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METHODOLOGY AND EVALUATION OF CONTINUOUS POPULATION REGISTERS

(Report of the Secretary-General)

1. For the information of the Statistical Commission, the findings of a study of the methodology of continuous population registers and an evaluation of their usefulness as statistical mechanisms is presented as annex I to this document.
2. In view of resolution 15 (XI)^{1/} of the Statistical Commission, calling in part for the publication of the results of this study, the Commission may wish to request the Secretary-General to:
 - (1) Revise the annexed document in accordance with the comments of the Commission,
 - (2) Circulate the revised document to the Member States for review of the statements made concerning their respective population register systems and for possible additions to the study,
 - (3) Make any necessary changes based on the results of such reviews, and
 - (4) Issue the final document as a technical study and make it available to Member States, the specialized agencies and other interested bodies.

^{1/} Official Records of the Economic and Social Council, Thirtieth Session, Supplement No. 12, document E/CN.3/282, paragraph 138.

Annex I

CONTINUOUS POPULATION REGISTERS

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CONTINUOUS POPULATION REGISTERS

I. INTRODUCTION

1. At its ninth session, in 1956, the Statistical Commission recommended "that a study and evaluation of continuous population registers be undertaken with a view to an examination of their usefulness as a statistical mechanism both in statistically developed countries and in those less advanced."^{1/} Support for this recommendation was given by the Population Commission, at its tenth session, in 1959.^{2/} At its eleventh session, in 1960, the Statistical Commission was informed that the Secretariat had undertaken such a study and recommended that the study be completed.^{3/}

2. The results of a preliminary study of the register systems of seven countries, based on information then available, was presented to the United Nations/World Health Organization Seminar on the Use of Vital and Health Statistics for Genetic and Radiation Studies, in June 1960, as part of Working Paper No. 18, entitled Vital and Population Registration - A Review of Methods and Procedures. The consensus of the participants in the Seminar, strongly supported by the Scientific Committee on the Effects of Atomic Radiation, was that certain simple alterations to existing procedures in the collection of vital statistics information might result in progress towards meeting the needs of biologists for data necessary to studies of genetics and of the effects of radiation on human population. Among the measures considered useful was the reconstruction of segments of biological families through record linkage so as to permit longitudinal studies over a number of generations.^{4/}

1/ Official Records of the Economic and Social Council, Twenty-second Session, Supplement No. 7, document E/CN.3/225, paragraph 115.

2/ Op. cit., Twenty-seventh Session, Supplement No. 3, document E/CN.9/156, paragraph 46.

3/ Op. cit., Thirtieth Session, Supplement No. 12, document E/CN.3/282, paragraphs 137 and 138.

4/ Annual Progress Report of the Scientific Committee on the Effects of Atomic Radiation for 1960, document A/4528, 4 October 1960, paragraph 13, Annex II.

A. Purpose and scope of this paper

3. The present document is intended as a general review of available information on continuous population registers, designed to serve the purposes of the Statistical Commission, the Population Commission and the Scientific Committee on the Effects of Atomic Radiation by indicating, so far as is presently possible, the actual and potential uses of such registers, both as general statistical mechanisms and as specific tools for providing information on family histories.

4. The main body of this document contains brief surveys of the uses and general features of population register systems, followed by a more detailed description of the structure and content of twenty systems currently used as sources of demographic statistics. There is also a presentation of available information on the costs of register systems. The concluding section consists of a statement of the requirements for the establishment and maintenance of a continuous population register system and observations on the suitability of registers for providing demographic and health statistics and as mechanisms for the investigation of human genetics and the inheritance of disease.

5. For purposes of this study, a true population register system has been defined as a mechanism which will provide for the continuous recording of information about the population in such a manner that data on particular events that occur to each individual, as well as selected characteristics describing him, are maintained on a current basis. Since, however, register systems of various degrees of completeness are more wide-spread than is commonly known, and since interest has been expressed in the establishment or reorganization of register systems in a number of countries, it has been considered advisable to survey as many as possible of the systems which approximate, or might be altered so as to fill, the functions of a continuous population register. For the same reasons, it was decided also to investigate some systems which are not nation-wide in coverage, as well as the National Register in the United Kingdom, which was discontinued in 1952, and the former and contemplated systems in India.

6. Because it was found that the documentation concerning population registers which had been accumulated in the Secretariat over a number of years was not adequate for a study of this nature, additional information was requested from

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individual countries. Since, however, complete information has not yet been received from some of these countries, it has been necessary in some instances to use sources which are obviously incomplete and may be out of date. In addition, it should be borne in mind that administrative and substantive innovations may occur fairly frequently in population register systems, so that it is extremely difficult for persons not intimately acquainted with a system on a day-to-day basis to be entirely certain of the details of its operation. Limitations of time have not yet permitted the individual countries to review the statements included here but such confirmation will be sought at a later stage.

7. In all, sufficient information is available for at least a general outline of the systems in forty-six countries. In addition, there are indications that some sort of system functions in at least eleven other countries but adequate information on these is not available at present.^{5/} It is probable that at least electoral registers are even more wide-spread than this but the exact extent of their use is not known.

B. History of register systems

8. As Table 1 (page 30) shows, continuous population registers are not a recent development. The earliest record of a register of household and persons comes from the Han Dynasty in China, during the second century, B.C. Household registration in Japan began in the seventh century, A.D. The earliest registers in Europe were the parish registers of Sweden and Finland, which originated during the seventeenth century. By the end of the nineteenth century, some form of population register system was in operation in Belgium, Chile, Czechoslovakia, Finland, Germany, Italy, Japan, Korea, Liechtenstein, Luxembourg, the Netherlands, the Ryukyu Islands, Spain and Sweden. Both the content and the structure of many of these systems, as well as of some which originated during the present century, have been altered from time to time. Table 1, therefore, shows both the date of the establishment of each system in its present form and, where relevant, the date of the establishment of the original register system.

^{5/} For a list of the fifty-seven countries, see table 1, page 30).

C. Terminology

9. One of the first impressions received from the various descriptive materials examined is that there is no well-established international terminology relating to population registers. The collections of documents upon which information is entered are variously referred to by such terms as registers, files or indexes. In addition, there is usually more than one collection of such documents within a country. This duplication may consist of the same type of document maintained in different administrative areas of the country and pertaining to persons resident in each such area, or there may be quite different documents, maintained centrally or duplicated in the various areas. The individual collections may be arranged in different sequence (by name, by address, etc.) to simplify their use; they may cover different segments of the population (residents, citizens, aliens, etc.); or they may contain different types of information for the same individuals.

10. For the purposes of this study, each such distinct collection of information is referred to as a register. They may be current registers, containing records for persons at present within the jurisdiction of the particular register, or they may be archive registers, containing records of persons no longer within the jurisdiction of the register because they have died or migrated from the area. Any mechanism used to assist in locating the records for a particular person in the register is referred to as an index. An example of such an index is an alphabetical listing of each person included on the register, where register documents are arranged in other than alphabetical order. The entire system of registers and indexes within one country is called a population register system.

II. USES OF POPULATION REGISTER SYSTEMS

11. It is difficult to categorize register systems according to any firm typology but perhaps the clearest distinction can be made on the basis of use, rather than structure or content. Table 1 includes an indication of the known uses made of the systems in each country. Because of the manner in which the information was obtained, it is possible that the presentation is not exhaustive, that is, some of the uses not checked for any given country may actually be employed but were not mentioned in the available sources of information.

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A. Administrative uses

12. The traditional function of population registers has always been to provide information for the administrative purposes of governments. Statistical information, such as demographic data, may have become available as a by-product but, even today, almost all register systems are designed primarily to serve administrative needs, although one or two countries have recently made changes designed to facilitate the derivation of statistical data. The larger number of systems, in fact, appear to be used solely for administrative purposes, including, inter alia, the legal identification of individuals, the preparation of electoral rolls, the control of selection for military service, indications of each person's status in respect of various social security benefits and the preparation of tax lists.^{6/} Registers have also been used for the control of food rationing in times of shortage.

B. Statistical uses

1. Production of population estimates

13. For the purposes of this study, the most significant systems are those which, in addition to furnishing various types of administrative information, are also used as a source of population estimates or migration statistics.

14. For seventeen countries of the forty-six studied, there is evidence that register data are now used in the preparation of population estimates. These countries are Bulgaria, China (Taiwan), Denmark, the Federal Republic of Germany, Gibraltar, Hungary, Iceland, Israel, Japan, the Netherlands, the Netherlands Antilles, Norway, Sweden, Turkey, the Republic of Viet-Nam, Yugoslavia and the USSR. Among them, however, there are differences in both the types of estimates and the extent to which register information is used in their preparation.

15. On the basis of information gathered for the present study and from the description of types of national population estimates shown in the Population and Vital Statistics Report and the United Nations Demographic Yearbook, it appears

^{6/} It is interesting to note that several countries, e.g., Afghanistan, Hong Kong, Iran, Thailand and the USSR, have stated specifically that register information is never used for purposes of taxation.

that only nine of the above countries China (Taiwan), Denmark, Gibraltar, Iceland, the Netherlands, the Netherlands Antilles, Norway, Sweden and the Republic of Viet-Nam⁷ use the registers for time adjustment of their census figures for national population estimates. Four countries (Federal Republic of Germany, Israel, Japan and Yugoslavia) use the register data in the production of local estimates only, and one (Turkey) has used register data in preparing estimates for internal purposes only but has never published the results. Of the remaining three countries, Bulgaria has mentioned that register data are the base for population estimates; Hungary has indicated that the data taken from the registers are used in the production of population estimates so far as they show internal migration; and a statement from the USSR indicates that register data are used for this purpose together with data from other sources.^{7/}

2. Production of migration statistics

16. The Federal Republic of Germany, Hungary, Israel, Italy, Japan, the Netherlands, Norway, Sweden and Yugoslavia have indicated that their systems provide data on internal migration. Local population registers were the sources of international migration statistics for Belgium, West Berlin, Czechoslovakia, Denmark, the Netherlands and Sweden shown in the 1957 Demographic Yearbook and the 1957 and 1958 Yearbook of Labour Statistics.

17. While this cannot be stated categorically, it is likely that for the most part the statistical information is not extracted from the registers themselves but from the documents used in the original report of the migration or in transferring persons from a register in one locality to that in another locality, or from lists of arrivals and departures kept in register offices.

3. Planning for population censuses and evaluation of census results

18. Population registers are used both in the planning of population censuses and in the evaluation of the census results. Mention of the former use has been

^{7/} The former system in the United Kingdom also provided data for local population estimates. There are some indications that the registers in Niue are used for the production of population estimates but precise information is not available. National population estimates received for three of the countries whose register systems were not investigated for the present study (Bonin Islands, Congo (Leopoldville) and Syria) also employ register data.

made by Gibraltar, Israel, Italy and the Netherlands Antilles. Denmark, Gibraltar, Israel, the Netherlands, Norway and Sweden use register information for evaluating the census results. The latter function is sometimes part of a mutual checking of the two sets of information against each other.

4. Frames for sample inquiries

19. In addition to furnishing data as such, registers have also been used to provide frames for statistical sample inquiries. In India, some of the registers established after the 1951 census of population were used as frames for medical and public health inquiries and for the National Sample Survey. The register of England and Wales provided the frame from which a random sample of persons was selected for the 1944-1950 period of the survey of sickness which took place there from 1944 to 1952. The sample of individuals for the Danish morbidity survey of 1951-1954 was drawn from the communal registers.^{8/} The samples for the monthly labour force survey of Finland, instituted in 1958, are drawn from its communal registers.^{9/} The central register of Israel has provided a sampling frame for a number of surveys, including the quarterly labour force survey.

20. The unique sample population register of Sweden directly provides the data for sample inquiries on various subjects from the register documents themselves. This register, however, functions separately from the regular population register system in that country and is used entirely for statistical purposes. When needed, a smaller sample can be drawn from it.

C. Information for genetic studies

21. As far as is known, only one national register system, the family register (Koseki) system of Japan, has been used thus far in the extraction of family

^{8/} Hamtoft, Henry, "Sampling for the Danish Morbidity and Hospital Surveys", Statistical Review, No. 4, 1955, pp. 187-197 and Committee on the Danish National Morbidity Survey, The Sickness Survey of Denmark, 1951-1954, text by Marie Lindhart, Copenhagen, 1960, pp. 27-31.

^{9/} International Labour Office, Statistical Supplement, International Labour Review, Vol. LXXXIV, No. 3, pp. 15-16.

histories for genetic studies.^{10/} A test of the possibilities of assembling family histories by the electronic matching of the punch card records of marriages and of births used in the preparation of the Canadian National Index of Vital Statistics has indicated that these records are suitable for the same purpose.^{11/} It should be noted, however, that these punch cards are actually prepared on reports of vital events and contain much more information for matching purposes than does the Index itself, which is prepared mechanically from the punch cards and which is a listing of each birth, death and marriage arranged alphabetically by year for each province.

III. GENERAL FEATURES OF POPULATION REGISTER SYSTEMS

22. The different uses to which population register systems have been put do not immediately reflect any differences in the structure or content of the systems or the individual registers of which they are composed. Although there are some differences to be noted between the systems used only for administrative purposes and those used for demographic purposes as well, there are a number of characteristics common to all the systems.

A. Coverage

23. There are two aspects of the coverage of population register systems: The first is the population covered by the system as a whole, while the second is the persons within the province of each local register.

1. Coverage of total system

24. Most true population register systems include all permanent residents of the country, both nationals and aliens, and consequently, all former residents. Although only 6 countries have specified that their systems also cover temporary

^{10/} For a description of the technique used, see Ohkura, Joki, "Use of the Family Registration in the Study of Human Genetics in Japan", Japanese Journal of Human Genetics, Vol. 5, No. 2, pp. 61-98, and Yanase, T., "The Use of the Japanese Family Register for Genetic Studies" in Proceedings of the United Nations/World Health Organization Seminar on the Use of Vital and Health Statistics for Genetic and Radiation Studies (in press).

^{11/} Newcombe, Howard B., "The Uniqueness of Canadian Vital Statistics for Studies in Human Genetics", Canadian Journal of Genetics and Cytology, Vol. I, No. 1, pp. 13-15.

residents, it is possible that a number of other systems also include this category. Six of the systems surveyed apparently cover only nationals of the country.

25. Aside from temporary residents or non-nationals, there are a number of other categories of the population specifically excluded from registration in a number of countries. Table 1 shows these exclusions as very approximate percentages of the total population of each country. The 4 systems that function entirely or primarily as electoral registers are limited to nationals of voting age. Five other systems also exclude children below specific ages; of these 3 exclude other segments of the population in addition to the children. One other system is limited to males only; one is limited to workers and self-employed persons in specified occupations; and 2 systems are in effect only in specified geographic areas of their countries. Finally, one of the systems is a sample register which includes only a small proportion of the total population.

2. Coverage of local registers

26. Where local registers are maintained, either along with or without one or more national registers, the question of the geographic coverage of the local registers arises. Usually, each local register covers the usual residents of the particular area for which it functions or the persons having their principal residence in the area.^{12/} A different approach, however, is used for the registers maintained on the basis of the legal residence of families in Japan, the Republic of Korea and the Ryukyu Islands. The basis of these registers is a strict differentiation between the traditional residence or place of origin of the family and the current place of residence of the individual, together with a legal-traditional concept of family membership, so that documents^{13/} for each family are maintained at the family's ancestral place of origin. This place need not necessarily be the actual permanent residence of any member of the

^{12/} Occasionally, persons having more than one residence must be registered in each place.

^{13/} The Koseki of Japan and the Ryukyu Islands.

family, the inclusion of persons on the register being determined by affiliation to the household. Although this place of origin can be changed, it may also be retained indefinitely if no request for change is made, even though no member of the family actually resides there. While such registers are not of much use for current statistics, since they are by their nature not representative of the geographical distribution of the population, they have the advantage of bringing together in one place information on at least some family members in any number of generations. In a register system based on actual or habitual residence, this information might be dispersed.^{14/}

27. The system now in use in China (Taiwan) combines the concepts of place of origin and of current residence, so that the former more nearly equals the latter.

28. An entirely unique system is that of the Canadian National Vital Statistics Index, which is a series of alphabetic and numeric (by birth number) indexes of all births, stillbirths, marriages and deaths occurring since 1925, according to province and year of occurrence, supplemented by indexes on all immigrants. Although prepared centrally from punch cards based on microfilms of original registrations, the lists which are the final product of the Index are kept at the province of birth.

B. Basic document

29. The basic document used in each register may be a printed card, a page in a loose-leaf book, or in a bound book, an entry on a list or (to a very limited extent) a punch card. In some instances, the register documents are only duplicates of identity cards. The document may be designed to contain information for only one person, for all members of a household, or for all members of a family within a household. The documents may be kept in sequence by name or by address, or in some special order for a particular purpose. In some cases, one or several indexes are kept to assist in the locating of individual records.

^{14/} Recent systems based on actual residence exist in Japan and the Ryukyus, side by side with the Koseki. Reference is made in each system to each person's place of registration in the other system.

C. Contents of registers

30. Certain types of information for each person, including sex, date of birth, date of death, marital status, present residence, legal nationality and occupation are almost universally included on population registers. Beyond this, there are various items which may appear, such as relationship to the head of the household; former residence; subsequent residence of persons who are no longer within the province of the particular register; place of birth or of death; cause of death; date(s) of marriage(s), divorce(s) or separation; name of present or former spouse; religion; ethnic nationality or race; medical information; and names and addresses of parents and other close relatives. In addition, other types of information are sometimes added for particular purposes, even though there may not be any fixed spot on the document for such entries.

D. Important differences

31. In spite of the fact that no absolute distinctions of form or content differentiate the systems used for administrative purposes only from those used for statistical purposes as well, there are important differences which should be noted. In general, the latter group functions more effectively and the registers are therefore more accurate and up to date. Most of these systems have provisions for the timely entering of relevant changes on the registers and for periodic checking of the registers against one or several other sources of information. It is interesting to note that it was from this group of systems that most information was received on the degree of accuracy of the registers, which might be an indication that countries where accuracy is not checked are properly reluctant to use their registers for statistical purposes.

32. As would be expected in countries where register information is reliable, the possibility of using the registers for more purposes goes hand in hand with the collection of more details of various kind concerning the persons registered.

33. Finally, the systems used for demographic purposes are more likely to maintain archive registers, which can provide historical information of use to geneticists and demographers alike.

34. Since the 20 register systems in this group are of the most immediate interest to statisticians and geneticists and since they also illustrate most of the similarities and differences found among all the systems investigated, the next two sections will be devoted to a more detailed examination of their structure and content in terms of statistical potential and possibilities of record linkage, and their accuracy.

IV. STRUCTURE AND CONTENT OF POPULATION REGISTER SYSTEMS USED FOR STATISTICAL PURPOSES

A. Structure

35. Table 2 (page 38) presents a general summary of the structure of the register systems of Belgium, Bulgaria, China (Taiwan), Czechoslovakia, Denmark, the Federal Republic of Germany, Gibraltar, Hungary, Iceland, Israel, Italy, Japan (resident register system), the Netherlands, the Netherlands Antilles, Norway, the Republic of Viet-Nam, Sweden, Turkey, the USSR, and Yugoslavia. Table 1 shows the national agency responsible for the administration of each system.

1. National authority in charge of system

36. Of the 20 systems considered in this section, only three are not supervised by an agency of the central government, namely, that of Belgium, where responsibility is shared by the provincial governors; that of the Federal Republic of Germany, where responsibility is exercised by the Ministries of the Interior of each province; and that of Yugoslavia, where the register system is established only in the People's Republic of Slovenia and is under the supervision of the Statistical Institute of that Republic.

37. Administrative control is frequently vested in the authority responsible for civil registration of vital events, the preparation of vital statistics and/or the population census. In some instances, the same agency controls international migration. In the Netherlands Antilles, the Population and Elections Bureau is in charge of vital events registration, the issuance of passports and the issuance of identity cards, in addition to the registration of the population, but the population census is within the jurisdiction of the

Planning and Statistics Bureau. In China (Taiwan), the Ministry of the Interior is responsible for population registration as well as for the population census. In Israel, the Ministry of the Interior is responsible for the registration of the population, of vital events and of migration, while the Central Bureau of Statistics has responsibility for the population census and the preparation of vital statistics. The Directorate General of Population Affairs of Turkey administers the population census as well as the register system. The Statistical Bureau of Iceland, which is represented on the governing body of the register system, is responsible for vital statistics. The Central Institute of Statistics of Italy is responsible for both the population register system and vital statistics. While there is no administrative relationship between the Central Government Inspection of Population Registers of the Netherlands and the Central Bureau of Statistics, there is close co-operation between the two agencies. In Norway, the Central Office for Population Registration functions within the Demographic Department of the Central Bureau of Statistics. The Swedish population register system is administered by the Division of Civil Registration of the Central Bureau of Statistics, while the Population Division of the Bureau is responsible for the preparation of vital statistics, for the population sample register and for the population census.

38. A close relationship with the agency or agencies responsible for vital events registration and the control of international migration is obviously particularly important to the accuracy of population registers, since much of the information shown on the registers is received directly from such agencies or from the local registers under their jurisdiction.

2. Degree of centralization

39. As shown in Table 2, the registers in 2 of the 20 countries are completely centralized, while those of 11 are entirely decentralized. In 5 countries, the registers are primarily decentralized, with the basic registers being maintained in localities, but with certain special central registers. In one country, there are both local registers and a central register, but the local registers merely duplicate central register information for persons living in each of the local areas.

40 Since the area covered by each local register is usually a town or a commune, the number of such registers is likely to be quite large, running as high as 25,000 in the Federal Republic of Germany, although it is substantially less in the other countries. The possibility of ready linkage of family records must necessarily decrease with an increasing number of separate registers, particularly if the population is at all mobile. The difficulties may be mitigated to some extent if accurate information on previous and subsequent place of residence is available for each person where he is at present registered, but it might still be necessary to consult several registers in different localities in order to trace one family through successive generations, or even to assemble complete information on a single individual.^{15/}

41. It is known that in 14 of the 20 systems, records are maintained for persons formerly registered who have died or left the area covered by the relevant registers. These persons are usually listed in archive or inactive registers, consisting of the documents which relate to each such person. There are, however, exceptions. In Gibraltar, for instance, the archive record is actually part of a book which shows for each person his name, identity number and date of issuance and cancellation of identity card. In systems where family or household documents are used, rather than individual documents, different arrangements are made for the circumstances under which the document enters the archive register.

3. Persons shown on each document

42. Each document in a register, whether it is a card or a page of a book, may cover one person, a family living together or a household. In 7 of the 20 systems, there is a separate basic document for each person. In one of these, however, documents are arranged on one register according to address, so that documents of family members living together are filed together. In another, separate building registers provide information on the head of the family living in each dwelling and the number of persons in the family. In two, housing registers in some cities show all the persons living in each dwelling. Each of these techniques offers at least some assistance in linking family members.

^{15/} In the Netherlands, a single current card is used for each person throughout his life and is transferred to each new local register as required, thus obviating a search through many registers in order to assemble complete information on one person. /...

43. Because of the lack of precision in the uses of the terms family and household in the available documentation, there may be some confusion in the columns of Table 2 showing the use of family and household documents. It appears, however, that 3 countries use a single document for all members of the family living in the same household and 4 countries use a single document for all members of the household regardless of relationship.

44. Four countries use various combinations of basic documents. In one of these, individual documents are used in urban areas and household documents in rural area. In 2 others, a single document is used for primary family units (parents and their children under 16 years of age living at home, in one case, and parents and their unmarried children living at home, in the other) and an individual document for all other persons. In the fourth, individual documents are used for permanent residents and family documents for temporary residents.

45. Finally, one country uses each kind of document, for different purposes, while in one other country each person appears on an individual document and on a household document.

46. While the use of individual, family or household documents would affect the ease of record linkage to some extent, the differences might be mitigated by the order in which the documents are filed. For instance, if a separate document is used for each person, but the documents are arranged in the register in such a way that all documents for the members of a family in a single household are kept together, the composition of the family would be as readily determined as if a family document were used.

4. Physical type of documents used

47. There is a great variety in the physical type of documents used in the different systems. Only 2 systems are known to be completely mechanized with all information maintained on punch cards. One other system makes substantial use of punch cards but is not completely mechanized. Printing plates from which cards or lists can be prepared for various purposes are used in 2 of the systems. Regular printed cards, pages in loose-leaf or bound books and even entries on lists are also used. Presumably, each of these forms has its advantages and drawbacks in terms of cost and ease of use.

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B. Contents of registers

48. A complete description of the information relevant to statistical or genetic purposes shown on the registers of the 20 systems cannot be undertaken in a paper of limited size because of the wealth of information which can be read off or deduced from the documents themselves or from explanatory material received. Furthermore, it is difficult to ascertain exactly from a document or from a list of its contents all the details of information shown. For example, two items for which there are sometimes no definitely allocated spaces on a register document are the date and the cause of death. Answers to special queries on this have indicated that the information is usually entered on the document, but perhaps merely on the last available line or in a general section devoted to date of removal from the household or the register.

49. From the information at present available, it can be stated that details of name, sex and date of birth of each person are shown on the registers of each of the 20 countries. Present address is shown by at least 18. Place of birth is shown in 17 of the systems, while 2 show "native place". In one system, place of birth seems to be shown only for persons living in urban areas. Occupation is shown in 18 of the systems, and legal nationality and marital status in 17. Information on date of death is shown in at least 13, place of death in at least 9 and cause of death in at least 4. In one of the last 4, the cause of death is not actually stated but provision is made to record the number of the death certificate. In 2 of these 4, the cause of death of married persons is shown on the records of the surviving spouse.

50. The date of marriage is shown in 8 systems and the date of divorce or of annulment or separation in 6. Religion is shown in 7 and ethnic nationality or race in 3.

51. In 4 systems, provision is made for the inclusion of different types of medical information, in addition to cause of death. In one, the information relates to legal disability; in another, to physical defects or infirmities; in the third, to the occurrence of stillbirth and to the date of vaccination against, or the occurrence of, smallpox; and in the fourth, to vaccination against smallpox and diphtheria.

52. It is not possible briefly to summarize the information which could be used for locating and linking documents of related persons or even documents for one person which may be kept in different registers. Even within a single system, there are qualifications and exceptions to be noted for each item of information which might be available, and a very detailed exposition of each system would be needed for an adequate understanding of the details each can supply under particular circumstances. In general, much material of this sort can be extracted from the documents of a number of the systems, but probably not in any simple way, even where the systems are mechanized. The actual technique for assembling records of individuals or families would have to be determined separately for each country and would generally require individual scanning of a large number of documents.

V. ACCURACY OF INFORMATION

53. The accuracy of a population register at any given time is dependent upon the accuracy of the information upon which the register was based and the reliability and completeness of information subsequently received, as well as the timeliness with which changes are submitted and entered upon the register. Hence, the only way of determining the accuracy of a register is by comparison with other sources of the same information.

A. Accuracy of original base

54. The original information upon which a modern population register can be based can be obtained through (1) a general enumeration of population, (2) a special census taken for the purpose of establishing a register, or (3) a requirement that individuals present themselves for registration at a given place. In effect, the first two methods are really identical, the difference being merely a matter of terminology, except that the use of a general population census for establishing a register might imply a lesser degree of confidentiality of the returns than is generally considered to be good census practice. The census medium has been used by at least 13 of the 20 countries, from the 1849 census of the Netherlands to the 1953 census of Yugoslavia. In the

latter, special forms to be used for the register were completed at the same time as the general population census. Obviously, the results of such a method depends upon the general accuracy of the census.

55. The attempt to collect original register information by requiring persons to present themselves at a designated place for purposes of registration seems likely to suffer from all the drawbacks of collecting any type of information by such means. Although there is a possibility that one or two of the 20 register systems were established by this means, the available information does not confirm this.

B. Accuracy and timeliness of additions, deletions and changes

56. The essence of a continuous system of population registration is its fluidity. Additions resulting from births or immigration, deletions resulting from death or emigration, and changes in the characteristics of the persons on the register must be faithfully noted within a reasonable time if the register is to serve its function of presenting a current picture of the population.

1. Accuracy and timeliness of information on vital events

57. The majority of the 20 countries have indicated that information on birth, death, marriage and divorce, as a minimum, is received regularly and the requisite changes made on the population registers.

58. In general, the information is received indirectly, from the registrars of vital events or the legal authorities performing the marriage or granting the divorce, but there are, of course, exceptions. In Sweden, the parish priest acts as registrar of births and deaths and of the population register, so that no physical transfer of the data is necessary. In Slovenia also, the population registers are kept in the offices of the vital-events registrars, so that information is collected as it is received for the vital-events registers. Likewise, in the Netherlands Antilles, both types of registers are maintained by the same office. In Belgium, Bulgaria, the Federal Republic of Germany, Iceland, Italy, the Netherlands and Norway, information on birth, death and marriage is received from the registrar of vital events, while in Czechoslovakia, Denmark and Israel, information on births and deaths comes from the registrar but

/...

information on marriage comes directly from the authority performing the marriage. In regard to information on divorce, it appears that only in Belgium and the Netherlands does this come from the registrar of vital-events, while in Denmark, Israel and Norway, it comes from the authority granting the divorce. Gibraltar has stated that all information on vital events is reported directly by the person concerned or by the next of kin.

59. It is apparent that the information on these events which reaches the population registers can be accurate and complete only to the same degree as the information received by the vital-events registries.

60. Very little information is available on the time elapsing between the occurrence of an event and the consequent entries on the population registers. For the most part, the length of the interval is dependent upon three factors: the first is the time between the occurrence of the event and its reporting to the civil registry, the second is the interval between the time the report is received at the civil registry and its subsequent reporting to the population registry, and the third is the frequency with which consequent changes are entered on the population register. Exceptionally, where such events as marriages or divorces are reported to the population registry by the authority performing the marriage or divorce, or where individuals report vital events directly to the population registry, the second factor is eliminated.

61. Obviously, a long delay in any of the factors, whether because of a lengthy statutory time period allowed for its accomplishment or because of registration delayed beyond the statutory period, will affect the accuracy of the population register at any given time.

62. Information on the length of the total interval is available for only a very few countries. In Italy, the entry of a birth or a marriage on the population register might be accomplished within 13 days of the event; for a death, the period might be as little as 4 days. In Czechoslovakia, a death or a marriage can be entered on the population register within a few days and a birth within about a week. Israel has stated that it might take as long as 3 months for a birth to be entered on the register and approximately 2 months for a death.

63. Combining information available on the statutory time period for initial reporting of births, deaths, marriages and divorces to the civil registers^{16/} with information received on the interval between the receipt of the initial report and the subsequent report to the population registry, it would appear that in Denmark it might take as long as 16 days for the report of a birth to be received at the population registry, while a death report might be received within less than a week. In Norway, the report of a birth might be received within 4 weeks and the report of a death within 8 days. In the Netherlands, it might take 4 days for the receipt of a report on a birth, 6 days for a death, 24 hours for a marriage and 6 months for a divorce. In Gibraltar, where the persons concerned or the next of kin report directly to the population registry, births must be reported within 21 days and all other vital events within 3 days.
64. For three other countries, information has been received only on the length of time between the receipt of the information at the population registry and its entry on the register. Bulgaria has stated that changes are made immediately upon receipt of the information from the civil registry. In the Netherlands Antilles, entries on the population register are made within one day of the receipt of the report at the vital events registry, since both the population and the civil registers are maintained by the same office. In Iceland, entries are made in writing on a special set of punch cards as the reports are received, but new punch cards incorporating all changes and additions are prepared only once a year.
65. While the above information is too fragmentary for a valid generalization, it appears that a substantial amount of time may intervene in many cases between the occurrence of an event and the consequent change on the population register.

2. Accuracy and timeliness of information on change of residence

66. Information on change of residence is usually received directly from the person concerned, although different mechanisms are employed for the purpose in the different countries. A change of address within the area of the particular register often involves only a simple notice when the move has taken place. If the move entails a change of register, the registry must often be notified before it takes place; the person concerned is then provided with a certificate which he must surrender within a certain period of his arrival at

^{16/} United Nations, Handbook of Vital Statistics Methods,
Document ST/STAT/SER.F/No. 7, November 1954, pp. 84-85.

his new residence. The surrendered certificate, or a copy thereof, is returned to his former register as proof that the move has taken place. In other cases, no report is made before the move takes place, the individual being required only to report his move into an area, the fact of which is, however, also reported back to his prior residence.

67. Emigration from the country may also require an advance notification by the person concerned, often with confirmation through a certificate relinquished at the departure point, or the original information may come entirely from migration officials at departure points. Notification of persons entering the country with the intent of remaining for a long enough time to necessitate their being registered is probably usually received through immigration officials, so that the registry officials can be alerted to the date by which such persons will have to appear for registration. In some cases, registration may take place at the time and place of entry.

68. The legal time interval between arrival at a new residence or entry into the country as a permanent resident and reporting to the population registry varies from 3 days to 2 weeks, with many special regulations concerning particular circumstances, but some of the countries have indicated that notification of change of residence is probably less dependable than that of vital events, the fact sometimes not coming to the attention of the registry until long after its occurrence, particularly when there is no requirement for notification before a move takes place.

C. Verification of accuracy

69. Verification of the accuracy of their registers and consequent correction of errors appears to be a regular process in a number of the 20 countries. This may be accomplished by comparison with population census results, by special inquiries designed for the purpose or by taking advantage of other opportunities which arise from the various functions of the registers.

1. Comparison with population census results

70. Of the countries which have provided information on the presumed degree of accuracy of the register as revealed by the extent of agreement with the results

of a recent population census, Belgium has reported that the differences are negligible; Gibraltar has reported 91 per cent agreement with its 1951 census; the USSR has reported that the 1956 forecasts of the 1959 population, based partly on register information, was between 207 and 208 million persons, while the January 1959 census figure was 208 million persons; the Netherlands reports almost 100 per cent agreement with the census; Norway reports that there was a net addition to the 1950 census schedules of 15,000-20,000 persons from the registers, or about 1/2 of 1 per cent of the total population; the Netherlands Antilles reports that the register population was 2 per cent higher than the census population in 1960; and China (Taiwan) has reported that the population shown by the census of 1956 was only .0007 per cent higher than that of the registers.

71. These figures, of course, refer only to total population and not necessarily to the detailed information about each person. They may also be merely comparisons of the two totals, but sometimes there is actually a person-by-person check of the register information and the census schedules, as in Norway, where both additions and deletions are made. One or two of the countries have also extended the person-by-person comparisons to the individual items of information concerning each person, so that requisite corrections could be made of these, too. One example of the kind of information which can be checked in this manner is provided by the 1960 census of the Netherlands, where plans were made for entering on the individual enumeration forms, before the actual census enumeration, register information on name, address, sex, year of birth and duration of residence in the municipality, so that errors found at the enumeration could be corrected. In Israel, the 1961 population census enumeration was combined with a check of persons on the population register, thus providing information on the "surplus" population on the register, on the present residence of each person, and on persons missed by the census enumeration.

2. Special inquiries

72. In addition to comparison of census and register results, some of the countries have legal provisions for regular checking of the register through special inquiries or for special checking when required. In Slovenia, for example, a yearly verification by the registrars is required by law, while a fuller

verification is conducted every five years by the Statistical Institute of Slovenia; in the Netherlands, the communal authorities check by direct interview or by mail once a year; in Denmark, provision is made for an optional annual verification by special questionnaire; and in Iceland, the national registry may order a specific check by municipal registrars, including a special population census.

3. Other measures

73. Aside from these specific provisions, there are many different methods employed by the different countries to achieve as great a degree of accuracy as possible. These include such methods as comparison with data from other government agencies, or even private enterprises; the use of the residence information on the registers for mailing purposes, which results in a check of the accuracy of these addresses, and the preparation of electoral lists or population lists which are revised by local authorities. Personal-interview checking on an ad hoc basis is often done at the registry offices when individuals appear for other purposes.

74. As an example of the different techniques which can be used by one country, the Netherlands Antilles has stated that verification takes place through the combination of register functions in one office, so that individuals can be queried when they come to the office to report a vital event; through the exchange of information with other government agencies; through investigation of voting cards mailed out but returned as undeliverable; through periodic mass verification with personnel information of large private enterprises; and through the requirement that plate impressions made from register information must be presented by individuals in order to obtain connexion of public utility lines, medical care, old age pensions, etc.

VI. COSTS OF POPULATION REGISTER SYSTEMS

75. The costs of register systems are not easily comparable from country to country nor do they show any correlation with the size of the population covered.

76. The components of the figures submitted by various countries differ according to the way in which each system is organized. In some countries, local registrars are employees of the central register office and their salaries are accordingly

figured in the total cost. In others, particularly where the system is primarily decentralized, local costs are borne almost entirely by the local administrations and no over-all estimate is available. In some instances, it has been pointed out that it is not possible to give any figures on costs because the registrar's duties are not confined exclusively to work on the population register.

77. Some idea of the diversity of cost can be gleaned from the following brief summaries of the information submitted on 9 systems:^{17/}

Federal Republic of Germany. In the largest municipalities, the cost is approximately \$240,000 (1,000,000 D.M.) annually.

Gibraltar. With a staff of 2, the cost is approximately \$2,800 (£1,000) annually.

Hong Kong. With a staff of 201, and an extensive re-registration under way, the cost is approximately \$250,000 (\$1,400,000) annually.

Iceland. With a permanent staff of 4 (augmented by 17 persons of the staff of the Statistical Bureau for the 2-month period during which the register is brought up to date), the 1960 budget allotment was approximately \$27,000 (Kr. 878,000).

Israel. With a staff of 286, the 1960/61 budget estimate for population registration and immigration control together was approximately \$560,000 (£1,013,000). With a staff of 284, the 1961/62 estimate is approximately \$570,000 (£1,034,000).

Netherlands. Most costs are borne by the municipalities. The Central Government Inspection is budgeted at approximately \$90,000 (Fl.350,000) annually.

Netherlands Antilles. With 14 officials in charge of the administration of population records, the cost is approximately \$40,000 (Fl.75,000) annually.

Singapore. With a staff of 49 (Commissioner, Deputy Commissioner, 7 clerical officers, 33 clerical assistants, 1 typist, 5 office boys and a watchman), the cost in 1958 was approximately \$52,000 (\$160,406). In 1957, the cost was approximately \$56,000 (\$170,957).

^{17/} The costs mentioned have been converted into United States dollars in accordance with the exchange rate in effect at the end of 1959. This conversion is not intended to show exact amounts but only rough equivalents. The amount in the currency of the country is shown in parenthesis.

South Africa. With a staff of 670, the register for European, Asiatic and Coloured population, which was not yet completed as of the end of 1960, cost approximately \$850,000 (£153,000) annually. The register for the Bantu population costs approximately \$500,000 (R176,915) annually.

78. Very rough estimates of the per capita costs of these 9 systems, using mid-1960 population estimates, range from \$.03 annually in Singapore to \$.21 in the Netherlands Antilles.

79. There can be no doubt that a register system is most costly at its inception, with a larger staff and a greater expenditure on equipment being required than are needed after the initial registration has been accomplished. In South Africa, for example, it is expected that the staff of the register for European, Asiatic and Coloured population will be reduced by almost half after the initial registration is completed.

80. Some idea of the reduction in costs after the system has been established can be obtained from the experience of Iceland. From mid-1952 to the end of 1954, while its system was being organized, the total expenditures were approximately \$56,000, of which 69 per cent was spent on salaries, 15 per cent on machinery and punch cards, 5 per cent on cabinets and equipment, and 10 per cent on miscellaneous costs. For 1955, the total cost was about one-third that of the previous period, with 64 per cent spent on salaries, 14 per cent on machinery and punch cards, 3 per cent on card cabinets and 19 per cent on miscellaneous items. Since then, the cost has risen slightly because of rises in salaries. It should be noted, however, that the total costs quoted are kept fairly low because of the fact that the register office does not have to pay the salary of a director, secretarial costs are absorbed by the Statistical Bureau, and there are no rent costs. In addition, the permanent staff numbers only 4 and the 17 additional persons needed for the work of bringing the register up to date at the end of each year are supplied from the staff of the Statistical Bureau.

81. Some register systems provide a certain amount of revenue which partially offsets their costs. These revenues come from such items as charges for replacement of lost identity cards, fees for supplying certified information regarding persons on the registers and even charges for preparing lists of persons for various non-governmental uses. In the Netherlands Antilles, the annual revenue is about \$24,000, which amounts to more than half of the total costs. In Iceland, income from the sale of lists was expected to be about \$3,000 in 1960, or about 10 per cent of the costs. In Hong Kong, income of slightly over \$50,000 a year, or about 20 per cent of costs, is expected until such time as re-registration is completed.

VII. CONCLUSIONS

A. Requirements for the establishment and maintenance of a continuous population register system

82. The establishment and maintenance of a continuous population register system is a fairly complicated undertaking which requires careful planning and administration as well as a large measure of public co-operation. In the first instance, the base data should be accurate at least to the degree of a good population census. Regardless of whether the data are first collected by means of a fairly short-time census enumeration or an individual registration which may stretch over a longer period of time, there must be provision for a satisfactory means of obtaining and recording subsequent additions, deletions and changes. If the initial registration extends over a period of several years, it must be recognized that many changes will occur during this time and that the information collected at the beginning of the period will already be considerably out of date by the time the last persons are registered.

83. While it is not realistic to expect that a register, any more than a census, can ever be completely accurate in every respect, very high degrees of accuracy have been achieved in a number of countries. Contrariwise, there are indications that a number of register systems are totally inadequate for any statistical purposes because they are highly inaccurate, and there is not even any good estimate of the degree of their inadequacy. To avoid such inaccuracy, it is necessary that machinery be provided to insure that at least vital events and changes of residence are reported promptly and completely and that the information received is recorded as quickly and as accurately as possible. Even in countries with highly developed statistical systems, there is some lag between the occurrence of an event and the consequent changes on the registers. Where methods are not adequately developed, the lag will inevitably be longer.

84. There are probably an infinite number of small details for which provision must be made, depending upon the particular organization of the system, but regardless of the differences in structure, acceptance by the public of the responsibility to report specified events, and the ability to fulfill this responsibility, are absolutely essential. As with any other system for the collection of information from the population, this implies that people must have

some awareness of the meaning of the population register and the part they can play in insuring its success. It also means that people must be able to appear in person to make reports or to submit information by mail, with the concomitant requirements of conveniently located register offices and more than rudimentary literacy.

85. No matter how well a system appears to function, for proper use of the information on the registers, it is essential that the degree of their accuracy be known and also that errors found be corrected as rapidly as possible. Hence, there must be some possibility of comparing register information with other sources of the same information.

B. Population registers as mechanisms for the provision of reliable demographic statistics

86. Continuous population registers can be valuable adjuncts to the population census in the provision of interim statistics. They are also helpful in planning for and evaluating the results of censuses. Conversely, a periodic census seems to be a very necessary part of a good register system, since it provides the most complete method of correcting the registers. This inter-relationship is frequently found in countries with the most advanced statistical systems.

87. In addition, certain information which may appear on a register is not easily kept up-to-date without the use of a general census or an ad hoc inquiry. This includes such characteristics as occupation, literacy, languages spoken and level of education. Occasionally, persons are obliged to report changes in occupation as they occur but more usually changes in these characteristics seem to be entered only at long intervals.

88. One of the possible advantages of some population registers is their ability to provide information on changing family and household structure in more detail than can easily be obtained from a general census.

89. Although register systems are used as sources of migration statistics, it is likely, as pointed out previously, that the statistics are not compiled from the registers themselves but from the documents used in the process of transferring persons from one register to another or in making corrections on a central register, or from lists of arrivals and departures kept at local registries.

90. Compilation of vital statistics from population registers does not seem to be feasible. On the contrary, it would appear that vital-events registers are the most suitable sources for information on births, deaths, marriages and perhaps divorces for population register use. It follows, therefore, that a good system for the collection of data on vital events is indispensable to a good population register. To attempt to overcome the lack of a vital statistics system by providing for direct reporting of vital events to the population register merely means that the functions of the population register and the vital-events registers would be combined in a single office. Although this has been done in some instances, it has not obviated the maintenance of separate registers.

C. Population registers as mechanisms for the provision of health statistics

91. As mentioned previously, there is very little information pertaining to illness on the register systems studied. The paucity of information on morbidity is readily understandable since the problems of collecting and entering such information for the total population would probably be far beyond the capacity of a general population register system. It does not, however, seem unreasonable to expect that many of the systems could fairly easily incorporate information on cause of death and perhaps even take the further step of showing the cause of death of the husband or wife on the record of the surviving spouse. While the information on cause of death alone should be available from the vital-events registers, its appearance on the population register might automatically provide data for correlations with a variety of economic and social characteristics.

D. Population registers as mechanisms for investigations of human genetics and the inheritance of disease

92. Population register systems may well provide considerable material for genetic investigations of family histories and studies of the inheritance of diseases listed as causes of death, but for the most part the present organization of the systems precludes ready linkage of family records. It is, of course, possible that if the need for this type of information becomes more widely recognized, individual countries may be able to adjust both the contents and the form of their systems to provide the necessary data more easily. It must be remembered, however, that the many administrative requirements served by the register systems may necessitate the continuation of present practices. In any event, the expense of initiating changes may preclude many amendments.

Table 1. Selected information on continuous population register systems or systems adaptable to the collection of population data on a continuous basis. 46 countries ^{1/}

(An "X" indicates that the caption specification is applicable, a dash "-" indicates that it is apparently not applicable, three dots "..." indicate that information is not available)

Continent and Country	Original register system		Register system as now organized		National authority in charge of system	Population excluded from coverage ^{2/}	Reported uses of register information							
	Year of legislation	Year of establishment	Year of legislation	Year of establishment			Administrative			Statistical				
							Identification	Electoral	Other administrative	Population estimates	Migration Statistics		Population census		Sampling frame
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
AFRICA														
South Africa														
Bantu population	-	-	1950	1951	Bantu Reference Service ^{3/} (Department of Bantu Administration and Development)	None	X	-	-	-	-	-	-	-
Coloured, Asiatic and white population	-	-	1950	1951	Registry Office (Department of the Interior)	None	X	-	-	-	-	-	-	-
Togo	-	-	- ^{4/}	1959	- ^{5/}	90 per cent ^{6/}	X	-	X	-	-	-	-	-
AMERICA, NORTH														
Canada	-	-	..	1945	Vital Statistics Council of Canada ^{7/}	None	-	-	X	-	-	-	-	-
Netherlands Antilles	-	-	1929	1931	Population and Elections Bureau	None	X	X	X	X	-	-	X	-
United States														
Register of social security account numbers	-	-	1935	1936	Social Security Administration (Department of Health, Education and Welfare)	40 per cent ^{8/}	-	-	X	-	-	-	-	-
AMERICA, SOUTH														
Chile	...	1885	...	1942	Servicio Nacional de Registro Civil e Identificación (Ministerio de Justicia)	40 per cent ^{9/}	X	X	X	-	-	-	-	-
Colombia	-	-	1948	1952	Registraduría Nacional del Estado Civil	50 per cent ^{10/}	-	X	-	-	-	-	-	-
Costa Rica	-	-	Departamento Electoral (Ministerio de Gobernación)	50 per cent ^{11/}	X	X	-	-	-	-	-	-
ASIA														
Afghanistan	-	-	1951	1952	Department of Statistics (Ministry of the Interior)	50 per cent ^{12/}	-	-	X	-	-	-	-	-
Burma	-	-	1949	1958 ^{13/}	National Registration and Census Department	None	X	-	X	-	-	-	-	-
China (Taiwan)	1946	...	Department of Population Registration (Ministry of the Interior)	None	-	X	-	X	-	-	-	-

For footnotes see page 34.

Table 1 (continued)

Continent and Country	Original register system		Register system as now organized		National authority in charge of system	Population excluded from coverage ^{2/}	Reported uses of register information								
	Year of legislation	Year of establishment	Year of legislation	Year of establishment			Administrative			Statistical					
							Identification	Electoral	Other administrative	Population estimates	Migration Statistics	Population census	Evaluation of results	Sampling frame	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	
ASIA (continued)															
Cyprus ^{14/}	-	-	1956	1956	...	30 per cent ^{15/}	X	-	-	-	-	-	-	-	
Hong Kong	-	-	1949	1949	Registration of Person's Office	... ^{16/}	X	-	-	-	-	-	-	-	
India															
Registers of 1951	-	-	-	1951 ^{17/}	- ^{18/}	None	-	X	-	-	-	-	-	X	
Census population record ^{19/}	-	-	-	1961	- ^{18/}	None	...	...	...	...	...	...	...	...
Indonesia	...	1954 ^{20/}	...	1958 ^{20/}	Elections Committee	... ^{21/}	-	X	-	-	-	-	-	-	
Iran	...	...	...	1918	Department of Civil Registration (Ministry of the Interior)	...	X	-	X	-	-	-	-	-
Israel	-	-	1948	1949	Ministry of the Interior	None	X	X	X	X ^{22/}	X	-	X	X	
Japan															
Koseki system	...	7th century	1898	1898	Ministry of Justice	None	X	-	-	-	-	-	-	-	
Resident register system	-	-	1952	1954	Ministry of Justice	None	X	X ^{23/}	X	X ^{24/}	X	-	-	-	
Korea, Republic of	1407	...	1960	1960	Supreme Court	None	...	...	...	...	...	...	...	...
Lebanon	...	...	...	1932	Service de l'état civil (Ministère de l'intérieure)	None	...	...	...	...	...	...	...	...
Ryukyu Islands															
Koseki system	-	-	...	1872	Legal Affairs Department (Executive Office)	None	X	-	-	-	-	-	-	-	
Resident register system	-	-	...	... ^{25/}	Legal Affairs Department (Executive Office)	None	X	-	X	-	-	-	-	-
Singapore	-	-	1948	1948	Registration Office	... ^{26/}	X	X	-	-	-	-	-	-	
Thailand	1909	...	1950	1951	Central People's Registration Office (Ministry of the Interior)	None	-	X	X	-	-	-	-	-	
Turkey	-	-	1914	1902	Directorate General of Population Affairs (Ministry of the Interior)	40 per cent ^{27/}	-	-	X	X ^{28/}	-	-	-	-	
Viet Nam, Republic of	-	1947 ^{29/}	1956	1958	Ministère de l'intérieure	None	X	X	-	X	-	-	-	-	

For footnotes see page 34.

Table 1 (continued)

Continent and Country	Original register system		Register system as now organized		National authority in charge of system	Population excluded from coverage 2/	Reported uses of register information								
	Year of legislation	Year of establishment	Year of legislation	Year of establishment			Administrative			Statistical					
							Identification	Electoral	Other administrative	Population estimates	Migration Statistics	Population census		Sampling frame	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	
EUROPE															
Albania	1922	1923	1950	...	...	None	X	X	X	-	-	-	-	-
Belgium	-	-	1856	1857	- 30/	None	-	X	X	-	-	X	-	-	
Bulgaria	-	-	1905	1906	Central Bureau of Statistics	None	X	X	X	X 31/	-	-	-	-	
Czechoslovakia	-	-	1857	19th cent. 32/	Ministry of the Interior	None	-	-	X	-	-	X	-	-	
Denmark	-	-	1924	1924 33/	Statistical Department (Ministry of the Interior)	None	-	X	X	X	-	X	-	X X	
Finland	1686 34/	... 34/	1869	...	Council of State	None	...	...	...	...	...	...	...	X
Germany, Federal Republic of	-	19th century	1938	1938	- 35/	None	X	X	X	X 36/	X	-	-	-	
Gibraltar	-	-	1943	1943	Police Registration Office	... 37/	X	-	X	X	-	-	X	X	
Hungary	...	...	1954	1955	...	25 per cent 38/	-	-	-	X 39/	X	-	-	-
Iceland	-	-	1952	1953	National Registry 40/	None	X	X	X	X	-	-	-	-	
Italy	1864	...	1954	1958	Central Institute of Statistics and Ministry of the Interior	None	X	X	X	-	X	-	X	-	
Liechtenstein	-	19th century	1947 41/	1947 41/	- 42/	None	X	-	-	-	-	-	-	-	
Luxembourg	1843 43/	...	1953 43/	1953	- 44/	None	X	X	X	-	-	-	-	-	
Netherlands	-	-	1887	1850	Central Government Inspection of Population Registers (Ministry of Home Affairs)	None	X	X	X	X	X	X	-	X	
Norway	1905 45/	...	1946 45/	1946	Central Office for Population Registration (Central Bureau of Statistics) 46/	None	X	X	X	X	X	-	-	X	
Spain	...	...	1952	1952	Instituto Nacional de Estadística	...	..	...	...	...	...	...	...	...
Sweden	...	17th century	1947	1947	Central Bureau of Statistics 47/ (Ministry of Finance)	None	X	X	X	X	X	X	-	X	
Population sample register 48/	-	-	...	1950	Central Bureau of Statistics 47/ (Ministry of Finance)	97 per cent 48/								X 49/	

For footnotes see page 34.

Table 1 (continued)

Continent and Country	Original register system		Register system as now organized		National authority in charge of system	Population excluded from coverage ^{2/}	Reported uses of register information									
	Year of legislation	Year of establishment	Year of legislation	Year of establishment			Administrative			Statistical						
							Identification	Electoral	Other administrative	Population estimates	Migration Statistics	Population census		Evaluation of results	Sampling frame	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)		
EUROPE (continued)																
United Kingdom	-	-	1939	1939	^{50/}	Central National Registration Office (General Register Office)	None	X	X	X	X	X	-	-	-	X
England and Wales	-	-	1939	1939	^{50/}	Central National Registration Office (General Register Office)	None	X	X	X	X	X	-	-	-	-
Northern Ireland	-	-	1939	1939	^{50/}	Central National Registration Office (General Register Office)	None	X	X	X	X	X	-	-	-	-
Scotland	-	-	1939	1939	^{50/}	Central National Registration Office (General Register Office)	None	X	X	X	X	X	-	-	-	-
Yugoslavia (People's Republic of Slovenia)	-	-	1953	1953	^{51/}	- ^{52/}	90 per cent ^{53/}	-	X	X	X	^{54/}	X	-	-	-
OCEANIA																
Maue	-	-	1916	1916		Registry Office	None	X	X	X	-	-	-	-	-	-
UNION OF SOVIET SOCIALIST REPUBLICS		Central Statistical Department (Council of Ministers)	None	-	-	-	X	^{55/}	-	-	-	-

For footnotes see page 34.

Foot-notes for Table 1

- 1/ In addition to the countries shown on this table, it is likely that population register systems of some type are in effect in Andorra, Argentina, the Bonin Islands, China (mainland), Congo (Leopoldville, Sarawak, two cities of Switzerland, Somalia, Surinam, Syria and Uruguay.
- 2/ Approximate percentage of the total population specifically excluded from coverage (with the exception of aliens and temporary residents).
- 3/ Acting under authority delegated by the Secretary of the Interior.
- 4/ The registers are not established by law but are based on a technical note issued by the Service de la statistique générale at the time of the 1958-59 census of population, explaining the usefulness of a register and setting forth the administrative techniques to be followed.
- 5/ There is no national authority. Each register is under the authority of the mayor of the commune.
- 6/ Registers have been established in seven communes (Lomé, Anécho, Palimé, Tsévié, Atakpamé, Sokodé and Bassari) which comprise 10 per cent of the total population of the country.
- 7/ The Council is composed of the Dominion Statistician, the official actively in charge of each provincial vital statistics office, a representative of the Yukon and North-West Territories and the Directors of the Vital Statistics and Census Divisions of the Dominion Bureau of Statistics.
- 8/ The register covers all workers and self-employed individuals in specified occupations, at present comprising about 60 per cent of the total population of the country.
- 9/ All persons under 18 years of age.
- 10/ All persons under 21 years of age.
- 11/ All persons under 20 years of age, except for those who are emancipado, i.e., legally not considered minors and therefore entitled to vote.
- 12/ All females.
- 13/ Registration was started in a few towns in 1951. Effective registration began at the end of 1958.
- 14/ The information shown refers to the system in effect prior to 16 August 1960, when Cyprus became independent. It is not known if the system is still maintained.
- 15/ Members of the regular and auxiliary police force, persons in detention camps and children under 12 years of age.
- 16/ Children under 6 years of age, members of the armed forces, their wives and children under 17 years of age, police officers, aged and infirm persons, consuls' children under 17 years of age and certain other minor categories.

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- 17/ These registers have been discontinued. In some States, they were maintained until 1958.
- 18/ There is no national authority. The registers of 1951 and the contemplated 1961 registers were or will be under the authority of the census organization of each State.
- 19/ It has not yet been decided whether or not the records will be maintained as a register of citizens.
- 20/ These registers apparently were not maintained after the elections for which they were established.
- 21/ All persons under 18 years of age, except for those entitled to vote by virtue of being married.
- 22/ For local estimates only.
- 23/ Electoral registers are sometimes compiled from the population registers.
- 24/ For local estimates only.
- 25/ The system was established under the Japanese administration of the islands.
- 26/ Children under 12 years of age, members of the naval, military and air forces, police officers, persons in possession of a valid identity card issued in the Federation of Malaya and holders of immigration passes.
- 27/ All persons under 15 years of age.
- 28/ For internal use only.
- 29/ Registration for security purposes was initiated by local authorities in about 1947.
- 30/ There is no national authority. Registers are under the authority of the governor of each province.
- 31/ Register data are the base for population estimates.
- 32/ First half of the century.
- 33/ Registers were established in Copenhagen, Friedrichsberg and Gentofte in 1923.
- 34/ The earliest established official registers were those of the Evangelic-Lutheran Church. The official registers of the Greek-Orthodox Church date from 1830. Civil registers (covering persons not belonging to either of the above-mentioned churches or to any registered congregation) were established in 1917 and registers of the registered congregations (i.e., congregations other than the Evangelic-Lutheran or Greek-Orthodox) in 1922. Instructions relating to the reformation of the population registers of the Evangelic-Lutheran Church were approved by the Assembly of Bishops in 1961.
- 35/ There is no national authority. The national legislation is a frame within the terms of which the provinces (Länder) have adopted separate regulations. Registers are under the authority of the Ministries of the Interior of the provinces.

- 36/ For local estimates only.
- 37/ Service personnel.
- 38/ All persons under 16 years of age.
- 39/ Register data are used in the production of population estimates so far as they show internal migration.
- 40/ The National Registry is operated as a department of the Statistical Bureau (Ministry of Finance) but it is an autonomous body with an executive board consisting of representatives of the State Institute for Tuberculosis Control, the Municipal Treasury of Reykjavik, the Ministry of Finance, the Statistical Bureau and the State Insurance Board, and a sixth member appointed by the Ministry of Social Affairs in consultation with the Executive Board of the Federation of Icelandic Communities.
- 41/ Family registers were introduced in individual communes during the 19th century. In 1947, these registers were proclaimed to be civil registers, on the basis of an act of 1946 empowering the Government to prescribe the use of civil registers.
- 42/ There is no national authority. Registers are under the authority of the individual communes.
- 43/ By legislation of 1843 and 1846, communes were authorized to establish and regulate communal registers. In 1953, all communes enacted identical new legislation, approved by the Minister of the Interior.
- 44/ There is no national authority. Registers are under the authority of the individual communes.
- 45/ By legislation of 1905 and 1915, communes were permitted to establish register systems at their own option. Prior to 1946, forty-nine towns and forty-two country districts maintained such systems.
- 46/ The Central Office for Population Registration is a function which may, by law, be conferred on any institution. At present, it is conferred upon the Central Bureau of Statistics and is a department within the Demographic Division.
- 47/ The general register system is under the authority of the Division of Civil Registration. The sample register is under the authority of the Population Division.
- 48/ The register covers all persons born on the 15th day of any month, a total of about 3.3 per cent of the population.
- 49/ The register is a sample in itself.
- 50/ The system was discontinued in 1952. Identity numbers assigned to individuals are still used for persons registered with National Health Service doctors.
- 51/ The registers in Ljubljana were established in 1955 and those in Maribor, Celje and the former district of Koper in 1956.

- 52/ The authority in charge is the Vital Statistics Section of the Statistical Institute of the People's Republic of Slovenia.
- 53/ The system covers only the People's Republic of Slovenia.
- 54/ For local estimates only.
- 55/ Register data are used together with data from other sources.

Table 2. The structure of continuous population register systems in 20 countries currently using register information for statistical purposes

(An "X" indicates that the caption specification is applicable; a dash "-" indicates that it is not applicable, three dots "... " indicate that information is not available.)

Continent and country	Degree of centralization of registers			Level and approximate number of administrative units maintaining registers	Persons covered by system			Persons shown on each basic document			Physical type of basic document						Sequence of documents in registers		
	Entirely centralized	Entirely decentralized	Decentralized with special central registers		Permanent residents	Former residents	Temporary residents	Individual	Family in household	Household	Punch card	Printed card	Page in bound book	Page in loose-leaf book	Printing plate	Entry on list	Name (alphabetical)	Address	Other
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
AMERICA, NORTH																			
Netherlands Antilles	-	X	-	6 component islands	X	-	-	- 1/	X	-	-	X	-	-	- 1/	-	X	- 1/	-
ASIA																			
China (Taiwan)	-	X	-	... hsiang or chen (villages or towns) ... hsien (subdivisions of provinces)	X	X	X	-	-	X	-	X 2/	-	-	-	X 2/	-	X	-
Israel	-	-	X 3/	17 sub-districts 1 national	X	X	-	X	-	-	X	-	-	-	-	-	X	-	X 3/
Japan (Resident register system)	-	X	-	... cities, towns, wards or townships	X	X	-	-	-	X	-	X	-	-	-	-	-	X	-
Turkey	-	X	-	440 districts	X 4/	...	X 4/	-	X	-	-	-	X	-	-	-	...	...	...
Viet Nam, Republic of	-	X	-	... villages ... arrondissements of Saigon	X	X	...	-	-	X	-	X	-	-	-	-	-	X	-
EUROPE																			
Belgium	-	X	-	2,663 communes	X	...	-	-	-	X	-	-	X 5/	X 5/	-	-	X 5/	X 5/	-
Bulgaria	-	X	-	2,196 communes and inhabited places	X	...	...	-	X	-	-	- 6/	X 6/	-	-	-	-	X	-
Czechoslovakia	-	-	X 7/	11,000 localities ... districts 1 national	X	X	...	X 8/	-	-	-	X	-	-	-	-	X 7/	X 7/	-

For footnotes see page 40.

Table 2 (continued)

Continent and country	Degree of centralization of registers			Level and approximate number of administrative units maintaining registers	Persons covered by system			Persons shown on each basic document			Physical type of basic document					Sequence of documents in registers				
	Entirely centralized	Entirely decentralized	Decentralized with special central register		Permanent residents	Former residents	Temporary residents	Individual	Family in household	Household	Punch card	Printed card	Page in bound book	Page in loose-leaf book	Printing plate	Entry on list	Name (alphabetical)	Address	Other	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	
EUROPE (continued)																				
Denmark	-	X	-	1,338 communes	X	X	-	X 9/	X 9/	-	-	X 10/	X 10/	-	X 10/	-	-	X 11/	X 11/	-
Germany, Federal Republic of	-	X	-	25,000 communes	X	X	X	X 12/	X 12/	- 12/	-	X 13/	-	-	-	X 13/	X 14/	- 14/	-	
Gibraltar	X	-	-	1 central	X 15/	X 15/	-	X 16/	- 16/	-	-	X 17/	- 17/	-	-	-	X	-	X 18/	
Hungary	...	...	...	...	X 19/	...	...	X	-	-	...	...	...	...	...	...	...	...	...
Iceland	X	-	-	1 national	X	X	-	X	-	-	X	-	-	-	-	-	X 20/	X 20/	X 20/	
Italy	-	-	X 21/	8,023 communes and sub-divisions of communes 22/	X	X	X 23/	X	-	X	-	X	-	-	-	-	X 24/	X 24/	X 24/	
Netherlands	-	-	X	1,009 municipalities 1 national	X	X	X	X 25/	- 25/	-	-	X	-	-	-	-	X 25/	- 25/	-	
Norway	-	-	X	732 communes 1 national	X	X	X	X	X 26/	-	-	X	-	-	-	-	X 27/	X 27/	X 27/	
Sweden	-	-	X	1,800 parishes 3 cities 24 provinces 1 national	X	X	-	X	X	X	-	X	X	X	X	-	X	X	X 28/	
Yugoslavia (People's Republic of Slovenia)	-	X	-	390 registry districts	X	X	-	X 29/	-	- 29/	-	X	-	-	-	-	X 29/	- 29/	-	
UNION OF SOVIET SOCIALIST REPUBLICS	-	X	-	... house managements in urban areas ... rural localities	X	...	...	X 30/	-	X 31/	...	...	...	...	...	...	...	X 30/	...

For footnotes see page 40.

Foot-notes for Table 2

- 1/ In addition to the regular register on a family basis maintained for each island, registers of individual printing plates, kept in order of address, are maintained in Curacao and Aruba.
- 2/ The registers of residents may be kept as lists or on cards. The registers of transients are kept as lists.
- 3/ The registers maintained in the sub-districts are duplicates of the national register, arranged in name order. In addition, there is a central register arranged in order of identity numbers. Archive registers are also arranged by identity number.
- 4/ Excluding all persons under 15 years of age.
- 5/ In larger cities, loose-leaf books arranged in alphabetical name order and a card index arranged by address are used; in smaller communes, bound books arranged in order of address are used.
- 6/ The basic documents are pages in bound books. In large communes, subsidiary card registers are also maintained.
- 7/ Duplicate registers are maintained on the local, district and national levels. The central register is arranged in alphabetical order; district registers are arranged either alphabetically for the entire district or alphabetically for the inhabitants of each locality; local registers are usually arranged alphabetically but may be arranged first according to urban areas, electoral districts, etc.; in small communities, they may be arranged entirely by address.
- 8/ An individual document is used for each person 15 years of age and over and for children under 15 years not living with either parent. Children under fifteen living with their mother are registered on her document; if not living with their mother, but living with their father, they are registered on his document.
- 9/ A family document is used for husband, wife and children under 16 years of age living at home, or a woman and her illegitimate children living with her. For all other persons, an individual document is used.
- 10/ Punch cards are used in addition to printed cards in communes having, at present, somewhat more than 40 per cent of the total population of the country. A small number of communes, having not more than 1 per cent of the total population, uses loose-leaf books.
- 11/ In Copenhagen, market towns and wherever else desirable, the registers are arranged in order of address, with an index by name. In other communes, and in all archive registers, the documents are in name sequence.
- 12/ A family document is used for husband, wife and unmarried children living at home. For all other persons, an individual document is used. In addition, in large municipalities, there are registers of houses, in which a separate document is used for each dwelling, showing the occupant and all other persons living in the dwelling.

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- 13/ The registers are generally maintained on printed cards but very small communes are permitted to maintain their registers in list form.
- 14/ The registers of persons are arranged in alphabetical order; the registers of houses are arranged in order of address.
- 15/ Excluding service personnel.
- 16/ An individual document is used for each person 15 years of age and over. Children under fifteen are registered on the mother's document.
- 17/ The two main registers consist of printed cards. In addition, a limited amount of information is kept on a bound-book register.
- 18/ By registration number.
- 19/ Excluding all persons under 16 years of age.
- 20/ The principal register is arranged by address, with supplementary registers, which function as indexes, arranged by name and by date of birth. The archive register is arranged by date of birth.
- 21/ All registers are maintained in communes, except for a small register of persons with no commune of residence, which is maintained centrally.
- 22/ Some communes are subdivided, with branch register offices maintaining duplicate registers of the relevant portion of the communal registers.
- 23/ Temporary residents present in the commune for at least four months may register at their own option.
- 24/ The active household registers are arranged by address. The archive household registers are arranged according to the serial number assigned at the time the household document is retired. The registers of individual documents, both active and archive, are arranged in name order, but may also first be subdivided by sex. The documents of aliens may be kept separately if so desired.
- 25/ The individual card registers are arranged by name. Building registers, arranged by address, show each family living therein, each person living in a non-family group and each non-family member of a family household.
- 26/ Family documents are used only for temporary residents.
- 27/ The active registers are arranged by address, with an index by name. The archive registers are arranged by year of transfer of the document from the active registers, and then by transfer number or by name.
- 28/ By birth number.
- 29/ The individual card registers are arranged by name. In the three cities which rank as districts, there are also housing registers, arranged by address, showing all the persons living in each dwelling.
- 30/ Building registers in urban areas.
- 31/ In rural areas.