

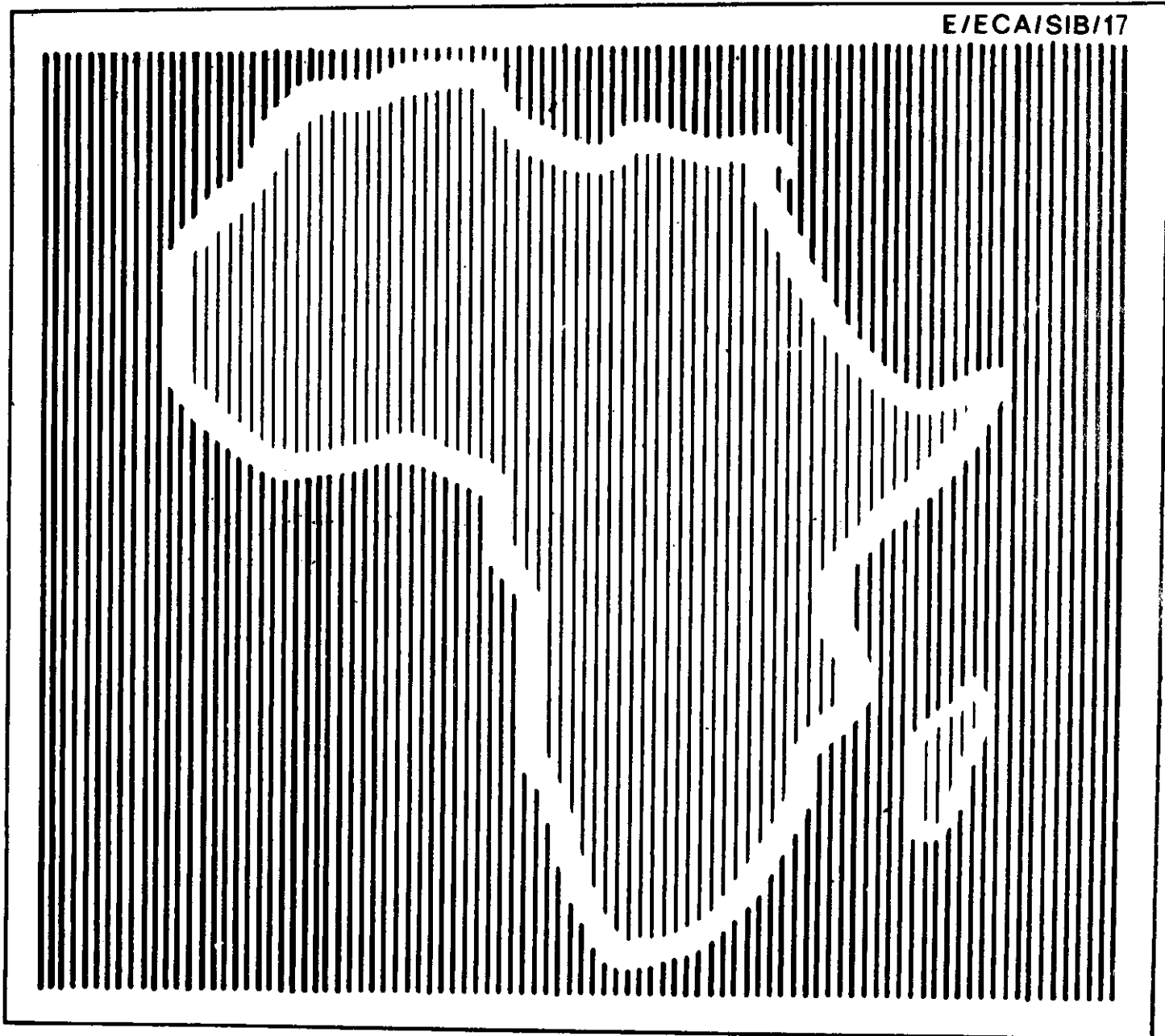


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## Bulletin d'information statistique pour l'Afrique

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#### EDITORIAL NOTE

This present issue of the Bulletin deals mainly with international migration statistics in Africa. It may be recalled that SIB No. 15 was devoted to the subject of internal migration. This volume is therefore complementary to that issue as it deals with the other subject which would have been discussed at the Working Group on Migration Statistics in 1982.

The first chapter discusses concepts, definitions and classifications of international migration statistics, and the second enumerates and evaluates the sources of data. Problems of identification and measurement of special categories of persons that cross international boundaries in Africa is the subject of the third chapter. The fourth chapter contains proposals for the improvement of international migration statistics in Africa within the context of the UN phased programme.

Environment statistics and national accounts are the other two topics covered by the Bulletin. Chapter 5 focuses on the development of environment statistics in Africa, while the annex contains various tables pertaining to national accounts.

#### NOTE DE LA REDACTION

Le présent numéro du bulletin traite principalement des statistiques relatives aux migrations internationales en Afrique. On se rappellera que BIS no. 15 avait été consacré aux migrations internes. Ces deux numéros du bulletin sont donc complémentaires car les deux sujets traités devaient faire l'objet de débats au sein d'un groupe de travail sur les statistiques de migration qui devait être organisé en 1982.

Le premier chapitre porte sur les concepts, définitions et classifications des statistiques de migrations internationales. Le deuxième chapitre énumère et évalue les sources de données. Les problèmes relatifs à l'identification et au dénombrement de certaines catégories spéciales de personnes traversant les frontières internationales en Afrique font l'objet du troisième chapitre. Le quatrième chapitre présente un certain nombre de propositions susceptibles de renforcer les statistiques sur les migrations internationales en Afrique compte tenu des différentes phases du programme des Nations Unies en ce domaine.

On trouvera également dans le présent bulletin des études relatives aux statistiques de l'environnement et aux statistiques de comptabilité nationale. Le chapitre 5 porte essentiellement sur le développement des statistiques de l'environnement en Afrique, tandis que l'annexe présente divers tableaux relatifs aux comptes nationaux.

Date: 1985

## CONCEPTS, DEFINITIONS AND CLASSIFICATIONS OF INTERNATIONAL MIGRATION STATISTICS IN AFRICA

### INTRODUCTION

For the development of integrated data on international migration, comparability of concepts, classifications and definitions among sending and receiving countries is useful (United Nations, 1953). International organizations such as the International Statistical Institute, the International Labour Office and the United Nations Statistical Office have over the years been striving to achieve this objective.

Explicitly, in 1953, the United Nations Statistical Office came out with recommendations which stressed the need for international comparability of statistics pertaining to immigration and emigration. However, nearly twenty years after these recommendations were issued, it that their implementation has been done by only a handful of countries. Consequently in 1972, the Statistical Commission urged that they be revised.

In the meantime, the lack of uniformity among countries in the collection of data and the publication of such data on international migration had become conspicuous (Kraly, 1979: 30-52). More and more countries were collecting immigration statistics based solely on their national administrative and/or legal systems. The few countries that collected emigration statistics did so by means of their administrative systems.

At the same time, the patterns of international migration have been undergoing changes. In Africa, for example, while pre-colonial movements such as nomadism still persist, there has been considerable increases in intra African movements, and more recently, in the volume of refugees. All these changes have made it imperative for the revision of the 1953 recommendations on international migration.

At its nineteenth session in 1977, the Statistical Commission endorsed the recommendations relating to statistics on international migration. The thrust of these recommendations is the enhancement of the international comparability of the data and they include outlines of standard definitions of international migrants and immigrant stock along with methods of data collection. Tabulation schemes and publication schedules were also suggested.

Parallel efforts to develop standard concepts, classifications and definitions on international tourism and travel statistics have been proceeding (United Nations, 1976). In 1976, the United Nations Statistical Office published provisional guidelines on statistics of international tourism. Definitions and classifications relating to similar categories of arrivals - such as visitors - were harmonized. More specifically, the provisional guidelines on statistics of international tourism, which were approved by the Statistical Commission at its nineteenth session in 1976 contain discussion of concepts, definitions and classifications and outlines of data collection methodology and a programme on phases to develop statistics on the subject.

#### THE CONCEPT OF INTERNATIONAL MIGRATION

The main features of migration comprise : (a) a change of usual residence and (b) movement across an administrative boundary. When the movement occurs over national boundaries, it is international migration.

Two examples will illustrate the various definitions of migration that can be found in the literature (Shryock et alia, 1973: 579) :

- Migration is a form of geographic or spatial movement involving a change of usual residence between clearly defined geographical units.
- The term migration has in general usage been restricted to relatively permanent changes in residence between specifically designated political or statistical areas or between type-of-residence.

Accordingly, migration is a subset of the movements subsumed under the concept of spatial mobility. Spatial mobility embraces all types of territorial movements, irrespective of their temporal and spatial nature. On the other hand, time and space are central to the definition of migration. The migrant leaves one administrative unit for another : the administrative unit (the country, in the case of international migration) he/she leaves is the place of origin or place of departure; and the administrative unit where he/she goes to, is the place of destination or place of arrival.

To reiterate, international migration involves movements over national boundaries, as opposed to internal migration which comprises movements across national boundaries. In applying this distinction in sub-Saharan African countries, difficulties sometimes crop up. This is because a large number of national boundaries were demarcated during the colonial period without regard to whether or not they divide ethnic groups (Gould and Prothero, 1975: 40) :

- The conventional distinction between movements which are international or internal is less appropriate in the case of tropical Africa than elsewhere. Many types of mobility in the continuum from rural or urban and from traditional to modern involve the crossing of international boundaries, but without reference to them since they either existed from a time before the boundaries were agreed and/or demarcated, or because even after demarcation no control over movement has existed or, for that matter, is possible.

In recent times, at certain strategic border crossings, movements across such boundaries are documented. But on the whole, because of the extensive lengths of such boundaries, most not protected by natural terrains, and because of the frequency of the movements, it has not proved feasible to record all movements across them.

With respect to the temporal aspect of the definition, problems also arise in distinguishing permanent from temporary moves. The issue is complicated by authors who consider permanent or semi permanent residence as "entailing a change in the total round of social and economic activities" (Goldscheider, 1980) or "those changes of residence that involve a complete change and readjustment of the community of affiliation of the individual" (Bogue, 1959: 489). Operationalization of these concepts appear formidable. Consequently, other authors are inclined to relax these rigid and complex conditions and are content with using the criterion of duration of residence as proxy for measuring permanent or semi-permanent residence. The international recommendations that distinguish long-term from short-term immigrants and emigrants that we shall be considering later, employ the duration of residence (or absence) criterion.

A number of typologies of international migration have appeared in the literature. One of the best known, by Petersen (1958: 256-65), classifies migrations mainly by the underlying causes of the movement.

- (a) Primitive i.e., migrations as a result of ecological push;
- (b) Forced and impelled i.e., migrations as a result of the activity of the States or some functionally equivalent social order;
- (c) Free migration i.e. migrations as a result of individual rational choice; and
- (d) Mass migration i.e., migrations of a group.

This typology, which overlaps considerably, are useful mainly for historical studies of international migration. A historical perspective also characterizes Prothero's (1968: 250-62) attempts at the classification of African migration types, as consisting of : (a) movements that took place in the past but which have now ceases, (b) movements which have continued from the past into the present, and (c) movements that have developed in recent times (ie., within the present century).

In another attempt at classification, Prothero (1982) divides African migratory movements into two classes : (a) economic and (b) non-economic. Under economic movements he includes such moves as nomadism, transhumance, shifting cultivation, trading, fishing and resettlement. He includes pilgrimage and movements of refugees among the non-economic movements.

#### CONCEPTS, CLASSIFICATION AND DEFINITIONS OF MAIN CATEGORIES OF ARRIVALS AND DEPARTURES

As immigrants (international migrants who enter another country) and emigrants (international migrants who leave another country) comprise only a subset of the various categories of persons who enter and leave a country, their definitions and classifications must be such as not to include these other groups.

In Africa, the following major categories of arrivals and departures subdivided into (a) residents and (b) non-residents, could be identified under the classification scheme given below :

MAJOR CATEGORIES OF ARRIVALS AND DEPARTURES\*

Arrivals

Non-residents

- Long-term immigrants
- Short-term immigrants
- Visitors from abroad
- Nomads
- Border workers entering to work/visit
- Persons in transit
- Refugees

Residents

- Short-term emigrants returning
- Persons returning from visits abroad
- Nomads
- Border inhabitants returning after work/visit
- (Not relevant)
- (Not relevant)

Departures

Residents

- Long-term emigrants
- Short-term emigrants
- Persons visiting abroad
- Nomads
- Border workers entering to work/visit
- (Not relevant)
- Refugees

Non-residents

- Short-term immigrants departing
- Foreign visitors departing
- Nomads
- Border inhabitants returning after work/visit
- Persons in transit
- Refugees

IMMIGRANTS AND EMIGRANTS

In the past, various criteria have been used to distinguish immigrants and emigrants from other categories of international travellers namely : (a) the concept of residence (b) the intended (or actual) length of stay in or absence from a country, and (c) whether or not the purpose of the journey is to take up employment which is remunerated within the country of residence.

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\* Adapted from United Nations, Recommendations on Statistics of International Migration. Statistical Papers, Series M no. 58 (New York : 1980) table 1.



The basis of the distinction using residence status is that to qualify to be an immigrant, a person must not currently be a resident of a country he or she enters. Similarly, an emigrant should have been a resident of the country from which he or she is departing.

As the concept of residence plays a pivotal role in the definition of immigrants and emigrants one would have expected a consensus on its meaning among various countries. On the contrary, this is not the case, as would be seen when African experiences are examined. Part of the reason why there is a lack of a common definition about who is a resident is that the concept has legal connotations, with countries specifying minimum periods of stay, if indeed any, for qualification.

The criterion whether or not the object of the journey is to take up an occupation is used partly to distinguish short-term immigrants from tourists. The difficulty with this criterion is that in certain cases intentions of getting employment do not materialize.

Data based on the intended or actual length of stay enables classifications in relation to the temporal nature of the movement to be made. The problem with it is that stated intentions about length of stay do not in all cases coincide with actual length of stay.

The 1980 recommendations of the United Nations Statistical Office opted for the use of the criterion, actual length of stay (or absence) for the classification of immigrants and emigrants. In this regard, the standard period of one year was suggested for distinguishing short-term (less than one year) from long-term (more than one year) immigrants and emigrants. Central to the classification of arrivals and departures under the scheme are information pertaining to duration of previous periods of presence in or absence from the country of departure and arrival. In addition, for arrivals, information is also required on the intended duration of stay and on the purpose of the visit.

Residence is defined as a continuous stay in the country of departure for a period of one year or more. Among arrivals are residents who are short-term emigrants returning, that is, persons who have previously been in the country of arrival at least once continuously for more than one year and not away continuously for more than one year, since the last stay of more than one year, and whose last departure was to work abroad. Among departures are residents who are long-term emigrants, that is, persons who have left the country with the intention of remaining abroad for more than one year; and short-term emigrants, that is, persons who have left the country with the intention of remaining abroad for one year or less, for the purpose of working.

Non-residence is defined as a continuous stay away from a country of arrival for a period of more than one year by persons who had never lived there or absence from a country of arrival for a period of more than one year after the last stay of more than one year. Among departures are non-residents who are short-term immigrants departing, that is, persons who had left the country, who had previously been away from the country at least once continuously for more than one year and not in the country continuously for more than one year since the last absence of more than one year, and whose last arrival was to work at an occupation remunerated from within the country.

Among arrivals are non-residents who are long-term immigrants, that is, persons who have entered the country with the intention of remaining for more than one year. There are also short-term immigrants non-residents among arrivals, that is, persons who have entered the country with the intention of remaining for one year or less for the purpose of employment. For the two sets of non-resident arrivals, other conditions to be fulfilled are that they must never have been in the country of arrival continuously for more than one year or, having been in the country at least once continuously for more than one year, must have been away continuously for more than one year since the last stay of more than one year.

#### OTHER NON-MIGRANT CATEGORIES OF ARRIVALS AND DEPARTURES

International visitors : Apart from international migrants these are among the main categories of arrivals and departures. According to our classification scheme, among residents, they include persons visiting abroad and those returning from visits abroad; and among non-residents, they include visitors from abroad and foreign visitors returning

What distinguishes international visitors from international migrants ? Three features, namely : (a) the length of stay within the country of arrival or length of stay abroad, (b) the objectives of the trip, and (c) resident status.

(a) The duration of stay is the main criterion by which international migrants are distinguished from international visitors. The recommendations on international tourism as well as those on international migration statistics suggest the use of a common period of duration of stay, one year. Consequently, an international tourist is a person entering a country with the intention of staying less than one year. Similarly, it includes persons who are leaving the country and intend to stay abroad for a period of less than one year.

(b) In addition, such persons shall not take up paid employment for the length of time for which they receive remuneration in the country of arrival or departure.

(c) Also, arrivals are only considered visitors if they return to a country where they are not considered as residents.

Persons who originally entered a country as international tourists automatically become international migrants when any of the two earlier conditions are breached. For example, a person who initially entered a country with the intention of staying for a year or less but actually stays over a year - except for certain categories of arrivals such as nomads and refugees which shall presently be considered - should be reclassified as an international migrant. Similarly, a person who entered a country without any intention of taking employment for which he will receive remuneration from within that country but subsequently does so is considered an international migrant. To elucidate the definition of international visitors, the classifications and definitions of the two important categories namely : (a) visitors from a country from abroad and (b) persons visiting abroad from a country, are now considered.

Visitors to a country from abroad : are defined as persons visiting a country from abroad who have stayed or intend to stay for a period of not more than a year in the country. Additionally (a) such persons should not be residents of or long-term immigrants to the country (b) nor should they be short-term immigrants and (c) or belong to other categories of arrivals such as nomads and refugees.

Examples include :

(a) persons visiting for the following purposes : recreation, holiday, medical care, religious observances, family affairs, participation in international sport events, conferences and other meetings, study tours and other student programmes and transit stopovers. Such persons should intend to stay for a period of less than one year;

(b) crew members of foreign vessels or aircraft docked in the country; and

(c) foreign commercial (business) travellers who stay for less than a year;

(d) employees of international bodies who are on a mission of not more than one year including nationals that are long-term emigrant.

Two classes of visitors could be identified : (a) Tourists and (b) excursionists. Tourists are defined as visitors that stay at least one night in an accommodation in the country. Excursionists are visitors who unlike tourists do not stay at least one night in accommodations in the country : such persons may, however, stay in the country for more than one day but retire to their ships to sleep.

AFRICAN USAGES OF CONCEPTS, DEFINITIONS AND CLASSIFICATIONS :  
ARRIVAL AND DEPARTURE STATISTICS

Table 1 and 2 summarize information on concepts, classifications and definitions of immigrants and emigrants by selected African countries from a mid-1970 survey conducted by the United Nations Statistical Office. From Table 1, it is clear that a wide variety of criteria for the classification of immigrants have been used by African countries and that most of these do not satisfy the recent United Nations recommended definitions.

The most popular is the intended or actual length of stay in the country. Two types of threshold values are mainly used : six and twelve months (table 1). Cameroon, however, uses the very short period, one month : here, an immigrant is defined as a person entering the country with visa and staying at least one month. Of the sample countries, Ethiopia, Malawi, Nigeria and Uganda employ the minimum period of six months, while Mauritius, Seychelles and Zambia use twelve months as the intended length of stay.

Ghana, Gambia and Tanzania do not specify any minimum time period to qualify a person as an immigrant; while Angola and Gabon, however, explicitly exclude a minimum time condition. For example in Gabon, immigrants are described as persons entering the country, independent of their length of stay.

A few countries also use the criterion, actual or intended employment for classification of immigrants. For this classification scheme too, one set of countries - Ethiopia, the Ivory Coast and Tanzania - do not specify minimum time periods for employment, intended or actual. Those countries that indicate minimum time periods comprise two types : Mauritius and Zambia where the minimum time period is 12 months, and Uganda, 6 months.

Similarly, a bewildering number of concepts and definitions exists for the classification of emigrants (table 2) but only a handful of the sample countries - Malawi, Nigeria, Seychelles and Uganda - specify minimum time periods of absence from the country. Also most of the classifications do not indicate what the objectives for example, employment or visit - of the persons departing.

Table 1. Elements of concepts used in connection with the collection and compilation of immigration statistics 1/-selected African countries

Type of concept : - A - Duration of stay  
 B - Intention to establish residence  
 C - Intended or actual employment  
 D - Other criteria  
 E - Arrivals not otherwise specified

Country of area	Description of concept provided by country or area <sup>2/</sup>	Type
Algeria	Aliens residing in the country	D
Angola	Persons registered as passengers, arriving by sea regardless of purpose or duration of trip.	E
Ethiopia	Persons entering the country with valid entry permits which allows one to become a resident.	B
Gabon	Persons entering the country, independent of their length of stay	E
Gambia	Persons arriving in the country by air or sea	E
Ghana	Persons arriving in the country	A, E
Ivory Coast	Non-residents entering the country to work or to establish residence.	B, D, E
Libyan Arab Jamah.	Persons entering at the frontier control post	C, E
Madagascar	Persons arriving in the country	E
Malawi	Persons coming to stay more than 6 months as a resident of country	A, B
Mauritania	Persons arriving by plane	E
Mauritius	Persons who are permitted to engage in employment or to stay for more than 12 months	A <sup>3/</sup> , C

<sup>1/</sup>Based on responses from national statistical offices to an inquiry on national practices in the collection of international migration statistics. It should be noted that, although the inquiry was concerned with the national definition of "immigrants", the descriptions provided by the countries, as shown in the table, sometimes related simply to the categories of arrivals for when data were available.

<sup>2/</sup>For consistency of presentation, some of the descriptions have been paraphrased. In the preparation of the table, preference was given to responses relevant to immigrant flow rather than to stock.

<sup>3/</sup>No minimum period specified for persons entering to work.

Country or area	Description of concept provided by country or area <u>2/</u>	Type
Morocco	Aliens residing in the country	D
Nigeria	Persons arriving in the country	E
Rwanda	Persons registered at the frontier as entering the country	E
St. Helen	Persons entering or having entered the island, excluding Islanders and persons employed by the United Kingdom.	E
Seychelles	Residents returning after an absence of over 12 months and other arrivals intending to stay over 12 months	A, D
Swaziland	Persons granted temporary or permanent residence permits	B, D
Uganda	Persons with entry permits to work or reside for 6 months or more at time of arrival.	A, B, C, D
Un. Rep. Cameroon	Persons entering the country with visas and staying at least 1 month	A, D
Un. Rep. Tanzania	Non-residents entering the country to work or to establish residence	A, B, C, D, E
Western Sahara	Persons arriving in the country intending to establish residence.	B
Zaire	Persons entering the country with a visa independent of the duration of stay	D
Zambia	Non-residents intending to remain for 1 year or coming to fill an appointment.	A, C

Source : United Nations, National Practices in the Definition, Collection and Compilation of Statistics of International Migration ST/ESA/STAT/80/Rev.1, (New York : May 1977).

Table 2. Elements of concepts used in connection with the collection and compilation of emigration statistics 1/ selected African countries

Type of concept : - A - Intended duration of absence  
 B - Intention to give up residence or to establish residence abroad  
 C - Intended employment  
 D - Resident status or period in the country prior to departure  
 E - Other

Country or area	Description of concept provided by country or area <sup>2/</sup>	Type
Algeria	Residents living abroad	D
Angola	Persons registered as passengers leaving by sea regardless of purpose or duration of trip.	E
Egypt	Persons leaving the country	E
Ethiopia	Persons leaving the country without the immediate intention to returning	E
Gabon	Persons leaving the country	E
Gambia	Persons leaving the country by air or sea	E
Ghana	Persons leaving the country	D, E
Kenya	Persons leaving the country	E
Libyan Arab Jamah.	Persons leaving the country	B <sub>3/</sub> , E
Madagascar	Persons leaving the country	E
Malawi	Previous immigrants leaving the country Permanently. Authority when leaving the country.	E
Nigeria	Persons leaving the country	E

<sup>1/</sup>Based on responses from national statistical offices to an inquiry on national practices in the collection of international migration statistics. It should be noted that, although the inquiry was concerned with the national definition of "emigrants", the descriptions provided by the countries, as shown on the table, sometimes related simply to the categories of departures for whom data were available.

<sup>2/</sup>For consistency of presentation, some of the descriptions have been paraphrased.

<sup>3/</sup>For aliens only.

Country of area	Description of concept provided by country area 2/	Type
Rwanda	Persons registered at the frontier as leaving the country regardless of the intended absence	E
Seychelles	Residents leaving for an intended absence of over 12 months or permanently	A, D
Somalia	Persons who submit exist declarations	E
Swaziland	Temporary absentees only working in South Africa	C
Uganda	Residents leaving the country for more than one year	A, B, D
Un. Rep. Cameroon	Persons leaving the country with exit visa	E
Un. Rep. Tanzania	Persons leaving the country	E
Western Sahara	Persons leaving the country intending to establish residence elsewhere	B
Zaire	Persons leaving the country temporarily with an exist visa	E
Zimbabwe	Asian, coloured and European residents leaving the country permanently or for more than 12 months.	A, D

Source : United Nations, National Practices in the Definition, Collection and Compilation of Statistics of International Migration. ST/ESA/STAT/80/Rev.1, (New York : May 1977).



INTERNATIONAL MIGRATION CONCEPT, DEFINITIONS AND CLASSIFICATIONS  
FROM CENSUS/SURVEY INFORMATION

Four questions which are usually included in a census or survey facilitate the identification of international migrants. They are : (a) place of birth, (b) the place of last residence, (c) place of residence at a fixed prior date, (d) Nationality (or citizenship) :

(a) Birth place

The inclusion of a question on birth place in a census or survey makes it possible to generate information on both internal and international migrations. The details required from respondents depends on whether they are natives, that is, persons born in the country where the census or survey is taking place, or foreign born, that is, persons born outside the country where the census or survey is taking place. For natives, the information required usually includes the specification of the actual geographical unit (e.g. administrative sub-division or locality) where the person was born. However, a smaller number of countries have asked the question in terms of the usual residence of the mother at the time of the birth of the person.

The information on place of birth is used to classify the population into two categories, namely : (a) foreign-born and (b) natives. Among the foreign born will be included a small number of nationals who were born abroad; and similarly, among natives will also be included a small number of non-nationals who were born in the country.

From this information, immigrants are synonymous with the foreign-born, that is, persons who are enumerated in the country different from their country of birth. Since the data is stock statistics, a short-coming is the lack of reference of the timing of migration. Consequently, immigrants with various durations of stay in the country are grouped together.

(b) Place of last residence

From the question on this item, respondents indicate the geographical unit within the country or the foreign country where they resided immediately prior to moving to their current place of residence. An immigrant is, accordingly, a person whose last place of residence is a country different from the country of enumeration. Thus unlike the question on birth place, this topic provides information on direct moves. In other respects the two questions are similar in that the data

do not pertain to a definite time reference, with the result that immigrants of various time durations are grouped together.

(c) Place of residence at a fixed prior date

The place of residence at a fixed prior time is the country, that a respondent resided at a specified date, say one or five years, before the census or survey. An immigrant is defined as a person whose country of residence at the time of the census/survey is different from his country of residence at the specified time prior to the census or survey. Because the migration interval is clear-cut and also because the migration status is determined by a comparison of residence at two definite points in time, this question is considered as one of the best on migration. Even then, problems of recall lapse have to be confronted in the choice of the time interval, and for international migration along with the feasibility of covering enough respondents, a condition which a short recall period say one year cannot possibly satisfy.

AFRICAN USAGES OF INTERNATIONAL MIGRATION CONCEPTS, DEFINITIONS AND CLASSIFICATIONS FROM CENSUSES AND SURVEYS

The question on birthplace from censuses is the source that has been mostly used by African countries to gather information on international migration stock. In African censuses, the question is normally asked in terms of the physical location of birth of the respondent, although in one country, the question had been asked in terms of the place of usual residence of the respondents' mother at the time of birth.

From the information, the population of a country is classified into (a) foreign-born and (b) natives. Despite the fact that among the foreign-born will be a small number of nationals of the country where the census is conducted, African governments have depended on the data to assess the numbers of non-nationals. The question on birthplace has engendered a lot of sensitivity of a political nature since the post-independence, which has witnessed the assertion of nationalism. The answers of some of the foreign population to the questions on birthplace and the related question on nationality in censuses, in those countries where there have been adverse opinion against foreigners at the time of the operation, have been known to have been deliberately fabricated.

Fortunately, this in many cases is more serious for the nationality than the birthplace question. For example, during the time of the 1969 population census of Uganda, there was a tide of ill-feeling

against African non-Ugandan population, especially the Kenyans. This occasioned deliberate misrepresentations on the answers to the nationality question, with the result that the census statisticians argued that "the birthplace information is a more accurate source of data on immigration and that many migrants have stated their citizenship as Ugandans to the census enumerator for fear of expulsion if they have stated their true nationality" (Uganda Government, 1973).

Also in Sierra Leone, some non-nationals who were participating in the illicit diamond business at the time of the 1960 census, because of fear of being evicted, provided false answers to the question on both nationality and birthplace, the latter fiction they were able to maintain because of their tribal affinity with some Sierra Leone ethnic groups (Mitchell, 1971).

Probably in an attempt to counteract these practices, in some countries more probing questions on birthplace have been included in censuses. Unfortunately, these questions make it difficult to use the answers for the classification of immigrant stock. In Ghana, as an example, in the 1960 census, the country of origin of a person was defined as the country where the persons' father was born, if the person was born outside Ghana. If the persons' father was born in Ghana, the country of origin was determined by the fathers' fathers' country of birth, and if this was unknown, the mothers' mother country of birth. An immigrant was described as a person whose country of origin was outside Ghana.

Despite the shortcomings with the birthplace data, analysts have increasingly used it to derive international migration stock statistics. These attempts to employ the birthplace data to acquire information on immigrant and more so on emigrant stock statistics have encountered problems in Africa, as elsewhere, which have provided arguments for indirect methods for the derivation of emigrant stock statistics.

Among the problems of acquiring emigrant data from the birthplace information of receiving countries are the following (IUSSP, 1980) :

(a) Information on emigrants from receiving countries can only be acquired from countries that have conducted population censuses that separately code and tabulate persons from the countries under consideration. In African countries, however, it is usual for the coding and tabulation of the foreign-born among their population, especially of the African population, not to be done in fine details. For example, in Tanzania, for the 1978 population census, only fourteen African countries

mainly located in Eastern and Central Africa were listed to be coded for the birth place question. The remaining countries were classified as : (i) other African countries, (ii) countries outside Africa and (iii) unknown.

(b) The cross-sectional information on emigrants refers to the dates of the census in the receiving countries. It is rare for the census years of such countries to coincide with the census years of the countries interested in the emigration statistics given the variety of census dates adopted by African countries. This factor complicates the interpretation of comparative international migration studies which depend on these data set.

References

Bogue, Donald, 1959. "Internal Migration". In Philip Hauser and O.D. Duncan (ed.), The Study of Population : An Inventory and Appraisal. Chicago : University of Chicago Press.

Goldsheider, Galvin, 1980. "Modernization, Migration and Urbanization". In Peter A. Morrison (ed.). Population Movements : Their Forms and Functions in Urbanization and Development. Belgium, Liège : International Union for the Scientific Study of Population (IUSSP).

Gould, W.T.S. and Prothero, P.M. 1975. "Space and Time in African Population Mobility". In Leszek A. Kosinski and R. Mansell Prothero (eds.) People on the Move. London : Methuen.

Kraly, Ellen P. 1979. "Systems of International Migration Statistics : The United States as a National Case Study". Unpublished doctoral dissertation, Fordham University.

IUSSP 1980. Indirect Procedures for Estimating Emigration. Belgium, Liège, IUSSP Papers, NO. 18.

Mitchell, Peter, K., 1971, "Numbers, Location and Demographic Characteristics of Immigrants of Sierra Leone". In IUSSP, Population in African Development, Belgium, Liège.

Petersen, W. 1959, "A General Typology of Migration". American Sociological Review, 23, pp. 256-65.

Prothero, R.M. 1968. "Migration in Tropical Africa". In J. Caldwell and C. Okonjo (eds.). The Population of Tropical Africa, London : Longmans, pp. 250-62.

Prothero, R.M. 1982, "Perspective on Studies of Population Distribution and Redistribution". In J.I. Clarke and L.A. Kosinski (eds.). Redistribution of Population in Africa. London : Heinemann, pp. 16-22.

Shryock, Henry S. et alia, 1973. The Methods and Materials of Demography. Washington D.C. : US Census Bureau.

Uganda Government, 1973. Report on the 1969 Population Census, Vol. III, Entebbe : Statistics Division, Ministry of Finance, Planning and Economic Development.

United Nations, 1953. International Migration Statistics. New York : ST/STAT/Ser. M/20.

United Nations, 1976. Provisional Guidelines on Statistics of International Tourism. New York : ST/ESA/STAT/Ser. M/62.

United Nations, 1980. Recommendations on Statistics of International Migration. Statistical Papers, Series M. No. 58.

CONCEPTS, DEFINITIONS ET CLASSIFICATIONS DES STATISTIQUES  
DE LA MIGRATION EN AFRIQUE

Résumé

Le chapitre met en évidence, dans le contexte des recommandations des Nations Unies de 1980, les concepts, définitions et classifications des statistiques de migrations internationales adaptés aux pays africains. La comparabilité des concepts, définitions et classifications entre les pays de départ et les pays d'accueil est utile pour l'amélioration de données intégrées sur la migration internationale.

Dans la détermination des catégories des arrivées et des départs, on distingue les immigrants de longue période, les immigrants de courte période, les émigrants de courte période, les émigrants de longue période, les émigrants qui retournent au bout d'une courte période et les immigrants qui retournent au bout d'une longue période. Au centre des classifications de ces catégories de migrants internationaux se trouvent la détermination de la durée de séjour et la définition du statut de résidence. Une période d'un an a été généralement proposée par la recommandation pour distinguer les immigrants et émigrants de courte période des immigrants de longue période avec les résidents et les non-résidents.

Le chapitre traite aussi des concepts, définitions et classifications tels que le lieu de naissance, le lieu de la dernière résidence, le lieu de résidence à une date préalablement fixée, utilisés dans les recensements et enquêtes destinés à la collecte des informations sur la migration internationale. Enfin, il examine les pratiques africaines en ce domaine.

## SOURCES OF INTERNATIONAL MIGRATION STATISTICS IN AFRICA

### INTRODUCTION

International migration may be defined as a change in usual residence involving movement across an international boundary. Definitional difficulties regarding 'temporary' and 'permanent' change of residence as well as changes in national boundaries and dependency status of countries, however, make the interpretation of international migration data and comparison of such data between countries and over time somewhat problematic.

The available statistics are often based on different definitions and collection systems which make it difficult, if not impossible, to compare data on migrant flows between pairs of countries.

Thus there are gaps in the information on international migration and the available statistics are of varying quality not only in Africa but even in countries with well developed statistical systems.

The sources of international migration data may be classified into two main categories : administrative records, censuses and surveys data. Both categories are sources for the direct measurement of migration, but the second category can be used for the indirect estimation of net international migration.

### ADMINISTRATIVE RECORDS

The administrative records from which data on international migration may be derived include entry/departure cards or forms completed at international borders, residence/work permits issued to aliens, general population registers and registers of aliens.

#### Entry/Departure Cards

International travellers are often required to complete entry/departure cards or forms at international border crossings as part of the administrative operations of frontier control and also in connection with national laws relating to immigration and deportation.

The statistics derived from the cards may be described as frontier control data and two categories of statistics may be distinguished. These are land frontier control statistics and port control statistics. The former refer to data derived from movements across land borders and the latter information collected at international airports and seaports.



The collection of information at land frontiers is much more difficult than at airports and seaports. This is mainly due to the fact that land borders are extensive and often have many crossing points some of which may be unofficial and therefore may be without adequate surveillance. In some African countries some borders may not be well demarcated and thus persons close to the borders may cross them without being aware that they were crossing international boundaries.

On the other hand, the number of international airports and seaports in African countries are rather limited so the collection of information on international arrivals and departures presents less problems.

The information collected on entry/departure cards usually include name, sex, nationality, date and place of birth, country of last permanent residence, intended duration of stay or absence and purpose of visit.

The administration of the cards is usually the responsibility of the immigration agency. In some African countries the immigration agencies collaborate with the national statistics agencies and/or tourist agencies in the processing of the information on the cards for statistical publication. For example, in Botswana, the Central Statistics Office collaborates with the Immigration Department to publish statistics on arrivals and departures. The information is compiled from a five percent sample of cards completed at immigration border posts. In other countries, though entry/departure cards are completed, they are not processed for statistical purposes and the statistical agencies are not involved in the design of the cards.

The results of a survey on national sources of international migration statistics published in the 1977 United Nations Demographic Yearbook showed that the most frequently available source of international migration statistics in Africa was frontier control records. However, due to the problems indicated earlier regarding the collection of information at land frontiers and the general unsatisfactory situation in some African countries about the administration of the entry/departure cards, the available data on international migration derived from frontier control records are generally incomplete.

The accuracy of frontier control data on international migration is also affected by the fact that the classification of travellers into migrants and visitors is usually based on declaration of intended length of stay or absence by international travellers. It is well known that the stated intentions may not always correspond to reality.

Further, as stated earlier, in some African countries the information collected are not processed for statistical purposes. In fact, often the potential use of the information for the provision of statistics on migration is not considered in the design of the cards. Thus, frontier control records may only be described as potential sources of data on international migration in many African countries. The need to improve the collection system and exploit the information fully for statistical purposes cannot be over-emphasized.

It may be recalled that the United Nations has recommended that national governments should collect and tabulate total arrivals and departures and subdivide these totals into major categories distinguished by duration of stay and purpose of the travel. The implementation of the U.N. recommendations requires the collection of three types of information about international travellers. These are : country of usual residence, actual or intended duration of the stay or absence and intentions about work.

#### Other Administrative Records

Other administrative records which are potential sources of statistics on international migration in some African countries include some limited population registers, records of registration of aliens and particulars of residence/work permits issued to aliens.

Some form of population registers have been instituted in some African countries as part of the administrative/political system for local administration and involvement of the grass roots in development programmes and the decision making process. Examples are the registers of urban dwellers and peasants associations in Ethiopia and the ten-cell system in Tanzania. The registers provide information on residents within defined geographic areas and any changes in residence which may occur.

A related administrative operation from which data on international migration could be derived, when effectively developed, is the national registration systems being maintained by some African countries in connection with the issue of identity cards to persons above a stated minimum age. Examples are the national registration systems in Zimbabwe and Zambia.

In Zimbabwe the National Registration Act of 1976 makes provision for the registration of the resident population aged 16 years and over. Under the Act identity cards are expected to be issued to nationals and aliens. The need to link the national registration system to an improved births and deaths registration system in order to develop the national registration system as a source of population data has been considered by the authorities.

Similarly, in Zambia a Department of National Registration was established in 1964 to register and issue registration (identity) cards to all residents aged 16 years and over. Particulars of residents recorded during registration are : name, sex, date and place of birth, national status, residential and postal address.

The registers are expected to be updated with information on immigration and emigration as well as births and deaths which are brought to the notice of the Registrar General's Office which now has responsibility for the national registration system. The procedure for the linkage of the national registration System with migration as well as births and deaths registration systems, however is rather passive. Further the institutional arrangement for the maintenance of the national registration system needs strengthening.

Other administrative activities which are potential data sources are the occasional or periodic registration of aliens carried out by some African countries in connection with the administration of national laws regarding immigration and deportation. The records of residence/work permits issued to aliens may also give some indication of the level of international migration when properly maintained.

It must, however, be pointed out that the aliens registration exercise and the records of residence/work permits are very weak potential sources of international migration data due in part to the problems of illegal immigration and partly to the difficulties in keeping records of residence/work permits up-to-date in such away as to reflect the actual situation. Quite apart from the issue of illegal immigrants who may not secure residence/work permits, some permits which are issued may not be used.

The national registration systems and the rudimentary population registers in some African countries, however, have greater potential as sources of international migration data. If the potential is to be realized then effective measures need to be instituted to improve their operations.

#### POPULATION CENSUS OR SAMPLE SURVEY DATA

As stated earlier, frontier control data are considered the most important source of international migration statistics but in many African countries the frontier control records are too deficient to provide satisfactory indication of the level of international migration. Thus decennial population censuses and/or sample surveys are the major sources of the available statistics on the stock and characteristics of international migration.

There are however differences between international migration data obtained in census or survey and the data compiled from frontier control records. Frontier control records provide the total of arrivals and departures on a continuing basis while censuses and surveys provide data on the distribution of the population in a country according to their residence inside or outside the country at some previous specified period.

Census or survey data therefore do not provide the total volume of immigration since they do not include the immigrants who died or returned to their countries of origin or places of previous residence before the census reference period. Further, censuses or surveys generally do not provide separate information on emigration.

On the other hand, census or survey data are particularly useful for some types of studies on international migration. For instance, such data are necessary for migration analysis involving the study of the changes in the socio-economic characteristics of migrants over a time period and their geographic distribution within a country.

#### Census data

Census data on international migration are obtained on the basis of census questions on place of birth, nationality or country of citizenship, place of last previous residence or residence at a specified past period and duration of residence or year of immigration.

The inclusion of questions on place of birth, nationality or place of last previous residence in censuses makes it possible to determine the volume and characteristics of immigration from the census results.

The question on place of birth can provide information on the foreign-born which gives an indication of the net life-time immigration. When data on the foreign-born are tabulated by country of birth, information on the countries of emigration of the foreign-born population is also obtained.

Information on the alien population or foreign nationals obtained from the census question on nationality also gives some indication of international migration but the data do not include immigrants who have naturalized since their arrival in the country of immigration. Further, the size of the alien population is affected by the national legal systems with respect to the nationality status of children born in the countries of immigration to parents who are foreign nationals. Thus data on foreign-born obtained from the question on birth place are preferable to data on foreign nationals in the study of international migration.

The question on place of last previous residence also helps in determining the volume and characteristics of international migration. The data from this source is similar to the birth place data except that unlike the latter type of data, data on place of last previous residence provide information on direct moves.

The common characteristics of the census questions on place of birth, nationality and place of last previous residence is that they provide information for the determination of the number and characteristics of immigrants in a country's population but the statistics do not give indication of the period of immigration. The data therefore have limited value for international migration studies.

In some population censuses, questions on duration of residence or year of immigration or place of residence at a specified past period such as five years prior to the enquiry are asked. The inclusion of any of these questions together with a question on place of birth or previous residence in a census makes it possible to have tabulations on the foreign-born classified by country of origin and duration of residence or year of immigration. Such tabulations are needed for the study of not only the volume and characteristics of international migration but also the specific periods during which the immigration took place.

It must be pointed out that though the question on year of immigration is useful in refining international migration analyses, it is a more difficult question to investigate in a census than those on place of birth, nationality or place of last previous residence.

Further, the questions on duration of residence and year of immigration which provide information on the timing of migration are of limited value without additional information on the country of origin of immigrants. In fact, in the case of duration of residence the information it provides can be used for the study of international migration only if cross-classified with place of birth or previous residence.

It is therefore clear that for refined analyses on international migration, census questions which provide information on volume, characteristics, country of origin and timing of the migration need to be investigated. The foregoing discussion indicates that two census questions are needed in addition to the usual census items on demographic and socio-economic characteristics to satisfy the data requirements for refined international migration analyses.

Census organizers, however, always have to deal with the problem of keeping the census questionnaire within a manageable size. If, therefore, it will not be possible to include two migration questions on the census questionnaire, then a compromise solution may be to enquire into place of residence at a specified past period. This question is considered the best single item on migration for investigation in a census. It provides information on fixed period immigration as well as countries of emigration of immigrants though it excludes information on return migrants during the interval between the two dates. Another deficiency is that the data may refer to the brief period before the census.

A Working Group on the Recommendations for the 1980 Population and Housing Censuses in Africa convened by the United Nations Economic Commission for Africa (UNECA) in July 1978 recommended the countries in the African region should include questions on place of birth and duration of residence in their population censuses during the 1980 round. The inclusion of those questions would make it possible to produce census tabulations which could be used for the study of international migration.

A review of topics investigated in the censuses of African countries during the period 1975 to 1984 shows that almost all countries had questions on place of birth, nationality or place of previous residence. However, only twelve countries had in addition a question on duration of residence and eleven others enquired into place of residence at a specified past period.

It may therefore be inferred that the census tabulations of African countries for the past decade could constitute a source of data on the volume and characteristics of international migration. Information from censuses on timing of migration, however, would be minimal.

A number of researchers have used census data for the study of international migration in some African countries. They include Addo (1975), Mitchell (1971), Ohadike (1974) and Zachariah, Conde and Associates (1980). The work by Zachariah, Conde and Associates was a comparative study on migration in West Africa and it highlighted some of the problems in obtaining information on a country's stock of emigrants from the place of birth data of another country. Some of the difficulties were related to the limited number of countries of origin of immigrants listed separately in some census tabulations. Others were in connection with differences in the census years of the countries involved in the study.

The difficulty encountered in the above study with regard to the limited list of countries of origin of immigrants in census publications shows that even though questions on migration may be included in a census, the type of tabulations produced could limit the realization of the full potential of the questions for analyses.

Examination of census tabulations in census reports of African countries reveals wide variations with respect to the provision of information on the countries of origin of the foreign-born population. In a number of African census reports only a few countries of origin of the foreign-born are listed separately. The remaining countries are grouped under the category 'others'. For example in the processing of the results of the 1978 census of Tanzania separate codes were provided for fourteen Eastern and Central African countries in respect of responses to the question on place of birth. The remaining countries of birth of the foreign-born were classified under : "other African countries", "countries outside Africa" and "Unknown".

#### SURVEY DATA

International migration data could also be obtained through national sample surveys. The issues already discussed in respect of data obtained in censuses apply also to data obtained in surveys.

The major difference between the use of census or survey as source of data on international migration is that a census can provide data for small areas but it is not a suitable source for detailed information on international migration including reasons for migration. On the other hand though a national sample survey cannot provide small areas statistics, it offers a suitable means for in-depth study of international migration.

A sample survey of international travellers at airports, seaports and land border crossing checkpoints may also provide satisfactory means of obtaining information on international migration. An example of such an exercise is the International Passenger Survey (IPS) instituted in the United Kingdom in 1964. This type of survey may be feasible if the volume of arrivals into and departures from a country is sufficiently large. However, since migrants generally constitute a small proportion of international travellers, there is the problem of obtaining a representative sample of the target population (i.e. migrants). The problem is even more acute in countries which have extensive land borders with many crossing points some of which may be without adequate surveillance. A survey of arrivals and departures may also not be feasible in situations where there is heavy traffic at border crossings.

It must be pointed out that special survey of international travellers is currently not considered a serious means of obtaining data on international migration in Africa since there might be problems in obtaining a representative sample of migrants. Another problem is that the administration of the survey might involve the collaboration of several government agencies some of whom may not give the exercise adequate attention.

The current situation with regard to the use of surveys for provision of international migration data is that some African countries have included migration items in ad-hoc demographic sample surveys which have been conducted. Others have carried out specialized migration surveys which have provided the means of investigating in some detail some aspects of migratory movements. Examples of migration surveys which have been carried out include "The inter-territorial survey of migration in the Ivory Coast and Ghana, 1958-1960" (Rouch, 1958); "The Nigerian Sokoto Survey, October 1952 to March 1953 (Prothero (1958"; and "The Upper Volta 1974-75 National Migration Survey" (Coulibaly et alia, 1980).

In the recent past steps have been taken under the African Household Survey Capability Programme (AHSCP) to encourage and assist African countries to build up the machinery for integrated programme of household surveys on a continuing basis. This programme will provide the means for the provision of survey data on international migration periodically in African countries, depending on individual national priorities. A number of countries have already initiated survey programmes under the AHSCP.

#### INDIRECT METHOD OF ESTIMATING NET MIGRATION

The administrative records as well as census and survey data described in the preceding sections of this paper are considered direct sources of international migration statistics. Of the two sources, census and survey tabulations on the foreign-born or alien population constitute the major source of the available statistics on the volume and characteristics of international migration in most of the African countries.

As stated earlier, there are deficiencies in the data derived from direct questions on migration in censuses or surveys. It is, however, possible to supplement such census data with intercensal estimates of net migration using census data on the total population. This indirect method of obtaining information on migration can be used to evaluate estimates derived from frontier control records and it also offers the means of obtaining alternative information on international migration in African countries which have not directly investigated migration topics in their censuses or surveys.



The method involves subtracting an estimate of natural increase during an intercensal period from total population growth during the period. The procedure is referred to as the balancing equation method or intercensal component method for the total population. The method can be used to estimate intercensal net migration but cannot provide separate figures on immigration and emigration. Another problem about the method is that since migration is generally the smallest component in the equation the accuracy of the estimate of net migration is very much affected by a relatively small error in any of the other components.

The sources of information for the use of the method are population counts from two censuses and data from births and deaths registration system. Most of the African countries have either already carried out two national population censuses or are about to carry out their second population census but the vital registration systems in a significant number of the countries are so deficient that they do not provide any meaningful statistics. In such cases life table survival rates or census survival rates may be used together with the census total population counts in the estimation of net migration for intercensal periods.

References

Addo N.O., 1975. "Immigration and Socio-Economic Change (in Ghana)". In J.C. Caldwell (ed.), Population Growth and Socio-Economic Change in West Africa, New York : Columbia University Press.

Coulibaly Sidiki, Joel Gregory and Victor Piché, 1980. Les Migrations Voltaïques, Tome 1: Importance et Ambivalence de la Migration Voltaïque, Ouagadougou : Centre Voltaïque de la Recherche Scientifique et Institut National de la Statistique et de la Démographie.

Mitchell, Peter K., 1971. "Numbers, Location and Demographic Characteristics of Sierra Leone" In Population in African Development, Liège : IUSSP.

Ohadike, Patrick, Fall 1974. "Immigrants and Development in Zambia", International Migration Review 8/27.

Picouet, Michel, 1977. "Use and Possibilities of sample surveys for the measurement of International Migration in Africa". In proceedings of a seminar on Demographic Research in relation to International Migration, Buenos Aires, Argentina (5-11 March 1974), Paris, CICRED.

Prothero, R. Mansell, 1958. Migrant Labour from Sokoto Province, Northern Nigeria. Kaduna : Government Printer.

Prothero, R. Mansell, 1969. "Migration in tropical Africa", in J.C. Caldwell and C. Okonjo (eds.). The Population of Tropical Africa, New York : Columbia University Press, pp. 250-263.

Rouch, J., 1958. "Migrations on Ghana - Enquête 1953-55". Journal de la société d'Africanistes No. 26.

Shryock, Henry S., Jacob S. Siegel and Associates, 1971. The Methods and Materials of Demography Vol. 2 U.S. Department of Commerce, Bureau of the Census.

United Republic of Tanzania, 1981. 1978 Population Census, Dar-es-Salaam : Bureau of Statistics.

United Nations, 1980, Recommendations on Statistics of International - Migration, E.79 XVII 18.

United Nations, 1981, Trends and characteristics of International Migration since 1950, ST/ESA/Series A/64.

Zachariah, K.C. and Julien Condé (eds.) 1980. Migration in West Africa : Demographic Aspects. London : Oxford University Press.

## SOURCES DES STATISTIQUES DE MIGRATIONS INTERNATIONALES EN AFRIQUE

### Résumé

On peut distinguer deux sources principales des statistiques de migrations internationales. Ce sont les registres administratifs et les données des recensements et enquêtes. Les deux sources peuvent être exploitées pour saisir directement les migrations, mais les données des recensements et enquêtes peuvent aussi être utilisées pour une estimation indirecte de la migration internationale nette.

Les registres administratifs susceptibles de fournir des informations sur la migration internationale sont les formulaires entrée/sortie remplis par les voyageurs aux frontières internationales, les cartes de résidence et de travail délivrés aux étrangers, et les registres de la population y compris les étrangers.

En raison des problèmes que pose la gestion des formulaires entrée/sortie en particulier aux frontières terrestres dans plusieurs pays africains, les statistiques de migration internationale provenant desdits formulaires sont en général incomplètes. Dans certains pays, ces formulaires ne sont pas exploités à des fins statistiques. De ce fait, les formulaires entrée/sortie peuvent être présentés seulement comme sources potentielles de données sur la migration internationale dans plusieurs pays africains.

Dans le cas des autres registres administratifs, les difficultés de leur maintenance sont telles qu'ils ne peuvent être considérés que comme sources potentielles très faibles de données sur la migration internationale.

Les recensements et enquêtes constituent par conséquent les principales sources des statistiques disponibles sur la migration internationale en Afrique. Cependant, contrairement au registre de contrôle des frontières, les données de recensements ou d'enquêtes ne donneront pas de renseignements sur le volume total des immigrations étant donné qu'elles n'incluent pas les immigrants qui sont morts ou qui sont retournés dans leurs pays de résidence antérieure avant la période de référence de l'enquête.

Un examen des questions relatives à la migration, dans les recensements africains effectués au cours des dix dernières années, montre que la plupart des recensements constituent des sources de données sur le volume de migrations internationales, mais seul un petit nombre de ces recensements pouvait aussi donner des informations sur le moment de la migration.

Les données obtenues à partir des questions directes sur la migration posées lors des recensements peuvent être complétées par des estimations indirectes du flux migratoire net intercensitaire basées sur les effectifs totaux de la population provenant de deux recensements et les taux de natalité et de mortalité intercensitaires ou les taux de survie calculés à partir des recensements.

PROBLEMS OF IDENTIFICATION AND MEASUREMENT OF SPECIAL CATEGORIES OF  
PERSONS THAT CROSS INTERNATIONAL BOUNDARIES IN AFRICA

The development of an integrated system for the collection, processing and dissemination of international migration statistics poses special problems for the identification and measurement of certain categories of persons who cross international boundaries in Africa. These include the following : border inhabitants who make frequent and irregular visits across borders; nomads, refugees, and travellers whose residences cannot be determined. The main problems of these categories of international travellers is that they defy easy classification within the conventional system of migration data collection. This chapter discusses in detail some of these problems and suggests possible solutions as to how to deal with the classification of two members of this group : nomads and refugees.

NOMADS (ECA, 1965)

Among the group that became victims of the colonial demarcation of international boundaries which arbitrarily divided ethnic groups were nomads. Nomadism has been described as a total movement of a group together with its herd in search of water and grazing areas. Two main types have been differentiated in various countries, namely : pure nomads, that is, those who are engaged in pastoral nomadism and do not ever engage in agriculture; and semi-nomads, that is, those who engage in pastoral nomadism but also participate in agriculture during certain periods of the year. The movements of some nomads is confined to one country; this group is not of interest for this study. The group of interest consists of those which use to herd their livestock in two or more regions that became nations after the demarcation of national boundaries and continued to engage in previous movements, only now across international boundaries.

The international movements of this set of nomads comprise two types. One type involves movements in and out of neighbouring countries in a fairly consistent manner, that is, within predictable time spans related to the weather time table. The other type, consists of movements that are irregular and frequent, similar to the unpredictable patterns of movements of border inhabitants, who visit relatives and/or work across the borders.

The root of the problem of including nomads in any conventional data collection system such as a population census enumeration or an international migration flow statistics data system is identifying a group that is all the time on the move. To appreciate the complexity of the problems a brief description of various methods that have been previously experimented with in their enumeration is provided below.

They comprise four main categories, namely: (ECA, June 1977)

- a. Group Assembly Method,
- b. Tribal and Hierarchical Approach,
- c. Enumeration area approach; and
- d. Water point approach.

a. Group Assembly Method : By this method, enumeration of nomads is made possible by asking them to assemble at certain strategic places at some fixed times. Data is collected from either the whole group that assemble or more practically, from heads of families or adult representatives of the heads of households who are asked to assemble rather than the whole group.

b. The tribal or hierarchical approach : By this method, information about the family members is collected from tribal or hierarchical chiefs. The information is collected in two ways. By the first method contact is established with the tribal chief, from whom information about members of his clan is collected. By the second method, the clan members individually are contacted, with the assistance of the chief and each is canvassed.

c. Enumeration area approach : The method is similar to conventional population census methods. In that census enumeration areas (EAs) are delineated, which form the unit from which nomads are contacted.

d. Water point approach : The basis of this method is to use water points where in the dry season nomads frequent for water.

The four methods comprising variants of active and unconventional techniques have been tried in population censuses and sample surveys are the only practical approaches to comprehensively enumerate nomadic populations who have no usual place of residence and who are constantly on the move. In contrast, the other system of international migration statistics dependent on border data collection is basically passive and so encompasses only those movements that pass through frontier control points. Nomadic border crossing points, since they bypass usual travelling routes-roads, seaports and airports- are rarely included.

In the application of the phased approach in Africa, emphasis is placed on border control statistics since it is the most practical method of generating flow statistics. However, because of the special problems of nomadic population enumeration mentioned above, a phased programme for flow international migration statistics including this particular group does not appear feasible.

All the same, some proposals have been put forward in the United Nations recommendations about the classifications of nomads within the system of international migration flow statistics. To put the review of the suggested classification in perspective, a summary of the main features of nomadism is given below :

(a) Movement of a group for purposes of finding water and grazing areas for its herd;

(b) Difficulty of assigning usual place of residence on the group because it is constantly on the move;

(c) Two patterns of nomadic movements : one set comprises consistent and predictable movements, another set comprises inconsistent and frequent movements across borders.

In the United Nations international migration statistics recommendations, nomads are considered as a special category of short-term migrants (UN, 1980). A main difference between nomads whose movements are predictable in terms of time span and short-term migrants, by this recommendation, is in respect of the concept of remuneration. The remuneration of nomads is within mainly the subsistence economy, it is argued, whereas remunerations of short-term migrants are in conventional forms. Maintaining this distinction, nomads were defined as special categories of short-term migrants who are remunerated mainly within the subsistence sector.

The above classification, however, does not cover the other types of nomads whose movements are irregular and who make frequent crossing of international boundaries. It is proposed that the classification of this class of nomads should be the same as border workers, but that like nomads who are short-term migrants, their remuneration should come from the subsistence economy.

The other aspect of classification pertaining to arrivals and departures are the concepts of residents and non-residents as applied to nomadic populations. It is suggested that in this case also, the UN recommendations using length of stay, actual or intended, should not be used. Instead, since all nomadic groups owe allegiance to specific tribal and hierarchical chiefs, the country of location of such chiefs should be taken as the country of residence of the particular group.

#### REFUGEES

Refugee movements are among the main types of migration classified under forced and impelled migrations, that is, migrations as a result of the activity of the state or some functionally equivalent social order.

Explicitly, a refugee has been defined as "an individual who owing to well-founded fear of being prosecuted for reasons of race, religion, nationality, membership of particular social group or political opinion, is outside the country of his nationality and is unable, or owing to such factors, unwilling to avail himself of the protection of that country ..."<sup>\*</sup>

Among the characteristics that distinguish African refugees from other population groups are (Betts, 1981; and Rogge, 1982);

(a) The uncertainty surrounding either duration of stay in the country of destination or the direction of future movements;

(b) African refugees are mainly illiterate and from the rural areas. Their settlements have usually taken place on border areas in many cases ethnic and linguistic regions that straddle international boundaries;

(c) A much smaller number of refugees, mainly the educated, has opted to stay in urban areas.

In recent years, the numbers of refugees in Africa have grown to significant sizes, albeit concentrated in few countries (see table 1 and 2).

A number of problems inhibit attempts to include refugees within a system of international migration statistics data collection system. The first has to do with the different definitions of this group of international migrants. Rogge has observed with respect to this issue that "Africa's refugees are a very diverse array of forced migrants. This heterogeneity makes description and analysis of their movement ... a complex issue ..." (Rogge 1982).

In particular differences exist among refugee aid agencies such as the United Nations High Commission for Refugees (UNHCR), the OAU, host countries and origin countries about criteria for persons to qualify as refugees. This lack of consensus should create problem for data collection.

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<sup>\*</sup>1951 Convention and 1967 Protocol of the United Nations setting up UNHCR.



Table 1

Estimated Totals of African Refugees as at 31st December 1974-31st December 1981

<u>Year</u>	<u>Number</u>	<u>Percentage Increase</u>
1974 <u>1/</u>	1,032,000	
1975 <u>2/</u>	1,119,850	8.5
1976 <u>3/</u>	1,212,630	8.3
1977 <u>4/</u>	1,636,515	34.9
1978 <u>5/</u>	2,232,125	36.4
1979 <u>6/</u>	2,715,977	21.7
1980 <u>7/</u>	3,589,340	32.2
1981 <u>8/</u>	2,923,000	-18.6

As reported in : Gainm Kibreab, Reflections on the African Refugee Problem: A Critical Analysis of some Basic Assumptions (Uppsala: The Scandinavian Institute of African Studies: 1983), Chapt. 2.

Source : 1/ Report of the UNHCR: General Assembly Official Records: Thirtieth Session. Supplement No. 12 (A/10012) New York, 1975.

2/ Report of the UNHCR: General Assembly Official Records: Thirty-first Session. Supplement No. 12 (A/31/12) New York, 1976.

3/ Report of the UNHCR: General Assembly Official Records: Thirty-second Session. Supplement No. 12 (A/32/12) New York, 1977.

4/ Report of the UNHCR: General Assembly Official Records: Thirty-third Session. Supplement No. 12 (A/33/12) New York, 1978.

5/ Report of the UNHCR: General Assembly Official Records: Thirty-fourth Session. Supplement No. 12 (A/34/12) New York, 1979.

6/ Report of the UNHCR: General Assembly Official Records: Thirty-Fifth Session. Supplement No. 12 (A/35/12) New York, 1980.

7/ UNHCR News from the UNHCR No. 1/January-February 1981.

8/ Preliminary Report of the UNHCR United Nations Economic and Social Council: Second Regular Session E/1982/29, 1982.

Table 2  
The major refugee<sup>a/</sup>movements in Africa, 1979

Country of asylum	No. of refugees	Main country of origin	Refugees per 1000 persons	Remarks
Zaire	530 000	Angola, Burundi, Rwanda	20.2	Increasing Ethnic Somalis <sup>d/</sup> increasing
Somalia	500 000	Ethiopia	147.0	
Sudan	250 000	Ethiopia, Zaire, Uganda <sup>b/</sup>	15.3	Mostly Eritrean- increasing
Angola	180 000	Namibia, Zaire	28.6	Excludes repatria- ted Mozambiquans
Tanzania	167 000	Burundi, Rwanda	10.4	
Uganda	112 000	Rwanda, Zaire	9.3	Increasing
Mozambique	100 000	Zimbabwe	10.5	
Zambia	70 000	Zimbabwe, Angola, Namibia RSA	13.5	
Gabon	60 000	Equatorial Guinea <sup>c/</sup>	120.0	
Algeria	52 000	Western Saharan, Non-African	3.0	
Burundi	50 000	Rwanda	11.1	Ethnic Somalis- increasing
Djibouti	20 000	Ethiopia	200.0	
Botswana	19 000	Zimbabwe, Namibia, Angola RSA	27.0	Increasing
Ethiopia	11 000	Sudan	0.4	Southern Sudanese
Rwanda	7 500	Burundi	1.7	Includes some remaining Guinea- Bissauans
Kenya	6 000	Uganda, Ethiopia	0.4	
Senegal	5 000	Various	0.9	
Egypt	5 000	Various	0.1	Mostly non-African
Morocco	500	Various	0.03	Mostly non-African
<b>Total</b>	<b>2 145 000</b>			

Notes: <sup>a/</sup> Refers only to refugees recognized by UNHCR.

<sup>b/</sup> Disputed - may be southern Sudanese returning following demise of Amin.

<sup>c/</sup> Equatorial Guineans in Cameroon have not been accorded refugee status.

<sup>d/</sup> Includes Somali - 'Abud' - i.e. Galla and Oromos.

Source: UNHCR Bulletin, Spring 1979, as reported in John R. Rogge, "Refugee Migration and Resettlement", in J.I. Clarke and Leszek A. Kosinski, *Redistribution of Population in Africa* (London: Heinemann, 1982).

But in addition, for border data collection other problems complicate the inclusion of refugees within a system of international migration statistics data collection. The most important is the uncertainty surrounding the intended or actual period of stay and direction of movement, as both factors are dependent on developments beyond the control of the individual refugee. Another problem is caused by a set of refugees who do not come directly under the administration of host governments or aid agencies since they do not live in organized settlements but rather with relatives and friends across the borders. This class of refugees are significant in regions where borders traverse ethnic or linguistic groups. The identification of this class of refugees is difficult since they do everything possible to evade their inclusions within organized settlements and their affinity to peoples on the borders makes their assimilation easy.

Two options are available to classify refugees that are easily identifiable, namely: (a) to include them among short-term migrants initially, and later if they stay beyond a period of one or more years to reclassify them as long-term immigrants, or (b) to include them on arrival among long-term immigrants, given the problems of classifying them at a later period. The last option appears reasonable and practical.

References

Betts, Tristram F. Spring-Summer 1981, "Documentary Note: Rural Refugees in Africa". International Migration Review, Vol. 15, pp. 195-212.

Economic Commission for Africa (ECA), May 1965, "Problems of Enumerating Nomads in Africa". E/CN.14/CAS.4/CPH/4.

Economic Commission for Africa (ECA), June 1977. Special Techniques for Enumerating Nomads in African Censuses and Surveys. E/CN.14/CAS.10/16.

Gould, W.T.S., Fall 1974, "Refugees in Tropical Africa". Special issue of International Migration Review, Vol. VIII no. 3.

Rogge, John H., Spring-Summer 1981. "Africa's Resettlement Strategies". International Migration Review, Vol. 15, pp. 213-218.

Rogge, John H., 1982, "Refugee Migration and Resettlement". In J.I. Clarke and L.A. Kosinski (eds.) Redistribution of Population in Africa, London: Heinemann, 1982.

United Nations, 1980, Recommendations on Statistics of International Migration, Statistical Papers, Series M., no. 58.

PROBLEMES D'IDENTIFICATION ET DE MESURE DE CATEGORIES SPECIALES DE  
PERSONNES QUI FRANCHISSENT LES FRONTIERES INTERNATIONALES

Résumé

Ce chapitre présente quelques problèmes d'identification et de mesure de deux catégories de migrants qui franchissent les frontières internationales en Afrique : les nomades et les réfugiés. En ce qui concerne la population nomade, il est difficile de déterminer le lieu de résidence habituelle car elle est toujours en déplacement, certains de ces déplacements n'étant pas, de surcroît, systématiques. De même, les réfugiés posent des problèmes similaires notamment à cause de l'incertitude de leur durée de séjour et/ou de la direction de leurs futurs déplacements.

Parmi les techniques de rassemblement des données, les enquêtes sur le terrain, c'est-à-dire les recensements de population et les enquêtes auprès des ménages, semblent être les seules méthodes pratiques de dénombrement de ces deux catégories de migrants internationaux. Ces méthodes permettent de résoudre quelques-uns et non l'ensemble des problèmes d'identification et de mesure, à cause des approches spéciales et non conventionnelles adoptées pour la collecte des données, approches qui ne peuvent pas être aisément couplées avec la méthode de comptages aux frontières en raison au caractère passif de cette dernière.

PROPOSALS FOR THE IMPROVEMENT OF INTERNATIONAL MIGRATION STATISTICS  
IN AFRICA WITHIN THE CONTEXT OF THE UN PHASED PROGRAMME

INTRODUCTION

Compared with the two other main demographic variables, fertility and mortality, the procedures for the collection and tabulation of migration statistics are not well developed or standardized. But migration like them also affects demographic processes. In view of the selectivity of the persons involved, usually young, single males, the movement affects the age structure of the population of the area of origin and destination of a country or region within a country. In the areas of destination, migration has social and economic consequences with respect to manpower supply and demand, assimilation, provision and consumption of housing, health, education and other social services. Also, statistics on the numbers of immigrants and emigrants complete the data requirements on the components of population growth in the country, information that is usually required for the production of estimates and projections. All these considerations argue for the need to collect and tabulate data on international migration that are comparable as well as standardized.

The early development of international migration statistics collection and tabulations did not generally cater for these objectives. For many countries in Africa and elsewhere, the early development of a system of international migration statistics collection focused on the fulfilment of administrative objectives, especially the identification and control of sets of persons that cross international boundaries. Recently, however, it has been realised that the mere identification of immigrants and emigrant is not enough to properly understand the migration process and to formulate realistic policies on international migrants. To achieve these further objectives about international migration statistics, the collection and tabulation of other data on the socio-economic characteristics of immigrants and emigrants are also needed.

For several years attempts have been made by various international organizations to improve the international comparability of international migration statistics culminating in the 1953 United Nations recommendations. However, a mid 1970 United Nations study of national practices in the collection, tabulation and publication of international migration statistics showed that a variety of definitions of immigrants and emigrants exist, widely different from those contained in the 1953 recommendation and that fewer countries were collecting emigration statistics compared with immigration data.

Against this unsatisfactory position of international migration statistics, the 1953 recommendations were revised in 1980. The main objectives of the 1980 recommendations (United Nations, 1980) were :

to encourage Governments to collect, tabulate and disseminate appropriate statistics on international migrants that will be of use for national purposes and will be as comparable as possible internationally. International comparability would also enhance the usefulness of the statistics to all Governments, because, for the time being, many countries of heavy emigration will probably have to rely on the immigration statistics of other countries for information about their emigrants.

As the phased programme for the collection and tabulation of international migration statistics that we shall be examining presently are based on the 1980 recommendations, there is need for them to be broadly highlighted.

The recommendations proposed the identification of four major categories of arrivals\*; namely : (a) long-term immigrants, (b) short-term immigrants, (c) short-term immigrants returning and (d) nomads. However, as the chapter on problems of identification and measurement of special categories of persons that cross international boundaries have clearly shown, nomads present complex problems of both identification and measurement especially in a migration data collection heavily dependent on border data system for flow statistics. Accordingly, we shall not consider this group.

Also for departures the following class of international travellers were identified : long-term emigrants, short-term emigrants and short-term immigrants returning.

#### PHASED PROGRAMME FOR THE DEVELOPMENT OF INTERNATIONAL MIGRATION STATISTICS

In order for African countries to implement all or some aspects of the 1980 international recommendations, which are considered as long-term goals, a step-by-step or phased approach has been proposed as the best strategy to follow (United Nations Statistical Office, 1981). In essence the approach aims at the formulation of a programme comprising realistic goals, based on a phased approach, for the collection, tabulation and publication of international migration statistics covering separately immigration, emigration and stock statistics. However, in the phased programme, emphasis is put on border data collection rather than field investigations in order to make it possible to generate international migration statistics on a continuous basis. The other main source for such flow statistics is the population register. Since a significant proportion of African countries do not have the resources to maintain viable population registers and since field investigations cannot provide flow data, in the phased programme, therefore, border data collection systems are singled out as the most appropriate source of the data.

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\*For a discussion of the definitions of the categories of arrivals and departures suggested in the 1980 recommendations, see the chapter in this issue on, "Concepts, definitions and classifications of International Migration Statistics in Africa".

Another feature of the phased approach is that countries should formulate programmes separately for the development of immigration, emigration and stock international migration statistics. Following this approach, priority programmes, such as covering specific international travellers, can be easily met.

Two main elements are involved with the phased programme. The preliminary step consists of determining the extent to which the country's statistics currently comply with the international recommendations. The second step comprises the identification of realistic and unambiguous goals for the collection, tabulation and publication of the statistics. These objectives should be pursued gradually within the framework of a step-by-step programme.

The phased programmes for the separate development of immigration, emigration and international emigration stock will be examined in the sections that follow.

#### Collection of immigration statistics in phases

A phased programme for immigration statistics should be tailored to the status of such statistics within the particular country. For example, the following factors could be taken into account when devising the phased programme : whether the country is a net immigration or emigration country, the extent and magnitude of immigration to the country, the effects of the immigrant populations on the socio-economic and demographic features of the population and their consequences for social amenities.

The first step in the development of a phased programme should involve a meticulous evaluation of the current state of the national statistics on immigration. An important assignment in this connexion is the comparison of the definitions and characteristics of the nationally designated categories of immigrants with those of the three internationally recommended categories. Short of achieving this objective the national publication for immigration statistics should include clear definitions of the various categories of immigrants that the country collect data on. This publication, in addition, could include information on the methodology and procedures used to collect immigration statistics.

Despite the different conditions existing in various countries and different priorities put on items to be collected, the strategy to develop immigration statistics within a phased programme is expected to have some similarities. Among them are the following which should constitute integral features of the first phase.

The primary objective at the first stage should be the collection by all countries of information that will enable the identification of the internationally recommended categories of immigrants from among all persons entering the country.



The next phases should have the objectives of collecting information on the characteristics of persons included in the recommended categories of immigrants. Where it is possible, during these phases an attempt should be made to collect information on characteristics of sets of arrivals into various countries that are significant in numbers.

#### Collection of Emigration Statistics in a Phased Programme

The previous section of this study has discussed the methods of implementation of a phased programme for immigration statistics development. Also worthy of improvement, preferably also within a phased programme, are statistics on the number and characteristics of persons who leave one country for another - emigrants. A separate phased programme for the development of emigration statistics has much to recommend it because of the possibility it offers a country to set targets with flexibility and also because it provides the opportunity to implement the development of aspects of emigration statistics that have priority to the country.

As with immigration, the concept of emigration has been marked by a diversity of definitions since various countries have been concerned primarily with satisfying administrative requirements of the data, and only in rare cases with fulfilling statistical objectives. This practice has mainly accounted for the glaring lack of international comparability for emigration statistics. There is therefore a need for countries to collect statistics on emigration that comply as closely as possible with the international recommended categories of emigrants, which focus on three categories of international departures : long-term emigrants, short-term emigrants and short-term immigrants departing.

In the same manner with the phased programme for immigration statistics the first phase for the development of emigration statistics should include a careful assessment of the current state of the national statistics pertaining to emigration, if any. With this information national officials will be able to make decision about priority areas and needs with respect to future development of the statistics.

More specifically, the first phase should have as its objective the collection of all information that is required to identify the internationally recommended categories of emigrants into which each person leaving the country should fit in. As part of this exercise there should be comparisons of definitions and delineation of the characteristics of the nationally designated categories of emigrants with those of the three internationally recommended categories : long-term emigrants, short-term emigrants and short-term immigrant returning.

In countries where it is not possible to effect the changes to the phased programme as outlined above, there should be an arrangement whereby the national publications for emigration statistics provide clear definitions for each of the nationally designated categories of emigrants and other information such as the source of the data and the methods and procedures that one used to collect them.

Subsequent phases would have as their objectives the collection of information on the characteristics of persons in each of the recommended categories of emigrants that are important to the country by virtue of their size and therefore should be earmarked for enumeration.

#### Data Sources on Flow International Migration Statistics

Among the possible methods for the collection of immigration and emigration statistics on a continuous basis, border collection should occupy a prominent position. The reason is that it is a most feasible and reliable method compared with the population register for the collection of current information given the present status of African data collection systems.

One of the advantages of border data collection system is its suitability for generating statistics on a continuous basis, which takes into account seasonal variations. Moreover, the records of observed moves from this source are fairly accurate with respect to timing and location. Also the data collection could be done on a sampling basis. Lastly, pertinent to the phased approach proposed in this chapter, improvement and/or expansion of border data collection system can be implemented in stages.

A major shortcoming of this data collection system is that it relies on responses about declarations with respect to the intentions and desires of international travellers. Also, for this system of data collection to obtain comprehensive and reliable information, boundaries have to be clearly demarcated and sufficient levels of border surveillance and control should be instituted. Some of these conditions have not been adequately satisfied by African countries.

#### A Phased Programme for the Development of Immigrant and Emigrant Stock Statistics

Population registers and field inquiries are the two major data sources that can be employed to derive statistics on a country's immigrant stock. However, the present state of African data collection rules out the use of population registers, because of problems of maintaining accurate registration systems.

Consequently, field inquiries such as household sample surveys and population censuses are at the moment the most feasible systems for the generation of immigrant stock data. Of the two methods used in field inquiries, the population census and household sample surveys, the latter system can yield useful information only in cases where the numbers of immigrants entering the country in recent years prior to the inquiry are significant.

The population census is perhaps the more reliable and practical source of information on the migrant stock, although it has the disadvantage that the operation occurs after an appreciable interval, usually, ten years.

The introduction of a phased approach has different implications depending on which data collection system is selected. For example, if the population census is the preferred method, the application of a phased programme will depend, among other considerations, on such factors as the frequency of the exercise, the number of questions that can be accommodated and whether a short or long questionnaire is used. However, no matter what data collection system is selected, the implementation of the phased programme should follow this routine. In the first phase, attention should be devoted to the collection of information which is required for the identification of persons belonging to the immigrant stock, especially the three categories identified in the United Nations recommendation. The second and subsequent phases should be devoted to the collection of data on the characteristics of the identified immigrant stock population.

References

United Nations, 1980. Recommendations on Statistics of International Migration. Statistical Papers, Series M, no. 58, New York : 1980.

United Nations Statistical Office, 1981. Improvement of Migrant Flow Statistics. Paper presented to Expert Group on Improvement of International Migration Statistics, New York : 21-25 September.

PROPOSITIONS POUR L'AMELIORATION DES STATISTIQUES DES MIGRATIONS INTERNATIONALES EN AFRIQUE DANS LE CONTEXTE DU PROGRAMME ECHELONNE DES NATIONS UNIES

Résumé

En Afrique et partout ailleurs, les méthodes de collecte et de mise en tableaux des statistiques des migrations ne sont pas encore mises au point et normalisées, contrairement à celles des deux autres variables démographiques que sont la fécondité et la mortalité. Des recommandations et propositions ont été faites afin d'encourager les gouvernements à rassembler, mettre en tableaux et diffuser des données pertinentes sur les migrations internationales qui répondent à leur propre besoin et qui sont autant que possible comparables sur le plan international. C'est le cas des recommandations des Nations Unies sur les statistiques des migrations internationales publiées en 1980.

En vue de la mise en oeuvre intégrale ou partielle par les pays africains des recommandations internationales de 1980, qui sont considérées comme des objectifs à long terme, une approche par étapes ou échelonnée est proposée comme étant la meilleure stratégie à suivre. Cette approche consiste essentiellement à établir des programmes réalistes et comportant plusieurs phases aux fins d'assurer la collecte, la mise en tableau et la publication des statistiques de migrations internationales, une distinction étant faite entre les statistiques de l'immigration, celles de l'émigration et celles de la migration.

Le programme comprend deux éléments principaux. Le premier consiste à déterminer dans quelle mesure les méthodes d'élaboration des statistiques nationales sont conformes aux recommandations internationales de 1980. Le deuxième élément a trait à l'identification d'objectifs réalistes et non ambigus pour le rassemblement, la mise en tableau et la publication des données. Ces éléments doivent s'intégrer dans le cadre d'un programme échelonné.

## DEVELOPMENT OF ENVIRONMENT STATISTICS IN AFRICA

### INTRODUCTION

The recent drought which has affected large areas of East, Southern and West Africa has brought to the fore the problems related to the environment in the African region. It is not only in the area of drought and desertification that there are now serious concerns but other problems are the inadequate distribution of water resources, sanitation and pollution control, the general degradation of the environment, the depletion of natural resources, mismanagement of wild life and protected areas, and lack of manpower to deal adequately with the environmental issues and concerns listed above. It must be borne in mind that until recently most of the environmental problems mentioned previously especially those related to pollution control and the general degradation of the environment had been thought of generally as issues which concerned mainly developed countries whose industrialization had exacerbated the situation. They were not considered as having an immediate or major relevance to the developing regions of the world especially Africa. However, by the late 1960's some African countries were getting concerned about the general degradation of their environment and a few of them established agencies which dealt partly or exclusively with environment protection.

### AN OVERVIEW OF THE ENVIRONMENTAL SITUATION IN AFRICA

As implied in the previous paragraph, the inadequate distribution of available water resources has raised questions which affect not only population distribution but also the degradation of the environment. The number of persons not having access to potable water supplies is deemed to have increased. This is contrary to the objectives of most of the development plans prepared in African countries from the time of independence to the mid 1970's. One consequence of the lack of success of the good drinking water programme has been the non-decrease in water borne diseases (both endemic and epidemic water related). The water situation has been worsened by the long period of drought, extending in some countries over a period of three to four years. The southern expansion of the Sahara Desert and the increase in land area occupied by the Kalahari Desert have brought to the attention of all concerned questions related to the management of Africa's environment. Although there are agencies established for desertification control and sand dunes stabilization, they have not been successful so far in checking the extension of desert areas. All these environmental problems have called into question the strategies of the International Drinking Water Supply and Sanitation Decade (IDWSSD) and the Alma Ata Declaration of Health for all by the year 2000. In order to deal with this problem, ECA has been requested to establish a regional data bank on desertification control and impacts of drought in Africa through inter alia a data base to be called "PADIS Environment/Africa". This data base has not yet been developed.

The second issue previously highlighted was that of sanitation and pollution control. There are at present in many African countries inadequate services to deal with community waste disposal and related sanitation problems. There is, however, the need to measure the effects of pollution on the environment and to document and provide this information to national governments to enable them to take immediate action.

The next problem is the depletion of natural resources. The problem of deforestation and its consequences constitute only a small part of the issues raised by man's depletion of his natural resources. Although some of these natural resources are renewable, when no serious attempts are made to replace or renew them, the effects can be catastrophic. These consequences are so well known that there is no need for further elaboration in this paper. The only solution in the case of deforestation is afforestation. In the area of non-renewable natural resources, the problems are more serious and call for proper management to minimize the effects of their depletion on national or subnational populations.

The penultimate point which has to be considered in the brief assessment of environmental issues and problems in the region is the management of wild life and protected areas. The non-restricted slaughter of wild life in game parks and forest reserves has now become a matter of serious concern to most African countries. In Kenya and Tanzania serious steps have been taken to protect wild life from extinction. It should be borne in mind that unrestricted access to and exploitation of wild life and protected areas could seriously upset the ecological balance and some of the consequences of such imbalance are well known. However, it is quite possible that the most serious effects have not been successfully disseminated to the general public to make them aware of the implications of the situation.

Finally, in the region there is no adequate manpower available to deal with any aspect of the problems outlined above. There has been an attempt in recent times to set up an institution for the training of environmental engineers, management specialists, health specialists, administration and control specialists, etc., but so far no proper durable structures have been established within the region to deal with the inadequate manpower situation.

It may be recorded that in 1983 a consultant was recruited to assess the status and trends in desertification in 11 countries, namely: Botswana, Ghana, Lesotho, Malawi, Mozambique, Rwanda, Swaziland, Tanzania, Zaire, Zambia and Zimbabwe. The main conclusions of the consultant were "(i) there was urgent need for each country to draw a national plan of action to combat desertification within the framework of the United Nations Plan, the IUCN World Conservation Strategy and UNESCO's Man and Biosphere Programme; (ii) there was need for reform in land tenure, land use practices, and resettlement programmes using existing body of scientific knowledge to ameliorate the impact of human activities in causing desertification; and (iii) manpower training, environmental conservation programme and physical planning should be strengthened at the national level".

In this short review of environmental problems and concerns, no country-by-country assessment has been attempted. Instead, the global or partial global picture has been presented.

#### Conceptual frameworks and assessment of the environment situation

As already stated it was in the 1960s that a few African countries started to think seriously of obtaining data to describe their environment. But not much could be done because no acceptable conceptual framework had been developed for the collection and analysis of such data. Even outside the region, environment statistics had not been given the place it deserved. For example, no environment statistics unit existed in the UN system and no international meeting on the subject had even been held. In 1973, however, the United Nations Economic Commission for Europe convened such a meeting. By the end of the 1970's environment statistics had become the concern of the United Nations Environment Programme (UNEP), the United Nations Statistical Office and other intergovernmental organizations. The International Statistical Institute (ISI) at its 42nd session in Manila, Philippines in 1979 devoted a formal meeting to this topic at which the following papers were presented:

(a) Conceptual frameworks and a unified approach to environmental statistics - Tony Friend (Statistics Canada);

(b) Environment data: a tool for environmental assessment and management in developing countries - P. Bartelmus (UNEP);

(c) Some considerations on the definition and estimation of environment quality parameters - T. Polfeldt (National Central Bureau of Statistics, Sweden);

(d) Environment Statistics and the National Accounts - D.W. Blades (UN Statistical Office).

In his paper, Tony Friend stressed the need for a conceptual framework for environmental statistics. He emphasized that such conceptual frameworks for organizing data, should be able, inter-alia, to provide a basis for the integration of demographic, social and economic statistics with geo-physical measures of the natural environment. He reviewed two types of conceptual frameworks: the Material-Energy Balance Statistical System (MEBSS), and The Stress - Response Environmental Statistical System (STRESS). MEBSS is a more structured approach deriving from a formal accounting structure based on material-energy balance accounts. STRESS, on the other hand, is derived from the stress-response principle and implies the maintenance of a time series of data describing the transformation of the environment. It should be noted that a more thorough review of the various conceptual approaches to environment statistics is included in the Survey of Environment Statistics.



The use of frameworks for the development of environmental statistics require the identification of appropriate spatial units. As Friend stated in connexion with his example of how the STRESS framework can be utilized in a socio-economic conceptual framework, "What this demonstrates is how statistics of one resource, in this case water, can be integrated into a complex system which views water not merely from the traditional equilibrium standpoint (i.e., supply = demand) but rather as a complex natural cycling process of precipitation, stream flow, freshwater stock (lakes) and "throughput" in entropic processes (i.e., media for energy transfer, nutrient, and waste water removal)".

The African region has so far not been attracted to complicated accounting systems. The problems encountered in the initial use of the United Nations system of national accounts (SNA), the Social Accounting Matrix (SAM) and the Computable Generalized Equilibrium (CGE) model, and the reservations of many countries about the introduction of the System of Social and Demographic statistics (SSDS) suggest that a formal accounting structure as a conceptual basis for developing natural resources and environmental statistics in the region would be problematic. An approach similar to stress-response would however appear to be generally acceptable at this stage. The Framework for Development of Environment Statistics (FDES) attempts to integrate the major aspects of the various existing approaches.

In the paper by Bartelmus, he dealt, inter-alia, with environmental management and development and he emphasized that not only quantitative measures of growth, but also qualitative indicators (typically environmental aspects) are required in monitoring development. He stressed the role of data in development planning and indicated that the identification and description of environmental problems requires a lot of data from different sources.

The data requirements considered were grouped under the following categories: (a) monitoring data; (b) environmental statistics; (c) environmental indicators; (d) other information (such as bibliographic, referral and audio-visual information). He also attempted a survey of the scope and needs of environmental statistics in selected developing countries. In Africa, the countries covered are: Botswana, Gambia, Guinea-Bissau, Kenya, Mauritius and Zimbabwe. These countries cannot be representative of the whole of the African region, but his detailed analysis of the environmental problems and data requirements in Kenya can be used as a starting point for any African country in initiating action on the development of environmental statistics provided it is borne in mind that environmental concerns are different from one country to another. The author also stressed that the data demanded by developing countries should help to determine the scope of environmental data collection.

The third paper by Thomas Polfeldt dealt with technical issues connected with the measurement of environmental processes. In this connection, he considered spatial parameters and estimation problems and indicated some of the advantages of using a stochastic process approach to environmental definition and estimation. Some of these techniques still require further work and in any case, are at this stage too sophisticated for application in African countries.

The fourth paper by D. Blades considered the relationship between environmental statistics and the national accounting system. The same issues is treated in FDES where it is indicated that since no statistical definitions, classifications and tabulations are contained in it, direct linkages through common concepts and classifications have not yet been established between FDES and SNA or any other accounting system. However, Blades dealt with some examples of how an input-output table can be extended to show the environmental impact of economic activity. He indicated that input-output tables of that kind had been used in some OECD countries. The main thrust of Blades's paper was, however, to show how national accounting statistics can be used for environmental assessment and management with respect to a major environmental concern-pollution.

With respect to the assessment in the African region, the first workshop on Natural Resources and Environment Statistics was held in Nairobi from 25-29 January 1982. It was attended by representatives from the following English-speaking countries: Arab Republic of Egypt, Kenya, Malawi, Namibia, Sierra Leone, Swaziland, Uganda, United Republic of Tanzania, Zambia and Zimbabwe. Senegal was also present.

The workshop recommended that each country:

"(a) Identifies, classifies and ranks environmental problems within a comprehensive framework for environmental statistics and resource accounting;

(b) Where adequate institutional and manpower capabilities are lacking, these should be developed to facilitate the achievement of these recommendations;

(c) Evolve appropriate mechanism for the application of remote sensing data analysis for statistical purposes;

(d) Initiate an inter-agency programme to identify a suitable set of environmental/econological indicators, for the purpose of monitoring environmental conditions and trends;

(e) Undertake the compilation of existing data for the purpose of producing a "Compendium of Environmental and Natural Resource Statistics". The workshop members further recommended that at the International level:

"(f) Regional exchange of experience be initiated in the field of environment and natural resources. (It was proposed here that ECA and UNSO integrate recommendations (f) into their long term statistical development programmes);

(g) Establish training courses in this new field under the auspices of the ECA Statistical Training Programme for Africa".

The main recommendations of the Regional African Seminar on Natural Resources and Environment Statistics convened in Abidjan, Ivory Coast from 21 to 26 November 1983 were that:

(a) there was the need to develop national programmes of natural resources and environment statistics;

(b) technical assistance should be provided to assist the development of such programmes;

(c) a committee consisting of selected countries and the United Nations should be set up, with France providing secretarial support, to monitor and ensure follow-up, of the implementation of the recommendations of the seminar. The seminar which was for French-speaking African countries was attended by the following countries from the region: Benin, Chad, Central African Republic, Congo, Ivory Coast, Gabon, Guinea, Madagascar, Mauritius, Niger, Senegal, Togo, Tunisia and Upper Volta (now Burkina Faso).

#### The scope of environment statistics

The scope of environment statistics is very wide, since it affects the impact of plant and animal life on the environment as well as other natural and man-made phenomena. In this section, a short historical development of what now constitutes ECA's concept of the topic and fields covered by environment statistics will be given.

In the UN Framework for environment statistics as amended by the Expert Group on Environment Statistics (New York, 20-24 September, 1982, and further modified by ECA, the following structure and contents were proposed to the third session of the Joint Conference of African Planners, Statisticians and Demographers convened in Addis Ababa (March 5-14, 1984).

#### (a) Natural Environment

- (i) Flora
- (ii) Fauna
- (iii) Air and climate
- (iv) Water (Fresh)
  - (v) Land/soil
    - Surface
    - Sub-surface (including submerged land and marine sub-soil)
- (vi) Marine
  - Coastal
  - Open sea

- (b) Human settlements
  - (i) Working environment
  - (ii) Housing
  - (iii) Recreation and culture
  - (iv) Infrastructure
  - (v) Health and sanitation
  
- (c) Ecosystems
  - (i) Forests and woodlands
  - (ii) Mountain
  - (iii) Freshwater aquatic
  - (iv) Coastal and islands
  - (v) Arid and semi-arid
  
- (d) Development activities
  - (i) Industries (environment)
  - (ii) Transportation/environment
  - (iii) Energy
  - (iv) Mining
  - (v) Agriculture/environment., etc.

In addition, the following derived environmental topics were included: energy; pollution (air, water and soil pollution; oil wastes, biochemicals and other toxic chemicals, radiation and noise), natural disasters (floods, earth-quakes, storms, droughts, fires, avalanches, volcanic activity, land slides etc.), environmental health and environmental management.

The list of areas and derived topics above should be supplemented with a list of indicators which would for each field adequately describe the nature of the environment and also highlight specific areas of environmental concern relating to the country. It may be noted that international organizations have over the past few years identified five core areas in the above framework to which attention especially in the developing countries should be focussed: human settlements, land, natural resources, energy and health and sanitation. For countries starting to organize their environment statistics in a systematic manner for the first time, these five areas were recommended as a starting point.

It should be noted however that FDES does not recommend "core topics" and does not identify "derived topics". Instead the FDES relates components of the environment to information categories and the following format therefore now determines the overall scope of environment statistics which is being recommended for Africa:

Components of the environment	Information categories			
	Social and economic activities, Natural events	Environmental impacts of activities/ events	Responses to environmental impacts	Inventories, stocks and background conditions
1. Flora				
2. Fauna				
3. Atmosphere				
4. Water				
(a) Freshwater				
(b) Marine water				
5. Land/soil				
(a) Surface				
(b) Sub-surface				
6. Human settlements				

#### Data Collection methods

There are four main methods by which data on the environment can be collected namely, interview, mail, use of administrative records and laboratory tests. Some of the data on fauna, flora and human settlements can be obtained as part of the National Household Survey Capability Programme (NHSCP) and national population, housing and agricultural censuses. The information can be collected through interviews at the cartographic, penultimate or ultimate stages of such field surveys, the choice of stage being determined by the nature of the information required.

The second approach using mail questionnaires would imply the inclusion of relevant questions in the questionnaires normally sent, say to industrial establishments in connexion with industrial censuses and surveys. In certain cases, specially designed questionnaires can be sent to a target group of industrial, commercial and construction establishments. Unfortunately the use of mail questionnaires in Africa has not been very successful since in general the response rate has been low. In most cases, this approach has been followed by subsequent visits by interviewers.

The third data collection mechanism is the use of administrative records. Many government regulatory and other agencies maintain records as part of their normal work. Thus, for example the meteorological department may maintain climatic records (rainfall, temperature, pressure, wind direction, etc.), which could serve as a source of general meteorological information required to build up statistical data for various environmental categories, e.g., flora, air and climate, water and ecosystems. These records can then be consulted by the statistician to obtain the relevant data. It should be noted that such records do not involve use of interviewers or mail questionnaires but rather direct measurement by agency staff.

The fourth source of data is the record of specific tests which may be carried out at the request of the agency with major responsibility for the environment. In this respect the only difference between the third and fourth approaches is that the latter involves laboratory tests specifically designed to test an environmental quality, e.g., the level of pollution and the third involves only simple and routine measurement.

Further important methods of data collection have been developed in the field of serial surveys, especially remote sensing. The latter received a great deal of interest in the two African workshops on environment and natural resources statistics.

#### Institutional sources

There are many institutional sources of natural resources and environment statistics. In this region, these include the national statistical office and the Ministries of Agriculture, Water Development and Works. The Directory of Country Practices for Kenya of 1982 contained a long list of government and other national agencies which are actual or potential sources of environment statistics.

A few examples of the types of information which can be obtained from government agencies are given below for illustrative purposes only:

Central Statistical Office: demographic factors (population growth, migration and spatial distribution); consumption patterns of forest and animal products, housing and its environment; economic trends (urbanization; industrialization; transportation); economic factors (production/consumption pattern, poverty distribution of income and wealth); labour market structure.

Ministry of Agriculture :	land area by vegetation; distribution and type of cultivated area; agricultural holdings; inventory/stocks of species (fauna and flora), land tenure/ownership; area distribution of agricultural establishment.
Meteorological Departement :	general meteorological information (temperature, rainfall, wind direction, evaporation, climate/weather patterns).
Ministry of Water Development :	water cycle; geographical distribution of water resources; water balances (availability and demand for use of surface, ground and other water); water utilities (hydro-power stations, water works and treatment plants); distribution of water users (commercial and non-commercial).
Ministry of Tourism and Wildlife :	inventory of endangered species; protected areas and national parks; land use patterns (protected, recreational areas); inventory of recreational and cultural facilities; tourism.

The above illustration which tries to relate a few typical ministries in Africa to the basic data requirements as identified in the United Nations FDES has been given to demonstrate that various government agencies in the region already hold large stocks of valuable environment data which can be organized systematically in the form of environment statistics.

It should be noted as demonstrated in the above example that environment statistics cuts across other fields of statistics. Thus basic data and indicators may be obtained from these fields and should not necessarily be a separate data collection activity. In countries which have or are thinking of developing a statistical data bank, therefore, the requirements of environment statistics can be met partly from data stored for other purposes. This multisectoral nature of environment statistics should be taken into account when initiating work in this area. It should be noted that the Directory of Environment Statistics covers almost all African countries.

#### Priority Areas and Resource Needs

It is difficult in a region as diverse as Africa to define one set of priority areas in which the development of environment statistics should initially be confined. This paper does not attempt to do so. Instead it is recommended that each African country should first define its areas of environment concerns and try to obtain the basic data which will help it to identify problem areas and monitor trends in these areas. The five areas identified above could serve as a starting point.

An inventory of available sources of data and the assessment of the manpower situation would also serve to identify whether these are adequate. In case this is not so, programmes to develop institutional and manpower capabilities as recommended by the Nairobi workshop should be initiated. In this context, training workshops within the African region should be given priority.

Mention was made previously of the recommendation of the Nairobi workshop to the effect that training courses in environment statistics should be established under the auspices of the Statistical Training Programme for Africa (STPA). It may be recalled that prior to the Nairobi meeting, the ECA secretariat had presented a paper on "New areas of Statistical Development (E/CN.14/STPA/4)" to the first meeting of Directors of STPA centres (Addis Ababa, 22-26 October 1979). The paper dealt inter alia, with the inclusion of environment statistics in the curriculum of professional training at STPA centres. It was recognized then that the availability of suitable texts and teachers may prove an obstacle to the immediate implementation of the recommendation by the secretariat to cover the subject at these centres. There is, therefore, need to prepare suitable training material and also to train the trainers at STPA centres adequately in this area. ECA has already prepared a draft course outline on Environment Statistics for the Guide Syllabus for professional training.

#### CONCLUSION

In this short paper an attempt has been made to identify the main areas of concern in an environment statistics programme. In most African countries a lot of data in this field exists but not much has been done to systematize the information into a conceptual framework. As a first step, countries are urged to organize existing data more systematically. The next step is to identify gaps in the data available. Most studies in the region have identified an "imbalance between economic-geographical statistics on the one hand and economic data on the other". This imbalance has to be redressed in the context of a clear identification and description of problems relevant to the country.

Each national statistical office should have a natural resources and environment statistics unit. Such a unit should work very closely not only with the overall national environment protection agency but with government regulatory and other agencies in order to build up the relevant basic statistics and indicators and ultimately a data bank which can be used for building up a time series of data which can be used to describe changes in environmental degradation so that the necessary remedial action can be taken.



Substantial support from international and bilateral agencies will be required to prepare guidelines and to assist in staff training. Reference has been made earlier to the need for training workshops. These are necessary since the field is relatively new in Africa and the necessary expertise does not at present exist in many countries. In this area of activity, the United Nations Environment Programme (UNEP), Data for Development International Association and the United Nations Statistical Office should be the leading agencies. ECA should be assisted to provide technical assistance to member States which want to establish or improve and expand their environment statistics units.

References

United Nations. Framework for the Development of Environmental Statistics.  
United Nations, New York, 1984.

United Nations. 19 Survey of Environment Statistics. Statistical Papers  
No. 75. United Nations, New York.

## DEVELOPPEMENT DES STATISTIQUES DE L'ENVIRONNEMENT EN AFRIQUE

### Résumé

On trouve dans cet article un aperçu des questions et problèmes relatifs à l'environnement en Afrique : sécheresse, désertification, répartition des ressources en eau, salubrité publique et lutte contre la pollution, dégradation générale de l'environnement, épuisement des ressources naturelles, conservation de la faune, gestion des zones protégées et besoins en main d'oeuvre. Les cadres conceptuels des statistiques de l'environnement font également l'objet d'une brève analyse. En outre les recommandations des deux ateliers de travail sur les ressources naturelles et les statistiques de l'environnement, tenus en Afrique, sont mises en relief.

Sont également analysées la portée des statistiques de l'environnement et les principales caractéristiques du cadre de développement des statistiques de l'environnement établis par les Nations Unies, notamment la catégorisation des données relevant du domaine de l'environnement.

On y trouvera de même une discussion des quatre méthodes principales utilisées pour la collecte des données en ce domaine : entrevues, questionnaires envoyés par la poste, registres administratifs et tests de laboratoire. Il y est fait aussi mention de l'utilisation des levés aériens notamment par télédétection.

Sont examinées ensuite les sources institutionnelles des statistiques de l'environnement. L'exemple du répertoire 1982 des pratiques des pays, cas du Kenya, est utilisé pour montrer les agences gouvernementales et autres qui sont des sources actuelles ou potentielles des statistiques de l'environnement.

Enfin, l'article examine les domaines prioritaires et les ressources nécessaires et recommande que chaque bureau national de la statistique dispose d'une unité chargée des statistiques de l'environnement et des ressources naturelles. Enfin, un appel est lancé aux organismes internationaux et bilatéraux d'aide pour qu'ils accordent un soutien conséquent en ce domaine.

ANNEX

AVERAGE ANNUAL RATES OF GROWTH  
OF  
GROSS DOMESTIC PRODUCT

ANNEXE

TAUX MOYEN ANNUEL DE CROISSANCE  
DU  
PRODUIT INTERIEUR BRUT

Average annual rates of growth of gross domestic product

Developing Africa means Africa excluding South Africa.

Sub-regions

North Africa comprises:	Algeria, Egypt, Morocco, Libyan Arab Jamahiriya, Sudan and Tunisia.
West Africa comprises:	Benin, Cape Verde, Gambia, Ghana, Guinea, Guinea Bissau, Ivory Coast, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone, Togo and Upper Volta.
Central Africa comprises:	Burundi, Cameroon Un. Rep., Central African Republic, Chad, Congo, Equatorial Guinea, Gabon, Rwanda, Sao Tome and Principe and Zaire.
East and Southern Africa comprise:	Angola, Botswana, Comoros, Djibouti, Ethiopia, Kenya, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Seychelles, Somalia, Swaziland, Tanzania Un. Rep., Uganda, Zambia and Zimbabwe.

The following tables give the average rates of growth of gross domestic product and selected economic activity for 1970-1982.

The series for total Africa as well as developing Africa show that during the period 1970-1982 there were marked cycles in GDP growth with progressive deterioration from cycle to cycle. For Africa as a whole the highest GDP growth for the period was 6.3 per cent recorded for 1970-1971, the lowest 0.9 per cent for 1980-1981, with six down turns during the same period, the worst of these having occurred during 1980-1981 and 1981-1982. GDP growth tumbled from 4.6 per cent between 1979-1980 to 1.7 per cent in 1980-81; it fell further to 0.9 per cent in 1981-1982. The tables point to a similar GDP growth pattern for developing Africa during the same period except that after registering a growth rate of 3.8 per cent in 1979-1980 it fell to 1.0 per cent in 1980-1981. For developing Africa GDP growth recovered slightly to 1.5 per cent in 1981-1982 compared to 0.9 per cent for Africa as a whole due to a fall of about 1.2 per cent in the aggregate for South Africa during the period.

GDP aggregate growth experiences during 1970-1982 varied from one sub-region to another. The highest growth rate was 9.9 per cent in 1970-71 recorded for West Africa, the sub-region which registered the only negative

rate, 0.9 per cent, in 1981-82. Annual rates of growth of GDP per capita for the same period followed a similar trend. West Africa recorded the highest rate of 7.1 per cent in 1970-71 and also the highest negative rate of 5.8 per cent in 1981-82.

In 1982, the sub-regional distribution of the population and GDP of the African region was as follows:

<u>Sub-region</u>	<u>Mid year population (%)</u>	<u>GDP (%)</u>
North Africa	23.1	36.8
West Africa	29.8	26.4
Central Africa	13.5	6.9
East and Southern Africa	25.6	8.6
Others in Africa (Namibia, Reunion and South Africa)	8.0	21.3
	<hr/>	<hr/>
	100.0	100.0







































































