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A SYSTEM OF DEMOGRAPHIC, MANPOWER AND SOCIAL STATISTICS

MIGRATION STATISTICS

Proposals for the improvement of internal migration statistics

Report of the Secretary-General

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## INTRODUCTION

1. Of the three demographic variables - fertility, mortality, and migration - it is with migration that the procedures for the collection of data are least developed and concerning which there are the fewest data for comparative analysis. This can be said with perhaps greater force of international than of internal migration, though it applies, generally, to both types of movement. Given both the paucity of migration data and the continued importance of migration - to population forecasting, to the composition of the labour force, urbanization, and the general character of economic and social change - there can be no denying the desirability of working to improve statistics on this significant aspect of human activity.

2. The United Nations has from time to time expressed interest in particular issues concerning migration - the so-called "brain drain", urbanization, international tourism, refugee and nomadic movements, for example; and, in 1971, it issued a comprehensive manual on the collection and analysis of statistics on internal migration.<sup>1/</sup> Yet the present international standards relating to the collection of migration statistics were adopted as long ago as 1953 - and they pertain only to migration among countries.<sup>2/</sup> No international standards at all have been adopted relating to migration within countries. Not until its sixteenth session, did the Statistical Commission request work on the subject of migration statistics beyond the 1953 Recommendations. The result has been the preparation of two sets of draft recommendations: one for statistics on international migration (E/CN.3/434) and the present one for statistics on internal migration.

3. The movement of population in space is a highly diverse phenomenon. Distance of move may range from a few yards to thousands of miles, and length of stay at destination from minutes to the remainder of a lifetime. Whatever their importance, however, not all of these movements can properly be classified as "migration". Though the numerous efforts made to formulate a universally acceptable definition of migration would seem to have accomplished little from the standpoint of official data-collection procedures, there does appear to be a general consensus that "migration" consists only of those spatial movements that involve: (a) a change in place of usual residence and (b) the crossing of a political boundary. Thus are usually excluded the movements of tourists, commuters, nomads, business travellers, frontier traffic (i.e., the frequent movements across borders of

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<sup>1/</sup> Manuals on Methods of Estimating Population, Manual VI. Methods of Measuring Internal Migration (United Nations publication, Sales No.: E.70.XIII.3).

<sup>2/</sup> International Migration Statistics, Chap. II, Recommendations for the improvement of international migration statistics (United Nations publication, Sales No.: 53.XVII.10).

persons residing in international frontier areas, who are often authorized to use simplified travel documents), students, and persons living in two or more places at different times of the year. However, as some of these movements (e.g., those of tourists and seasonal workers) are of considerable interest to certain governments, and statistics on their rate and direction are often collected in ways identical to some of those for collecting information on specifically migratory movements, the present discussion will extend, on occasion, to encompass certain of these special "migratory" movements, as well.

4. The relationship between statistics on migration and those on other demographic events and conditions derives from the fact that the net balance of migration is one of the two components of population change; the other component being natural increase, that is, the net balance of births and deaths. Of the three demographic variables - fertility, mortality, and migration - migration shows much the greatest variability in its importance in different countries and regions and over different periods of time. It also shows a substantially greater variability in the completeness and accuracy with which it is measured. None the less, information on the number and characteristics of persons entering or leaving, together with data on the total number of persons at some prior point in time and the births and deaths occurring during the period since, is necessary for any complete analysis of an area's population structure; and it is important - if not always necessary - for the preparation of population forecasts, as well. Data on migration thus form an integral part of the general field of demographic statistics, of which the remainder relates to vital events and various characteristics (e.g., age, sex, marital status, schooling, fertility, household composition) of a people at any given time.

5. Migration statistics have similarly close links with statistics on labour, for economically active persons ordinarily constitute a large proportion of all who migrate. In fact, the availability of employment opportunities is frequently a major determinant of the size, composition, and direction of migratory movement.

6. Though the characteristics of the different categories of migrants, and also the reasons for their movement, are often quite similar, it is useful for most purposes - particularly for demographic and political purposes - to distinguish between two types of migration: international (or external) and internal. The former refers to movement across national boundaries; the latter to movement within a nation. Because the types of available data and the sources of data and the techniques of analysis and estimation resorted to in the study of international

migration ordinarily differ so much from those pertaining to internal migration, these two types of migration are being discussed separately - internal migration in the present document and international migration in a separate one (E/CN.3/434). However, as will be pointed out in the course of the discussion, the most promising present source of data, and the most promising techniques of analysis and estimation, would appear to be much the same for both categories of movement.

## I. STATISTICS OF INTERNAL MIGRATION

### A. Need for statistics on internal migration

7. Statistics on internal migration are collected in order to ascertain both the amount of migratory movement into and out of an area that has occurred over a given period of time and the characteristics of the persons who have migrated. Such statistics are needed for appraising the nature and magnitude of any problems involved in these movements, and for designing programmes intended to cope with these problems. They are also needed for the scientific analysis of the nature and causes of migration, and its consequences.

8. Movement from one place of residence to another will have some effect on both places, however the move may be viewed by the individual making it. One need not define oneself as a migrant for migration to take place and its consequences to ensue. A particular incentive to the collection and analysis of statistics on internal migration at the present time is to be found in the rapid urbanization now underway throughout most of the world. Though some of this increase in the number and proportion of urban dwellers derives from international migration, and even more of it from natural increase, a very significant proportion originates in internal migration, especially when one takes into account the numerical contribution migrants themselves make to the natural increase of urban populations.

9. For the calculation of merely crude rates of population increase, it would be sufficient to have only the simple difference between the numbers moving into a territory and the numbers moving out of it. However, data of this sort - even were they attainable - would have only limited utility for population forecasting, as they reveal nothing concerning either numerical increase in the receiving territory originating in children born to immigrants, or numerical decrease in the territory of origin in the form of children who would presumably have been born there had not their parents emigrated. Moreover, as data merely on total numbers show nothing concerning the

personal characteristics of the migrant population, they can serve none of the other needs for which governments would conceivably undergo the expense and effort of collecting statistics on movements across national or regional boundaries; needs, for example, to forecast the demand for schooling, for various kinds of housing, for employment, and social security; or to assess the influence of migrants on the labour market (which would require information on the numbers of migrants in the various occupations and industries); or to understand the nature and magnitude of any problems there may be in the social and cultural assimilation of migrants (which understanding can be greatly facilitated by data on migrants' sex, age, marital status, ethnic or racial group, and mother tongue). Nor can data merely on total numbers go very far toward assessing the cause of a particular level or pattern of migration.

#### B. Particular problems in the measurement of internal migration

10. The number and distinctness of the political or administrative units being used to define migratory movement is a particular problem in the measurement of internal migration. By definition, an international migrant must cross an international boundary; but what kind of boundary must an internal migrant cross? Because internal movement is seldom subject to as many restrictions as international, the smaller the subdivisions in use, the greater will be the amount of "migration". Using the municipio to define internal migration in Puerto Rico, for example, results in a much higher rate of "migration" than that recorded if larger units are used because so much of the movement that occurs is merely among the municipios comprising the San Juan "metropolitan area". Just which unit a country chooses to use in the measurement of internal migration will, of course, depend on its reasons for undertaking such analysis in the first place, and the resources it can allocate to the task.

11. The measurement of urban-ward movement is particularly complicated by the fact that many cities have no precise boundaries, and that among those that do, there is always the question of whether - and how many - residents, from a functional standpoint, have been erroneously included in or excluded from the enumeration of the population. There is a particular problem with commuters and those who reside in cities on a part-time or infrequent basis. Censuses, whether of a de jure or de facto character, seek to record persons according to where they sleep, which usually results in a smaller - sometimes considerably smaller - recorded urban population than is actually the case during ordinary working hours. Yet, for many of the services a city administration must provide - and for which it needs statistics on population - these non-resident, part-time occupants may represent as great a demand as do those officially resident in the district.

12. Because of these differences in definition and measurement, it is impossible to make really precise international comparisons either of

rates of internal migration, in general, or of rates of urbanization, in particular. Fully precise comparisons would require both the application of identical definitions and the subdivision into identically-sized administrative units. However, an approximation with respect to urbanization is becoming possible with the growing use of the "metropolitan area" concept (a statistical, rather than political or administrative concept), in defining the larger cities, even though the definition of these units is not, as yet, fully standardized.

### C. Sources of data on internal migration

13. The sources of data on internal migration are of two general types: (1) field inquiries and (2) population registers.

14. Field inquiries may be conducted by sampling, as with the United States' Current Population Survey and the household surveys currently conducted in a number of countries, or they may strive for complete coverage, as is the case with those that qualify as censuses. They may be continuous or restricted to a single occasion; and they can be used by themselves or as a supplement to other methods of data collection (i.e., registration or, in the case of international migration, frontier enumeration). Censuses are potentially the most important source of information on internal migration, if for no other reason than the fact that nearly every country now takes, or is planning to take, a census, whereas sample surveys and, particularly, registration are still a feature of data collection in only a minority of countries.

15. Field-inquiry data on internal migration are obtained both directly, by including a question on migration, and indirectly, through estimation procedures that use data presumably obtained for other purposes. The usual direct questions on internal migration relate to: (1) place of birth, (2) place of last residence, (3) duration of residence in the place of enumeration, and (4) place of residence on a specific date before the census. Items (1) and (4) are particularly useful with reference to international migration as well as internal migration.

16. On the basis of the answers to any of these questions, the total population in an area may be classified into two groups, "migrants" and "non-migrants", and comparisons made as to both the number in each group and individual characteristics of the group with respect to age, sex, marital status, residence, occupation etc. - the number and variety of these characteristics being limited only by the scope of the inquiry.

17. The criterion for the migrant/non-migrant classification will depend upon the nature of the inquiry. Thus, "migrants" may be defined as: (1) those who are enumerated in a place different from their place of birth, or (2) whose place of residence is different from the place of enumeration, or (3) who resided in a place of enumeration for a period that is less than their age or (4) who resided x years ago in a place different from their place of residence at the time of the census.

Where information on both birthplace and residence at some prior date is obtained (items 1 and 4, above), it is possible to assess the amount and character of net return migration on the part of those who had earlier emigrated, whether abroad or to another part of the same country.

18. It should be noted that statistics on internal migration relate to the de jure population, even though they may appear at times to relate a de facto one, instead. As already noted, information on certain de facto populations can be useful: in assessing the demand for public transportation or electric power, for instance, or in determining the number of shoppers in a given commercial area at a certain time of day. But migration data relate to changes of residence. Accordingly, the discussion here will not concern itself with measuring the various intermittent, short-term movements associated with the de facto concept.

19. Indirect information on internal migration can be obtained by comparison of total population counts for component areas in two different inquiries. The method involves use of the "balancing equation", namely:

$$P_1 = P_0 + B - D + I - E, \text{ where:}$$

$P_1$  = population at time X

$P_0$  = population at time X-n

B = sum of births occurring during interval n

D = sum of deaths occurring during interval n

I = sum of in-migrants arriving during interval n

E = sum of out-migrants departing during interval n

The difference between the population counts at these two inquiries gives a measure of the net population change in an area. That portion of the difference that cannot be accounted for by births and deaths is attributable to migration. An estimate of net migration for the area is thus obtained by subtracting natural increase from the total change.

20. Through periodic sample surveys, it is possible to increase the frequency of census-type inquiries and even extend their scope to concerns not so readily addressed in a large-scale census. Periodic sample surveys have thus become an important source of demographic information in many countries, even though only a few countries have, as yet, used them to collect direct information on internal migration. Where there is no system of population registration, sample surveys can provide a means of obtaining current information during the post-censal period. The potential use of sample surveys for providing migration statistics is enormous, but in general, emphasis in their use with respect to internal migration has, so far, been placed mainly on obtaining materials that will supplement the information gained from national censuses.

21. The other system of data collection on internal migration is the population register. According to an inquiry conducted into the usefulness of this statistical technique,

"a Population Register is defined as an individualized data system, that is, a mechanism of continuous recording, and/or of co-ordinated linkage, of selected information pertaining to each member of the resident population of a country in such a way to provide the possibility of determining up-to-date information concerning the size and characteristics of that population at selected time intervals. It is understood that the organization as well as the operation of the mechanism should have a legal basis". <sup>3/</sup>

"This system of population accounting requires, as its point of departure, a census of the inhabitants of a country by administrative units or localities at a given point in time. To each areal stock, so determined are added, continuously, all new inhabitants of the area; that is births, immigrants and in-migrants and, correspondingly, subtractions or areal reallocations are made, as they occur, of deaths, emigrants and out-migrants. The usefulness of the registers for analyses of internal migration depends upon the way in which they are designed, the safeguards that are established to ensure completeness, the checks with subsequent censuses or other 'stock' records, and, of course, the periodic assembling and compilation of statistical data on the migration 'flows' ". <sup>4/</sup>

The traditional function of population registers has always been to provide information for the administrative purposes of governments: identification of persons, control of electoral rolls, selection for military service, indication of status with respect to social security, preparation of tax lists and, in some countries, admission to schools, nurseries and health clinics and, during emergencies, rationing of food.

22. Where such registrations are made on a routine basis covering the whole country and where these records are used to prepare statistics on population movements, the registration system is potentially an

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<sup>3/</sup> Methodology and Evaluation of Population Registers and Similar Systems (United Nations publication, Sales No.: E.69.XVII.15), p.1.

<sup>4/</sup> Manuals on Methods of Estimating Population. Manual VI. Methods of Measuring Internal Migration, (United Nations publication, Sales No.: E.70.XIII.3).



excellent source of data for the study of internal migration. Although, at the present time, there are several countries where accurate statistics on internal migration are obtainable from population registers, the great majority of countries do not have registers and are not likely to institute them within the foreseeable future. Furthermore, even for those countries that do have registers, published data on internal migration from this source are meager, being confined largely to the volume of in-migration and out-migration for component areas. Thus, the importance of population registers as a source of data on internal migration lies more in their future potentialities than in the uses to which they have, so far, been put.

23. It should be noted that internal migration data derived from population registers will not always be congruent with those derived from censuses or sample surveys. There will, in fact, be systematic differences between them. As at least some migrants, by census definition, will have been involved, by registration definition, in more than one migratory event, counts from registers should normally exceed those from censuses.

D. Advantages and disadvantages of sources of data on internal migration

24. Both of these methods, the field inquiry and the population register, have their advantages and disadvantages.

1. Field inquiries

25. There are two particular advantages to the field-inquiry method. First of all, one can with this method simultaneously collect data on international, as well as internal, migration - and do so in a way that provides considerable detail on individuals. Secondly, the field-inquiry method, particularly in the form of census-taking, is already in nearly universal use, so its extension to the collection of data on migration can be undertaken with but little additional expenditure of time and money, and no expansion of the administrative apparatus for census-taking. It is hardly surprising, therefore, that censuses have been, and still are, the major source of information on internal migration in most countries - and that they are likely to remain so.

26. In addition, field inquiries are the only means of gathering data on such matters pertaining to immigrants as personal adjustment, labour force activity, and fertility; and, in contrast with the possibilities inherent in registration, they offer the possibility of gathering extensive detail on individuals. It is reasonable to suppose, also, that migration data acquired in this manner - both information on personal characteristics of migrants, and that on the direction and rate of net movement - would be of a quality superior to most such data obtained by other means. One would expect this from the different nature of the undertaking: from, for example, the

type of personnel involved in collecting this information, the opportunities for training and supervising them, the absence of any requirement upon these persons to perform other (possibly competing) duties, and the probably greater co-operation on the part of the respondents as a result of the presumed importance and general acceptance of the ends to be served by the other kinds of data collected at the same time or in the same manner and under the same auspices.

27. The method is also relatively inexpensive - and certainly less expensive than registration. Not only do most countries now conduct population censuses, but may also conduct sample surveys, and do so on a fairly regular basis. Obtaining information on migration by means of field surveys would thus in most instances require little more than the addition of a question or two to a census or sample survey schedule already in use or intended for use.

28. Finally, as already noted, the field-survey method provides data suitable for use in the "balancing equation". This offers the chance to obtain detailed information on the number of characteristics of those departing from a country or region during the time period under consideration and also permits a fuller evaluation of the accuracy and completeness of the data derived. Registration statistics do not ordinarily offer the possibility of collecting information on emigrants; and, moreover, the mechanism of continuous registration means that any errors will not only be cumulative but of a sort likely to involve serious biases.

29. The drawbacks to the field-inquiry method are discussed in detail elsewhere,<sup>2/</sup> so they will be little more than mentioned here.

30. There is, for example, the usual problem of achieving accuracy and completeness. As already noted, however, this is not likely to be as intractable with field inquiries as with registration; moreover, there are with field inquiries greater possibilities for the application of internal and external checks for assessing the quality of the returns.<sup>6/</sup>

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5/ Handbook of Population Census Methods, Vol. I, II, III (United Nations publication, Sales No.: 58.XVII.6); Handbook of Population and Housing Census Methods. Part VI. Sampling in Connexion with Population and Housing Censuses (United Nations publication, Sales No.: E.70.XVII.9); Methodology of Demographic Sample Surveys (United Nations publication, Sales No.: E.71.XVII.11)

6/ A.J. Jaffe, Handbook of Statistical Methods for Demographers (Washington, D.C., U.S. Government Printing Office, 1951); Manuals on Methods of Estimating Population, Manual II. Methods of Appraisal of Quality of Basic Data for Population Estimates, (United Nations publication, Sales No.: 56.XIII.2), and Manual IV. Methods of Estimating Basic Demographic Measures from Incomplete Data (United Nations publication, Sales No.: 67.XIII.2); and Henry S. Shyrock, Jacob S. Siegel, and Associates, The Methods and Materials of Demography (Washington, D.C., U.S. Government Printing Office, 1971).

31. There is the further problem posed by the need for a precise delineation of the population under study: whether it is to comprise all those actually present in a given area at a given time (the de facto concept) or, instead those who "belong" to the area at the time by virtue of legal residence, usual residence, or some other criterion (the de jure concept) - or some combination of the two. As noted earlier, problems can arise with persons resident on but a seasonal or part-time basis and also with persons who have left the area temporarily but are expected to return after some time. Where the migrant has moved only a short distance or where transportation to the district of origin is readily available, the possibility of frequent visits to the "home" district can further blur the respondent's view of the extent to which migration has actually taken place. In fact, it may be that the possibility of moving without defining the move as a change of residence is itself an inducement to greater mobility.

32. National needs and practices vary. Though most sample surveys pertain to the de facto population, a number of national censuses adhere to the de jure concept. One cannot, therefore, expect universal conformity to any common international standard concerning coverage. The presentation of data should thus be accompanied by a description of the procedures followed that will clearly show the disposition of those groups occupying "marginal" positions with respect to the definition of migration: nomads, tourists, students, seasonal workers, military personnel etc. In addition, clearly stated time-limits of presence in, or absence from, a particular place must be established (in accordance with the needs for data and the prevailing circumstances in the country) to determine whether the person is or is not "usually resident" there. Of course, any period - a month, three months, a year, two years - is going to involve some degree of error, either of exclusion or inclusion. What solution there is to the problem would seem to lie, as usual, in trimming the inquiry to the conditions and needs of the country undertaking it.

33. Information on seasonal migration, or on short-term fluctuations, can be obtained by means of the field-inquiry method only with surveys repeated at regular and frequent intervals. Although much useful information can be obtained from surveys inquiring no further into migration than to ask where a person resided one year earlier, this type of inquiry will not yield much information on seasonal or short-run fluctuations. The yield could be increased by addition of a question on duration of present residence and, possibly, also of one on place of most recent previous residence. None the less, seasonal and short-run patterns of migration are only imprecisely gotten at by means of field inquiries.

34. Field inquiries represent, of course, a retrospective approach to the measurement of migration. That is, they deal only with the past behaviour of the population enumerated in the inquiry. The results, therefore, refer to migration only among those who survive to the date

of inquiry. Though this will matter little in interpreting migration statistics for most groups of the population, it is still often advisable to adjust for the effect of mortality by applying appropriate life table  $q_x$  values to the various population groups enumerated at the beginning of the period under consideration.

35. A final limitation of the field-inquiry - or sample-household-survey-method of collecting migration data relates to sample size. This is, of course, not a problem with complete censuses. Ordinarily, one could expect that a survey would need to be quite large in order for it to include enough immigrants to permit any assurance of statistical validity in the tabulations resulting from it. But the problem is not altogether unsolvable.

36. One possibility is to enlarge the size of the sample and then ask only a very limited number of questions of the non-migrants in order to focus the major effort on the migrants. This is a common procedure in sample surveys, and one that can frequently be carried out with little additional expense. It does involve casting a rather wide net for a frequently small catch, however.

37. Another possible solution is to add the results of several inquiries taken over a period of relatively short duration - say, one year. Many countries already conduct such surveys on a regular basis (i.e., several times a year) to inquire about employment, housing, cost of living, fertility, and the like; so the extension of these surveys into the field of migration statistics should occasion no very great change in procedure. All that it would involve is simply the addition of the questions on migration to each survey, whatever that survey's primary purpose. In most instances, this could be done at virtually no additional cost by adding but the one question concerning place of residence at some previous date. The method is applicable, of course, only where the different surveys involve different samples. Where the survey series is of the "panel" variety - where, that is, it consists of repeated inquiries addressed to the same set of respondents - the results are not additive. <sup>7/</sup>

38. There is, of course, the possibility that migrants will be considered an important enough element in the population to justify some effort to gather information about them, and yet be too few in number to justify application of either of these two approaches to the problem of sample size. In such instances, the presumed importance of migrants (or of a group of migrants) will probably be occasioned by their concentration, either in certain occupations or industries, or in certain districts where they are able to exert noticeable political or economic influence.

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<sup>7/</sup> United Nations recommendations on sampling can be found in the following publications: Handbook of Population and Housing Census Methods, Part VI, Sampling in Connexion with Population and Housing Censuses (United Nations publication, Sales No.: E.70.XVII.9); Handbook of Household Surveys (United Nations publication, Sales No.: 64.XVII.13); Methodology of Demographic Sample Surveys (United Nations publication, Sales No.: E.71.XVII.11).

In such cases of concentration a more efficient and less costly method of collecting data on migrants would consist of conducting special surveys or other inquiries of a geographically or occupationally restricted nature.

## 2. Population registers

39. What, then, of registration as a source of migration data? There is considerable interest in this technique, particularly with respect to what it would seem to offer for the measurement of labour mobility in Europe; and the technique has been applied with apparent success in some countries: the Netherlands, Denmark, and Sweden, for example.

40. Of substantive interest, as well as of considerable use in planning operations, are compilations of internal migration data in terms of the characteristics of the sending and receiving areas. A useful cross-classification of this sort has, for some time, been provided annually by the Central Bureau of Statistics in the Netherlands with data derived from that country's population register. For each large city and province, the data are cross-classified for in-migrants according to a typology representing distance of move and degree of urbanization of the receiving area; and also for both in-migrants and out-migrants by certain socio-demographic characteristics at the time of migration, namely, sex by family status (i.e., by whether a family head, family member, or person migrating alone).

41. However, because these registration data are limited to the migrating classes, they are suitable for analysis of migration differentials only when comparable data are available for the general population. Though data on the general population could conceivably be obtained by re-tabulating the registration data and then extracting the residuals, no country seems to have used its registration data for this purpose. The sources of data on the general population, that is, on the population "at risk", have thus been field inquiries, particularly censuses; which demonstrates one of the drawbacks to the registration method: the fact that the data actually collected do not relate to the population "at risk", but only to that portion experiencing some event. With field inquiries, information is obtained on both groups.

42. The main advantages of the registration method are temporal in nature: Only with continuous registration is a complete historical time series possible. Time series, so derived, have a number of analytical uses. They can, for example, be correlated with economic time series. However, special care must be exercised in such correlations to free the register series from accumulations of errors and to distribute any discrepancies that may be revealed by periodic external checks. The fact that errors in data collected in this manner are cumulative can result in greater bias in population register data than one is likely to encounter in data from other sources.

43. Continuous registration would also seem to offer the best opportunity of collecting comprehensive data on seasonal movements and short-run fluctuations; but here the likelihood of obtaining information in the detail necessary (which would seem to necessitate registration of every move of more than 24 hours' duration - if truly comprehensive data on such movements are to be collected) would appear to preclude any reliance upon registration for this purpose. In fact, the data on such movements that can be derived from periodic sample surveys would seem to be quite as comprehensive as any that could be collected by registration.

44. There are, of course, a number of checks on accuracy and completeness that can be applied to registration data. The following methods are used in the Netherlands: periodic house-to-house checks conducted either personally by registry officials or by mail, the comparison of information on registry cards with that on census questionnaires, and the comparison of information on registry records with that on records made out on other occasions and for other purposes (e.g., for vaccinations, school attendance, military conscription, voting, maternity benefits, children's allowances, passport application, old age pension). Sweden checks its registry through a form filled out annually by every head of household (a procedure tantamount to taking an annual census - though one with a shorter schedule).

"The Dutch and Swedish registers are historically based, with more than a century of experience in the former, and more than two centuries in the latter. Realistic applications of the quality safe-guards discussed above, however, were effectuated only in recent decades .... the practice of establishing registers is now spreading with some rapidity throughout the world and their potentialities for scientific research are becoming very great indeed. But, as van den Brink warns:<sup>8/</sup>

"These potentialities will largely depend on the completeness and accuracy of the registration, i.e., the extent to which the population register is kept up to date (both as regards the persons registered and the particulars concerning them), for in itself the establishment of such a register is not so difficult. It can be started with, or based on, census enumeration forms. Considerable disappointment will ensue, however, if there is no guarantee that it can be kept up to date!"<sup>9/</sup>

<sup>8/</sup> Manuals on Methods of Estimating Population. Manual VI, Methods of Measuring Internal Migration (United Nations publication, Sales No.: E.70.XIII.3).

<sup>9/</sup> T. van den Brink, "The Netherlands Population Registers" reprinted from Sociologica Neerlandica (Assen), vol. III, No. II (1966), p. 47, as quoted in Manuals on Methods of Estimating Population, Manual VI, Methods of Measuring Internal Migration (United Nations publication, Sales No.: E.70.XIII.3) p.56.

45. In the general case, the population-register method would appear subject to a high likelihood of inaccuracy and, particularly, of under-registration. Whether the responsibility for being registered rests with the migrant or with someone else - such as an employer - there is ample opportunity in the application of this technique for the play of honest forgetfulness or even outright dishonesty, particularly if registration could entail some further obligation (conscription or taxation, for example, or - in the case of an employer - payment of a minimum wage or social security or medical-benefit premium it was hoped could be avoided by the importation of outside labour). The occasional newspaper accounts of discoveries of illegally employed migrants in various countries, and the frequently stated reluctance of employers to accept responsibility for registering foreign workers, suggest some of the limitations to the effectiveness of registration, at least as far as international migration is concerned.

46. For the measurement of either internal or international migration, population registers would appear in general to be best suited to a small, highly cohesive or heavily policed society; and to the collection of data on certain readily policed society; and to the collection of data on certain readily distinguishable groups - persons who require a licence in the performance of their work, or persons living or working in relative isolation, such as miners, academics, members of minority colour groups, or highly specialized scientific research workers: groups concerning which, incidentally, there is frequently considerable interest from the standpoint of analyses of the "brain drain", the industrial concentration of workers from different regions or abroad, and problems of acculturation and race or ethnic prejudice. But reliance upon registration as a source of data - at least of data pertaining to the whole of the immigrant population - would seem to require at the very minimum an uncommonly high degree of either social cohesion or police surveillance.

## II. CONSIDERATIONS FOR UNITED NATIONS RECOMMENDATIONS, ON INTERNAL MIGRATION STATISTICS

47. Any realistic international recommendations on migration statistics must accord with national interests and with actual possibilities for the collection of data. They must offer definitions and procedures that: (1) will yield useful information, (2) be flexible enough to apply to individual countries' needs for different types of information, and (3) offer some hope of being put into practice.

48. Ideally, data on internal migration would record the number of both in- and out-migrants on a continuous basis and then, within each of these two categories, differentiate between "long-term" and "short-term" (or "permanent" and "temporary") movement; categorize migrants (in detail sufficient for planning purposes) by reasons for movement and by individual attributes, such as age, sex, marital status, level of schooling completed, race or ethnic origin, household composition, and usual occupation; and distinguish seasonal migrants and tourists.

49. This is the ideal system. It is the system outlined in the 1953 United Nations recommendations for the improvement of international migration statistics<sup>10/</sup> and it remains a worthwhile goal, as well, for the collection of data on internal migration. But it can hardly be considered a very realistic goal at the present time, for it presupposes a level of statistical surveillance over internal population movements quite beyond that currently in existence.

50. A realistic system for the collection of data on internal migration would, first of all, be geared both to individual countries' needs for this information, and to the facilities and resources these countries have for collecting and processing it. Few governments are going to collect data for which they perceive no use to themselves; while, however willing, none is going to collect data accurate and comprehensive enough to be of any very significant use unless it has the requisite resources and comprehensive enough to be of any very significant use unless it has the requisite resources and facilities for doing so. Little is to be gained either by asking the impossible or by encouraging governments to allocate resources to a task of doubtful utility to themselves. The aim with respect to migration data is the same as with all other kinds of data: obtain the most useful information in the shortest time and at the least cost. If this can be accomplished in a way that permits some degree of international comparison and scientific analysis - and it usually can - that is, of course, all to the good, and something that should be of particular concern in the formulation of international recommendations; but the ultimate determinants of a country's data-collection activities will be the government's perception of its needs and of the resources it can bring to the task. Any realistic international standards must be based on a recognition of this fact.

51. A second element of a realistic system for the collection of internal migration data is that such a system would rely mainly on field inquiries rather than on registration. Population registers have their uses, which have already been touched upon, and they have proved their suitability to conditions in certain countries. But they are unsuited to the collection of much detail concerning individuals and, moreover, are generally too subject to inaccuracies and omissions to be relied upon as the sole or even the major source of information on internal movements. In addition, analysis of data from this source is dependent upon data obtained by means of a field inquiry, particularly a census, in order to have the necessary comparative information on the population "at risk".

52. Application of the field-inquiry technique to the collection of data on internal migration depends only on differentiating between "migrants" and "non-migrants". As already noted, this can be accomplished very readily by the addition of only one or two questions to a census

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10/ International Migration Statistics (United Nations publication, Sales No.: 53.XVII.10).



or sample survey questionnaire. There are four such questions that can be asked: (1) place of birth, (2) place of last residence, (3) duration of present residence, (4) place of residence n years ago. Questions (1) and (2) yield important data on migration streams and afford an estimate of out-migration as well as in-migration, but they lack a definite time reference. Question (3) has the time reference, but can yield information on out-migration and on migratory streams only if a question on birthplace or place of last residence is also asked. Question (4) has a time reference and also shows something about migratory streams, but the information obtained with this question will be affected by intervening multiple or circular moves (the more so, the longer the period of time referred to) and, if the time period is of long duration, also by forgetfulness. Reporting of birthplace and place of last residence would seem less affected by lapses of memory. That the time period used in collecting this information must also be geared to the date of a prior inquiry in order to enable determination of the components of population change, while necessary, should occasion no particular difficulty in practice.

### III. PROPOSALS FOR THE IMPROVEMENT OF INTERNAL MIGRATION STATISTICS

53. The recommendations set forth below represent an attempt to provide realistic, practical guidelines for obtaining the most necessary data on internal migration in a form that, while primarily geared to national needs and conditions, will none the less enable some comparisons to be made at the world level, as well.

54. There are advantages for individual governments in having detailed standards and definitions for demographic statistics developed as far as possible by international organizations, particularly if there is to be any international comparability of statistics. International comparability is desirable with respect to data on internal migration primarily because of what it offers for making international comparisons and scientific analyses. However, there are in specific instances always limits to the degree to which international recommendations can be - or will be - adhered to at the national level.

55. For one thing, nations display a variety of social and economic conditions, with a resultant variety, as well, in national needs for data. For another, there are great differences among countries in the level to which their data-collection procedures have developed. Many countries lack the organization and resources necessary for collection of even the most basic demographic data on total numbers, let alone the capacity to collect data on migration. In addition, because there are very considerable differences among countries in the numbers of migrants arriving or departing, in the rate of this migration, and in the personal characteristics of migrants, there are also very considerable differences among countries in the demographic, economic, and social significance to them of the migration they experience.

A. Recommendations at the highest level of generality

56. None the less, despite these differences, some international recommendations would seem appropriate - at least so far as matters at the highest level of generality are concerned: (1) Accuracy and completeness of coverage should always be striven for, of course; and (2) techniques for the assessment of these two attributes should always be built into the design of data-collection and processing procedures wherever possible. Similarly, (3) data should be collected on a regular basis, whatever the means used, in order to permit comparisons over time, (4) the definitions and nomenclatures used in the collection and tabulation of statistics on migration should correspond to those used in other collections of data - on vital events, the labour force, schooling and school attendance, for example - in order that migration data may be co-ordinated with these other kinds of data both for analytical purposes and for making external checks on accuracy and completeness, (5) finally, for analytical purposes and external checking, it is also desirable that use be made of identical time periods: that is, that data from different sources relate to the same years, the same seasons, the same durations of time. Though there may be differences in detail, the data collected should be in a form that permits making at least the same basic set of analyses by time for each of the different types of data. For example, a fiscal-year basis should not be used in collection of one set of data and a calendar year of another, unless a more detailed categorization by months is made available to enable alignment of the one set of data with the other.

B. Recommendations at a lower level of generality

57. It is possible to make other recommendations at a lower level of generality; though here it must be recognized that some countries may find it difficult or impossible to follow certain of these recommendations, while others, whatever their ability to follow them, may consider it to their interest to reject them in favour of other procedures and policies. It should also be recognized that the recommendations set forth here are offered as a guide merely to a desirable minimum. They are not intended to preclude more detailed or extensive programmes of data collection.

58. It is recommended, first, that those countries now collecting statistics by means of population registers continue doing so; but that they strive to improve on the accuracy and completeness of this collection and, to this end, that they undertake studies necessary to assess the quality of the information obtained.

59. It is recommended, further, that the basic information on migration be obtained by means of field inquiries: that is, censuses and sample surveys, but particularly censuses. Even where migration data are now obtained primarily by means of population registers, it is recommended that field inquiries be relied on as a major source of migration data.

60. It is recognized that the field inquiry method is not suited to the collection of information on every type of migrant or migratory movement; that in some instances it may be desirable to supplement a census or sample survey with the collection of data through registration or (in the case of international movement) frontier control, despite the numerous inadequacies in both of these techniques. The emphasis placed here on collecting data by means of field inquiries should not be construed as intended to discourage countries that have succeeded in obtaining satisfactory migration statistics by other means.

61. The field-inquiry method is recommended here because it is the method generally most likely to yield accurate and comprehensive data of the widest utility and at the least cost in both time and money; and also because it can produce data on international as well as internal migration.

62. It is recommended that information on migration be collected as part of a country's regular programme of census-taking and sample surveys, rather than through a wholly separate inquiry. This will reduce costs and, through co-ordination with other data collected on the same inquiry or series of inquiries, enable development of the greatest amount of information on those who have migrated.

63. It is recommended that no desire to confine a census inquiry on migrant status to but a single question be allowed to outweigh considerations of quality and usefulness of the results. The most useful way of making the necessary separation between "migrants" and "non-migrants" in the collection of data on internal migration would involve inquiry concerning two attributes: first, birthplace and, second, place of residence at some time in the past. As birthplace is a universal census item, this procedure would involve the addition of but one question to a schedule.

64. A number of countries have made such inquiry on their censuses (15 did so during the 1960 round of censuses and presumably more will have done so by completion of the 1970 round); and several have included a similar inquiry in their periodic sample surveys (e.g., Greece, Japan, the United States, and Uruguay). The United States' Current Population Survey has, in fact, been collecting this information ever since 1948.<sup>11/</sup> In addition, many more countries could obtain this information by appropriate cross-tabulation of those data in their censuses and sample surveys that relate to duration of present residence and place of previous residence.

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<sup>11/</sup> United States Bureau of the Census, "Mobility of the Population of the United States: March 1970 to March 1971", Current Population Reports, Series P-20, No. 235 (Washington, D.C., U.S. Government Printing Office, 1972).

65. The interval of time used in any particular field inquiry would be determined by the needs of the country undertaking it. It is recommended, however, that first priority be given to an interval of five years on census inquiries and - because of their presumably greater frequency and also because of the presumably higher volume of the internal movement they would be more directly concerned with - to an interval of one year on intercensal sample surveys. A five-year interval for censuses ought to be long enough to minimize the fluctuations that occur over shorter durations, and yet not so long that the respondent is likely to have forgotten. If information on shorter durations is sought through the census, it is recommended that the question to elicit this information be in addition to, rather than a substitution for, that referring to the five-year interval. This way, the possibility of making international comparisons of international migration on the basis of a five-year interval will be retained. Presentation of the results of any such inquiry should, of course, specify the time interval referred to.

66. It is recommended with respect to "marginal" groups that the "migrant" category exclude tourists and other visitors. Though information on such movements can, on occasion, be of considerable use, this type of movement is basically different from other geographic movements and involves a different set of needs and problems (e.g., the need for hotel accommodation versus that for housing). Moreover, the kinds of data particularly pertinent to the measurement of tourist and visitor movement are more appropriately and efficiently obtained from accommodation establishments and transportation samples.

67. As first proposed by the United Nations Conference on International Travel and Tourism (Rome, 1963), and accepted<sup>12/</sup> by the Statistical Commission at its fifteenth session (1968),<sup>12/</sup> a "visitor" is "any person visiting a country other than that in which he has his usual place of residence, for any reason other than following an occupation remunerated from within the country visited."<sup>13/</sup> This definition includes the following categories of non-residents:

"(a) Persons visiting the country for less than one year, specifically for purposes of recreation or holiday, medical care, religious observances, family affairs, participation in international sports events, conferences and other meeting, and study tours or other student programmes,

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<sup>12/</sup> Official Records of the Economic and Social Council. Forty-Fourth Session. Supplement No. 10 (E/4471), para. 152.

<sup>13/</sup> United Nations Conference on Trade and Development, Guidelines for Tourism Statistics (United Nations publication, Sales No.: E.71.II.D.9), para. 25.

"(b) Crew members of foreign vessels or aircraft docked or on lay-over in the country,

"(c) Foreign commercial (business) travellers who are to be in the country for less than one year; and foreigners who are the employees of non-resident enterprises and who have come to the country for less than one year for purposes of installing machinery or equipment purchased from their employer,...

"(e) Official diplomatic and consular representatives and members of the armed forces of a foreign country who are stationed in the country,

"(f) Employees of international bodies who are not citizens<sup>14/</sup> of the country and are on a mission of less than one year's duration. 14/

68. Seasonal workers, that is, persons who are, and will be, in the given district explicitly for purposes of seasonal employment only, are excluded from this definition of "visitor", as are retired persons. Whether actually holding a job or looking for one, it is recommended that such persons (and their accompanying family members) be included in the population of "migrants".

69. Information on the internal movement of seasonal workers and retired persons can be obtained in the recommended fashion by means of periodic sample surveys or, where such persons are geographically or industrially concentrated, by narrowly focussed special inquiries. A unique value of surveys is, in fact, the possibilities they offer for such special inquiries, along with the possibilities they also offer for introducing exploratory and "probing" questions suited neither to census-type inquiries nor registration.

#### IV. CONCLUSION

70. The Commission will undoubtedly wish to indicate its initial reactions to the above proposals and may wish to request that this document be circulated to countries for detailed comments so that draft recommendations may be submitted to the Commission at its eighteenth session.

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14/ Ibid, para. 27.