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DEMOGRAPHIC DATA AVAILABLE IN AFRICA
AND PLANNING REQUIREMENTS

DEMOGRAPHIC DATA AVAILABLE IN AFRICA AND PLANNING NEEDS

1. Background information

Demographic statistics are the basis for the calculation of the present and future needs of the population. They are essential for the consumption projections in goods and in services. Planning in the realm of education and health calls for data such as age distribution and the birth and death rates. As often as not, the fixing of production targets requires knowledge about the size of the labour force and its occupational structure.

The actual implementation of the plan calls for various checking standards, including demographic indicators.

Thus we see that, in addition to production and trade statistics, the planning of development requires demographic data which should be as comprehensive as possible. Obviously requirements vary according to the method of planning used. Where the movement of labour is governed by the interplay of market forces, requirements are not the same as in a centrally planned economy, the administrative machinery of which ensures the balance of labour needs and resources.

In Africa, the practice of planning has generally consisted in working out individual projects and attempting to ensure that they are compatible, in order that various forms of basic equilibrium may be maintained (including that of the foreign trade balance). No statistics have been used in this context. But the situation has arisen owing to the underdevelopment of African economy, which here implies inadequate government control over the economic processes and an extremely low level of statistical knowledge.

The United Nations therefore proceeded to define a minimum statistical programme and draw up a minimum list of the necessary statistical series 1/ on planning (see Annex). In this context, the Fifth Conference of African Statisticians considered and approved a list of statistical tables to be prepared for the 1970 censuses. 2/

The regional situation as regards these series will subsequently be considered, as will also the question of the fields in which improvements should be made.

2. Available data(a) Sources

Demographic statistics are obtained from population censuses and from the registers which ensure continuous registration of births and

1/ "Statistical Series for the Use of Less Developed Countries in Programmes of Economic and Social Development" (59.XVII.10)

2/ "African Recommendations for the 1970 Population Censuses" (E/CN.14/CAS.6/1).

deaths. In Africa, the registration system is far from being well established and therefore is not an important source of information. Apart from the non-African populations of Southern Africa, as well as some islands the small size of which makes registration easy, registration operates satisfactorily only in certain large towns. According to the UN Demographic Year Book for 1967, the population covered by complete registration of births is around 3.5 per cent of the total population of the African continent. Considerable progress has, however, been made during the past decade, and in some cases, in particular in Tunisia, registration would appear to be close at hand. Yet on the whole one must resign oneself to the inevitably slow pace of progress in this field, a field in which the people's level of education plays a decisive part. The situation is much better in the matter of censuses. A great number of African countries have realized the value of censuses and started to take them. Some have carried out sample surveys, the cost of which is much lower than the cost of complete coverage. To sum up, the countries have been classified in different groups, according to any censuses or other surveys during the 1945-1965 period, namely:

- (1) In Category A, countries which carry out regular censuses; countries which have proceeded to at least two complete coverages from 1945 to 1965;
- (2) In Category B, countries which have taken only one census; countries where there has been only one complete coverage or one national sample survey during the 1945-1965 period;
- (3) In Category C, countries which have taken only incomplete censuses: countries in respect of which there are only partial censuses or partial sample surveys, i.e. a series of surveys or censuses covering the entire country but lasting more than a year;
- (4) In Category D, countries which carry out what are known as "administrative" censuses: operations in which a count is carried out by unorthodox methods (gathering of persons counted, questioning only village chiefs, heads of family, etc.);
- (5) In Category E, other countries.

On this basis, the countries are distributed in the manner shown in Table 1 below:

Table 1

Countries according to census situation and by sub-region^{a/}

Category	North	West	Centre	East	Other	Aggregate
A	7 (19.7)	5 (21.0)	1 (0.0)	8 (10.9)	7 (10.3)	28 (61.9)
B	2 (4.3)	10 (8.0)	5 (2.7)	3 (3.2)	1 (1.4)	21 (19.6)
C	0	2 (2.3)	3 (7.0)	1 (7.2)	0	6 (16.5)
D	0	0	1 (1.0)	0	0	1 (1.0)
E	0	0	0	2 (0.8)	0	2 (0.8)
Aggregate	9 (24.3)	17 (31.3)	10 (10.7)	14 (22.1)	8 (11.7)	58 (100.0)

a/ Percentage of population given in parentheses.

It can be seen that only half the countries take a regular census; the situation in this respect is excellent in North Africa and Southern Africa (Other). The population covered in Category A represents 61 per cent of the total population. In West and Central Africa, countries have resorted mainly to sampling, and the practice of taking a census is not yet firmly established.

The data compiled cover a wide area, but the extraction and publication of the results have not always been as complete as necessary. This is in the general context of the limited use of statistics by planning bodies. The term "available data" will henceforth be understood to mean data actually published and available to users.

Few countries have systematically estimated the quality of their demographic data. Yet this should be done since the use of unreliable data may lead to error and hence to additional cost.

(b) Critical analysis of data

(1) Size and geographical distribution of the population

It has been mentioned above that only 61 per cent of the population of Africa are covered by a regular census. There is little information as to the reliability of such censuses, because the enquiries regarding errors committed have made no headway. Where sample surveys have been carried out, it would appear that any possible errors due to the sampling represent only a small percentage of the total error, since sampling errors do not exceed 5 per cent (Sudan). The systematic errors made in the census are more serious. Thus, in the 1957-1958 enquiry carried out in the Ivory Coast, widely differing figures were obtained regarding the number of absent residents and visitors, given as 201,000 and 58,000 ^{1/}

^{1/} Quarterly supplement to the Monthly Bulletin of Statistics, 8th year, 1st quarter.

respectively. This type of error occurs in sampling surveys and censuses alike, and the sampling plan should not fail to provide observations that will make it possible to assess the extent of the error.

The disadvantage of sampling lies in the fact that it is usually impossible to secure a reasonably precise estimate of the population in each administrative district. In some cases, as happened in Congo (B), a country's principal towns are not included in the enquiry, which is a rather serious drawback.

Out of 50 African countries, only 29 divide the total population into urban population and rural population. In other cases, data are available only for the African population or for some regions.

Internal migration is becoming an increasingly important factor, with the growing urbanization which it entails. Few African countries are able to reckon the size and direction of such migrations unless they have had a series of satisfactory censuses. Lastly, it is to be noted that a census will often fail to include the European population, especially in countries which carry out sample surveys. This should be considered in the light of the economic and social importance of the European population in African countries, where it controls a large part of the domestic product, either directly or through the undertakings.

(2) Age and sex structure

A number of social activities depend on age, and it is therefore essential to know the age distribution of the population. Distribution by five-year age groups up to the age of 60 would seem to be the minimum requirement. In this respect, countries may be classified in five categories:

- A. Countries in respect of which such a distribution exists for the whole territory and for all the ethnic groups, for a given year;
- B. Countries in respect of which the distribution relates only to the African population;
- C. Countries whose statistics are incomplete (do not cover the whole territory);
- D. Countries which have adopted unorthodox classifications by age;
- E. Other cases.

Table 2
Statistics available on age distribution, by sub-region

Category	North	West	Centre	East	Other	Aggregate
A	4 (19.1)	7 (23.2)	1 (0.1)	7 (9.5)	6 (10.0)	25 (61.9)
B	0	4 (3.9)	1 (1.0)	1 (1.9)	0	6 (6.8)
C	0	4 (4.2)	4 (3.4)	1 (7.2)	0	6 (14.8)
D	2 (4.9)	2 (0.2)	2 (5.1)	4 (2.6)	1 (1.4)	11 (14.2)
E	3 (0.0)	0	2 (1.0)	2 (0.8)	1 (0.3)	8 (2.1)
Aggregate	9 (24.0)	17 (31.5)	10 (10.6)	15 (22.0)	8 (11.7)	59 (100)

Study of the criteria adopted by the countries classified in Category D (about ten) shows the difficulties in the way of obtaining reliable data regarding age in Africa. In most cases, the structure of the distribution obtained reveals very serious errors in the ages declared. Whereas, in the absence of any demographic upheavals, the size of the successive age groups should decrease fairly regularly, we find considerable variations and frequently see a marked gap between the ages of 10 and 30.

The age variation of the masculinity rate strikingly shows the existence of systematic errors. As a rule, there is an upward curve up to 10 - 15, followed by a downward curve to 20 - 25 and again by an upward curve, whereas the rate should decrease gradually according to the model of stable population. It is a striking fact that the curve is practically the same for a number of countries, which would strengthen the view that the same age structure is to be found in wide areas. The table below shows the median curve based on data available in respect of eleven countries in West Africa.

Table 3
Median masculinity ratio in West Africa

Age	Ratio
0 - 4	99
5 - 9	108
10 - 14	121
15 - 19	92
20 - 24	70
25 - 29	73
30 - 34	87
35 - 39	95
40 - 44	106
45 - 49	114
50 - 54	118
55 - 59	122
60 -	114

Errors have arisen because African population have not known their exact ages, despite the fact that seniority plays an important role in African society. Some countries have therefore renounced an exact estimate and confined themselves to classifying individuals as persons who have reached puberty and persons who have not reached puberty, as was done in Sudan in 1955-1956. Hence, in most cases it is idle to seek a distribution by age, however useful that information might be.

Graduating the gross figures obtained from censuses is therefore necessary. Different methods have been worked out, particularly by Brass, but it is difficult to find the staff to carry out this work, even though one should not overlook the contribution made by bodies such as the INSEE ^{1/} and the INED ^{2/} in regard to surveys in French-speaking countries.

3. Economic activity of the population

To determine the labour resources, the number of persons seeking employment and training needs, some information is needed regarding the size of the active population and its distribution among the various collective activities and occupations.

If we take as an indicator of the availability of such statistics the fact that the total population is divided into active and inactive persons, by sex, we have the following situation:

Table 4
Data available on the active population, by sub-region

Category	North	West	Centre	East	Other	Aggregate
A	6 (32.9)	6 (6.1)	1 (0.1)	3 (0.6)	5 (11.5)	21 (51.2)
B	0	3 (3.3)	2 (7.0)	1 (2.7)	2 (2.3)	8 (15.3)
C	0	2 (3.2)	4 (4.7)	3 (15.6)	0	9 (23.5)
D	0	2 (0.6)	1 (1.4)	5 (8.0)	0	8 (10.0)
Aggregate)	6 (32.9)	13 (13.2)	8 (13.2)	12 (25.7)	7 (13.8)	46 (100)

Category A includes countries in respect of which the size of the total active population, by sex, is known for a given year.

Category B includes countries in respect of which this information is available for Africans alone.

^{1/} Institut National de la Statistique et des Etudes Economiques (National Institute of Statistics and Economic Investigation)

^{2/} Institut National des Etudes demographiques (National Institute of Demographic Investigation)

Category C includes countries in respect of which the data are geographically or ethnically incomplete.

Category D includes countries which lack data.

Only those countries are classified in regard to which there is information allowing of classification.

In Africa, the statistics of the active population present special problems, owing to the fact that the methods and concepts used are difficult to apply in an economy where the non-monetary sector is still very important. The division of labour is much less advanced in traditional African society than in industrial societies, and the same individual may perform activities which, in the modern context, are associated with different occupations. Where, as in northern Africa, Islamic influence is strong, it seems to be particularly difficult to ascertain whether women exercise an economic activity. According to the Algerian 1966 census, the participation rate of women did not exceed 1.7 per cent. There is a similar rate for Libya, where the 1964 census yielded 3 per cent as the rate of women's activity. These results are hard to accept, and in any case show the complexity of the problem.

If one studies the ratios of the different censuses and surveys carried out in Africa, one is struck by the virtual unanimity of statisticians and demographers regarding the inadequacy of international standards for statistics of the active population. Thus the problem of the minimum age of activity has received various solutions: 6 years of age in Libya and Algeria, 10 in Ethiopia, according to the National Sample Survey, etc.

In some cases, such as Zambia or Rhodesia, where the rate of female participation in paid work is low, the data have been confined to the activity of adult men. In East Africa, most censuses have included no questions about labour activity, because the size of the wage-earning labour force is known, and that alone is considered to be of any real interest.

There is no concensus on the concept of active population and more particularly whether or not it should include unemployed persons. These have been classified as "inactive", "out of work" or "no occupation". Knowing as we do that unemployment is from day to day becoming an ever greater social problem, this seems the wrong procedure, for it does not make it possible to grasp this phenomenon completely.

In some countries, no information is available on the economic activity of the European population. This is a serious omission, for this population often represents the overwhelming majority of persons engaged in highly skilled occupations and provides most of the managerial staff in undertakings. In some occupations, the number of expatriate cadres employed to some extent affords a rough estimate of the local staff required.

4. Fertility and mortality

The mortality rate and the birth rate indicate the rate of population growth, which for the planner is the minimum growth rate desired for the economy.

These rates directly reflect the population's level of health. In the absence of an effective registration system, African countries have had to secure information by having recourse to special methods. In most cases, they have used sample surveys in which women have been asked how many children they have given birth to, how many of them have survived, etc.

As regards the birth rate, the population covered by registration would appear to be 3 per cent, and that covered by sample surveys, 36 per cent, the remainder being divided into 24 per cent, in respect of which there are estimates based on the inverse method of the survival rate, and 22 per cent in respect of which there are estimates from other sources.

The situation relating to mortality is as follows:

Table 5

Countries according to the source of information on the mortality rate

Category	North	West	Centre	East	Other	Aggregate
A <u>a/</u>	2 (0.1)	2 (0.1)	2 (0.1)	4 (0.6)	0	10 (0.9)
B <u>b/</u>	2 (12.5)	10 (15.3)	8 (15.2)	4 (12.4)	4 (10.9)	28 (66.3)
C <u>c/</u>	3 (21.6)	2 (0.6)	0	2 (5.4)	2 (5.5)	9 (33.1)
Aggregate	7 (34.2)	14 (16.0)	10 (15.3)	10 (18.4)	6 (16.4)	47 (100)

Source: Demographic Handbook for Africa, ECA, March 1968.

a/ Complete registration.

b/ Sampling.

c/ Other cases.

Only 2.5 per cent of the population is covered by complete registration bearing in mind the non-Bantu population of Southern Africa.

Information on birth and mortality should not, however, be confined to the gross rates, but should extend to the age rates, as these would afford a more accurate view of the demographic system and are the basis for demographic projections.

Besides the errors in the death and birth declarations, errors are also made about the age of individuals, and this substantially diminishes the value of the information available. Consequently, different demographic models often have to be used in estimating fecundity and mortality rates according to age.

The projections elaborated for African countries are largely carried out by non-African or United Nations research bodies. Naturally this in no way diminishes their value, but helps to draw attention to the work that devolves upon African institutions in this field.

5. Necessary supplementary data

(1) Population census

Any improvement in the volume and quality of demographic statistics is contingent upon a complete census of the population at regular intervals and upon better censuses. With the scanty financial resources of the governments and the difficulty of finding staff able to undertake and successfully carry out the complex tasks involved in a modern census, it may sometimes be advisable to confine oneself to a "light" census and to keep the more difficult questions for a sample of the population. But that does not do away with the need for a house-to-house count of the inhabitants, which is the only procedure that can impart an exact knowledge of the population. Moreover, no effort should be spared in ensuring ever greater precision in the counting, followed if necessary by a post-enumeration survey (PES).

While it will be a long time before the registration system can operate satisfactorily, efforts to extend and improve it should on no account be relaxed. It would appear that a great deal may be expected of the experiments with continuous registration now being carried out, particularly in Senegal. Countries will also find some very useful information in the "Final Report of the African Seminar on Vital Statistics" (United Nations Publication, Sales No. 65.XVII.6).

(2) Supplementary data

The nature of the statistics to be compiled now seems to be well known. Thus, one may refer to the Recommendations of the Fifth Conference of African Statisticians on Population Censuses for 1970. A very complete statistical programme was laid down which, if carried out, might afford the planners a considerable amount of information. It would seem advisable to draw attention to some specific points:

- (a) Complete population census: censuses or surveys should as far as possible extend to all ethnic or racial population groups, in order to give a complete picture.
- (b) Age structure: special efforts should be made to improve age registration. Some interesting work has already been carried out in this field, particularly in Kenya, where it was realized that initial age distribution could be used as a means of determining age. A co-ordinated age research programme conducted by the African countries should yield interesting results.
- (c) Internal migration: since urban migration is always larger than any other, it seems advisable to recommend that censuses should frequently be taken in towns, for example every five years or at even shorter intervals if necessary. In this connexion, an attempt should be made to clarify ideas on the subject of urban population with a view to achieving comparable results.
- (d) Economic activity of population: no census should overlook this question. This would, of course, presuppose the adoption of concepts which can be used in an African environment, particularly in the matter of occupation.^{1/} Special inquiries regarding the use of the labour force in urban areas and periods of work in rural areas would lead to a better knowledge of economic activity.
- (e) Population movement: research is at present concentrating on methods which may afford some knowledge about fertility and mortality in African countries. Experiments are being conducted by means of repeated surveys, and a census of the population is taken at intervals of one year or six months.

^{1/} In this context, see "African Recommendations for the 1970 Population Censuses" (E/CN.14/CAS.6/1).

These efforts are to be encouraged since, in the absence of registration, they will make it possible to ascertain the rate of demographic variation.

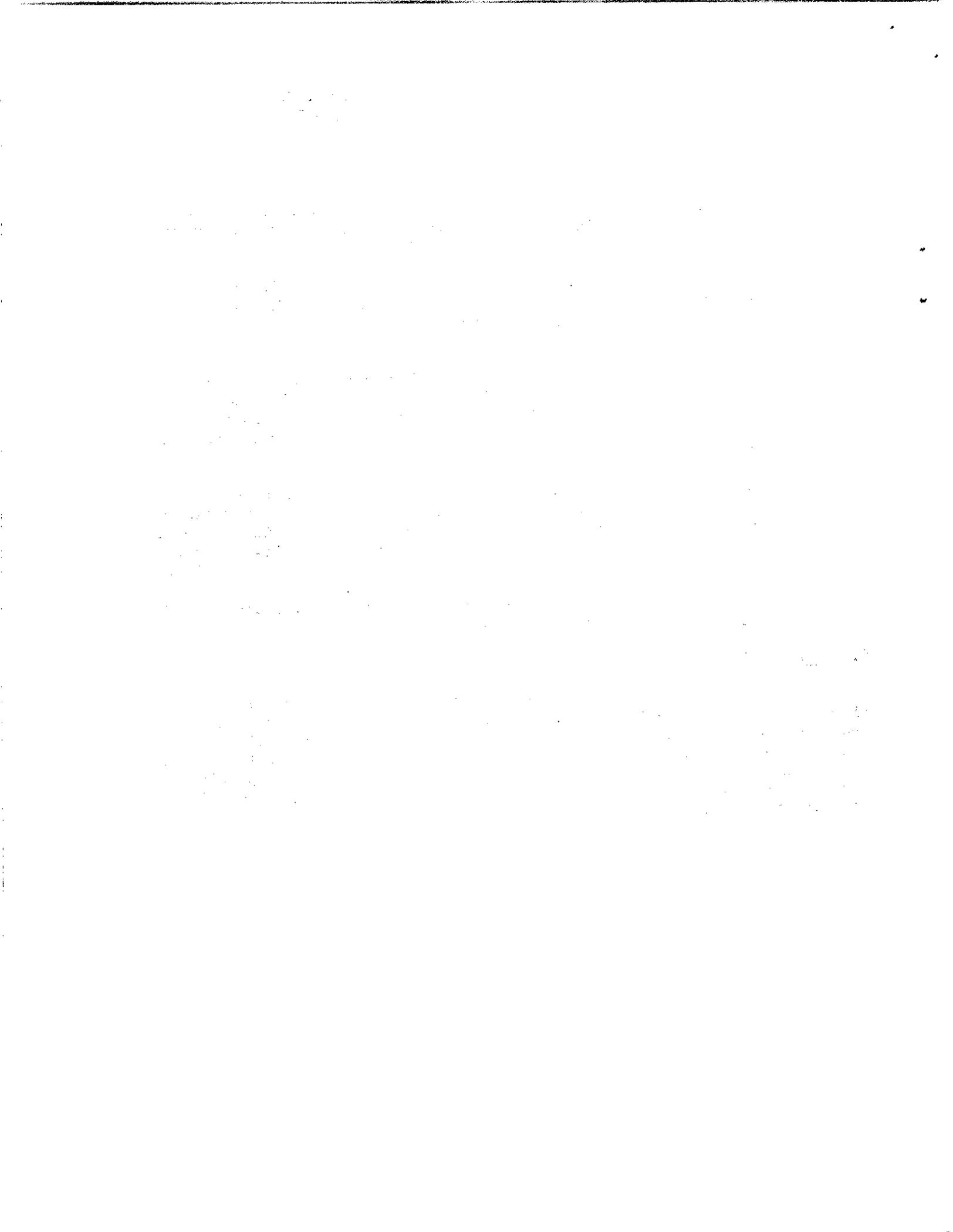
At the present time, African countries lack certain basic demographic surveys. In the first place, they often have no means of estimating the aggregate value of the data yielded by the censuses.

Although overall population projections are sometimes available, yet there are some gaps in the matter of projections of the urban and rural population, the active population and the school-age population, of which the planner stands in immediate need.

As regards households, the size of which determines the demand for housing, the results have been very scanty. On the other hand, household statistics enter into the consumption surveys, for a household is pre-eminently a consumption unit. Hence, it would be advisable for each country to draw up and implement a programme for analysing demographic data, so as to afford a basis for the projections and throw light on the mechanism of such phenomena as urban migration.

6. Conclusion

In Africa, progress in planning depends largely on the volume and size of statistical information. Governments should therefore attach greater importance to demographic statistics and allocate sufficient funds for the purpose. Further, it seems that closer co-operation should be established between the planning offices and the bodies responsible for demographic matters, so that the collection of data may be carried out bearing development needs in mind.



LIST OF STATISTICAL SERIES FOR THE USE OF LESS DEVELOPED COUNTRIES
IN PROGRAMMES OF ECONOMIC AND SOCIAL DEVELOPMENT

Statistical Series or Tabulation	Frequency	Geographic Area	Notes Concerning Sources of Information, etc.
I. The Population			
A. Number of persons during a specific day classified by: 1/	Decennial	Total country, distinguishing (a) urban and rural areas and (b) if feasible, major territorial divisions	The data would generally be gathered by means of a census of population. It may be desirable to utilize sampling in the collection of the data for series A2, A3 and A4; or, under certain circumstances, all of the series. Classifications of households according to type might include classification as to economic status (whether self-employed, and employer or employee) of the head of the household.
1. Marital status, sex and age;			
2. Literacy, sex and age;			
3. Type and level of education completed;			
4. Ethnic or nationality group, sex and age;		Total country, distinguishing (a) urban and rural areas and (b) major territorial divisions and (c) principal cities.	
5. Type and size of household;			
6. Sex and age.			
B. Number of live births occurring during the year classified by: 2/	Annual	Total country distinguishing (a) urban and rural areas and (b) if feasible, major civil divisions	The series would generally result from country-wide registration from governmental administrative authorities. However, if the country-wide registration system is deficient, for example, with regard to completeness or reliability of information - it may be advantageous to utilize sample registration areas in an effort to improve the registration system and at the same time gather useful data.
1. Sex;			
2. Order of live birth and age of mother.			
C. Number of deaths occurring during the year classified by sex, age and cause. 2/	Annual	Total country, distinguishing (a) urban and rural areas and (b) if feasible, major civil divisions.	

Statistical Series or Tabulation	Frequency	Geographic Area	Notes Concerning Sources of Information, etc.
D. Number of immigrants and emigrants during the year classified by age and sex. <u>3/</u>	Annual	Total Country	The series would be a by-product of the administrative activities of border immigration or similar governmental authorities. It may also be desirable to classify immigrants and emigrants by countries of origin and destination, respectively.
E. Number of persons during a specific period.	Annual	Total country	The series would generally be estimated by the use of the preceding decennial and annual data on population. If substantial shifts occur in the geographic distribution of the population, it may also be necessary to have estimates of the total number of persons for selected areas more frequently than every ten years. These estimates might be made from the primary data utilized in estimating the population as a whole, in combination with measures of internal shifts in population which are derived from administrative sources, sample surveys, etc.
II. <u>Labour</u>			
Number of persons who are economically active (in the labour force) during a specific period, by: <u>1/</u>	Decennial	Total country, distinguishing (a) urban and rural areas and (b) if feasible, major territorial divisions	The data would generally be gathered by means of a census of population. It is likely to be advantageous to utilize sampling in gathering these series.
1. Sex and age;			
2. Sex, status and kind of economic activity;			
3. Sex, status and occupation;			
<u>4/</u> Whether employed or not, sex, status and kind of economic activity.			

- 1/ For definition of items of data and their classification in tabulations, the use of sampling, and fuller discussion of the values of these data in development activities, see: Principles and Recommendations for National Population Censuses, Statistical Papers, Series M, No. 27, Statistical Office of the United Nations, New York, 1958, and Handbook of Population Census Methods, Volumes I and II, Statistical Office of the United Nations, 1958, and Volume III forthcoming.
- 2/ For definition and collection of items of data and their classifications and use, see: Principles for a Vital Statistics System, Statistical Papers, Series M, No.19, August 1953, and Handbook of Vital Statistics Methods, Studies in Methods, Series F, No. 7, April 1955, Statistical Office of the United Nations, New York.
- 3/ For definition of items of data and their classification in tabulations see International Migration Statistics, Statistical Papers, Series M, No. 20, Statistical Office of the United Nations, New York, 1953.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for the integrity of the financial system and for the ability to detect and prevent fraud.

2. The second part of the document outlines the specific procedures for recording transactions. It details the steps involved in the accounting cycle, from identifying the transaction to posting it to the appropriate ledger account. It also discusses the importance of double-checking entries to ensure accuracy.

3. The third part of the document addresses the issue of reconciling accounts. It explains how to compare the company's records with the bank's records to identify any discrepancies. It provides a step-by-step guide for performing a bank reconciliation and discusses the common reasons for differences between the two sets of records.

4. The fourth part of the document discusses the importance of regular audits. It explains that audits are conducted to verify the accuracy of the financial statements and to ensure that the company is complying with applicable laws and regulations. It also discusses the role of internal controls in preventing errors and fraud.

5. The fifth part of the document discusses the importance of maintaining up-to-date financial statements. It explains that these statements provide a snapshot of the company's financial position at a given time and are used by management and investors to make informed decisions. It also discusses the importance of reviewing these statements regularly to identify any trends or areas of concern.