. Induced abortion ("interruption volontaire de grossesse," IVG) is performed in private clinics by doctors, midwives, nurses, and medical attendants for people who can pay. In Dakar women, Muslim and Catholic alike, may pay about 20,000 or even as much as 30,000 CFA for an abortion (an amount equivalent to about one-fifth the average per capita annual income). "I will prepare to lose my life rather than to have this baby," one desperate woman is quoted as saying. Poor and rural women, without have access to a safe abortion but driven by the same desperation, resort instead to traditional techniques that are frequently fatal (e.g., nim twigs inserted in the vagina).

Abortion is a major cause for hospital admission. For example, in 1988 complications of induced abortion were one of the two major causes for the emergency transfer of women from the Pikine Project facilities to Dakar (Gueye et al. 1989). Accounts are also told of such outcomes as hysterectomies being performed on teenagers.

Senegalese eager for improvements in women's health have discussed appealing for liberalization of the anti-abortion law but are generally afraid to speak out.

The Future

As more modern thinking begins to penetrate rural Africa, traditional behaviors and values that have kept fertility somewhat in check are beginning to dissipate. Senegal is experiencing increased urbanization, migration, and disruption of traditional life-styles, all factors that contribute to a reduction in breastfeeding and postpartum abstinence. If a significant reduction in breastfeeding duration or intensity takes place, as has occurred in much of the developing world, the result would be shorter birth intervals and increasing levels of fertility. Under such circumstances, birth rates could quickly increase. Demand for modern contraceptive services is also likely to increase as intervals between births shorten and family size increases -- all in an environment where it is increasingly recognized by men and women alike as harder and more costly to support a large family.

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V. SOME ISSUES IN SERVICE PROVISION AND WOMEN'S PROJECTS

QUALITY OF CARE

Recommendation: Treat the woman as a "whole human being" and provide care for the mother-child unit. Integrate MCH services in the health-care facilities. Improve counseling.

Currently most facilities provide services according to a schedule reflecting the traditional vertical intervention-focused division of programs at the MOH in Dakar. Thus, for example: immunization on Monday, prenatal care on Tuesday, baby weighing on Wednesday, etc. Women, having many competing demands on their time, simply cannot afford time to go back to a health facility again and again (even if the services were of high quality). This is especially so during the peak agricultural season when women are busy in the fields but diseases are also at a peak.¹

This is certainly a major reason for low utilization rates (including immunization drop-out rates and non-use of prenatal services). It does not appear that access-to-care or health-seeking-behavior studies have been carried out in Senegal which reveal and document the full nature of the situation here. It is well-documented from many other countries, however, that a main reason women fail to finish the tetanus toxoid or DPT sequence, or fail to make prenatal care visits, or fail to return for ORT counseling or child nutrition sessions is a combination of competing demands on their time (both subsistence and extended family network obligations) and lack of motivation to seek services that they do not perceive as being of great value.²

One reason women do not see the health services offered as being of great value may be fact that they simply aren't: for example, that there are no, or very few, medicines. Or, as in Senegal and many other countries, a child nutrition program may carry out the ritual baby weighing that is called "growth monitoring" without offering follow-up growth-promotion measures. Or, as in many countries, a woman may not return for DPT II and DPT-III because the health worker did not take time to communicate to her both the why and when of immunization: the importance of immunization and when she needs to return. Or, as in many

¹ Study findings in the Sine Saloum region underscore the importance villagers attach to time saved when medical care is needed. Villagers who felt they had benefitted from the PHC program cited "less time lost" as the greatest benefit. (See USAID 1984:C-14.)

² See Leslie and Gupta (1988), Pillsbury (1990), Brownlee (1990), and Sukkary-Stolba (1989).

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countries, a woman starting on contraceptives is not given appropriate counseling about short-term side-effects that she may experience and told to return to discuss them.

This whole syndrome of "service utilization" problems is both one of treatment (accueil, how the woman is received and treated by the health workers) and of information/counseling. If one examines discontinuation rates or ineffective use statistics for any single intervention, the importance of good counseling becomes immediately apparent. Lack of adequate counseling causes, for example:

- * incorrect mixing of ORS (many Senegalese mothers have heard of ORT and may even have been "trained in ORS," but fail to administer it properly) (SANAS 1989);
- * contraceptive drop-outs (women start on oral contraceptives but stop using them after a few months; or the "KAP-gap": many people have knowledge about and perhaps even a positive attitude toward contraception, but do not practice it);
- * immunization discontinuation (mothers bring their child for the first vaccinations but fail to complete the sequence, or the pregnant woman fails to return for her second TT shot);
- * Prenatal care that is in name only (the entries in the clinic prenatal care record book show that what is reported to supervisors, and upward in the system, as prenatal care often consists of single visits by a pregnant woman who, for example, feeling weak, visits the clinic, is only given a few iron tablets and never returns again).

Ideally, good accueil (treatment) means that the health care worker would inquire also, if not first, after the woman's general state of health.

For quality of care, a woman visiting a facility must be seen as a whole human being. A woman should be able to take care of all basic needs of herself and her children on a single health-post or health-center visit.

Improving the pharmaceutical system in Senegal is an important need. This will improve quality of curative care, make basic medicines available at lower costs, and increase the public's level of confidence in the health facility and the health staff there. But attention to the pharmaceutical system must be complemented with other changes as suggested above.

USAID should work with individual medecin-chefs in selected regions on quality improvement. Medecin-chefs who have been through the public health program at the Mbour Public Health and Development Training Center have received the basic training

needed for this. In selected regions, USAID might work with the medecin-chefs (and perhaps also chefs de poste and sage-femmes) to help them to systematically analyze problems in their system and identify steps for improvement. This might involve some small-scale studies (e.g., diagnostic, an access-du-soin study as is currently being finalized in Pikine, etc.) complemented by practical technical assistance in management development of the sort that several centrally-funded AID projects are able to provide³, perhaps in conjunction with some practical training activity coordinated through the Mbour Public Health and Development Training Center. USAID has an excellent opportunity, if budget authority is decentralized to the medecin-chefs, to make good headway in this area by providing strategically-targeted financial and technical assistance.

Quality and Utilization vs. Extending "Access"

Various donor planning documents (e.g., one dated June 1990) set forth plans to create and extend services to additional service points throughout the country. This does not seem wise, given the current evidence that already-established centers are not functioning very effectively.

The issue is not new. In 1980, it was concluded: "At the Regional level the supervision team (and the A.I.D. technical assistance person) is more occupied with expanding the project into new departments than it is in assuring proper functioning where the system has been established" (Weber et al. 1980:7).

It is, of course, impossible for ministries of health in developing countries to provide services at the level of quality to which donors often aspire. The goal should be, however, to take all steps possible within the limited means to improve quality. This will mean slowing expansion to new facilities. At this time, this seems most appropriate. Expanding access should be a slightly longer-term goal and expansion efforts renewed only when a basic minimum level of quality is achieved.

Model Clinics

In many countries it has proven useful to have one or more private sector entities, usually but not always an NGO, providing women-oriented reproductive health services in what is considered a model clinic. ASBEF and the Pikine Project both have model-type clinics, although Pikine does not appear to place as high a priority on family planning as might be desired. USAID should consider seriously proposals from any group that is interested in developing such a clinic. For example, the American College of Nurse Midwives apparently submitted a proposal to USAID some time

³ E.g., the Family Planning Management Development Project.

ago to establish a model clinic. It appears their plans may have been overly ambitious (and did not include any fee-for-services, which should be required); but perhaps this proposal might be revived. Perhaps an American PVO or foundation, or other European donor would be interested in supporting this (as Ford Foundation, Sweden and Holland do in Bangladesh and Indonesia). USAID should encourage moves in this direction.

USAID should also consider the possibility, if it still exists, of having Senegal be one of the countries for support from S&T/Health's Mothercare Project.

WOMEN-IN-DEVELOPMENT ACTIVITIES LINKED TO HEALTH/FAMILY PLANNING

Recent efforts by USAID and UNICEF to work with community-level women's groups have been disappointing. These provide important lessons that all donors should study carefully before designing future women-focused activities. There is a common tendency among donors, whenever efforts to work with women's groups fail, to say the problem lies with the women's groups. One important lesson here has to do with the appropriateness of the organization(s) intermediate between the donor and the community. It is they who are responsible for working with women at the community level -- but do they have the needed skills, approach, and motivation?

Case: UNICEF's Women's Projects

Of five projects UNICEF has been supporting in rural areas, four are addressed specifically to women. One objective of these projects has been to increase women's incomes in order to help them to have enough money for their basic well-being and that of their children. To this end, UNICEF has provided assistance for productive activities of women's village groups (groupements féminins villageois). A 1989 survey of the village groups in 1989 found market gardening (maraichage) to be the chief income-generating activity of the women surveyed. Conclusions included the following: (1) whether incomes had increased could not be determined, given the lack of precise income data; (2) the assistance provided appeared to have been of relatively limited effectiveness; (3) technical training should be complemented with training in planning and management as well as in marketing; (4) the gardening did, however, contribute greatly to the nutritional situation of the women and their children; and (5) for women to be able to afford goods and services needed for their basic well-being and that of their children, complementary measures need to be taken to reduce costs of those goods and services. (See Marchand 1989.)

Case: USAID's Projets d'Accompagnement ⁴

The Project Agreement for USAID's Family Health and Population Project provided for 50 "pilot women-in-development activities" (projets d'accompagnement) to be established in areas in which family health activities are underway. Assistance was to go to grassroots, self-help women's organizations. The objective was to help integrate women in the development process while exposing them to the beneficial effects of family planning on maternal and child health. Activities envisioned included gardening, livestock, poultry, handicrafts, and family planning IEC. The Project Agreement also specified that 14 community centers would be constructed at the rate of 2 per year.

The 50 women's "projets d'accompagnement" were to be implemented through the Ministry of Social Development (MSD). The MSD in turn proposed in turn that the projects be managed by GOPEC (Le Groupe Operationnel Permanent d'Etudes et de Concertation), an interministerial body attached to MSD which had as its mandate "promoting the economic and social well-being of youth between the ages of 15 and 35 years." It is not clear whether GOPEC had any expertise or interest in working with women's groups. GOPEC had a staff of 15 persons in its Dakar office in the Ministry; 16 regional GOPEC coordinators and technicians in the 10 regions were to implement and supervise the activities.

In 1987 USAID and its project staff approved four women-in-development (WID) projects for the Department of Thies. Two community centers were constructed (in Sara in Thies region, and N'Gor in Dakar region). ISTI reported in 1988: the "7 community centers in 4 regions are located in areas where strong local groups of women exist. They serve as centers for community meetings and work on self-help and community projects. The MSD views these centers as a powerful tool for community action for social and economic development at the grass-roots level."

During 1988 some 20 WID proposals were reviewed and rejected by USAID's project staff. Nor were any new community centers constructed. USAID suggested to the Ministry of Social Development that projects involving profit-making should involve some repayment by the recipient groups. The Ministry responded with a proposal to convert the WID activity to a credit scheme. A USAID/ISTI consultant hired in 1989 to evaluate the feasibility of this proposal concluded that a credit scheme would require substantial management inputs beyond the existing capability of the Ministry and also that there was continuing need for grant assistance to help prepare women's groups to manage economic as well as social activities.

⁴ See Raditz 1989, ISTI 1988:33-34, and ISTI 1989:52-53.

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As of July 1990 no new WID projects had been financed. The original four had been judged not successful.

Current USAID and ISTI staff carry in their heads a general perception of the difficulties experienced. There should, however, be systematic (including community-based) analysis of this and related experiences in working with women's and other community groups.

A New Proposal: Cases-Foyer

A recent donor document (June 1990, draft) has stated that community centers (cases-foyer) are to be constructed and equipped in 45 arrondissements to serve as the locale for women's group activities. These would be small structures (case = huts; foyer = hearth) somewhat similar to the cases de santé (health posts).

This plan, although it might seem a good idea to someone unfamiliar with health development experience in Senegal, appears to ignore that experience. Nor does it appear based on any attempt to understand on-the-ground realities and the real needs of rural women. What is the evidence that women in 45 locales want or would use such a center? How would it be equipped? What activities would take place in these centers? Who would fund the activities? How? Who would maintain the centers? Recent experience shows instead that what rural Senegalese women want are such things as credit and increased income from their agricultural work. (See, for example, Savane 1983.) Certainly it would be repeating past mistakes to build such centers unless need for them has been clearly articulated by local women's groups.

Finally, although this same donor document states that there are over 3,600 women's groups, many of these exist, essentially, only on paper. To bring such groups into true existence and make them functional, what is needed is not buildings but, as the UNICEF study concluded, technical and practical planning/management training.

**VI. WOMEN'S ORGANIZATIONS AND OTHER ORGANIZATIONS
WORKING WITH WOMEN, HEALTH, AND FAMILY PLANNING**

TRADITIONAL WOMEN'S ASSOCIATIONS

Women's associations are an indigenous tradition in West Africa. Typically women have gathered for various reasons within their own ethnic groups. Traditional women's associations differ from one another for economic as well as historical, cultural, religious and social factors. Different types of associations exist for young girls, for women of child-bearing age, and for older women (generally post-menopausal). Tontine is a name commonly used for the traditional mutual-aid type of association.

A study in the Cassamance region found the base of these associations to be economic in terms of land allocation and food production, although a major purpose is the preservation of cultural tradition and social cohesion. Each woman belongs to numerous sub-groups based largely upon marital and religious distinctions. Membership is determined by a woman's relationship to the men of her tribe, the women's associations have their own laws and spheres of activity. These concern two areas: work and the carrying out of ceremonial festivities, both secular and religious (Reveyrand 1986-87).

"MODERN" WOMEN'S ORGANIZATIONS

Senegal has a multitude of "modern" women's organizations (referred to both as caisses populaires and associations feminines). These are sometimes classified as: political, apolitical, and religious.

Political Organizations and Government Programs

The preeminent political women's organization is the Mouvement National des Femmes du Parti Socialiste, which is under the Socialist Party, the party in power.

Several government ministries have programs directed toward women. The Ministry of Social Development, before it was folded into the Ministry of Health during the ministerial consolidation in early 1990, had programs to raise female literacy, to ensure women's legal rights, and to coordinate women's organizations. Following elimination of the Ministry of Social Development, a "Delegated Ministry Charged with the Condition of Women and Children" has been created with the mandate of promoting the status of women and coordinating women's activities. Lacking an operating budget, this "delegated ministry" is searching for donor funds with which to initiate programs.

The Ministry of Rural Development and the Ministry of Plan and Cooperation are also reported to have activities serving women.

Non-Governmental Organizations ⁵

Senegal, compared with many other countries of its size, has a great number of local non-governmental organizations (NGOs). Many are relatively new, many appear to have more ambitions than accomplishments, and many are small-scale. But a fairly vigorous NGO movement appears to be underway, eager to work toward similar goals as are espoused in government policies and ripe for donor support.

Most of the NGOs share a common philosophy which is based on empowerment of local communities to engage in self-help (auto-development). This means helping local communities develop the skills needed to use their own resources more effectively and become more skilled in solving the problems of poverty and development that face them. For groups working with rural women, this also means helping them to overcome the constraints of tradition and illiteracy and to realize that they can take actions to improve their lives in new ways. Most of the NGOs are also trying to bring some form of improved technology to the community -- improved water supply, new agricultural techniques, labor-saving devices, access to credit, and so on.

Two coordinating umbrella organizations exist:

The Conseil des Organisations Non-Gouvernementales d'Appui au Développement (CONGAD), based in Dakar, plays an important coordinating role but does not implement programs. It publishes a useful directory, Repertoire des ONG Membres, (apparently computerized of about 60 member NGOs which contains one-page descriptions of their programs, noting those whose activities include a focus on "sante" and "femmes," among other categories.

A second umbrella organization, the Fédération des Organisations Non-Gouvernementales au Sénégal (FONGS), based in Thies, plays a coordinating role and also implements grass-roots activities.

An additional NGO directory, Repertoire des organisations non-gouvernementales agréées au Sénégal (August 1988), published by the former Ministry of Social Development, with UNDP support, includes perhaps over 200 NGOs.

⁵ See, among other sources, Boye (1986:84-90).

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Senegalese NGOs Working with Women

These include cultural, social, and professional women's groups (including the groups also identified as apolitical and religious). Their members are chiefly of professional, middle-class women who focus primarily on improving legal conditions and economic privileges for women.

Many NGOs work exclusively with women's concerns, sometimes including health but often not (focusing more on agriculture and credit issues). Many NGOs include health in their activities, but seek to provide primary health care to the community at large, rather than focus only on women. Few NGOs focus only on women's health.

Two umbrella organizations focus on women:

La Fédération des Associations Féminines de Sénégal (FAFS, Federation of Senegalese Women). An umbrella organization created in 1977, this federation now has some 90 member organizations. These include professional organizations (such as the Association des Sage-Femmes, a teachers' organization, and a secretaries' association) as well as many religious groups (e.g., Muslim neighborhood groups, Catholic associations) and special interest groups. Each of the member organizations has its own activities. FAFS itself also carries out development activities (e.g. Foyer de la Jeune Fille rurale" designed to help young rural women who have come to Dakar searching employment) and outreach activities in certain regions. It has a central office and offices in each of the 10 regions. FAFS has received support from USAID as well as several U.S. NGOs.

La Fédération Nationale des Groupements de Promotion Féminine (GPF) du Sénégal (FNGPFS). This organization, created by the Ministry of Social Development, was given NGO status in 1988 (1989?). It has a nationwide structure and ambitious set of objectives which are well-elaborated on paper but is just beginning to function. Among its many objectives are: providing local groups with organizational, management, and financial skills; operations research related to economic and other activities of member groups; literacy training, and credit. Health is not mentioned. The Federation claims 3614 "Groupements de Promotion Feminine" and says it is concerned with more than 300,000 women throughout the country. Some of the women's groups counted among its 3614 are genuine grass-roots organizations that were active long before the national organization was created. In other communities the groups are top-down creations which hardly know they exist. OEF International has proposed to USAID funding for about \$50,000 of a questionnaire survey to determine the realities, capacities, and difficulties of the women's groups.

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Among professional women's organizations is l'Association des femmes africaines pour la recherche sur le développement (Association of African Women for Research and Development, AAWORD). This is a group of pan-African women who network with women's organizations throughout Africa to bring together documentation on the role and status of African women and the institutionalization of feminist research. It is based in Dakar and has a Senegalese section.

One recently created group is, Yewu Yewi, perhaps Senegal's most feminist organization.

Senegalese NGOs Working with Family Planning

L'Association Sénégalaise pour le Bien-Etre Familial (ASBEF) is the principle NGO working in family planning. Founded in 1975, ASBEF has a model clinic in Dakar and a second clinic in Louga. ASBEF is the International Planned Parenthood Federation affiliate.

L'Association Sénégalaise pour la Promotion de la Famille, created in 1984, is made up of physicians, sociologists, and heads of households. Its objectives include promotion of natural family planning and sexuality education for youths.

International NGOs Working with Women, Health, and Family Planning

U.S. private voluntary organizations (PVOs) operating in Senegal in the area of women and/or health and that have received USAID grants include the following: Africare, Catholic Relief Services, Overseas Education Fund (OEF), World Vision Relief Organization, World Relief Corporation (WRC), and the National Council of Negro Women (NCNW).

Other U.S. PVOs and foundations operating in Senegal in the area of women and/or health include: Church World Service (CWS), Christian Children Fund (CCF), Eglise Evangelique Luthérienne du Senegal (EELS), Baptist Mission (SBC), West African Evangelical Mission, Lutheran World Relief, the African Development Foundation, and the Ford Foundation.

The main international NGOs operating in Senegal in family planning is the International Planned Parenthood Federation (IPPF), whose local affiliate is ASBEF.

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Annex 11
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Annex 11

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Annex 12

List of Resource Persons

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