# Groupe de Démographie Africaine

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# POPULATION SIZE IN AFRICAN COUNTRIES: AN EVALUATION

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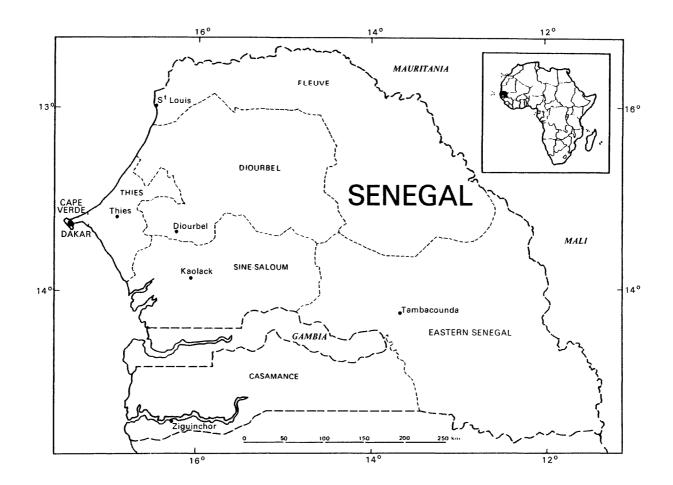
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SENEGAL

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ABDOULAYE SADIO



#### SENEGAL

#### I. DATA SOURCES

# 1) The Administrative Censuses

The first sources of data on the population of Senegal date back to the beginning of the century. These were simple counts of certain categories of the population carried out for essentially fiscal purposes.

It was in 1907 that the first administrative census was carried out. This census covered the four communes of Saint-Louis, Gorée, Dakar and Rufisque, the ports of call along the rivers and the small strip of land on both sides of the railway linking Dakar to Saint-Louis, a total area of 1,135 sq. km.

These administrative censuses were at first organized every four years, and then every year. They still take place at the present time but only cover the population residing outside the communes (contrary to what was formerly practised).

Due to their objectives, the administrative censuses did not give results which accurately reflect the demographic situation of the country at the periods considered.

### 2) Population Censuses of the Communes

Population censuses of certain communes were also carried out by the colonial government. These were the following, in chronological order:

Diourbel in December 1951

Ziguinchor in December 1951

Thies in March-April 1954

Saint Louis in April 1954

and Dakar in April 1955

These censuses only covered the African population, apart from the Dakar one which also enumerated the non-African population.

For the whole of French West Africa, some censuses of non-natives were also carried out in 1946, 1951 and 1956.

# 3) Statistical Population Surveys

Several demographic or pluridisciplinary surveys have also been conducted in Senegal.

# a) The Survey on the Mid-Valley of the Senegal

The main objective of this interdisciplinary study carried out in 1957 was to analyse the development problems in the mid-valley of the river Senegal. The actual population survey was carried out in the field from May 1st to June 30th on a sample population of 42,000 people. The sampling fraction was 1/5th in the urban zone and 1/10th in the sedentary rural zone.

The survey in the mid-valley was the first of its kind, with a fairly high coverage, to be conducted in Senegal during the colonial period.

# b) The 1960-1961 National Population Survey

This was a classic single-round population survey, where the sampling ratio was 1/10th in urban areas and varied from 1/100th to 1/20th in rural areas. The sample size was 200.000 inhabitants. The sampling frame was constituted from a list of the villages and communes to which were attributed the latest known estimates of their overall population size.

The data collection operations were carried out in the field from April to June 1960 for the rural areas. However, for the urban areas they continued until August 1961.

This survey was one of the first attempts to be carried out on a scientific basis with a view to improving demographic knowledge of Senegal. Unfortunately, the only available results are those recorded in the thesis of Louis VERRIERE.

#### c) The 1970-1971 National Population Survey

This lies within the framework of the 1970 world census recommended by the United Nations.

It was a three-round sample survey, each round taking six months. The territory was divided into three strata:

- The urban stratum, which included all the localities of 10,000 inhabitants or more:
- The semi-urban stratum, consisting of the localities from 9,999 to 1.000 inhabitants:
- The rural stratum, grouping the localities of less than 1,000 inhabitants.

The sampling frame for the rural stratum was constituted from the results of the most recent administrative census, which provided a list of all the villages and their respective population size. As regards the communes, the last available estimate was used. The sample concerned 150,000 individuals. The sampling fraction varied from 1/10th to 1/20th according to whether the stratum was urban, semi-urban or rural.

The first round took place from May 15th to November 5th 1970; the second from December 30th to May 15th 1971 and, finally, the third from May 30th to December 5th 1971.

It was not possible to fully exploit this survey. Data processing has now been resumed.

#### d) The General Population Census

The above-mentioned surveys were not able to supply demographic data right down to the lowest level of the administrative districts. Thus it became essential for a general population census to be carried out. Field collection took place from April 15th-30th 1976. The questionnaire which was used for this purpose was deliberately simplified; stress was put in particular on the age and sex distribution of the population, as well as on its geographical distribution. The following characteristics were studied: residence status, place of birth, ethnic group, educational status and type of activity. The study of national population growth was not included.

# e) The Senegalese Fertility Survey

This lies within the framework of both the world fertility survey and a vast demographic research programme set up by the Department of Statistics in order to complete the census data and to obtain a better knowledge of the population.

This survey was composed of two operations carried out simultaneously; the first, known as the household survey, consisted of a standard demographic survey which aimed at supplying data on the socio-economic characteristics of the population studied. This concerned a sample of 180,000 individuals. The second operation, known as the individual survey, consisted of a specific survey on fertility. This was conducted on 5,000 women of reproductive age taken from the household survey sample.

Field operations took place from April 24th to October 30th 1978.

#### f) The Labour Force Population Survey

This constituted the second stage of the demographic research programme mentioned above. It also consisted of two operations, the first of which was the second round of the household survey mentioned above. As for the second operation, it consisted of a specific survey on the labour force covering 65,000 people of working age; it was conducted from August to December 1979.

The size of the sample was sufficiently large to enable population size to be estimated after each of these two "household" surveys.

Due to lack of finances, it was not possible to carry out the third stage of the demographic research programme, which was to study migration

# II. CRITICAL STUDY OF SOURCES

#### 1) The Administrative Censuses

According to L. VERRIERE, the results available from the administrative censuses conducted before independence are the following:

YEAR	POPULATION (thousands)	YEAR	POPULATION (thousands)
1907	1 130,9	1936	1 793.0
1908	1 172,1	•••	
1909	1 209,7	1948	1 992.0
1910	1 249.3	• • •	•••
1911	1 247,3	1952	2 137.1
		•••	
1921	1 207.9	1955	2 222.0
		1956	2 259,6
1933	1 663,0		

TABLE 81 - SENEGAL - POPULATION TRENDS FROM 1907 TO 1956

### Source: [8]

These figures include both the African population and the non-African population. Table 81 shows a slow but steady increase in the population, with the exception of the period from 1911 to 1921. From these results, the annual growth rate calculated over the period 1907-1960 is 1.9% According to L. VERRIERE, it seems acceptable that these administrative counts give, failing a correct estimate of the population size, a valid approximation of the growth rate.

# 2) The Demographic Surveys

The three main surveys with national coverage conducted in Senegal gave the following results:

TABLE 82 - SENEGAL - RESULTS OF THE 1960-1961, 1970-1971 AND 1976 SURVEYS

DATE	POPULATION (inhabitants)	
1.07.1960	3 109 800	
30.12.1970	3 956 616	
15.04.1976	5 068 741	

These figures include both the Senegalese population and the foreign population living in Senegal, as well as the institutional population. The Senegalese living abroad were excluded. They were enumerated in 1976; their population came to 48,097. It is most likely that some expatriated

Senegalese nationals living in an irregular situation or in countries where Senegal has no diplomatic representation were not enumerated.

#### 3) Consistency of the Different Sources

The total populations for 1960 and 1970, given to the nearest unit, are not as exact as one might think. In fact, they were obtained by calculating the sum total of the population estimates for areas where surveys were conducted at sometimes very different times. Moreover, due to the small size of the sample for both the 1960 and the 1970 surveys, to the difficulties met during the updating of the sampling frame, especially in peripheral areas, and finally, to the mobility of the population in the forest-pastoral area, there is reason to suppose that these results were underestimated in certain areas more than in others.

As for the census, various reasons lead to suppose that its results are more plausible and homogenous if the different geographical units are considered. Among these reasons the following may be mentioned: the simplicity of the questionnaire which made data collection easier and reduced the length of the field operations to just fifteen days; a complete and detailed cartographic coverage of the national territory; valuable experience acquired during the previous operations by the persons in charge and some of the enumerators, etc. In general, the census results were extremely satisfactory and have moreover been confirmed both by those of the post-censal survey carried out shortly after the data collection, and by those of the "household" surveys conducted on the occasion of the Senegalese fertility survey and the labour force population survey.

These results also revealed an underestimation of the 1960 and 1970 population survey data. Thus, the annual growth rates for the total population and the regional sub-populations calculated from all these results prove to be barely significant.

#### III. CONCLUSION

Population trends since 1960 should therefore be corrected, taking the above into account. In the light of the results of the most recent surveys, the annual growth rate can be estimated at 2.3% for the period 1960 to 1970, 2.6% for the period 1971 to 1976 and 2.8% as from 1978. This increase can be explained by a birth rate which has hardly varied over the last 20 years, according to the results of the Senegalese fertility survey, and a death rate which has steadily decreased. By means of retrojections of the census results using the above rates, the most likely evolution of the population of Senegal since 1960 can be taken as the following:

TABLE 83 - SENEGAL - CORRECTED POPULATION TRENDS FROM 1960
TO 1969

ON JUNE 30 th OF EACH YEAR	POPULATION	ON JUNE 30 th OF EACH YEAR	POPULATION
1960	3 497 546	1970	4 390 558
1961	3 577 989	1971	4 491 541
1962	3 660 283	1972	4 508 321
1963	3 744 470	1973	4 728 138
1964	3 830 592	1974	4 851 069
1965	3 918 696	1975	4 997 197
1966	4 008 826	1976	5 106 604
1967	4 101 029	1977	5 249 589
1968	4 195 353	1978	5 396 577
1969	4 291.846	1979	5 547 682
		1980	5 703 017

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