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1960 World Population Census Programme

PRINCIPLES AND RECOMMENDATIONS FOR NATIONAL POPULATION CENSUSES

(Memorandum prepared by the Secretary-General)

1. The third draft of the Principles and recommendations for national population censuses (Document ST/STAT/P/L.1/Rev.2) is presented to the Statistical Commission for its consideration and final approval. The original Draft international recommendations (Document ST/STAT/P/L.1) were reviewed by the Commission at its ninth session. In accordance with the request of the Commission, a second draft, entitled General principles for a population census (Document ST/STAT/P/L.1/Rev.1) was prepared. This was reviewed by the ninth session of the Population Commission, by national statistical offices, by individual census experts and also at meetings held by regional bodies. Their comments were taken into account in the preparation of the third draft.
2. The present draft recommends the compilation of data on twenty-one topics which are considered of most general national and international value and in most universal use. As a further aid to census officials, definitions and classifications of each recommended topic are also included. Finally, the recommendations include a set of tabulations for each of the topics, which constitutes a modest tabulation programme embracing first priority tabulations, which are regarded as of most general national and international importance and second priority tabulations, which are also of generally recognized value but which serve somewhat more specialized purposes, or involve more elaborate or expensive compilation procedures. It is recognized, of course, that countries can add many useful and practicable tabulations if sufficient resources are available to undertake a more ambitious tabulation scheme.

3. In addition to the recommendations, the draft includes statements of recognized principles of efficient census planning and administration for consideration and use by countries as an aid in improving national census operations.

4. Cognizance is taken of the fact that sampling methods will undoubtedly be used increasingly as a supplement to complete inquiry in censuses. It is expected that countries equipped to do so will collect much of the data by sampling, although certain information will most probably still be collected by complete enumeration.

5. After final approval of the present draft, with such changes as may be desirable, the Commission may wish to request the Secretary-General to print and distribute to Governments, regional bodies, and individual census experts the Principles and recommendations for national population censuses together with the Director's report (Document E/CN.3/237, ST/STAT/P/L.23/Rev.1) as a single document.

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1960 World Population Census Programme

PRINCIPLES AND RECOMMENDATIONS FOR NATIONAL POPULATION CENSUSES

Note: This document contains the world-wide principles and recommendations for planning and conducting national population censuses. Analogous recommendations for other types of censuses are to be found in:

Food and Agriculture Organization of the United Nations.  
Programme for the 1960 World Census of Agriculture. Rome, 1957.

United Nations. General principles for a housing census  
(Second draft). Document E/CN.3/240/Add.1 - ST/STAT/P/L.22/Rev.1.  
1957.

United Nations. Draft revisions for the international standards  
in basic industrial statistics. Document E/CN.3/242/Add.1.  
1958./

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## INTRODUCTION

### Status of these principles and recommendations

1. The purpose of a national population census is primarily to satisfy certain national needs for statistical data and those needs are the major factors in determining the census design. That design, however, can be improved by applying the relevant experience of other countries which have carried out successful census enumerations. In addition, international uses of census data are important, and a desirable goal is the increase of the international comparability of census data through the use of standard lists of census items and of uniform definitions, classifications and tabulation.
2. This document includes two types of material. The first type consists of statements of widely recognized principles of efficient census planning and administration. These principles of census management are based on detailed studies of successful census procedure and upon a synthesis of expert opinion. They are stated here in concise terms for the consideration and use of countries as an aid in improving the efficiency, economy and quality of national census operations.
3. The second type of material included consists of specific recommendations regarding census topics, definitions, classifications and tabulations. These recommendations have the purpose of increasing the value of the compiled results for national purposes and of improving international comparability.
4. Since neither the general administrative principles nor the specific recommendations are mandatory for governments, it has not been considered necessary or desirable to make a sharp distinction between the two kinds of statements. While somewhat different in purpose, both the principles and the recommendations are an expression of tested census practices in so far as these can be stated in general terms for world-wide application.
5. Although these principles and recommendations are phrased in terms of "national" censuses, it should be noted that most of the administrative or technical points can be applied to censuses of territories not having the status of independent countries, as well as to censuses of provinces, cities or other territorial divisions.

Value of population censuses

6. The population census is a statistical operation of great value to every country. It is the primary source of basic national population data for administration and for many aspects of economic and social planning. The census provides a base or reference point for current statistics and a statistical frame for sampling surveys and studies. Population censuses were among the first forms of national statistical activity and some form of "counting of people" has been conducted from very ancient times. The tradition of taking periodic and scientifically designed censuses extends back for more than 150 years in many modern countries. No country denies the importance of knowing the essential demographic, social and economic facts about its people. Numerous international recommendations have stressed the basic importance of population censuses and have suggested methods for increasing their scope and validity and for improving their national value and international comparability.

7. In the decade from 1945 to 1954, at least 150 countries or areas took population censuses collecting individual data on more than 2,000,000,000 people. The extent of census activity, past and present, is a manifestation of the appreciation by countries that census-type data are essential for good national administration and development.

8. Although the economic and social development of a country requires the strengthening of the entire range of statistics, it is recognized that the population census is one of the important methods of collecting basic data required for many national purposes. The original and perhaps fundamental purpose of the census is to provide the facts essential as a basis for governmental policy and administration. National electoral distribution and certain aspects of the legal or administrative status of provinces or cities are often dependent upon population counts. Legislative consideration of questions of economic and social development, employment, migration, housing, public health and welfare, and numerous other governmental activities are facilitated if accurate facts about the population and the conditions of living are known. Without a census to be used in conjunction with current vital statistics, reliable estimates cannot be made of the future financial requirements for the payment of old age pensions or of the needed educational facilities for the

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rising generation. The various plans of social insurance and security depend for their actuarial calculations upon census material. Knowledge of census facts, even where not directly contributing to the solution of the problems of State policy, nevertheless forms a background for the study and evaluation of such policies.

9. In addition to specific administrative uses, the population census provides indispensable data for scientific analysis and appraisal of the composition, distribution and growth of the population. The changing patterns of urban-rural concentration, the development of urbanized areas, the geographic distribution of the population according to different variables such as income or education, the evolution of the age structure of the population, and the mortality and natality differentials for various population groups are questions of scientific interest and research, the importance of which extends beyond the academic to practical problems of industrial and commercial growth and management. The census has many important uses for individuals and private institutions in business and industrial planning.

10. Quite apart from its direct applications, the census is becoming increasingly important as a frame for the development of other data-collecting procedures. There are various possibilities of combining, interrelating and checking the census data with those from other sources. Census data can be used in initiating statistical series and checking the accuracy or improving the quality and comparability of existing series. The rapid increase of the use of sampling procedures for surveys in various subject fields is facilitated if a population census is available to provide the data for scientific sample design. Census questionnaires may in themselves form a universe for random sampling. In certain instances, the census collection machinery can also be used to obtain listings of areas, dwellings, or establishments which are needed for the subsequent collection of data on other social or economic subjects.

PART I

GENERAL

101. Definition of a population census

A census of population may be defined as the total process of collecting, compiling and publishing demographic, economic and social data pertaining, at a specified time or times, to all persons in a country or delimited territory.

102. Essential features of the census

Some of the essential features of an official national census are:

- A. Sponsorship - an official national census is sponsored and carried out by the national government, sometimes with the co-operation of provincial and local governments.
- B. Defined territory - the coverage of a census operation should relate to a precisely defined territory.
- C. Universality - the enumeration should include every member of the community within the scope of the census without omission or duplication.
- D. Simultaneity - the total population enumerated should refer to one well-defined point of time. Similarly, the data collected should refer to a well-defined point or period of time.
- E. Individual units - a census implies that separate data are recorded for each individual by direct enumeration and not by registration, although the mechanics of collection may make it possible to record information common to all members of a household or family for the group as a whole. A procedure by which "totalled" or summarized data are collected for groups of individuals is not a census in the strict sense of the term because the various characteristics of an individual cannot then be interrelated.
- F. Compilation - the compilation and publication of data by geographic areas and by basic demographic variables is an integral part of a census.

The above description of a census does not preclude the simultaneous use of sampling techniques for obtaining data on supplementary topics. Basic information which is to be tabulated for small geographic areas or for which detailed cross-tabulations are required should, however, be collected for every person.

#### 103. General scope and objectives

The scope of each national census should be determined after consideration of (a) national needs and interests; (b) national technical and financial resources and (c) regional and world-wide principles and recommendations. The scope of the national census programme should never be so extended that the available resources of competent personnel and finances are inadequate for an accurate enumeration and for the compilation and publication of the data collected.

In determining the scope and objectives of the census, due consideration should be given to the fact that the results of a national census are of maximum value only if complete and final tabulations are made available with minimum delay.

#### 104. Census periodicity

Census data are of greater value if censuses are taken at regular intervals. A series of periodic censuses is of great importance in assessing trends - the past can be appraised, the present accurately described, and the future estimated.

It is recommended that every country develop a census programme which will provide that a population census be taken every ten years. Since regular population censuses involve complex and costly statistical operations, if, between decennial censuses, data are needed for those characteristics which change more rapidly, simplified censuses or sampling enquiries might be undertaken, preferably midway between the regular censuses.

#### 105. International simultaneity

The census of any country is of greater value nationally, regionally and internationally if it can be compared with censuses of other countries which were taken at approximately the same time.

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It is obvious that legal, administrative, financial and other considerations often make it inadvisable for a country to adhere to a standard pattern in the timing of its population censuses. In fixing a census date, such national factors, or a long-established tradition for a definite census year, should be given greater weight than the desirability for international simultaneity.

It is, however, recommended that whenever possible each country undertake a population census in the years ending in "0" or as near to those years as feasible.

#### 106. Relation of the population census to other censuses and statistical inquiries

National considerations must necessarily govern any decision regarding the taking of a population census alone or together with such others as censuses of housing, agriculture or economic activities of any type. There are considerable differences of opinion concerning which censuses can most advantageously be taken at the same time. A number of countries have established definite cycles of combined census activity according to their individual requirements.

Where co-ordination of concepts and procedures in more than one census is desirable, this can be more readily achieved if the particular censuses are taken simultaneously or closely together. There are, however, certain to be many administrative and technical difficulties in combined operations which put too great a strain upon statistical resources. It may, therefore, be more desirable to range censuses over a period of years in order to spread the work and permit a more economical use of staff and equipment. Especially in countries with limited census experience and resources, it might be advisable to plan them in such a way that they do not detrimentally affect the successful execution.

In planning a population census, consideration should be given to the possibility of collecting information in such a way that it may serve as a frame for other types of censuses and sample surveys and as a base for current statistics. Listings of industrial and commercial establishments or of special areas, buildings, dwellings or agricultural holdings could be useful in subsequent censuses. Likewise, proper classifications of certain characteristics of the population are needed for adequate computation of vital indices and for benchmark data for other current statistics.

F. Preparation of questionnaire

1. Determination of content of questionnaire (considering views of other ministries and of non-governmental users)
2. Determination of the final form of the questionnaire after necessary testing
3. Preparation of definitions and instructions for the enumeration
4. Printing of questionnaires and instructions

G. Content of tabulation programme

1. Minimum tabulation programme
2. Additional desirable tabulations

H. Plan of enumeration

1. Determination of basic procedures and control of the enumeration
2. Determination of the plan for the control of the quality of the data collected
3. Estimation of population for the distribution of questionnaires - load of work, and number of enumerators required

I. Plan of sampling application

1. Scope of the sampling application plan
2. Determination of details concerning sampling operations

J. Plans for data processing

1. Determination of processing methods (including decisions regarding type of machines and card design if mechanical equipment is to be used)
2. Organization and administration of the data processing work
3. Consideration of work loads for personnel and equipment
4. Preparation of processing forms, e.g., tally sheets, punch cards, etc.
5. Preparation of materials on processing, e.g. instructions for the preliminary hand tally and for coding, editing, verification, punching, tabulation, etc.
6. Training of personnel

K. Plans for publication

1. Plans for the census publications
2. Preparation of table forms
3. Graphic presentation and text
4. Printing facilities

- L. Census tests
  - 1. Test plan
  - 2. Census test - enumeration and (where applicable) tabulation
  - 3. Analysis of the results of the census test
- M. Publicity
  - 1. Design of publicity programme for census
  - 2. Implementation of publicity programme
- N. Recruitment and training of staff for enumeration
  - 1. Selection of field supervisors and enumerators
  - 2. Training programme for field personnel
- O. Survey of areas by enumerating staff
- P. Distribution of enumeration materials to operating offices
- Q. Enumeration
  - 1. Supervision of the enumeration
  - 2. Collection of census data
- R. Receiving and checking of questionnaires
  - 1. Receipt and examination of the questionnaires
  - 2. Verification of completeness of coverage
- S. Post enumeration checks and studies of census accuracy and validity
- T. Compilation and tabulation (manual or mechanical)
- U. Publication
  - 1. Publication of the preliminary results
  - 2. Publication of administrative report
  - 3. Publication of final results
- V. Studies and research
  - 1. Preparation of special surveys and analytical studies
  - 2. Preparation of files on census experience and methods for future use

## 202. Census calendar

A valuable aid in the planning of a census is the use of a calendar or time-table indicating the sequence and estimated duration of each of the component operations of the census. It is important to prepare the calendar at the early stages of census planning and to revise it continually as the planning and operation of the census proceed.

Such calendars are useful since they indicate the dates on which each of the numerous operations which make up a census are to be started and completed, and serve as a guide to measure the progress of each stage of the census operation. Serious delays in work or errors in time estimates can be detected. Obviously, the time schedule will differ for each national census depending upon the general census plan and the resources that are available. Census calendars sometimes take the form of a chart or graph, in addition to a detailed check list of operations.

The census calendar usually shows the various operations grouped into three broad sectors: (a) pre-enumeration, (b) enumeration, and (c) post-enumeration. For purposes of control, many operations which in fact overlap are shown separately in the calendar.

## 203. Census legislation

Legal authority for the census is required for fixing primary administrative responsibility, obtaining the necessary funds, determining the general scope and timing of the census and placing upon the public a legal obligation to co-operate. In countries lacking permanent legal authority for the taking of periodic censuses, it is important to act early in establishing one-time legal authority or, preferably, legislation calling for a system of periodic censuses.

The principle of conceptual and organizational flexibility should be observed in drafting the census legislation. Thus, the inclusion of too rigid provisions regarding the type of data to be collected, or the structure and relationships of the various parts of the census organization is undesirable. On the other hand, the confidentiality of the individual information should be strongly and clearly established in the census legislation and guaranteed by adequate sanctions so as to form a basis for the confident co-operation of the public.

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#### 204. Census budget and cost control

No universal system of census budgeting and cost control can be described since financial practices vary greatly among countries. However, a few generally accepted principles can be noted. Effective planning and control of the various census operations is not possible without a very careful financial estimate of the cost of each census operation. No part of the census work is too small to be clearly recognized as a component of the total cost. It is important that persons at the administrative and supervisory levels, who will be responsible for the execution of an operation, participate in estimating the budget items. Such an organization of the work presupposes detailed advance planning and "cost-consciousness" on the part of those responsible for a census. Even so, it is inevitable that some items of cost will be overlooked or incorrectly estimated. In addition, the census plan as executed may change in some respects after the making of the original calculations and consequently a perfect correspondence between the estimates and the final costs is not to be expected. Throughout the subsequent period of census-taking and compilation of the results, the budget will have to be re-examined and performance compared with plan. This will indicate the existence of any inefficiencies and often act as an impetus to required economies or innovations. A budget plan must have elements of flexibility but, on the other hand, the reserve for contingency should be kept small by working out as precisely as possible the volume, rates and cost of each operation in the different sections of the job.

#### 205. Census organization

In planning the organization and administration of a census, it is important to consider the role and relationship of the various executive and advisory organs. There are definite advantages in the existence of a continuing office responsible for census work as an integral part of the statistical system of a country. Such an office assures continuity in census work and is the principal centre for the formulation of the programme and the initiation of preparatory work for the next census. Its permanency permits the development of specialized and experienced personnel and the maintenance of files of essential statistical and geographic information.

At the pre-enumeration stage, the census office will need to be expanded to form the nucleus of the full census organization. Usually the field organization is directed from the central census office during the preparatory work as well as during the conduct of the enumeration. Subsequent to the enumeration, the census organization can be readjusted to meet the needs involved in compiling, analysing and publishing the results and to provide the desirable continuity for the continued use of census materials and the development of improved methods.

National, provincial and local commissions and committees frequently may be very useful in planning and preparing a census. However, it is important that their promotional and advisory functions be well defined so as not to conflict with the responsibilities of the executive agency. For example, over-generous acceptance of items suggested for inclusion in the census might seriously jeopardize its successful completion. In such a case, executive restraint would have to be exercised.

#### 206. Geographic and cartographic work

The determination, for the purpose of the census, of the national and internal boundaries of the territory, and its detailed subdivision into enumeration areas is one of the basic census operations and generally takes a considerable part of the time and effort invested in the pre-enumeration stage. The prevention of omissions and duplications in the enumeration depends to a very large extent on the proper delimitation of the subdivisions of the territory, and also on the smooth working of the complex task of distribution and collection of the census questionnaires. The nature of the geographic and cartographic work required for the census depends upon the size and character of the territory and on the availability of detailed maps or of resources to prepare them. Such requirements are also different for urban areas and for rural areas. For instance, verification of maps by field visits may be more feasible in urban areas than in rural areas. In areas for which detailed maps cannot be made, alternative methods, such as a systematic and complete listing of localities and the numbering of streets and houses, can be used.

207. Tabulation programme

In most censuses, the tabulation programme represents a compromise between the information that it would be ideally desirable to tabulate and the limits imposed by practical circumstances. It is essential that the programme be outlined sufficiently early so that the procedures and costs involved may be investigated before a final decision is reached. The testing of questionnaires will help to indicate if it will be reasonably possible to gather the material desired for tabulation. The type of questionnaire and the method of enumeration may limit the kind and amount of data it is possible to collect, while conversely the tabulation programme may partly determine the enumeration plans. The final programme should be ready in time for preparation of the questionnaires well before the enumeration date.

It is important that the tabulation programme is planned in such a way that final results can be issued within a reasonable period of time after the enumeration and before the information has become out of date. It is desirable that the details of the tables to be prepared and the order of their preparation be decided early in the planning so that the processing of the data will not be delayed. If, however, during the processing stage some of the data collected prove to be highly inaccurate, it may be preferable to modify the tabulation programme at this point, rather than produce tabulations of questionable value.

Some aspects of data processing are dealt with under paragraph 213.

208. Questionnaire preparation

The type of questionnaire, its format, and the exact wording and arrangement of the questions merit the most careful consideration, since the handicaps of a poorly designed questionnaire cannot be overcome after enumeration. Among the many factors which should be taken into account in designing the questionnaire are the method of enumeration, the type of questionnaire, the data to be collected, the most suitable form of the questions and their arrangement, and the processing techniques to be employed.

The method of enumeration governs to some extent the type (i.e., single, individual, single household or dwelling, or multiple household or dwelling) and the scope of the questionnaire which can be used, as well as the framing of the questions and the amount of explanatory material which must accompany them. Questions should be free from ambiguity and should not be offensive. Many decisions regarding processing are closely related to the final contents, form and arrangement of the questionnaire.

Consideration of questionnaire design should begin at the same time as the consideration of the tabulation programme, since the feasibility of the tabulation programme is to some extent decided by the limitations imposed by the questionnaire. The final questionnaire must be ready in sufficient time for proper training of census officials and for adequate publicity on its contents and to allow for any delays in printing.

#### 209. Enumeration

There are two major methods of enumeration. In the canvasser method, information for each individual is collected and entered on the questionnaire by a census official designated to perform this operation in a specified area. In the householder method, the major responsibility for entering the information is given to a person in the unit being enumerated - usually the head of the household.

The decision regarding the method of enumeration to be employed, that is, whether it is to be primarily the canvasser or the householder method, or a combination of both, should be taken at an early stage. Even where one or the other method has been traditionally followed, it is well to reassess periodically the relative advantages of each method of enumeration in light of the current census needs and changing techniques. An early decision is required because the method of enumeration used affects the budget, the publicity plan, the training programme, the design of the questionnaire and, to some extent, the kind of data which can be collected.

In the interest of simultaneity and to avoid double counting, it is important to keep the period of enumeration as brief as possible, consonant with careful work and budgetary and staff resources.

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Adequate supervision of the enumeration is essential. Where the enumeration extends over more than a few days, periodic reporting on the quantity and quality of the work accomplished makes it possible for immediate steps to be taken to correct inefficiencies and maintain satisfactory progress during the enumeration period.

#### 210. Publicity

The publicity for the census is one of the important tasks in the pre-enumeration stage and entails an educational campaign, the purpose of which is to enlist the interest and co-operation of the public. Its aims, as a general rule, are not only to dissipate any anxiety regarding the purposes of the census but also to explain the reason for the various questions on the questionnaire and to give some guidance as to the manner in which these questions should be answered. It is desirable that the publicity campaign start as soon as the census is authorized, and continue until the enumeration is completed. The campaign should be directed to all sections of the country and all segments of the population through the use of all available media of publicity. Greater effectiveness can be achieved when the publicity is carried out according to a programme suitably synchronized with the various steps of the preparatory work.

#### 211. Staff recruitment and training

Early and adequate arrangements are necessary to secure the proper number and type of personnel required for each of the various census operations. While the preparatory and processing work generally call for office employees possessing or able to learn certain specialized skills (cartographers, computers, coders, punchers, etc.), the enumeration stage usually demands a large number of persons capable of going to their assigned urban or rural enumeration areas and of collecting the information according to specific definitions and instructions. For reasons of efficiency and economy, it is important that the staff be recruited on the basis of competence. Consideration might be given to the usefulness of an in-service training programme covering each phase of the work and, wherever feasible, to the utilization of the same staff for successive operations. Such training should correspond closely to the needs of the various operations and, where appropriate, may include both theoretical and practical instruction.

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#### 212. Census tests

The testing of various aspects of a census plan prior to the enumeration is a very useful practice. Census tests can be designed for different purposes and in different ways. They can give important information on the adequacy of the field organization, the training programme and other important aspects of the census plan. They are particularly valuable to test for weaknesses in the questionnaire, instructions or enumeration procedures which might affect the quality of the data. Census tests serve as practical training for the nuclear staff of supervisors and other officials. They can be designed to provide information on methods of enumeration and on the rates of enumerator's work, which are useful in estimating the staff required. To yield full results, a census test should be carried through all stages of collection, processing and examination of results.

#### 213. Processing of census data

It is important that the method to be used in processing the census data be decided upon early in the planning stage, so that the census questionnaires can be designed in accordance with specific processing needs as well as with the previously determined tabulation programme. Different methods of processing may require different questionnaire design. Furthermore, sufficient time must be allowed before the census date for the acquisition of equipment and the training of personnel in processing techniques so that processing can begin immediately after the completion of the enumeration.

At the planning stage, it is desirable to give due consideration to the relative advantages of manual and machine processing, in terms of cost and efficiency. Machine processing is not always more satisfactory than manual processing if labour is cheap and efficient and machine equipment is not readily available and easily serviced. In certain cases, a combination of the two methods may be advisable.

It is essential to base the time schedule for processing upon the final publication date and the available resources of personnel and equipment. It is desirable to make provision, in so far as possible, for an uninterrupted flow of work through the various stages of receipt, coding, card punching, sorting, tabulating, and the preparation of final tables, so that equipment is utilized

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to the fullest advantage. In considering methods of maintaining processing accuracy, account should be taken of the possibility of building tests of internal consistency into the processing scheme and of utilizing quality control methods.

If production control records are maintained throughout, and efficiency and accuracy constantly checked, adjustments can be made as needed.

#### 214. Evaluation of the data

Good census practice requires a careful consideration and evaluation of completeness and accuracy of the data. Several techniques, such as post-enumeration checks and intercomparisons of information from different sources, may be used in conjunction with, or following, the enumeration. A certain degree of omission is to be anticipated, especially in some segments of the population. In the final census publications, it is advisable to indicate fully the methods used for evaluating the completeness of the data. Similarly, whenever feasible, it is desirable to provide an evaluation of the quality of the responses to the various items for which information was collected.

#### 215. Publication

To be of value to the greatest number of the potential users of the data, census results must be published. It is important, therefore, to make sure that the collection or the tabulation programme does not become so elaborate that funds for publication are diverted to the early stages of the work and the final result of the census is a mass of material left uncompleted at various stages of processing. This does not mean that all the processed material must be published. In certain cases, highly specialized information needed by only a few individuals or government agencies may be made available in other ways, and some data may not even be processed until they are required at a later date.

Every effort should be made to publish the principal results as soon as possible after the date of the enumeration; otherwise, their usefulness might be diminished and the extent of public interest narrowed.

It is desirable that target dates for publication be determined in advance and processing and reproduction programmes be planned accordingly. There are various methods of reproduction available, which are rapid and economical, and these should be investigated where necessary. Results should be reproduced in a legible form, but aesthetic considerations should be secondary to the necessity of making the results available as rapidly and as economically as possible.

It is recommended that every country consider the publication of a methodological and administrative report which would give the information necessary for appraising and interpreting the results of each census, including materials not otherwise readily available, such as specimens of the questionnaires, instructions for the enumeration, and an indication of the composition of the tabulated categories. Additional materials regarding the manner in which the census was planned, organized and conducted, which are particularly useful for census experts in the country and abroad, should include information on the cost of the census, important problems encountered at the various stages of the programme, points to be considered in future censuses, etc.

PART III

TOPICS FOR WHICH DATA ARE TO BE COLLECTED

301. Importance of content of questionnaire

One of the most important single elements in a national census plan is the design and content of the basic enumeration questionnaire, the determination of the topics for which data are to be collected, and the formulation of the precise form of the questions and the instructions for obtaining the responses.

302. Factors determining selection of topics to be covered

The topics to be covered in the questionnaire should be determined upon consideration of several factors:

- A. The needs of the country (national as well as local) to be served by the census data.
- B. Achievement of the maximum degree of international comparability, both within regions and on a world-wide basis.
- C. The probable willingness and ability of respondents to give satisfactorily accurate information on the topics.
- D. The total national resources available for enumeration, processing, tabulation and publication which will determine the over-all feasible scope of the census.

303. Priority of national factors

Due weight should be given to the point that population censuses are primarily taken by countries for their own national purposes. The first consideration is that the census should include the items of greatest value to the country - phrased in a way to elicit data of maximum use to that country. However, in most cases, national needs will be best served if the census includes topics generally recognized as of value and based on internationally agreed definitions.

304. Importance of international comparability

The desirability of regional and world-wide comparability is the second major consideration in the selection and formulation of topics for the census schedule. National and international objectives are usually compatible. International

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recommendations which are based on a broad study of country experience and practice are recommendations of definitions and methods which have successfully met general national needs.

### 305. Suitability of topics

The topics investigated should be such that the respondents will be willing and able to provide satisfactorily accurate information. It may be necessary to avoid topics which are likely to arouse fear, local prejudice or superstition, and questions which are too complicated and difficult for the average respondent to answer easily.

### 306. Administrative considerations

The selection of topics should be carefully considered in relation to the total resources available. An accurate and efficient collection of data for a limited number of topics, followed by prompt tabulation and publication is more useful than the collection of data for an over-ambitious list of topics which cannot be properly collected or tabulated.

### 307. Relation of census topics to questionnaire items

The term "topics" is used here to refer to general subjects covered by the census. Data for some topics are collected by a specific questionnaire item. For other topics, the data are derived from the classification of items and the interrelation of the responses to several questionnaire items. It may be noted that there are two types of questionnaire items: (1) items such as name, address, etc., which are used primarily in the administration and control of the enumeration process, and (2) items such as occupation, marital status, language spoken, etc., which are used directly for the compilation of the census tables. These specific items also yield information on certain derived topics, such as total population, urban-rural population, household composition, etc.

Questionnaire items for the administration and control of the enumeration may include identification of area covered (province or state, county or district, town, enumeration area, block, etc.), identification of the enumerator, information on time of enumeration, identification of each person or household enumerated in terms of name and address, and notations indicating various steps in the

supervision and checking of enumeration process. Also, certain detailed control items may be necessary for matching information with that obtained in post-enumeration quality studies and for other purposes. The nature of the control items will depend upon the administrative design of the census, including such factors as the type of questionnaire, the method of enumeration and the arrangements for field organization and supervision. For this reason, no international recommendations are made regarding control items.

308. List of topics recommended for compilation

Because of the many factors which determine the topics to be covered by any national census, no inflexible recommended list is desirable. The topics of general national and international value given below are those in most universal use which have emerged after decades of census experience as of greatest value for both national and international purposes. Nevertheless, countries may find that it is not necessary to include certain of the recommended topics. Their decisions would depend upon their evaluations of how urgently the data were needed, upon resources available and upon whether information from other sources could be used. In addition, they may wish to consider which topics should be covered on a 100 per cent basis and which ones could be investigated on a sample basis.

In formulating this recommended list, consideration has been given to the distinction between topics of general national and international interest and other topics primarily of national value in a limited number of countries. The numbers or the order of the topics do not indicate priority or relative importance. The paragraph number following each topic refers to the paragraph in Part IV giving the definition of the topic.

A. Topics directly based on questionnaire items

Geographic items

1. Location at time of census and/or place of usual residence (para. 404)

Household or family information

2. Relation to head of household or family (para. 407)

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Personal characteristics

3. Sex (para. 408)
4. Age (para. 409)
5. Marital status (para. 410)
6. Place of birth (para. 411)
7. Citizenship (para. 412)

Economic characteristics

8. Type of activity (para. 414)
9. Occupation (para. 415)
10. Industry (para. 416)
11. Status (as employer, employee, etc.) (para. 417)

Cultural characteristics

12. Language (para. 419)
13. Ethnic or nationality characteristics (para. 420)

Educational characteristics

14. Literacy (para. 422)
15. Level of education (para. 423)
16. School attendance (para. 424)

Fertility data

17. Children - total live born (para. 425)

B. Derived topics

18. Total population (para. 402 and 403)
19. Population by size of locality (para. 405)
20. Urban-rural classification (para. 406)
21. Household or family composition (para. 407)

In some statistically under-developed countries it may not be considered feasible to use the above list in full. In this event, the census should provide, as a minimum, information on total population, sex, age, marital status and some indication of economic activity, in addition to such other topics as may be of particular importance for the country.

309. Additional topics for consideration

The list in paragraph 308 is restricted to subjects of general interest and value. Each country may wish to consider the inclusion of other topics of national value but of lesser universal interest. Some of these may be of great

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value to certain countries but of negligible interest to others. In certain cases, a special topic may be of greater importance to a country than some of the topics of general national and international value. Topics for additional consideration include: prior place of residence, farm or non-farm residence, farm tenure status, number of dependants, type of marriage ceremony, income, secondary occupation, time worked, length of employment or unemployment, household enterprises, professional or vocational education, total number of children born, total number of children living, number of times married, married life - total duration, religion, and mental or physical disabilities.

In addition to these topics, which are usually based directly on questionnaire items, consideration may also be given to additional derived topics. In particular, if it is desired to tabulate all members of the population according to the branch of industry upon which they are dependent, the appropriate branch of industry for dependent persons must usually be derived during coding or tabulating from the information reported for the head of the household. Also, some countries may wish to devise special classifications of socio-economic or socio-professional status, and such classifications may be based on the combining of information on such items as occupation, status, education, etc., or on these items combined with some additional specially designed question.

The definitions and tabulations of these additional topics are not discussed in detail in this document.

PART IV

DEFINITION AND CLASSIFICATION OF EACH TOPIC

401. Reference note

This part includes recommendations in regard to definitions, classifications and segments of the population to be covered for certain topics. Recommendations for tabulation are given in Part V.

402. Description of national total

The composition of the total population figure compiled by each country and used as the total for its census tabulations should be described in detail in the published report of the census. It is not sufficient to state that the figure is a de facto or de jure population count. The description should clearly show which of the following groups have been included and which have been excluded; where feasible, counts or estimates of the size of these groups should be given:

- A. Autochthonous inhabitants and nomadic tribes.
- B. Military, naval and diplomatic personnel and their families located abroad.
- C. Merchant seamen resident in the country but at sea at the time of the census.
- D. Other civilian national residents temporarily abroad at the time of the census.
- E. Foreign military, naval and diplomatic personnel and their families located in the country.
- F. Other civilian aliens temporarily in the country at the time of the census.

In regard to groups D and F, an indication of the criteria used in determining temporary presence in or absence from the country would be desirable.

Those countries having numerically important groups of indigenous or nomadic tribes for which individual enumeration is not possible should estimate their number and investigate their characteristics through the best available means. The census report should state if the numbers shown for these groups are counts or estimates.

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In those countries where the total population figure has been corrected for under- or over-enumeration, both the enumerated count and the estimated corrected population figure should be shown and described. The detailed tabulations are necessarily based only on the actual enumerated population.

403. "International conventional total"

For international purposes, it is desirable that, where consonant with the type of census taken, and in addition to any other total computed for national purposes, each country compile the total number of persons present in the country at the time of the census, excluding foreign military, naval and diplomatic personnel and their families located in the country but including military, naval and diplomatic personnel of the country and their families located abroad and merchant seamen resident in the country but at sea at the time of the census. This is neither a de facto nor a de jure population, but provides the information needed for international comparisons and for regional and world totals. For convenience, this figure, which may also be the desirable total for national purposes, may be referred to as the "international conventional total".

404. Location at time of census and place of usual residence

The basis on which the count of the total population is made should not be confused with the basis of the geographic allocation of persons within the country. The method chosen for tabulating the distribution of population within the country may be independent of the criteria established for treatment of the groups mentioned in paragraph 402 which are important in defining the total population count.

In compilation of the census results by geographic units, persons may be allocated to (a) their actual location at the time of the census or, (b) their usual place of residence within the country. The first method yields the actual distribution of the population on the day of the census (de facto), while the latter method yields a residence distribution (de jure). The type of distribution used should be determined by national needs and the enumeration plan which is to be followed. A somewhat more elaborate plan of enumeration would make it possible for both types of distributions to be secured in the same census. Each country should clearly indicate in its census report the type of distribution on which the census tabulations are based.

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405. Size of locality

For census purposes, it is recommended that a "locality" be defined as a distinct and indivisible population cluster (also designated as agglomeration, inhabited place, populated centre, settlement, etc.) of any size, having a name or a locally recognized status and functioning as an integrated social entity. This definition embraces population clusters of all sizes, with or without legal status, including fishing hamlets, mining camps, ranches, farms, market towns, communes, villages, towns, cities and many others.

Localities as defined above should not be confused with the smallest administrative divisions of a country. In some cases, the two may coincide. In others, however, even the smallest administrative division may contain two or more localities. On the other hand, some large cities or towns may contain two or more administrative divisions, which should be considered only segments of a single locality rather than separate localities.

Tabulations of the population according to the size of locality and the tabulation of the number of localities in each size group are essential to the analysis of the manner in which the population is distributed throughout the area covered by the census. Therefore, a preliminary listing and mapping of all identifiable localities is desirable for census purposes.

The following classification of the population by size of locality is recommended:

- A. Population in localities of 500,000 or more inhabitants.
- B. Population in localities of 100,000 to 499,999 inhabitants.
- C. Population in localities of 50,000 to 99,999 inhabitants.
- D. Population in localities of 20,000 to 49,999 inhabitants.
- E. Population in localities of 10,000 to 19,999 inhabitants.
- F. Population in localities of 5,000 to 9,999 inhabitants.
- G. Population in localities of 2,000 to 4,999 inhabitants.
- H. Population in localities of 1,000 to 1,999 inhabitants.
- I. Population in localities of 500 to 999 inhabitants.
- J. Population in localities of 200 to 499 inhabitants.
- K. Population in localities of less than 200 inhabitants.
- L. Population not in identifiable localities, if the whole population is not included in the above categories.

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In addition to the classification by size of locality, and for national purposes only, some countries may wish to use a classification limited to selected types of localities, such as for instance, cities, towns and villages, as defined by each country.

It would be useful for the interpretation of the data if each country gives the exact definition of locality used in the census.

#### 406. Urban-rural

Because of the diversity of concepts used in the classification of areas as urban and rural in various countries, it is not practicable to establish uniform definitions of urban and rural population for international use.

It is believed that for purposes of international comparison the classification by size of locality given in paragraph 405 is, at the present time, most nearly adequate and should be used in addition to the urban-rural classification which countries may continue to use for national purposes.

The interpretation of any urban-rural tabulations employed will be facilitated if countries give the definitions of urban and of rural areas or populations used for census purposes.

#### 407. Household and family data

A clarification of the concepts "household" and "family" is needed since the terms are often used interchangeably in population censuses. Theoretically, a household can consist of more than one family but a family cannot be composed of two or more households. A family always constitutes a household or part of a larger household. In practice, the two concepts are frequently identical.

The household is a basic population concept which serves first as an important unit of enumeration and, subsequently, as a general framework within which census statistics on households and families can be obtained. The identification of households as a preliminary step to the enumeration greatly facilitates the efficient collection of the data and control of its completeness. While the household is identified by the census enumerator, the family is determined at the data processing stage by combining the information for the individual members of the households.

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The use of an unambiguous definition of household for enumeration purposes with explicit criteria for the determination of separate housekeeping units is strongly recommended. Such a definition of household, together with the name, relationship to the head of household and other particulars of each individual member, are essential for the accurate measurement and analysis of households and families.

The household definition should distinguish two broad classes: (1) private households and (2) institutional households.

A private household should preferably be defined as: (a) one-person household: a person who lives alone in a separate housing unit or who as a lodger, occupies a separate room or rooms in a part of a housing unit but does not join with any of the other occupants of the housing unit to form part of a multi-person household as defined below; or (b) multi-person household: a group of two or more persons who combine to occupy the whole or part of a housing unit and to provide themselves with food or other essentials for living. The group may pool their incomes and have a common budget to a greater or lesser extent. The group may be composed of related persons only or of unrelated persons or of a combination of both, including boarders but excluding lodgers. (For the definition of a housing unit see U.N. document ST/STAT/P/L.22/Rev.1, 16 December 1957.)

The basic criteria under the above concept of household are that the persons who constitute the household (1) jointly occupy the whole or part of a housing unit and (2) that they share the principal meals (unless prevented by, for example, working conditions) and have common provisions for basic living needs. However, in some countries it is feasible to use a different concept which equates the household with the housing unit and defines the household as the entire group of persons jointly occupying a housing unit. This concept of household does not provide direct information on the number of housekeeping units sharing a housing unit but facilitates the enumeration to some degree.

Some countries may wish to adopt a classification of multi-person households according to specific structural types based on the family relationships most frequent among the members of a household. If so, the following principal types of households may be considered: Type I: household consisting of a married couple without children; Type II: household consisting of either or both parents and

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unmarried children; Type III: household consisting of either or both parents and married children without grandchildren as well as unmarried children where applicable; Type IV: household consisting of either or both parents and married children with grandchildren as well as unmarried children where applicable; Type V: households which do not fall within types I-IV, for instance, a household composed of the household head, his spouse and children, and a domestic with a child. Types I-IV are multi-person households composed of mutually related persons and may be designated as family households. It is important to note, however, that this classification does not in itself yield information on the total number of families, but only on the number of households consisting of persons in specified family relationships.

The head of household is usually considered to be that person who is acknowledged as such by the other household members. A more desirable definition for purposes of dependency statistics would be the person on whom falls the chief responsibility for the economic maintenance of the household.

Institutional households comprise groups of persons living in schools and colleges, penal establishments, chronic disease hospital, military installations, hotels, boarding houses, etc. The households of institutional directors and administrative personnel with separate living quarters should be considered as private households. Households in which the number of boarders and lodgers exceeds five should be considered as boarding or lodging houses and be enumerated as institutional households.

#### 408. Sex

The sex of every individual should be recorded on the census questionnaire. If the information is unknown or not recorded, an allocation, based on other entries on the questionnaire, should be made.

#### 409. Age

The information on age usually desired for tabulation is age in completed years at the date of the census. This information may be secured either by obtaining the year, month and day of birth or by asking directly for age at the last birthday. The first method usually yields more precise information, but it

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involves additional processing in converting the answers into completed years. It may, however, be desirable to present some tabulations by year of birth, which offers certain advantages for use with current vital statistics. The direct question on age at last birthday is more economical to process but may yield less precise results, since it more easily permits approximate replies. It is, however, the appropriate question to use when a considerable proportion of the population cannot give a precise birth date.

If the direct age question is used, it may be desirable to obtain age in completed months for children under one year of age because of the possibility that some of these children may be erroneously reported as "one year of age" rather than "0 years of age". This detail is useful primarily for improving the accuracy of reporting. Tabulation of infant ages in completed months is not usually required.

Persons whose ages are not stated should be classified as a separate group, except where the number of such persons is negligible, when ages may be assigned in order to simplify tabulation. Such assignment should be to randomly selected ages, appropriate to the other characteristics of the individual and the household. If such allocation is employed, the method used and the number of cases should be clearly described in the census report.

Age is a basic variable for cross-tabulation with other topics. In connexion with the various cross-tabulations suggested in Part V, various age classifications are recommended for different purposes.

In areas where it is not possible to obtain the ages of the persons enumerated in terms of either date of birth or completed years, it is suggested that age groups be used which would roughly differentiate among: (1) infants under 1 year of age, (2) young children between 1 year and 5 years of age, (3) older children, (4) men in the economically active ages and women in the childbearing ages, (5) men and women beyond these ages.

#### 410. Marital status

Data on marital status should be collected so that, as a minimum, information can be compiled for the following categories:

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- A. Single, that is all persons never married.
- B. Married, including all persons formally married, persons in stable de facto unions, and persons living apart from their spouses but still regarded as forming a marital union.
- C. Widowed, not remarried.
- D. Separated or divorced, not remarried, including persons whose marriages have been annulled, persons legally separated and persons formerly living in stable de facto union but no longer regarded as forming part of such a union.
- E. Marital status not stated.

More detailed classifications within categories B and D may be warranted in many countries. Where, for instance, the frequency of de facto marriages is sufficient to justify special provision and where it is probable that reliable information will be obtained, it may be desirable to subdivide the "married" category into (1) persons formally married and (2) persons in stable de facto unions.

In some instances, it may be desirable to show "legally separated" persons as a separate sub-category under "divorced".

Where plural marriages are customary, information on the number of spouses may be useful.

Information on marital status should be collected for all persons above the minimum age for marriage as specified by civil law or as determined by the customs of the country. In order to permit international comparisons, however, tabulations of marital status should show at least ages "under 15 years" and "15 years and over" as separate groups.

The census report should explain clearly the definition of each tabulated marital status category, taking into account the instructions to canvassers and the data processing procedures. The explanation should indicate the classification of all such groups as divorced, legally separated, de facto separated, temporarily separated, consensually married and with marriage annulled.

#### 411. Place of birth

The type of data collected on country and place of birth and the details shown in the tabulations should be specifically related to national circumstances.

For countries where the number of foreign-born persons is significant, it is recommended that information on place of birth be collected so that, as a minimum, tabulations can show the two major categories - (a) persons born in the country where the census is taken and (b) persons born in other countries. This information may be collected simply by asking if each person is native or foreign born or by asking the country of birth of each person. Although enumeration is somewhat simpler for the first type of question, collecting information on country of birth ensures more accurate returns with only slight additional processing costs.

In addition, a tabulation of the foreign-born population by country of birth may be desirable. For purposes of international comparability, this classification should be, where feasible, according to national boundaries existing at the time of the census. Where it is necessary to combine countries in tabulation groups, the combination should be within the same continent, so that at least the extent of inter-continental movement is indicated.

Because of changes in national boundaries, it may be necessary to obtain information not only on country of birth of the foreign born but also on major territorial division or even specific locality, so that reported place of birth can be correctly allocated to countries according to present boundaries. The necessity of such detailed reporting should be carefully weighed considering (a) the probable number of foreign-born persons from countries which have lost or gained territory and (b) the cost of coding a large number of specific foreign locations.

In investigating the place of birth of the native population, it is usually sufficient to collect information only on the major territorial divisions (state, province, department, etc.) in which the place of birth is located. If desired, more detailed information on the subdivision or specific locality can be collected and used for accurate coding of the major division or for tabulations for smaller areas.

#### 412. Citizenship

Data on citizenship should be collected so as to permit the classification of the population into

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- (a) citizens of the country of the census, including all citizens by birth or naturalization whether by declaration, option, marriage or other means, and
- (b) aliens resident within the country.

In countries where the number of aliens is significant, either numerically or from any other national point of view, information may be obtained on the country for which citizenship is claimed. For any alien citizenship group which includes persons from many different areas, it would be useful to collect data so that a further subdivision by area of birth could be made.

For countries where the citizen population includes a significant proportion of naturalized citizens, additional information distinguishing citizens by birth and naturalized citizens may be desirable. Additional questions on previous nationality or method of naturalization are useful if very detailed information on this subject is required.

Enumeration and processing instructions should indicate the desired classification for stateless persons, persons with dual nationality, persons in process of naturalization and other ambiguous citizenship groups. The classification of these groups should be described in the census reports.

#### 413. Economic characteristics

The questionnaire items on economic characteristics should be considered as a set of interrelated questions. The formulation of the questions, the instructions for the collection of the data, and the arrangement of the items on the questionnaire have an important bearing on the types of tabulations to be obtained and on the efficiency with which these tabulations can be made.

Each population census should collect information by which the population can be classified according to economic activity, showing occupation, industry and status (as employer, employee, etc.) for those persons in the economically active group and the principal sub-groups of those in the not economically active group as defined below. The census reports should clearly specify the composition of the various groups and sub-groups.

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Whenever, for national purposes, a very low age limit (or no limit at all) is used in the collection of data on the economically active population, for international purposes these data should be tabulated separately for (a) persons under fifteen years of age and (b) persons fifteen years of age and over, according to the age groups recommended under Part V.

The adoption of a specific time reference for the census data on the economically active population is recommended. The time reference period should be carefully chosen, taking into account the economic and social conditions of each country together with the frequency with which data about the economically active population are collected. A country which collects such data only once in ten years may need a different time period from a country which collects data of that type annually or more frequently. The calendar dates and the length of the interval should be selected in such a way as not to leave out of the enumeration seasonal workers or other groups who normally work during substantial periods of the year and it should not include large groups of persons only temporarily at work, such as students during vacation periods. The time reference should be selected in a way so that the census results represent a general view of the size and composition of the economically active population and do not reflect an atypical temporary situation. In general, this time period should be no greater than one year and probably not less than one month, except in the cases of those countries which may collect these data annually or more frequently and who, therefore, may find a one week period more applicable.

#### 414. Type of activity

A primary classification covering the whole population which would provide information on the relationship of different groups to current economic activity is recommended for census purposes. Such a basic classification, which may be described as a "classification by type of activity", should distinguish as a minimum the following:

##### Basic groups:

##### A. Economically active population

##### Optional sub-groups:

1. Employed
2. Unemployed

B. Not economically active population

Optional sub-groups:

1. Home houseworkers
2. Students
3. Persons in institutions
4. Income-recipients
5. Others

The group economically active population comprises all persons of either sex who furnish the supply of labour available for the production of economic goods and services. It includes both persons employed and unemployed during the time reference period adopted in the census. The employed and the unemployed can be shown separately in the census tabulations if the country considers it important and desirable. The employed comprise all persons, including unpaid family workers, who are at work or who have jobs during the specified period, whether they are full-time workers or part-time workers, provided that the latter work at least a minimum period (to be set, by each country, sufficiently low to exclude only those whose contributions are negligible). The unemployed include all persons able to work who are not employed and are looking for work, or want work, during the specified period, including those never previously employed.

The group not economically active population comprises home houseworkers, students, persons in institutions, income-recipients and all other persons not included in the economically active population. The sub-group home houseworkers includes those persons not economically active, of either sex, who are engaged in household duties in their own home, for example, housewives and other relatives responsible for the care of the home and children. (Paid domestic servants are excluded from this category and classified as economically active.) The sub-group students includes those persons not economically active, of either sex, who attend a public or private school, or university, regardless of level or type, or who study privately. The sub-group persons in institutions includes those persons of either sex who live in military quarters, convents, penal, mental and other resident institutions for the care of the infirm, the aged, needy or children (except public or private schools or universities). The sub-group

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income-recipients includes all persons not economically active who receive income from pensions, rents, royalties, dividends, etc. The sub-group Others comprises all persons not included in any of the above sub-groups, such as children not attending school, persons too old or unable to work but who are not income-recipients, etc.

The subdivision of the not economically active population is left to individual countries in the light of national circumstances. Some countries may include in their census tabulations the five optional sub-groups discussed above. Other countries may prefer to distinguish between (a) independent persons whose main source of livelihood is, or is presumed to be, a personal income and (b) dependants. However, in deciding whether or not to adopt the latter classification a country should weigh the advantages to be gained from more refined information against the difficult problem of collecting and processing such data.

While most of the members of the armed forces on compulsory military service would be enumerated in the military establishments where they live and included in the sub-group persons in institutions defined above, each country should make provision for the treatment of the usually small number of members of the armed forces who live outside of military establishments. It is recommended that census offices explain if the members of armed forces on compulsory military service are included in the tabulations.

#### 415. Occupation

Occupation refers to the kind of work done by the person employed (or performed previously by the unemployed) irrespective of the branch of economic activity or the status (as employer, employee, etc.) in which the person should be classified. For purposes of international comparisons, each country should provide for the necessary subdivisions of its occupational classifications to make possible the classifying or reclassifying of the data in conformity with the latest edition of the International Standard Classification of Occupations (ISCO) recommended by the International Conferences of Labour Statisticians or at least with the major groups (one digit) of this classification.

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416. Industry

Industry refers to the kind of establishment in which the person works (or worked, or unemployed). For purposes of international comparability, it is recommended that countries adopt the International Standard Industrial Classification of all Economic Activities (ISIC) most recently approved by the United Nations, or that they tabulate their statistical data so that the categories can be regrouped in accordance with the Standard Classification or at least with the divisions (one digit) of this classification.

417. Status (as employer, employee, etc.)

For international purposes a status classification based on whether the person is (or was, if unemployed) an employer, own-account worker, employee, unpaid family worker, or a member of a producers' co-operative, is recommended. Each of the status groups is defined as follows:

- A. Employer: A person who operates his (or her) own economic enterprise or engages independently in a profession or trade, and hires one or more employees.
- B. Own-account worker: A person who operates his (or her) own economic enterprise or engages independently in a profession or trade, and hires no employees.
- C. Employee: A person who works for a public or private employer and receives remuneration in wages, salary, commission, tips, piece-rates, or pay in kind.
- D. Unpaid family worker: A person who does a specified minimum (at least 1/3 of normal working hours) amount of work without pay in economic enterprise operated by another member of his (or her) household.
- E. Member of producers' co-operatives: A person who is an active member of a producers' co-operative, whether in industry or in agriculture.
- F. Persons not classifiable by status: Experienced workers with status unknown or inadequately described, and unemployed persons not previously employed.

Some countries, particularly those with a large agricultural population, may wish to have more information about their population engaged in agriculture. The simplest procedure would be to tabulate status (as employer, employee, etc.) separately, for those persons enumerated in the population census as engaged in agriculture. Additional information can be obtained from the population census by asking more questions, if the country so wishes, in order to distinguish the group of land-holders, composed of owner-holders and tenant-holders, and determine the size of the holdings. World-wide recommendations on the relation between the agricultural census and the population census; holder, holding and tenure; and employment in agriculture can be found in the Program for the 1960 World Census of Agriculture, Food and Agriculture Organization of the United Nations, Rome 1957, pages 6-17 and 45-56.

If, in some countries, it is not feasible to distinguish between the group of employers and the group of own account workers, they can be consolidated into a single group of self-employed persons.

Some countries may consider it desirable to distinguish among various groups of employees, such as apprentices and other possible sub-groups.

Where it is not feasible to distinguish unpaid family workers, all family workers (whether paid or unpaid) may be shown in a single group.

The group of members of producers' co-operatives may be excluded in countries where it is not numerically important.

#### 418. Optional data on economic characteristics

If sufficient resources are available to expand the scope of the census data on economic characteristics of the population beyond the basic data referred to in paragraphs 413-417, in order to meet additional national requirements, census offices may consider the following observations and suggestions regarding (a) underemployment, (b) secondary occupation, industry and status, (c) classification by socio-economic groups, (d) dependency statistics in general; and (e) population dependent on agriculture.

(a) Underemployment. There are various methods of distinguishing between those persons who are fully employed and those who were underemployed during

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the specified period. The following alternative definitions of the underemployed could be considered: (i) self-employed and unpaid family workers in agriculture, who operate a farm below some specified size, or who raise certain types of crops, or who operate largely subsistence, or semi-subsistence farms; (ii) all persons who worked less than a specified number of hours per week or weeks per year; or (iii) persons who during the specified time period, both worked and looked for work. It should be pointed out that additional questions on the questionnaire are required to obtain data on underemployment.

(b) Secondary occupation, industry and status. If it is thought that many persons in a country have more than one occupation (either simultaneously or consecutively during the course of a time period not longer than one year), census inquiry may be directed at the primary and secondary occupations. If collected, information about the secondary occupation should be classified in the same manner as described in paragraph 415. If the country decides to collect data about primary and secondary occupation, then it should also inquire about primary and secondary industry and about primary and secondary status (as employer, employee, etc.) and the information should be classified in the manner described in paragraphs 416 and 417 respectively. To secure data on secondary occupation, industry and status, additional questions on the questionnaire are also required.

(c) Classification by socio-economic groups. Such a classification would include reasonably homogeneous socio-economic groups fairly clearly distinguished from other groups in respect of their behaviour. A classification by socio-economic groups does not necessarily require additional questions on the census questionnaire since it can be derived essentially from the four basic classifications, namely by type of activity, occupation, industry and status (as employer, employee, etc.). A country interested in developing its own classification by socio-economic groups may wish to consult, as examples, the alternative socio-economic classifications suggested in document Conf. Eur. Stats/WG.6/51, Annex I. If a country decides to use a classification by socio-economic groups, it

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should take into account the extra work and extra cost to be added to the census programme at the data processing stage. It might also consider the desirability of establishing a simple classification by socio-economic groups which could be used for current statistics as well as for census data.

(d) Dependency statistics in general. The attachment of dependants to the persons on whom they actually depend involves a direct question on the questionnaire (or, failing this, the establishment of criteria, e.g., sex, seniority of age, economic activity, etc. at the data-processing stage) and a somewhat complex tabulation problem. It should be pointed out that without census questions about the existence and size of personal income it is possible only to make an approximation to the study of dependency. The analysis of dependency may be carried out within the framework of the whole household, but if it could be done within that of the family it gives a more realistic picture of socio-economic conditions. Sometimes, it is not easy, however, to distinguish the actual bread-winners upon whom depend particular members who are not themselves independent. Although in most instances it is readily apparent that the head of the household is the main economic supporter, in some cases the person acknowledged as head of the household by its members is no longer a bread-winner. In cases where there is more than one bread-winner in the household, the allocation of their respective dependants presents difficulties.

(e) Population dependent on agriculture. If a country does not intend to take an agricultural census during the same census period in which it takes a population census, it is suggested that data be collected about the population dependent on agriculture. The population should include persons of all ages and both sexes, and those not economically active as well as those economically active. The simplest way of obtaining this information is to count the numbers of persons living in households in which the head is reported as engaged in agriculture. A somewhat more complicated count can be had by using the information on relation to household head, and only including as dependent on agriculture those

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persons related to the head by blood or marriage. Recommendations regarding "farm population" are set out in Section 5 of the Program for the 1960 World Census of Agriculture, Food and Agriculture Organization of the United Nations, Rome, 1957, pages 57-58.

419. Language

Several types of information on language can be collected in censuses. These are:

- (a) Mother tongue defined as the language usually spoken in the individual's home in his early childhood, although not necessarily spoken by him at present.
- (b) Usual language defined as the language currently spoken, or most often spoken, by the individual in his present home.
- (c) Ability to speak one or more designated languages.

Each of these types of information serves a distinctly different analytical purpose. Each country should decide which, if any, of these language items is applicable to its own interests. International uniformity and comparability of tabulations are not major factors in determining the form of this item.

For most national purposes and for general international use, information on usual language spoken is most useful. This will indicate the degree of homogeneity in the linguistic habits of the population and will identify major linguistic groups. It is recommended that information on usual language spoken be collected by each country where it is estimated that more than 10 per cent of the total population usually speak a language different from that most common for the country.

In countries where local ethnic groups or immigrants or their children are rapidly being assimilated to the dominant language, information on national origins or ethnic affiliations may be more reliably obtained by data on mother tongue.

Countries where appreciable segments of the population are bi- or multi-lingual may find it of value to collect information on ability to speak one or more designated languages.

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In compilation of data on usual language or mother tongue, it is desirable to show each language that is numerically important in the country, and not merely the dominant tongue or language. The classifications should show separately each language that represents an important percentage of the total population, with a residual category for languages not shown separately. For tabulations of ability to speak specified languages, persons should be classified according to ability to speak each or each possible combination of the languages designated.

To clarify the meaning of tabulated data and to increase international comparability, it is recommended that information on usual language or specified language be compiled only for persons five years of age and over. If, for national purposes, information is also shown for children under five years of age, the criterion for determining language for children not yet able to speak should be clearly indicated. If mother tongue is shown, such data can be tabulated for the total population.

#### 420. Ethnic or nationality characteristics

The type of investigation of nationality or ethnic characteristics is dependent upon national conditions and needs. In different countries, ethnic groups are identified on various bases: country or area of origin, race, colour, lingual affiliation, religion, customs of dress or eating, tribal membership, or various combinations of these characteristics. In addition, some of the terms used, such as "race" or "origin", have a number of different connotations. The definitions and criteria applied by each country investigating any aspect of ethnic characteristics of the population must, therefore, be determined by the groups which it desires to identify. By the nature of the subject, these groups will vary widely from country to country, so that no internationally accepted criteria can be recommended.

Because of the interpretative difficulties which may occur, it is important that where such an investigation is undertaken the basic criteria used should be clearly explained in the census report, so that the meaning of the classification will be readily apparent.

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421. Educational characteristics

Although the three topics recommended for collection in connexion with educational characteristics (literacy, level of education and school attendance) are treated in separate paragraphs, they need not necessarily form separate questionnaire items. Rather, the data should be collected in such a way that the information specified under each topic is made available but the form of the inquiries may vary considerably according to the needs and desires of each country. Similarly, the classifications recommended for tabulation of the three topics may constitute separate tabulations or parts of a single tabulation and information shown in any one tabulation may be based on data secured by a questionnaire item on any of the topics.

422. Literacy

For census purposes, literacy is defined as the ability both to read with understanding and to write a short statement on everyday life in any language. A person capable of reading only should be considered illiterate. Also, a person capable only of reading and writing figures and his own name should be considered illiterate. Since literacy is defined as the ability both to read and to write, a single questionnaire item on this topic is considered adequate.

Data on literacy should be collected for all persons fifteen years of age and over. If a lower age limit is used for collection, all tabulations not cross-classified by age should be subdivided at this age so as to facilitate international comparisons.

423. Level of education

Data on level of education should be collected so as to show the highest level of instruction which the individual has completed in the country's regular educational system or its equivalent. For international purposes, this information should be collected so as to show the highest year or grade completed within the most advanced of the following educational levels achieved: (1) nursery, infant school or kindergarten; (2) elementary or primary; (3) secondary, high school or middle, (4) university or higher professional.

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Information on level of education completed should be collected for all persons whose formal education is completed. For persons whose formal education is still in progress, information should be collected either on level of education completed or on grade and level of school currently attended. If the latter information is not collected, then the data on level of education completed should be collected for all persons above the minimum age for usual or compulsory entrance into school.

It should be noted that tabulations of level of education completed for those whose formal education is still in progress are ambiguous unless cross-tabulated by age. Accordingly, cross-classifications by age should be employed whenever this group is included in the tabulations.

The interpretation of tabulations on educational level completed is dependent upon the organization and nature of the school system of the country. In order to facilitate the interpretation of national data, it is recommended that published data on this topic be accompanied by a general description of the educational system of the country, giving the basic definitions of the main categories of educational level.

Where appropriate, it would be useful to distinguish within the secondary level between general education not aimed at direct preparation for a certain profession or trade and technical or vocational education aimed at direct preparation for a particular profession or trade.

In some instances, the total number of years of schooling may be used as a substitute for the highest level of instruction completed.

#### 424. School attendance

Data on school attendance should refer to full-time attendance at any regular educational institution, public or private, during the last regular school month preceding the census date. As a minimum, information should be collected for all persons 5-24 years of age. Where resources permit, tabulations of school attendance should show the grade of school attended in the relevant level indicated in paragraph 423. This information can be secured either by a specific questionnaire item on level and grade attended or by combining the questionnaire items on level of education and school attendance so as to secure information on

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highest level and grade completed for persons no longer attending school and current level and grade for those attending school.

425. Total number of children born alive

Information on number of children born should include all children born up to the census date and be restricted to children born alive (i.e. excluding stillbirths or foetal deaths). The total should include all live-born children, whether legitimate or illegitimate or whether born of the present or of prior marriages. Information on total number of live-born children should be collected from all women who are married (including consensually married), widowed, divorced or separated. Where it is considered desirable and feasible, the information should be collected from all women, regardless of marital status.

PART V

TABULATION PROGRAMME

501. Scope of tabulation programme

The census tabulations outlined in this part include recommended first and second priority tabulations for all topics included in the list in paragraph 308. First priority tabulations are those which, in the light of a number of considerations such as national and international use, economy of compilation, etc., can be regarded as of most general importance and practicability. Second priority tabulations include compilations which are of generally recognized value, but which serve somewhat more specialized purposes or involve somewhat more elaborate or expensive compilation procedures. The first and second priority recommendations together constitute a modest tabulation programme and many additional useful and practicable tabulations can be included in the census programme of any country with sufficient resources to undertake a more ambitious tabulation scheme.

It should be emphasized that the tabulations described below are in no sense presented as models of completed tabulations. The purpose here is to present a view of the subject matter elements desired as the end products. In actual tabulation, various elements may be combined as parts of a single tabulation, according to the needs of each country, so long as the indicated classifications and cross-tabulations are made available.

502. Abbreviated titles of recommended first and second priority tabulations

The following tabular list of abbreviated titles is intended to facilitate a summary appraisal of the scope and priorities of the recommended tabulation programme. In considering this abbreviated scheme, however, reference should be made to the detailed specifications of each tabulation which are given in paragraph 503.

Tabulation number	First priority tabulations	Second priority tabulations
A. GEOGRAPHIC LOCATION		
1.	Total population and population of major, intermediate and minor territorial divisions by sex	
2.	Population of capital and principal localities by sex	

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Tabulation number	First priority tabulations	Second priority tabulations
A. GEOGRAPHIC LOCATION (cont'd)		
3.	Urban and rural population by sex and age	
4.	Population by size of locality and sex	
B. PERSONAL CHARACTERISTICS		
5.	Population by sex and single years of age	
6.	Population by marital status, sex and age	
7.		Urban and rural population by marital status, sex and age
8.	Population by place of birth, sex and age	
9.		Foreign-born population by country of birth, sex and age
10.	Native population by major territorial division of birth and sex	
11.	Population by citizenship, sex and age	
12.		Alien population by country of citizenship, sex and age
C. HOUSEHOLD INFORMATION		
13.	Population by class and size of household	
14.		Population in private households by structural types and size

Tabulation number	First priority tabulations	Second priority tabulations
D. ECONOMIC CHARACTERISTICS		
15.	Population by type of activity, sex and age	
16.		Economically active population by sub-groups (e.g. employed and unemployed), sex and age
17.		Population not economically active by sub-groups, sex and age
18.	Economically active population by status, industry and sex	
19.	Economically active population by industry, sex and age	
20.	Economically active population by status, occupation and sex	
21.	Economically active population by occupation, sex and age	
22.		Economically active population by occupation, marital status, sex and age
23.		Economically active population by status, sex and age
24.		Population dependent upon branches of economic activity (industry) by sex
E. CULTURAL CHARACTERISTICS		
25.	Population by language (mother tongue, usual language or designated languages) sex and age	
26.	Ethnic or nationality groups by sex and age	

Tabulation number	First priority tabulations	Second priority tabulations
F. EDUCATIONAL CHARACTERISTICS		
27.	Population by literacy, sex and age	
28.	Population by level of education completed, sex and age	
29.		Population by school attendance, sex and age
G. FERTILITY		
30	Women by age and total number of live-born children	

503. Specifications for each recommended tabulation

Except as specified in tabulations 1 and 2, the subject matter of each tabulation should be shown for the country as a whole and for each major territorial division (such as province, state or department). Similar tabulations for intermediate or minor territorial divisions (such as counties, districts or communes) are dependent upon national needs, as are tabulations for economic regions such as metropolitan areas. Allocation of the population to territorial divisions should be done according to one of the two methods described in paragraph 404.

The population to be included in each tabulation is either the national total enumerated population referred to in paragraph 402 or the specified segment of that total.

The paragraph numbers following each classification correspond to the paragraphs where the definitions and classifications of the respective topics are discussed.

Tabulation No. 1: (First priority) Total population and population of each major, intermediate and minor territorial division by sex

Population included: total population (see paragraphs 402, 403 and 404)

Classifications:

- (a) Internal distribution: population of each major territorial division (such as province, state or department) and each intermediate or minor territorial division (such as counties, districts or communes) (paragraph 404)
- (b) Sex (paragraph 408)

Tabulation No. 2: (First priority) Population of capital and principal localities by sex

Population included: total population of capital and principal localities (cities or towns)

Classifications:

- (a) Population of capital and specified localities: population of each specified city or town (paragraphs 404 and 405)
- (b) Sex (paragraph 408)

Tabulation No. 3: (First priority) Total urban and rural population by sex and age

Population included: total population

Classifications:

- (a) Urban and rural (paragraph 406)
- (b) Sex (paragraph 408)
- (c) Age: under 1 year, 1-4, 5-9, 10-14, 15-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65-69, 70-74, 75 and over, not stated (paragraph 409)

Tabulation No. 4: (First priority) Total population by size of locality and sex

Population included: total population

Classifications:

- (a) Size of locality: 500,000 or more inhabitants; 100,000 to 499,999; 50,000 to 99,999; 20,000 to 49,999; 10,000 to 19,999; 5,000 to 9,999; 2,000 to 4,999; 1,000 to 1,999; 500 to 999; 200 to 499; less than 200; population not in identifiable localities (paragraphs 405 and 406)
- (b) Number of localities of each size
- (c) Aggregate population in each size of locality
- (d) Sex (paragraph 408)

Tabulation No. 5: (First priority) Total population by sex and single years of age

Population included: total population

Classifications:

- (a) Sex (paragraph 408)
- (b) Age: under 1 year, 1, 2, 3, 4, 5, 6, 7 ... single years to 99, 100 and over, not stated (paragraph 409)

Tabulation No. 6: (First priority) Population by marital status, sex and age

Population included: all persons above the minimum age for marriage as specified by civil law or determined by the customs of the country

Classifications:

- (a) Marital status: single, married, widowed, separated or divorced, not stated (paragraph 410)
- (b) Sex (paragraph 408)
- (c) Age: under 15 years, 15-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65-69, 70-74, 75 and over, not stated (paragraph 409)

Tabulation No. 7: (Second priority) Urban and rural population by marital status, sex and age

Population included: all persons above the minimum age for marriage as specified by civil law or determined by the customs of the country

Classifications:

- (a) Urban and rural (paragraph 406)
- (b) Marital status: single, married, widowed, separated or divorced, not stated (paragraph 410)
- (c) Sex (paragraph 408)
- (d) Age: under 15 years, 15-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65-69, 70-74, 75 and over, not stated (paragraph 409)

Tabulation No. 8: (First priority) Total population by place of birth, sex and age

Population included: total population

Classifications:

- (a) Place of birth: native, foreign-born, not stated (paragraph 411)
- (b) Sex (paragraph 408)
- (c) Age: under 1 year, 1-4, 5-9, 10-14, 15-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65-69, 70-74, 75 and over, not stated (paragraph 409)

Tabulation No. 9: (Second priority) Foreign-born population by country of birth, sex and age

Population included: foreign-born population

Classifications:

- (a) Country of birth: each country which is the birthplace of a significant number of the foreign-born, continental totals (including persons from countries not separately listed), not stated (paragraph 411)
- (b) Sex (paragraph 408)
- (c) Age: under 1 year, 1-4, 5-9, 10-14, 15-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65-69, 70-74, 75 and over, not stated (paragraph 409)

Tabulation No. 10: (First priority) Native population by major territorial division of birth and sex

Population included: all persons born in the country

Classifications:

- (a) Place of birth: each major territorial division (such as state, province or department), not stated (paragraph 411)
- (b) Sex (paragraph 408)

Tabulation No. 11: (First priority) Total population by citizenship, sex and age

Population included: total population

Classifications:

- (a) Citizenship: citizens, aliens, not stated (paragraph 412)
- (b) Sex (paragraph 408)
- (c) Age: under 5 years, 5-9, 10-14, 15-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65-69, 70-74, 75 and over, not stated (paragraph 409)

(Note: The age group which includes the age-limit for voting may be sub-divided to show persons who have attained voting age.)

Tabulation No. 12: (Second priority) Alien population by country of citizenship, sex and age

Population included: alien population (paragraph 412)

Classifications:

- (a) Country of citizenship: each country of which a significant number of aliens are citizens, continental totals (including persons who are citizens of countries not separately listed), not stated (paragraph 412)
- (b) Sex (paragraph 408)
- (c) Age: under 5 years, 5-9, 10-14, 15-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65-69, 70-74, 75 and over, not stated (paragraph 409)

Tabulation No. 13: (First priority) Total population by class and size of household

Population included: total population

Classifications:

- (a) Class and size of households: private households (of 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 persons and over), institutional households, not specified (paragraph 407)
- (b) Number of households of each class and size
- (c) Aggregate number of persons in each class and size of household

Tabulation No. 14: (Second priority) Population in private households by structural types and size

Population included: population in multi-person households (paragraph 407)

Classifications:

- (a) Structural types of households: described in paragraph 407
- (b) Size of household: 2, 3, 4, 5, 6, 7, 8, 9, 10 persons and over
- (c) Number of households of each type and size
- (d) Aggregate number of persons in each household type

Tabulation No. 15: (First priority) Total population by type of activity, sex and age

Population included: total population

Classifications:

- (a) Groups by type of activity: as defined in paragraph 414
- (b) Sex (paragraph 408)
- (c) Age: under 15 years, 15-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65-69, 70-74, 75 and over, not stated (paragraphs 409 and 413)

Tabulation No. 16: (Second priority) Economically active population by sub-groups (e.g. employed and unemployed), sex and age

Population included: Economically active population as defined in paragraph 414

Classifications:

- (a) Sub-groups: employed and unemployed (paragraph 414)
- (b) Sex (paragraph 408)
- (c) Age: under 15 years, 15-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65-69, 70-74, 75 and over, not stated (paragraphs 409 and 413)

Tabulation No. 17: (Second priority) Population not economically active by sub-groups, sex and age

Population included: Population not economically active as defined in paragraph 414

Classifications:

- (a) Sub-groups: as defined in paragraph 414
- (b) Sex (paragraph 408)
- (c) Age: under 15 years, 15-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65-69, 70-74, 75 and over, not stated (paragraphs 409 and 413)

Tabulation No. 18: (First priority) Economically active population by status, industry and sex

Population included: economically active population as defined in paragraph 414

Classifications:

- (a) Status groups: as defined in paragraph 417
- (b) Industry: according to, or convertible to the International Standard Industrial Classification of all Economic Activities, at least to the divisions of ISIC (paragraph 416)
- (c) Sex (paragraph 408)

Tabulation No. 19: (First priority) Economically active population by industry, sex and age

Population included: economically active population as defined in paragraph 414

Classifications:

- (a) Industry: according to, or convertible to the International Standard Industrial Classification of all Economic Activities, at least to the divisions of ISIC (paragraph 416)
- (b) Sex (paragraph 408)
- (c) Age: under 15 years, 15-19, 20-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75 and over, not stated (paragraphs 409 and 413)

Tabulation No. 20: (First priority) Economically active population by status, occupation and sex

Population included: economically active population as defined in paragraph 414

Classifications:

- (a) Status groups: as defined in paragraph 417
- (b) Occupation: according to, or convertible to the International Standard Classification of Occupations at least to the divisions of ISIC (paragraph 415)
- (c) Sex (paragraph 408)

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Tabulation No. 21: (First priority) Economically active population by  
occupation, sex and age

Population included: economically active population as defined in  
paragraph 414

Classifications:

- (a) Occupation: according to, or convertible to the International Standard Classification of Occupations by at least major groups (paragraph 415)
- (b) Sex (paragraph 408)
- (c) Age: under 15 years, 15-19, 20-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75 and over, not stated (paragraphs 409 and 413)

Tabulation No. 22: (Second priority) Economically active population by  
occupation, marital status, sex and age

Population included: economically active population as defined in  
paragraph 414

Classifications:

- (a) Occupation: according to, or convertible to the International Standard Classification of Occupations by at least major groups (paragraph 415)
- (b) Marital status: single, married, widowed, separated or divorced, not stated (paragraph 410)
- (c) Sex (paragraph 408)
- (d) Age: under 15 years, 15-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65-69, 70-74, 75 and over, not stated (paragraphs 409 and 413)

Tabulation No. 23: (Second priority) Economically active population by status,  
sex and age

Population included: economically active population as defined in  
paragraph 414

Classifications:

- (a) Status: as defined in paragraph 417
- (b) Sex (paragraph 408)
- (c) Age: under 15 years, 15-19, 20-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75 and over, not stated (paragraphs 409 and 413)

Tabulation No. 24: (Second priority) Population dependent upon branches of economic activity (industry) by sex

Population included: total population

Classifications:

(a) Industry: based on industry classification of person on whom dependent and classified according to, or convertible to the International Standard Industrial Classification of all Economic Activities at least to the divisions of ISIC (paragraph 416)

(b) Sex (paragraph 408)

Tabulation No. 25: (First priority) Population by language /mother tongue, usual language, or designated languages/, sex and age

Population included: total population /for mother tongue/ or all persons 5 years of age and over /for usual language or designated languages/

Classifications:

(a) Languages: each language or combination of languages for which separate information is required, all others, not stated (paragraph 419)

(b) Sex (paragraph 408)

(c) Age: under 5 years /for mother tongue only/ 5-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75 and over, not stated (paragraph 409)

Tabulation No. 26: (First priority) Ethnic or nationality groups by sex and age

Population included: total population

Classifications:

(a) Ethnic or nationality groups: each group for which separate information is required, all others, not stated (paragraph 420)

(b) Sex (paragraph 408)

(c) Age: under 5 years, 5-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75 and over, not stated (paragraph 409)

Tabulation No. 27: (First priority) Population by literacy, sex and age

Population included: all persons 15 years of age and over

Classifications:

(a) Literacy: literate, illiterate, not stated (paragraphs 421 and 422)

(b) Sex (paragraph 408)

(c) Age: 15-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65-69, 70-74, 75 and over, not stated (paragraph 409)

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Tabulation No. 28: (First priority) Population by level of education completed, sex and age

Population included: all persons above the minimum age for usual or compulsory entrance into school

Classifications:

- (a) Highest year or grade completed within the most advanced of the following levels achieved: (1) nursery, infant school or kindergarten; (2) elementary or primary, by single years or grades, year or grade not stated; (3) secondary, high school or middle, by single years or grades, year or grade not stated; (4) university or higher professional, by single years or grades, year or grade not stated; (5) not stated (paragraphs 421 and 423)
- (b) Sex (paragraph 408)
- (c) Age: under 10 years, 10-14, 15-19, 20-24, 25 and over, not stated (paragraph 409)

Tabulation No. 29: (Second priority) Population by school attendance, sex and age

Population included: all persons 5-24 years of age

Classifications:

- (a) School attendance: attending school, not attending school, not stated (paragraphs 421 and 424)
- (b) Sex (paragraph 408)
- (c) Age: 5 years, 6, 7 ... single years to 14, 15-19, 20-24, not stated (paragraph 409)

Tabulation No. 30: (First priority) Women by age groups and total number of live-born children

Population included: either (a) all women or (b) women ever married (i.e., married, widowed, separated or divorced)

Classifications:

- (a) Age: under 15 years, 15-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65-69, 70-74 and over, not stated (paragraph 409)
- (b) Number of live-born children: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 and over, not stated (paragraph 425)

## PART VI

### SAMPLING METHODS AND POPULATION CENSUSES

#### 601. Basic considerations

When countries contemplate using sampling methods in their census programmes, the fundamental fact which should be borne in mind is that census and sampling are not necessarily competing techniques and, in general, it will be found that sampling methods can be most usefully applied in demography as a supplement to complete inquiry. It is recognized that every country will wish, sooner or later, to take a complete census even though difficulties in execution may be expected and the scope may have to be limited. A complete census has many important uses, not the least of which is that it provides a basis for numerous subsequent statistical inquiries. It is true that in the short run basic demographic information can be effectively obtained through sampling, since sampling techniques are flexible and so are usually adaptable even to conditions which from the viewpoint of census-taking are very difficult. Nevertheless, a sample survey should not entirely replace a complete enumeration of some kind except under conditions which make a complete enumeration impossible. Even when a country is forced to resort to sampling in place of a census, the sampling scheme used may well serve as an experimental census paving the way to a complete census to be executed in the near future.

The specific recommendations concerning the use of sampling methods in relation to population censuses fall into three broad categories relating to (i) sampling used as an integral part of a complete census, (ii) sample surveys devised because a complete census is not feasible or (iii) population censuses expected to serve as suitable sampling frames for subsequent sample inquiries during intercensal periods.

#### 602. Applications of sampling methods in population censuses

The rapidly growing needs for extensive and reliable demographic data in most countries have made the modern census of population an undertaking of great magnitude. Censuses are expensive and if all such needs were to be met through

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complete enumeration, the cost, time and organization required would probably place a serious strain on the resources available for census-taking in a particular country. To lower the cost and trouble of census-taking and at the same time to obtain the maximum amount of data of the best possible quality, sampling methods can be successfully introduced in conjunction with census work proper, thus enabling countries in different stages of statistical development to embark on census programmes adapted to their respective needs and capacities.

Depending on the types of problem to be tackled, a country may consider applying sampling methods in one or more of the following phases of a population census: (a) tests of census procedures, (b) enumeration of items in addition to those for which universal coverage is required, (c) post-enumeration checks, (d) quality control of data processing, (e) tabulation of provisional results, and (f) tabulation of additional data and data required for special studies.

Effective planning and conduct of sample operations to be used in any one of the above census phases presupposes the availability of experts having the necessary training and experience in the application of sampling to census work.

A necessary feature of an acceptable sample plan is a decision about the degree of precision desired in the sample estimates. The higher the precision, the larger and/or the more complex must be the sample, and hence more expensive. In a scientifically designed sample plan, anticipated sampling errors can be computed fairly closely in advance. Consequently, the size and type of sample may be planned in relation to the precisions desired and the permissible cost. For successful execution of such a sample plan it is essential that strict selection procedures are followed.

The question of cost in sampling is of crucial significance and is of special relevance when sampling is used for the enumeration of items in addition to those for which universal coverage is required, for the quality control of data processing and for the tabulation of additional data and data required for special studies. Numerous factors govern the cost of a sample and it is essential that these be fully weighed before a decision is made to combine a sample plan with a complete count.

When deciding on procedures for sampling human populations, attention must be paid to the availability of lists, maps, prior census information on the characteristics of the population for small areas, trained personnel, tabulating

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equipment and the like. The need for prior examination of these elements seems to be of importance when carrying out tests of census procedures. It can be stated in general that the better the availability of information on populations of small areas, the less expensive will be the sample required to yield the desired precision.

Sampling has been used in several countries for broadening the scope of the census by asking a number of questions (in addition to those for which universal coverage is required) of only a sample of population. Modern experience in the use of sampling techniques has confirmed that it is not necessary to gather all demographic information on a complete basis; the use of sampling actually saves a good deal of time and money and furthermore, under certain circumstances the sampling approach alone ensures data of acceptable accuracy. In view of the above considerations, it can be generally concluded that items of information which have no statutory force, items which need not be tabulated for small geographic areas and items for which detailed cross-tabulations are not required can be secured by means of a sample operation conducted concurrently with the population census.

Tests of census procedures, post-enumeration checks and quality control of data processing are concerned with ensuring the high quality of census data. The nature and extent of census testing depend on the information which is available, from previous censuses or otherwise. Countries which expect to expand the scope of their censuses rather substantially in relation to their previous censuses may have to have quite extensive recourse to census tests. This may warrant a broad experimental approach to the entire census plan. Sampling, since it offers a scientific basis for such an approach, can make a valuable contribution towards providing reliable answers to a number of questions with regard to the plan.

Post-enumeration checks should serve two principal purposes. The one is to inform users of data about the accuracy attached to census figures and the other is to aid census officials in the improvement of subsequent censuses. In so far as the checks serve the latter purpose, the task of testing subsequent censuses on an experimental basis is greatly eased. With regard to the mass-processing operations of a census, it should be noted that, under appropriate conditions,

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sample inspections and in particular quality control techniques make it possible to control the quality of census data processing effectively and economically and it is no longer necessary or expedient to locate and correct substantially all processing errors by carrying out each operation a second time by way of verification.

603. The use of a sample survey when a census is not feasible

Any sample survey which is instituted when a census is not feasible has necessarily to possess the following three features. First, the field work must be designed to win and maintain the confidence and assistance of the population which is to be canvassed. Secondly, the range of information covered by each survey should be limited to a very few subjects. It is desirable to cover a field of different topics by repeated sample inquiries rather than by one inquiry covering the entire field. Thirdly, whenever possible two or more interpenetrating samples should be selected in every administrative district or any other smallest domain of study.

604. Censuses as bases for subsequent sample inquiries

The selection of sample units has to be made from some kind of a complete list of these units, namely the sampling frame. The sampling frame may be a list of small areas, structures, persons, households or groups of households. Before a sample selection is undertaken, it is necessary to ensure that the sampling frame is free from such defects as inaccuracy, incompleteness, duplication, inadequacy and obsolescence.

If a multi-stage sample design is decided on, the specification of the sample unit to be used at any stage depends not only on what is desirable but on the maps and information which are available from previous censuses.

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