



STATISTICAL PAPERS

Series **M** No. **45**

**PRINCIPLES
AND
RECOMMENDATIONS
FOR THE
1970
HOUSING CENSUSES**

SECOND PRINTING

with changes of a non-substantive nature

UNITED NATIONS

DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS
STATISTICAL OFFICE OF THE UNITED NATIONS

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NOTE TO THE NEW EDITION

The present edition of *Principles and Recommendations for the 1970 Housing Censuses* differs from the original photo-offset version in respect of certain non-substantive changes made in the text and the tabulation illustrations.

The majority of these changes were rendered necessary by the 1968 revision of the *International Standard Industrial Classification of All Economic Activities* (ISIC) and the 1966 revision of the *International Standard Classification of Occupations* (ISCO), neither of which was available at the time of the earlier issue of this publication. All references to the ISIC and the ISCO have therefore been brought up to date and each change made in this respect is identified by a foot-note explanation which indicates the nature of the change and the reason for it.

The opportunity has also been taken to effect minor editorial changes.

PREFACE

The principles and recommendations for the 1970 housing censuses were adopted by the United Nations Statistical Commission at its fourteenth session, in October 1966.¹ They are intended as a guide to help countries in planning and carrying out housing censuses to be taken around 1970 and hence serve the same purposes for the 1970 censuses as did the *General Principles for a Housing Census*² for countries taking censuses around 1960.

The present recommendations have been developed over a period of years by a process of consultation between the United Nations, its regional economic commissions and individual countries. Regional recommendations on topics, definitions, classifications and tabulations for the countries of Africa, Asia, Europe and the Americas, respectively, have been developed concurrently and will be issued by the regional organization. The regional recommendations are variants of the world-wide recommendations, and make special provision for regional needs and capabilities that cannot be adequately dealt with on a world-wide basis.

The United Nations recommendations are based primarily on the experience of countries with their 1960 censuses. Information in this respect has come from analysis of country experience prepared by the regional economic commissions³ and the Inter-American Statistical Institute (IASI), supplemented by a continuous study of housing census methods carried out by the Statistical Office of the United Nations on the basis of methodological material received from national statistical services.

In the preparation of the revised recommendations, account has also been taken of the considerations and recommendations relating to the 1970 censuses set forth by the working groups on censuses of population and housing in Africa,⁴ Asia⁵ and Europe,⁶ and by the

Sub-Committee on Demographic and Housing Statistics of the Committee on the Improvement of National Statistics (COINS) of the Inter-American Statistical Institute.⁷

Other valuable sources of information on the statistical needs of the different regions are the regional programmes of basic statistics, which comprise series most urgently required for planning economic and social development. Such programmes have been formulated by the Inter-American Statistical Institute⁸ and by the Economic Commission for Asia and the Far East,⁹ and a programme is being developed by the Economic Commission for Africa.¹⁰ In the preparation of the *Principles and Recommendations*, account has been taken of these programmes and of the *Statistical Series for the Use of Less Developed Countries in Programmes of Economic and Social Development*.¹¹

Three regional seminars¹² convened to study the statistics required for housing programmes reached substantial accord on this matter and their conclusions also have served as a point of reference in preparing this revised version of the *Principles*. A further statistical need that housing censuses may be called upon to fill lies in the data requirements for the calculation of the *Statistical Indicators of Housing Conditions*,¹³ both with respect to housing conditions at the national level and as a component of the *International Definition and Measurement of Levels of Living*.¹⁴ These also have been considered in drafting the revision.

A first draft of the 1970 recommendations¹⁵ was presented for the consideration of the Statistical Commission at its thirteenth session, in 1965. The Commission made preliminary comments on the draft.

⁷ Draft report, "I Session of the Sub-Committee on Demographic and Housing Statistics" (IASI document 5121).

⁸ *Conclusions of the VIII Session of COINS. I. Inter-American Program of Basic Statistics* (IASI document 4921); *Inter-American Program of Basic Statistics (PIEB)* (IASI document 5031).

⁹ *Basic Statistics for Formulating and Implementing Plans of Economic and Social Development in Countries of Asia and the Far East* (United Nations publication, Sales No.: 65.II.F.8).

¹⁰ "Statistical development in Africa", a draft revision of "Use of the Revised List of Basic Statistics for Programming Statistical Development in Africa" (E/CN.14/CAS.3/9).

¹¹ United Nations publication, Sales No.: 59.XVII.10.

¹² *Report of the Latin American Seminar on Housing Statistics and Programmes (Copenhagen, 1962)* (United Nations publication, Sales No.: 63.II.G.14); *Report of the Seminar on Housing Statistics and Programmes for Asia and the Far East (Copenhagen, 1963)* (United Nations publication, Sales No.: 65.II.F.12); *Report of the Seminar on Housing Statistics and Programmes for Africa (Copenhagen, 1966)* (in preparation).

¹³ United Nations publication, Sales No.: 62.XVII.7.

¹⁴ *International Definition and Measurement of Levels of Living: An Interim Guide; Report on International Definition and Measurement of Standards and Levels of Living* (United Nations publications, Sales Nos.: 61.IV.7 and 54.IV.5).

¹⁵ "Principles and recommendations for a housing census: draft recommendations for the 1970 censuses" (E/CN.3/332).

¹ *Official Records of the Economic and Social Council, Forty-second Session, Supplement No. 3* (E/4283), para. 85.

² United Nations publication, Sales No.: 58.XVII.8.

³ "Methods of housing censuses and surveys: international recommendations and African practice" (E/CN.14/CAS.4/CPH/7); "Analysis of national replies to the questionnaire on censuses of population and housing"; part Two, "Questions relating to housing censuses" (Conf. Eur. Stats/WG.6/95); "Analysis of national replies to the questionnaire on population and housing enquiries undertaken during the period 1955-1964"; part Two, "Questions relating to housing censuses" (E/CN.11/ASTAT/CPH/L.2).

⁴ "Report of the First Working Group on Censuses of Population and Housing" (E/CN.14/CAS.4/CPH/11); "Report of the Second Working Group on Censuses of Population and Housing" (E/CN.14/CAS.5/CPH/8).

⁵ "Report of the Working Group on Censuses of Population and Housing" (E/CN.11/ASTAT/Conf.6/L.10); "Report of the Second Working Group on Censuses of Population and Housing" (E/CN.11/ASTAT/Conf.7/L.4).

⁶ Report of the fifth session of the Working Group on Censuses of Population and Housing" (Conf. Eur. Stats/WG.6/97); "Report of the sixth session of the Working Group on Censuses of Population and Housing" (Conf. Eur. Stats/WG.6/112).

In accordance with resolution 13 (XIII) of the Statistical Commission,¹⁶ the draft was then circulated to States Members of the United Nations or members of the specialized agencies, to regional economic commissions, to other regional bodies and to interested specialized agencies, for their review. A second draft was subsequently prepared, taking into account the suggestions of the Commission and the comments received as a result of the circulation of the first draft. The second draft was reviewed by a small group of international experts in population and housing censuses,¹⁷ whose recommendations were incorporated into a third draft, which was submitted to the Statistical Commission at its fourteenth session, in 1966.¹⁸

The Statistical Commission adopted the principles and recommendations with some modifications, and emphasized the important contribution that they would make to the improvement of the collection, collation, analysis and dissemination of statistical information required to chart the progress made towards achieving the objectives of the United Nations Development Decade.¹ The Commission requested the Economic and Social Council to adopt the following draft resolution:

"The Economic and Social Council,

"Taking note of the report of the fourteenth session of the Statistical Commission and the adoption by the Commission of principles and recommendations for population censuses and housing censuses to be taken around 1970,

"Recalling General Assembly resolution 1710 (XVI) of 19 December 1961 on the United Nations Development Decade, which requests the Secretary-General to develop proposals for the intensification of action in the fields of economic and social development with particular reference to the need to review facilities for the collection, collation, analysis and

¹⁶ *Official Records of the Economic and Social Council, Thirty-ninth Session, Supplement No. 13 (E/4045).*

¹⁷ "Report of the Expert Group to Review the Draft Recommendations for the 1970 Population and Housing Censuses" (E/CN.3/344).

¹⁸ "Principles and recommendations for a housing census: draft recommendations for the 1970 censuses" (E/CN.3/343).

dissemination of statistical and other information required for charting economic and social development and for providing a constant measurement of progress towards the objectives of the Decade,

"Recognizing the important role of population censuses and housing censuses as primary sources of basic national data for achieving the above-mentioned purposes,

"Further recalling its resolution 1054 B (XXXIX) of 16 July 1965, which (a) requests the Secretary-General to proceed with the development of 1970 World Population and Housing Census Programmes and (b) recommends that States Members of the United Nations undertake to carry out population and housing censuses during the period 1965-1974 and that they take into account the international recommendations in order that the censuses may meet national requirements and facilitate the study of population and housing problems on a world-wide basis,

"1. Requests the Secretary-General to publish the 'Principles and Recommendations for a Population Census' (E/CN.3/342) and the 'Principles and Recommendations for a Housing Census' (E/CN.3/343) as modified, and to distribute copies to States Members of the United Nations, to members of the specialized agencies, to appropriate regional bodies, and to specialized agencies;

*"2. Further requests the Secretary-General to give assistance to Governments in the implementation of these principles and recommendations by mobilizing all available resources to help in the very large task of meeting the needs of countries in this area, and by the revision of the *Handbook of Population Census Methods*, the preparation of a handbook of housing census methods, the preparation of a technical manual on methods of evaluating population and housing census results, and the provision of technical advice and fellowships under the United Nations Development Programme."*¹⁹

¹⁹ *Official Records of the Economic and Social Council, Forty-second Session, Supplement No. 3 (E/4283), resolution 5 (XIV).*

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INTRODUCTION

1. The importance of housing in national development planning has been the subject of consideration by the General Assembly for many years. In a resolution adopted at its twentieth session the housing problem in countries throughout the world was cited as one of the most important calling for solution without delay. The resolution recommended, *inter alia*, that Member States should "Assume a major role in the solution of the housing problem in every country and, to this end, make provision in their national development planning for the necessary activities and resources".¹

2. The role of statistics in the solution of these problems has been stressed not only by the Statistical Commission but by various international bodies concerned with housing, in particular by the United Nations Committee on Housing, Building and Planning, established by the Economic and Social Council on 2 August 1962.² At its first session in 1963, the Committee noted that housing policies and programmes "should establish both the quantity and quality of housing in accordance with economic capacity. They should also cover related facilities and equipment. To this end statistical machinery will have to be set up on a considerable scale".³

3. At its second session in 1964, "the Committee underlined the recognized need for adequate statistical data as a tool for effective projections and programming of housing and community facilities for assessing the housing situation in quantitative and qualitative terms and for a periodic review and evaluation of housing trends and developments. In this connexion, the urgent need for the development of basic housing, building and urban development statistics at the national level was stressed and also the need for close collaboration between housing agencies and agencies responsible for the collection and analysis of such statistics".⁴

4. At its third session in 1965,⁵ the Committee cited the active participation of Member States in the 1970 World Housing Census Programme as one of the activities required to accelerate the solution of housing and urbanization problems.

5. The need to assess housing conditions and to keep under surveillance the changes that take place in these

conditions requires the establishment of a system for the collection of both bench-mark and current housing statistics. These data are principally collected by the housing census, housing sample surveys and a system of current statistics.

6. The principles and recommendations which follow deal with the substantive concepts and essential procedures of housing censuses. They are intended mainly as a guide to countries planning to take housing censuses but because of their nature, they are also applicable in some respects to bench-mark housing data collected by means of housing sample surveys or multisubject inquiries, and to current housing statistics.

7. The *Principles and Recommendations* are set forth in six parts and an annex. Part I deals with the definition, essential features and uses of a housing census. Part II 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. Part III is a brief exposition of the role of sampling in the various phases of a housing census. Part IV deals with the unit and place of enumeration. Parts V and VI contain specific recommendations regarding census topics, definitions, classifications and tabulations. Each tabulation presented is accompanied by a sketch illustrating the required attribute classifications.

8. The annex shows, for each topic included in the world programme, whether or not it was included as basic in each of the four regional programmes for the 1970 housing censuses.

9. Neither the list of basic topics in part V nor the tabulations in part VI constitute a programme which countries should necessarily adopt in its entirety. On the contrary, countries are urged to examine the tabulations with a view to selecting those that will be most useful to them. The decision concerning the most effective tabulation programme consistent with resources will determine the topics to be included in the housing census. It is recognized that the list of recommended tabulations will be over-ambitious for some countries and insufficient for others and that the final selection will be greatly influenced by the resources available.

10. A guide to the implementation of the *Principles and Recommendations* will be provided by a proposed "Handbook of Housing Census Methods" in which both the principles and the recommendations will be discussed in greater detail.

¹ *Official Records of the General Assembly, Twentieth Session, Supplement No. 14 (A/6014), resolution 2036 (XX).*

² *Official Records of the Economic and Social Council, Thirty-fourth Session, Supplement No. 1, resolution 903 C (XXXIV).*

³ *Official Records of the Economic and Social Council, Thirty-sixth Session, Supplement No. 1, resolution 976 B (XXXVI), annex, para. 1.*

⁴ *Official Records of the Economic and Social Council, Thirty-seventh Session, Supplement No. 12 (E/3858), p. 7, para. 23.*

⁵ *Official Records of the Economic and Social Council, Forty-first Session, Supplement No. 9 (E/4124), para. 24.*

Part I

DEFINITION, ESSENTIAL FEATURES AND USES OF A HOUSING CENSUS

A. DEFINITION OF A HOUSING CENSUS

11. A housing census is the total process of collecting, compiling, evaluating, analysing and publishing statistical data pertaining, at a specified time, to all living quarters¹ and occupants thereof in a country, or in a well-delimited part of a country, for the purpose of obtaining information concerning the housing inventory and housing conditions of the population. The census should also take account of homeless persons.

12. The census must provide information on the supply of housing units together with information on the structural characteristics and facilities which have a bearing upon the maintenance of privacy and health and the development of normal family living conditions. Sufficient demographic, social and economic data concerning the occupants must be collected to furnish a description of housing conditions and also to provide basic data for analysing the causes of housing deficiencies and for the study of possibilities for remedial action.

13. The first objective of a housing census, therefore, is to make an inventory of all the various kinds of premises in which people live and which together constitute the stock of housing accommodations at a given time and to classify these places according to their geographic location, structural characteristics, available facilities, installations and services. The second objective is to obtain indicators of the housing conditions in which the population lives — living space per inhabitant and per household, the equipment provided and the services laid on, i.e., the kind of lighting, supply of gas, water, cooking equipment etc.

14. Housing censuses are usually carried out with censuses of population; however, if the housing census is taken separately from the population census, the dual objectives of a housing census require that data on households² (which are essentially demographic data) must be collected in addition to data on the living quarters themselves.

15. In some countries the first objective of a housing census is to make an inventory of each residential structure and space used for habitation in non-residential structures. In this case information is recorded for each residential structure including type, year of construction, material of construction, number of floors, number of apartments and rooms therein, number of households or families and the total number of persons living in the building. In addition the record shows whether or not the structure is equipped with specified facilities. By processing the data it is possible to obtain a description of the country's housing stock and the inhabitants thereof. The tabulation forms in this case

would differ somewhat from those proposed in part VI and would provide, in addition to the data on housing units and other living quarters, similar data for certain buildings.

B. ESSENTIAL FEATURES OF A HOUSING CENSUS

16. The essential features of a housing census are individual enumeration, universality within a defined territory, simultaneity and defined periodicity.

(1) *Individual enumeration*

17. A "census" implies that all living quarters are enumerated separately and that the information obtained is recorded separately for each. The direct universal enumeration of each set of living quarters may be combined with self-enumeration of occupants and/or be supplemented by inquiries made through the owners or their agents and by the utilization of data in registers of properties. A procedure by which aggregated or summarized data are recorded for groups of living quarters or communities is not a census in the strict sense of the term because the recording of aggregated or summarized information on the characteristics of a group of living quarters usually precludes the cross-tabulation of data on several characteristics.

18. Individual enumeration does not preclude the use of sampling techniques for obtaining data on specified topics, provided that the sample design is consistent with the size of the areas for which the data are to be tabulated and the degree of detail in the cross-tabulations to be made.

(2) *Universality within a defined territory*

19. The census should cover, within a precisely defined geographic territory (e.g., the entire country or a well-delimited part of it), all living quarters irrespective of type.

(3) *Simultaneity*

20. Each set of living quarters should be enumerated as nearly as possible in respect of the same well-defined point of time and the data collected should refer to a well-defined reference period. The time-reference period need not, however, be identical for all of the data collected. For most of the data it will be the day of the census; in some instances it may be a period prior to the census.

(4) *Defined periodicity*

21. Censuses should be taken at regular intervals so that comparable information is made available in a fixed sequence. A series of censuses makes it possible to appraise the past, accurately describe the present and estimate the future. It is recommended that a national

¹ For the definition of "living quarters", see paragraph 158.

² For the definition of "household", see paragraphs 201-202.

housing census be taken at least every ten years although it is recognized that some countries may find it necessary to carry out housing censuses more frequently.

C. INTERNATIONAL SIMULTANEITY

22. The census data of any country are of greater value nationally, regionally and internationally if they can be compared with the results of censuses of other countries which were taken at approximately the same time. In general the timing of the housing census will be governed by that of the population census and it has been recommended that, whenever possible, each country undertake a population census in the years ending in "0" or as near to those years as feasible. Where the housing census is carried out independently of the population census the desirability of international simultaneity should be kept in mind.

23. It is obvious, however, that legal, administrative, financial and other considerations often make it inadvisable for a country to adhere to a standard international pattern in the timing of its housing censuses. In fixing a census date, therefore, such national factors should be given greater weight than the desirability of international simultaneity.

D. USES OF A HOUSING CENSUS IN AN INTEGRATED PROGRAMME OF DATA COLLECTION

24. The housing census is the principal means of collecting basic housing statistics as part of an integrated programme of data collection aimed at providing a comprehensive source of statistical information for development planning, commercial use, research etc.

25. The value of the census is increased if the results can be employed together with the results of other investigations and if it can furnish the information needed for conducting other statistical investigations. The purposes of a continuing programme of data collection can best be served, therefore, if the relationship between the housing census and other statistical investigations is considered when census planning is under way and if provision is made for facilitating the use of the census and its results in connexion with such investigations. The use of consistent concepts and definitions throughout an integrated programme of data collection is essential if the advantages of these relationships are to be fully realized.

26. Housing censuses are usually carried out in conjunction with censuses of population and thus it is to the population census that they are most closely related. However, they are conceptually related to housing surveys and current housing statistics and they may also be linked for certain purposes to censuses of buildings, censuses of agriculture, censuses of small-scale industries or other inquiries that utilize lists of buildings or living quarters as a means of control.

27. The principal uses of a housing census and its relationship to other inquiries are outlined below.

(1) *Development of bench-mark housing statistics*

28. The Statistical Commission has directed the attention of national statistical services "to the need to develop, from housing censuses, the sort of bench-mark statistics in housing that could be supplemented

by current building and construction statistics and which would provide a continuous up-to-date picture of the housing position needed for the consideration of housing programmes".³ Since not all the basic information required to assess housing needs or to formulate housing programmes can be obtained through a housing census, additional data must be obtained through the population census, special housing surveys, environmental surveys, from vital statistics, economic statistics and so forth, but data obtained from the housing census will constitute the basic framework within which the estimates will be made, indices computed and further statistical inquiries planned.

(2) *Frame for sample surveys and supplementary inquiries*

29. The housing census provides a statistical frame for more intensive housing sample surveys or supplementary inquiries. As a purely mechanical device, lists of living quarters recorded during the census operation are used as a frame for the selection of a sample of living quarters from which supplementary data are collected either as part of the census operation or subsequent to it. For surveys aimed at a more intensive investigation of certain aspects of housing, the lists provide a frame for the selection of living quarters which correspond to desired characteristics. Because of the relative permanence of living quarters, the lists available from the housing census (with suitable updating) may also provide a convenient frame for carrying out inquiries dealing with topics other than housing.

(3) *Uses of census data for the formulation of housing policy and programmes*

30. The formulation of housing policy and programmes represents one of the principal uses of housing census data. The establishment of housing policy is normally influenced by social and economic as well as political considerations, but the availability of factual data concerning the housing situation provides objective criteria which should be an important factor to be taken into account by policy makers.

31. In most countries, housing programmes comprise both government and private activity. The data derived from a housing census are used by government authorities for making an analysis or diagnosis of the housing situation.⁴ Housing conditions are analysed in quantitative and qualitative terms and data from previous censuses are used to indicate the changes in the housing situation that have occurred during the intercensal periods; the housing deficit and future housing requirements are estimated and compared with the rates of dwelling production being attained; the characteristics of the households in need of housing are considered in relation to the availability and cost of housing. As part of over-all development plans such an analysis is necessary for the formulation of national housing programmes and for their execution.

32. The data which become available from the housing census will also be studied by commercial

³ *Official Records of the Economic and Social Council, Twenty-second Session, Supplement No. 7 (E/2876)*, para. 117.

⁴ For some statistical indicators for measuring housing conditions, reference may be made to *Statistical Indicators of Housing Conditions* (United Nations publication, Sales No.: 62.XVII.7).

users. Those engaged in the construction industry as well as financing institutions, manufacturers of housing fixtures and equipment and household appliances need to assess the possible demand for housing and to visualize the scope of their activities within the over-all programme.

(4) *Uses of census data for calculating the indicators for the housing component of levels of living*

33. Reference has already been made, in paragraph 31 above, to the use of the *Statistical Indicators of Housing Conditions* for assessing the housing situation. It may be noted that all but one of these measures form part of a more comprehensive battery of indicators developed to measure, and make international comparisons of, levels of living.⁵ The housing census data, therefore, have an added use in that they provide the statistical series required for the computation of the indicators for the housing component of levels of living.

(5) *Relationship of the housing census to sample surveys*

(a) *Housing sample surveys*

34. Housing sample surveys may be used to supplement the data collected in a housing census.⁶ A survey may be carried out concurrently with or, so as to avoid overburdening the census schedule, subsequent to the census. It may be used to investigate the regular topics of the census or those which it is not possible to include in a general enumeration. Information relating to the quality of housing (such as the need for repair), the demand for certain types of dwellings, the floor space of housing units, represents topics which, in many countries, may require the participation of specially trained enumerators and, under these circumstances, they may be more appropriately included in housing sample surveys than in housing censuses. During the intercensal period, sample inquiries may be carried out as a means of up-dating the information obtained from the census.

(b) *Demographic sample surveys*

35. Demographic data are essential for the correct interpretation of housing census information. Therefore, any assumptions that may have been formulated on the basis of population and housing census results should be examined in the light of the new demographic data obtained from subsequent demographic surveys. Changes or trends since the previous censuses in the number or size of household, household income and expenditure, age at marriage etc. may require that past assumptions and the housing programmes based upon them be adjusted to take account of these changes. As a further indication of the link between housing censuses and demographic sample surveys it may be noted that a list of living quarters, compiled on the basis of the most recent housing census with suitable up-dating, not infrequently provides a frame from which the sample for the demographic survey is drawn.

⁵ *International Definition and Measurement of Levels of Living: An Interim Guide* (United Nations publication, Sales No.: 61.IV.7).

⁶ For a discussion of the use of sampling in a housing census, reference may be made to part III. See also paragraph 39.

(c) *Multisubject sample surveys*

36. Housing information is sometimes collected as part of a multisubject household sample inquiry.⁷ The data obtained may serve to up-date census data, or the multisubject inquiry may be the only means available of obtaining bench-mark housing data. Normally, the topics investigated in such inquiries are similar to those included in housing censuses. Topics that require specially trained enumerators and which might therefore be collected by means of a housing sample survey would not generally be included in a multisubject sample household survey.

(6) *Relationship of the housing census to other types of censuses*

(a) *Population censuses*

37. An especially close association exists between housing censuses and population censuses. The two censuses may comprise one statistical operation or they may be two separate but well co-ordinated activities, but they should never be considered completely independently of each other because essential elements of each census are common to both. For example, an essential feature of a population census is the identification of each occupied set of living quarters and of the persons living therein, and an essential feature of a housing census is the collection of information on the characteristics of each set of living quarters in association with the number and characteristics of its occupants.

38. In many countries, the population and housing censuses are taken concurrently, often with the use of a single schedule. In this way information on population and living quarters can be more readily matched, processing is facilitated and extensive analysis can be carried out. This also makes it possible to relate to the housing census data the information on demographic and economic characteristics of each household member which is routinely collected in the population census; if this information cannot be taken from the population census, it has to be collected in the housing census.

39. The advantages of simultaneous investigation may be offset to some extent by the additional burden on the respondent and the enumerator resulting from the increased amount of information that must be collected at one time. In countries where this is likely to be a serious problem, consideration might be given to collecting data for a limited number of topics on the basis of a complete enumeration in the population and housing census, with more complex data in both fields being collected on a sample basis only, either concurrently with, or immediately following, the full enumeration.

40. The relationship between the population and the housing census will affect the means by which data on homeless persons are obtained. In the case of simultaneous censuses of population and housing, arrangements should be made to obtain data on homeless persons from the population census. Where the housing census is being carried out independently of the population census, arrangements should be made to enumerate them as part of the housing census.

⁷ *Handbook of Household Surveys, A Practical Guide for Inquiries on Levels of Living* (United Nations publication, Sales No.: 64.XVII.13), chap. V.

41. *Homeless persons* are defined as those persons who, at the time of the census, are without a shelter that can be considered living quarters. They may be distinguished from persons occupying premises not intended for habitation by the fact that the latter have managed to establish themselves in a place which provides them with shelter on a more or less continuous basis, whereas the homeless carry their few possessions with them, sleeping in the street, in doorways, on piers or in any other space.

42. Because of the difficulties of enumeration, involved special arrangements may need to be made to enumerate homeless persons. Where their number warrants, additional information would need to be sought that would indicate the reason for homelessness and the measures that might be most effective in alleviating this aspect of the housing problem.

(b) *Census of buildings*

43. Since, as part of the housing census operation, it is necessary to inquire concerning all buildings (both residential and non-residential) in order to ascertain whether they are occupied or not, it may be convenient to record all buildings at the time of the housing census, even though data may be collected only for those in which housing units or other living quarters are located. The comprehensive list thus obtained sometimes provides the basis for a census of buildings, carried out concurrently with, or subsequent to, the housing census, or it may provide for the identification of special types of buildings significant for other inquiries, such as the census of distribution, the school census etc.

(c) *Census of agriculture*

44. The housing census may serve as a convenient means of identifying agricultural holdings for a subsequent census of agriculture, and some countries include a question for this purpose in the housing census. The housing census also provides an opportunity to collect data concerning small-scale agricultural activity carried on in the vicinity of the housing unit or other living quarters where the area in question would not fall within the definition of an agricultural holding. These data sometimes refer to the keeping of poultry, bees and so forth.

(7) *Relationship to a system of current housing statistics*

45. Current housing statistics refer to housing activity. They reflect the number of dwellings constructed and certain related information such as value, number of rooms, floor space etc. as well as the number of dwellings destroyed or demolished. These data are usually obtained from a system of data collection based on the administrative procedures that are required in connexion with the activity in question. For example, construction statistics may be derived from permits issued for the construction of dwellings, from records of dwelling starts or completions, from certificates of occupancy. Statistics on dwellings destroyed may be obtained from the records maintained for the levying and collection of rates and taxes. Compiled monthly or quarterly, current housing statistics reflect changes in the housing inventory, and although they may serve other purposes, they are also used to up-date the benchmark data obtained from housing censuses.

Part II

PLANNING, ORGANIZATION AND ADMINISTRATION OF A HOUSING CENSUS

46. When the housing census and the population census are carried out together the planning, organization and administration of the two censuses should be considered as separate aspects of a single, closely integrated operation. Careful planning of the housing census is of the first importance to the successful conduct of the operation, not only in countries with comparatively little statistical experience but also in countries with a developed system of statistics. A census is a complete operation in itself, consisting of a complex series of closely interrelated steps which must be carefully planned in advance so that a proper and uninterrupted sequence of operations can be maintained. A small oversight in planning may lead to serious defects and inefficiencies.

47. Censuses cannot all follow a uniform pattern but there are certain common major elements which must be taken into account in all censuses. In general, census operations can be divided into seven sequential phases: (a) preparatory work, (b) enumeration, (c) data processing, (d) evaluation of the results, (e) analysis of the results, (f) dissemination of the results and (g) systematic recording of census experience. It will be readily apparent that these phases are not entirely chronologically separate or mutually exclusive. For example, a post-enumeration check may be undertaken simultaneously with the tabulation of the results of the regular enumeration. Furthermore, certain elements which are discussed under "Preparatory work", such as the budget and staff, may have to be amended according to circumstances which arise at a later stage of operation. In addition, the systematic recording of census experience should start with the beginning of the preparatory work and continue through all the subsequent phases.

48. The elements of each of the phases, which are briefly discussed below, are intended, therefore, only as indicators of the points to be considered in planning and executing a census.

A. PREPARATORY WORK

(1) *Legal basis for a census*

49. Legal authority for the census is required for fixing primary administrative responsibility, for obtaining the necessary funds, for determining the general scope and timing of the census and for placing a legal obligation upon the public to co-operate and to give truthful answers and a legal obligation upon the enumerator to record the responses faithfully. In countries that lack permanent legal authority for the taking of periodic censuses, it is important to act early to establish *ad hoc* legal authority or, preferably, legislation calling for a system of periodic censuses.

50. 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. Necessary details should, rather, be contained in the census regulations which are promulgated by the census authorities. 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.

(2) *Budget and cost control*

51. No universal system of census budgeting and cost control can be suggested 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 are 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 each 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. 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 and the available resources will be used most effectively by working out as precisely as possible the volume, rates and cost of each operation in the different sections of the job.

(3) *Census calendar*

52. An indispensable aid in the planning of a census is a calendar or time-table indicating the sequence and estimated duration of each of the component operations of the census. At the early stages of census planning it is important to prepare a provisional calendar which should be revised and made final as early as practicable.

53. Such calendars are essential since they indicate the dates on which each of the numerous operations that make up a census are to be started and completed, and they serve as a guide for measuring the progress of

each stage of the census operation. Serious delays in work, or errors in time estimates, can be detected by comparing the calendar target dates with the actual dates of each operation. 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.

54. 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.

55. In establishing the census calendar, it is necessary to consider the relationship of the housing census to other statistical projects. When it is carried out with a population census the combined operation is, for the period of its duration, likely to constitute the major statistical undertaking of the Government, and care should be taken that it does not unduly interfere with the other statistical activities that might be going on at the same time. Even in cases where the housing census is carried out independently of the population census it is likely to place a certain amount of strain on available resources. A balanced statistical programme should avoid too many simultaneous, competing inquiries which might place too heavy a burden on the statistical services and on the public, with a possible resultant loss of both administrative efficiency and public co-operation.

(4) *Administrative organization*

56. 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. National, subnational and local commissions and committees frequently may be useful in the planning and preparation of a census. Such bodies may be composed of representatives of governmental agencies and of non-governmental users of the census data. It is, however, important that their promotional and advisory functions be well defined and that the final responsibility for planning rests with the executive agency.

57. There are definite advantages in having an office continuously 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 statistical and geographic information essential for planning the next census.

58. At the pre-enumeration stage, the census office will need to be expanded to form the nucleus of the full census organization, which must be capable of directing the field organization during the preparatory work as well as during the conduct of the enumeration. In order to provide immediate supervision in each area, field offices at various levels are needed for the later part of the preparatory work including staff recruitment and training, as well as for the enumeration period. Supervisory personnel in such offices should be

persons familiar with the particular area and with the local language, who are able to deal with local problems. This does not mean, however, that all supervisory positions must be filled by persons from the area. As the need arises, personnel may be transferred from the central office or from other areas.

59. Subsequent to the enumeration, the census organization is usually readjusted to meet the needs involved in compiling, evaluating, analysing and publishing the results, and to provide the continuity desirable for promoting the continued use of census materials and the development of improved methods.

(5) *Cartographic (mapping) work*

60. 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 and most important 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 enumeration areas, which, in turn, is dependent upon the accuracy of the detailed maps available. All available maps which are known to be accurate should be utilized and new maps prepared as required. It is necessary to start cartographic work sufficiently early to ensure that an adequate supply of maps is available three to four months before the census is scheduled to begin.

61. The time and expense involved in preparing and checking maps and in the careful drawing of enumeration areas are further justified by their subsequent use for non-census purposes and particularly as they constitute frames for post-censal sample surveys.

62. As a supplementary method of identifying small areas, a systematic, complete and up-to-date listing of localities may be used. Such a listing is also needed for the coding of place names at the tabulation stage. In some regions, the establishment of a definitive list of localities is a major operation because of difficulties arising from the frequent fragmentation, disappearance or combination of small localities, and from changes in name, variations in spelling, the existence of more than one name for the same place or the use of identical names for different places.

63. In countries where the prevailing types of living quarters correspond to readily identifiable areas it may be useful during the preparatory work to consider these areas in relation to the boundaries of the enumeration districts being established for the census. Where the areas are clearly delineated, as is often the case, for example, with squatter areas, it may facilitate the preparation of subsequent housing programmes if the boundaries of the enumeration districts at the margin of these areas could be drawn so as to avoid as much as possible the drawing of enumeration districts which incorporate living quarters of widely divergent types such as conventional dwellings and improvised housing units.

(6) *Living quarters and household listing*

64. A list of living quarters, structures containing living quarters or households, if available at the start of the census, is an aid in the control of the enumer-

ation. Such a list is also useful for estimating the number of enumerators and the number of schedules and other census materials needed in an area, for estimating the time required for the enumeration and for compiling provisional results of the census.

65. Consideration should be given to providing permanent identification to streets and buildings which can be used for successive censuses and for other purposes. A listing of living quarters, particularly in densely settled places, cannot be accomplished unless streets have names and buildings have unique numbers. Where these prerequisites do not exist, numbering immediately prior to the census would prove useful.

(7) *Tabulation programme*

66. 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 thoroughly 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 kinds and amount of data it is possible to collect, while the data-processing resources available will determine the number and complexity of the tabulations that can be accomplished within a reasonable time. The basic tabulation programme should be decided upon and justified in sufficient time so that the final drafting and reproduction of the questionnaire can be accomplished well before the enumeration date.

67. It is important to plan the tabulation programme in such a way that final results can be issued within a reasonable period of time after the enumeration, before the information has become out-of-date for current needs. 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.

(8) *Questionnaire preparation*

68. 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 during or after enumeration. Among the many factors that 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.

69. The method of enumeration (see paragraphs 78-79) governs to some extent the type (i.e., single household or single living quarters; multiple household or multiple living quarters) and the scope of the questionnaire that 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 dependent on the final content, form and arrangement of the questionnaires.

70. If the housing census and the population census are being carried out simultaneously it will be necessary to consider whether a single questionnaire should be utilized to collect information on both population and housing. If separate questionnaires are used they should be adequately identified so as to permit subsequent matching of the data for each set of living quarters with data that refer to the occupants.

71. Questionnaire design should be considered jointly with consideration of the tabulation programme. This is essential if the questionnaire is to be designed to provide the information needed for the tabulations. It is also necessary because the feasibility of the tabulation programme is, to some extent, conditioned by the limitations imposed by the questionnaire. The final questionnaire must be drafted in time to allow for proper training of census officials, for adequate publicity on its content and for any delays in printing.

(9) *Census tests*

72. The testing of various aspects of a census plan prior to the enumeration is a very useful practice for all countries; it is essential for countries without a long history of census-taking and for those where fundamental changes in census methods are being considered. Census tests can be designed for different purposes and in different ways. To yield full benefits, tests should be employed for all stages of the census, including enumeration, processing and evaluation of results. They can give important information on the adequacy of the field organization, the training programme, the processing plan and other important aspects of the census. They are particularly valuable to test for weaknesses in the questionnaire, instructions or enumeration procedures which might affect the quality of the data. They can be designed to provide information on the relative efficacy of alternate methods of enumeration and on the average time required for enumerating a single set of living quarters or a single household, which information is useful in estimating the staff and cost requirements. In addition, they serve as practical training for the nuclear staff of supervisors and other officials. A distinction should be made between tests of the census plan and a pilot census. Although the term "pilot census" is sometimes used to designate a test which encompasses the preparatory, enumerating and processing stages of a census, it might more properly be reserved for a subnational census which is intended to explore the feasibility of, and the requirements for, a subsequent national census.

(10) *Plan of enumeration*

73. The complete enumeration plan should be prepared well before the enumeration begins. This involves (a) the determination of the enumeration method to be used (see paragraphs 78-79) and the basic procedures to be followed in the collection of the data and the control of the enumeration, (b) the procedures for the control of the quality of the data and (c) an estimation of the number of living quarters and the probable size of the population to be enumerated, so that the number of questionnaires and other materials required for the enumeration and the number of enumerators and supervisors needed can be properly ascertained.

74. The universal enumeration of living quarters should be made exclusively on a geographic basis, that is to say, the country should be divided into census enumeration districts and each district should be small enough to be covered by one enumerator during the period of time allowed for the enumeration. Other sources of information, such as registers of properties, cannot normally be considered as adequate for the purpose of a housing census, although they could be used for checking the completeness of the enumeration or the accuracy of the replies to certain questions.

(11) *Plans for data processing*

75. The plans for the processing of the data should be completed before the enumeration begins so that processing can start immediately upon receipt of the completed questionnaires. The decision on the type of processing to be used must be made early in the planning stage, both because of its effect on the design of the questionnaire and because machine processing requires a long lead time for acquisition of machines, training of personnel and programming the operation. This is particularly important if electronic data processing is to be used.

(12) *Publicity*

76. Arranging the publicity for the census is another 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 reasons 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, be gradually intensified until the enumeration is completed and then appropriately adapted to the post-enumeration stages. 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 and the following stages of the census.

(13) *Staff recruitment and training*

77. 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, 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 selected on the basis of competence. An in-service training programme covering each phase of the work provides an efficient and consistent means of effectively starting large numbers of employees in their work. Such training should correspond closely to the needs of the various

operations and, where appropriate, may include both theoretical and practical instruction. In addition, consideration should be given to the utilization of the same staff for successive operations, thus reducing the turnover of personnel.

B. ENUMERATION

(1) *Method of enumeration*

78. There are two major methods of enumeration. In the *canvasser (or enumerator) method*, information for each set of living quarters and the occupants thereof 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—although the questionnaire is usually distributed, collected and checked by a census official.

79. 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 that can be collected.

(2) *Period of enumeration*

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

(3) *Supervision*

81. Adequate supervision of the enumeration is essential. Where the enumeration extends over more than a few days, periodic assessment of the quantity and quality of the work accomplished facilitates the correction of inefficiencies and the maintenance of satisfactory progress during the enumeration period.

(4) *Use of sampling in the enumeration*

82. Sampling may be employed in the enumeration for collecting information on any topics which need not be tabulated for small areas. Questions designed to apply only to a sample of living quarters may be included on the regular questionnaire or a special sample questionnaire may be used in addition to a complete enumeration questionnaire. For further discussion of the use of sampling in the enumeration, see paragraphs 120-123.

C. DATA PROCESSING

83. No matter how thorough and accurate the census enumeration is, the census tabulations will not be accurate and useful unless the raw data are properly processed.

(1) *Method of processing*

84. The choice of an appropriate method of processing is determined by the circumstances of each country. The recent rapid advances in electronic data-processing techniques have made this method attractive to many countries, in spite of the costs of purchasing or renting equipment, the problems of transportation and servicing and the difficulties of securing an adequately trained staff of operators.

85. In determining the type of processing to be employed and the advisability of a new complete or partial machine installation, or of adding to existing equipment, consideration should be given to all the processing requirements of the programme of data collection of which the housing census is one part. Only on this basis can a reasonable decision be arrived at.

86. If a suitable machine installation within the country is not readily available to the census office, consideration should be given to the possibility of processing outside the country at a regional or other installation.

(2) *Stages of processing*

87. The stages of processing and the order in which they come differ somewhat according to the processing method used but all methods have in common the necessity of providing for editing of the original information for missing and inconsistent data, transcribing the information from the questionnaire for mechanical or electronic processing and tabulation of the results.

(3) *Processing control*

88. Regardless of the processing method used, careful planning and control are required to ensure an uninterrupted flow of work through the various stages from receipt of the census questionnaires through the preparation of the final tabulations.

89. 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. (For a discussion of the latter technique, see paragraphs 135-139.)

(4) *Advance and final tabulations*

90. Because of the urgent need for information on some census topics and the length of time required for final tabulation of census results, consideration should be given to the preparation of advance tabulations of selected topics. These are usually based on a small sample of the raw data and may be issued as provisional results (see paragraphs 140-146). Final tabulations may be based on all of the returns or on a sample (see paragraphs 147-149).

D. EVALUATION OF THE RESULTS

91. Good census practice requires a careful consideration and evaluation of the completeness and accuracy of the census results. There may be errors in coverage and also content, that is, mistakes in the reporting or recording of information concerning the characteristics of living quarters, households or individuals.

92. The extent of one or the other kind of error can be estimated through the use of checks of the internal consistency of the data, by examination of the reasonableness of the results and by comparison of the results with data collected in other inquiries. A post-enumeration field check is an essential part of the process of evaluation (see paragraphs 124-134).

93. The publication of census results should include an estimate of coverage error, i.e., the amounts of over- and under-enumeration, together with a full indication of the methods used for evaluating the completeness of the data. Similarly, it is desirable to provide, so far as possible, an evaluation of the quality of the information on each topic and of the effects of the editing procedures adopted.

94. One of the important effects may result from the correction of inconsistent data and the addition of data which are missing from the questionnaire but about which reasonable assumptions can be made. For example, if information on piped water is not recorded for a housing unit, an allocation based on other entries may be possible. If the housing unit is reported as having a flush toilet then it can be assumed that it also has piped water. If any allocation is made, the topics affected, the method used and the number of cases should be clearly described in the census report.

95. The process of evaluation should not be permitted to delay the prompt publication of the principal results of the census (see paragraph 98). Evaluations of the completeness and accuracy of the data can be issued after the initial publication of the results.

E. ANALYSIS OF THE RESULTS

96. Analytical studies of the census results should be undertaken by, or under the direction of, the office responsible for the census. A permanent census office should be the repository of all census results; it would thus be equipped with the information needed for comparative studies which will indicate long-term trends in the phenomena investigated. It would be desirable to invite specialists in other government offices or experts outside of the Government to take part in drawing up and executing a programme of studies.

97. Aside from such studies, which are part of the over-all census programme, additional analyses by research organizations, universities or other experts on their own initiative should be encouraged.

F. DISSEMINATION OF THE RESULTS

98. A census is not complete until the information collected is made available to potential users in a form suited to their needs. It is important, therefore, that plans be made and sufficient funds allocated to ensure publication of the tabulations of widespread interest.

99. The final tabulations should be presented and explained in a way which will make them usable by as many persons as possible. The data must be set forth by appropriate geographic and administrative divisions and by important variables; evaluations of their accuracy and appraisals of their significance should be included in the census publications. A sufficient number of maps should be provided in the census publication to allow

the identification of the geographic units for which statistics are presented.

100. Not all of the processed material need be published. Tabulations which are required by only a few users, such as certain government offices or specialized research organizations, can be supplied in unpublished form. Some data may not even be tabulated until they are required at a later date. It should be noted, however, that the recommended tabulations in part VI of this document are of such wide interest that their publication is considered essential for each country that has collected the relevant data.

101. Where it is possible under the census law, consideration might be given to producing transcriptions of the information from a representative sample of the census questionnaires for the use of qualified agencies and research institutes engaged in special studies beyond the programme of the census organization. Care must be taken, of course, to ensure that the information does not include such details as name or local address, from which individuals could be identified.

102. Every effort should be made to publish the principal results (such as a geographic distribution of living quarters, households and population by type of living quarters) as soon as possible after the date of the enumeration; otherwise, their usefulness and the extent of their interest to the public will be diminished.

103. Target dates for publication should be determined well in advance and processing and reproduction programmes should be planned accordingly. There are various methods of reproduction available which are rapid, economical and legible, and these should be investigated.

104. It is recommended that, in addition to publishing the tabular results, every country should provide a methodological and administrative report, giving the information necessary for appraising and interpreting the results of each census. This report should include specimens of the questionnaires, instructions for the enumeration, information on the cost of the census and on the manner in which the census was planned, organized and conducted, the important methodological and other problems encountered at the various stages of the programme and points to be considered in future censuses.

G. SYSTEMATIC RECORDING OF CENSUS EXPERIENCE

105. The cumulative experience of past censuses in a country can be of great help in the preparation of the new census. Because of the lapse of time between censuses and the likelihood of changes in upper-echelon personnel even in a permanent census office, it is most useful to assemble complete records on the methodology of each census, an evaluation of the techniques employed and the costs. These records should be arranged in such a way that information on each aspect of the census operation can be found easily.

Part III

USE OF SAMPLING IN A HOUSING CENSUS

106. Sampling should have a role in housing censuses both as an integral part of the planning, execution, analysis and evaluation of the census and through the use of the census as a sampling frame for subsequent sample inquiries.

107. The most significant aspects of the use of sampling in connexion with the census are set forth in three sections: A. Features of acceptable sample operations, B. Sampling as an integral part of the census and C. The census as a basis for subsequent sample inquiries.

A. FEATURES OF ACCEPTABLE SAMPLE OPERATIONS

(1) Accuracy

108. The use of sampling in a census involves an awareness of the precision desired in a sample estimate. The higher the precision the larger and/or more complex the sample, and hence the more expensive. Distinction is to be made between precision of a sample estimate, as measured by the sampling error (which gives the difference between the estimates obtained from a sample and from a complete enumeration under the same general conditions of the inquiry) and accuracy, as measured by the difference between the true value (which is generally unknown) and that obtained from an inquiry, whether on a sample or a complete enumeration basis. For this reason, in the case of a sample inquiry, accuracy includes both sampling errors and non-sampling errors.

109. For the successful execution of a scientifically designed sampling plan, it is essential that strict selection procedures be followed. The procedures must be such that a known positive probability is assigned to every unit in the sampling population. These probabilities are needed for estimating population values and for calculating the measures of precision of these estimates. Good selection procedures require that deviations from prescribed standards or instructions be minimized.

110. Although estimated results based on samples are subject to sampling errors in addition to whatever errors may be present in data based on a complete operation, the smaller scale of a sample operation may make it possible to employ interviewers of higher calibre, to devise and pose questions of greater detail and to minimize response errors.

111. Consideration should be given to the use of parallel samples, that is, interpenetrating networks of samples¹ to supply controls at the point of collection of the data and also estimates of the margin of uncertainty of the sample estimates.

¹ See *Recommendations for the Preparation of Sample Survey Reports* (provisional issue) (United Nations publication, Sales No.: 64.XVII.7), p. 9, item 18.

(2) Census resources

112. Effective planning of sample operations consists in meeting the requirements of accuracy by making judicious use of whatever expert knowledge and equipment are available in a particular country. It is obvious that sample plans aimed at the same objective may vary from country to country, depending on the quality and quantity of census resources. In planning a sample operation as part of the census effort, it is important to bear in mind considerations of cost and of competent direction.

113. The question of cost in sampling is of crucial significance. Numerous factors govern the cost of a sample and it is essential that these be fully weighed before a decision is made to associate a sample plan with a complete count. One important factor, for instance, is the size and complexity of the sample, which in turn is governed by the objectives of the survey and the procedures which are regarded as most efficient. The cost of a sample operation can be substantially lower if only a few geographical and cross-classification details are required.

114. Sample operations should be conducted under the direction of a competent statistician who is conversant with both the theory of sampling and the practical difficulties of carrying out surveys. The advice of such a statistician is indispensable at all stages of the sample procedure, that is, from planning of the sample to estimation of population values.

B. SAMPLING AS AN INTEGRAL PART OF THE CENSUS

115. Depending on the types of problems to be tackled, a country may consider applying sampling methods in one or more of the following phases of a housing census: (1) Tests of census procedures, (2) Enumeration of topics in addition to those for which universal coverage is required, (3) Post-enumeration field checks, (4) Quality control of data processing, (5) Advance tabulation of selected topics and (6) Final tabulation.

(1) Tests of census procedures

116. Planning the various phases of a census often involves choosing among several alternative procedures. Tests conducted on a sample basis provide the best means of determining which alternative to use. The results of such tests facilitate a more desirable allocation of available census resources than is possible otherwise, and thus assist any country to undertake a census programme adapted to its needs and capacities.

117. The nature and extent of census testing depend on the information which is available from previous censuses or elsewhere. The general lack of prior housing

statistics makes it difficult to assess in advance the variability of the statistical material to be investigated and also the quality of the interviewers. Therefore, there is usually a need to obtain an idea of these factors by means of an intensive pilot survey. Countries which expect to expand the scope of their censuses rather substantially in relation to their previous censuses may also have to have quite extensive recourse to census tests. This may warrant a broad experimental approach to the entire census plan.

118. If no previous information is available concerning the variability of the important characteristics to be investigated by sampling in the census, a pilot survey can be used to obtain such an estimate. The precision of the results to be obtained by subsequent sampling procedures can then be calculated in advance and the probable limits of error of estimation can be stated for each figure to be estimated. This important feature of sampling makes it possible to design the sample in accordance with the precision required for the uses that are to be made of the data, or with the precision possible within the range of permissible costs.

119. When carrying out census tests random sampling need not always be employed. Non-random or purposive samples may be used where, for testing the effectiveness of a projected course of action, it is not necessary to base the final decision on any quantitative measures derived from data obtained by means of the test, and particularly where the biases introduced are not of very great significance for the problems investigated. The tests of many procedures require duplication of the coverage and procedures within a compact area. In such a case, it is seldom feasible to include a sufficient sample of such areas to obtain representative coverage. The results for the area or areas actually covered must be projected to the expected total on the basis of general knowledge of the representativeness of the areas. In such cases, a purposive selection of one or a few areas is generally preferable to a random selection. Purposive samples are also particularly useful when it is necessary to test census questionnaires and methods in areas with particularly difficult conditions. On the other hand, when quantitative measures are needed for comparing efficiencies of different sample procedures (for instance, in examining the anticipated response errors arising from different systems of enumeration) random sampling must be used.

(2) *Enumeration of topics in addition to those for which universal coverage is required*

120. The rapidly growing needs in a number of countries for extensive and reliable housing data have made sampling methods a very desirable adjunct of any complete census. Sampling is increasingly being used for broadening the scope of the census by asking a number of questions for only a sample of housing units. Modern experience in the use of sampling techniques has confirmed that it is not necessary to gather all housing information on a complete basis; the sampling approach makes it feasible to obtain required data of acceptable accuracy when factors of time and cost might make it impracticable or other considerations make it unnecessary to obtain the data on a complete count basis.

121. Information which is collected for only a sample of living quarters may be obtained by one of two different methods. Either the same interviewers may ask the questions, or specially trained interviewers may be engaged for enumerating the sample. The first method may be used where it is fairly simple to obtain the information by conventional enumeration techniques; the second method is used where ordinary enumeration methods are not expected to elicit accurate answers to the questions and where the sample size can be kept small. In general, the choice depends on the nature and manner of asking the questions, which in turn are determined by considerations of cost and accuracy and of the nature of the data to be collected. It depends also on the nature of the staff available, and on the facilities for training and supervision.

122. Sampling field staff in connexion with a housing census is often required to compile detailed information from the respondents, and may have to make subjective decisions to place a respondent's answer under the correct category. For this reason, sampling field staff is required to be of a high calibre, well trained and preferably with prior experience and/or knowledge with regard to housing statistics. Because housing censuses often take place in conjunction with population censuses, the scope of the housing data to be collected may have to be limited by the quality of the interviewers.

123. The suitability of particular questions for a sample enumeration depends on the precision with which results are needed for small areas, population groups or groups of living quarters and on the enumeration costs involved. Account has also to be taken of the desirability of having results of high precision on basic topics for areas of various sizes, since such results can serve as bench-marks for numerous subsequent inquiries.

(3) *Post-enumeration field checks*

124. As the scope of the modern census is ever-increasing with time, the problem of attaining census data of high quality is becoming both more important and more difficult. In the present state of census practice, no procedure is yet available which can keep the census enumeration entirely free from errors. It is extremely important, however, that departure from accuracy and completeness does not exceed reasonable limits.

125. Census enumeration extends to every census unit and involves numerous questions; it cannot therefore be completely checked since, in that case, the cost of re-enumeration would be prohibitive and the burden of response imposed on the public excessive. An effective way of determining the types and magnitudes of errors in the census enumeration is the re-enumeration of samples of census units for certain questions as soon as possible after the census day.

126. Post-enumeration field checks 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 for subsequent censuses is greatly eased.

127. As mentioned earlier (see paragraph 119), random sampling need be used only when quantitative measures are required for appraising the census data

(for instance, in determining the amount of under- or over-enumeration) with the best possible precision. Non-random or purposive samples may be used where quantitative measures derived from the sample data are not of crucial importance for testing the effectiveness of a certain census procedure. However, in choosing between a random and a purposive sample, it is well to keep in view the requirements of future housing inquiries, including the next census, since a random sample, although it may be more expensive from the immediate viewpoint, may well provide a scientific and continuing basis for planning future inquiries of a related nature.

128. Quality of census data may be adversely affected by content errors and by errors in coverage. Content errors here involved are errors in respondents' answers, biases and errors on the part of the interviewer and biases and errors arising from imperfection in the design of the questionnaire. These content errors can be subjected to critical census tests preceding the actual census, but experience has shown that post-enumeration field checks are necessary to determine the nature and extent of such errors in the census enumeration.

129. Special precautions should generally be taken in order to avoid errors in the collection of information from the sample selected for the post-enumeration field check. The check should be conducted as closely as possible to the date of the original census, so that the best enumerators from the census can be used for the re-enumeration. Other advantages of such timing are that (a) there will have been a minimal movement of population, (b) respondents will still have freshly in mind the information as of the date of the census, and (c) the public will be prepared to co-operate with the new inquiry because they have not forgotten the publicity and other activities connected with the census. The best of the supervisors and enumerators from the regular census should be selected to serve on the post-enumeration field check; they should receive intensive training and should be remunerated on a basis allowing them ample time to obtain valid replies. When necessary, their work should be verified by cross-checks with other elements of information.

130. To accomplish its purpose, a true post-enumeration field check, particularly one instituted to check coverage errors, should meet three separate requirements, which are:

(a) It should constitute a separate count independent of the original enumeration;

(b) It should be representative of the whole country, of all population groups and of all groups of living quarters, and

(c) It should involve one-to-one matching and reconciliation of records.

131. The ultimate sampling units for re-enumeration should be clearly defined and should preferably be operationally convenient geographic areas, taken from a comprehensive frame consisting of enumeration districts, preferably the enumeration districts used in the original census.

132. Representativeness in respect of the whole geographic area and of all population and living quarter groups calls for the post-enumeration field check to be carried out in a well-designed random cluster sample,

large enough to give at least an evaluation of the enumeration in the country as a whole and in its major civil divisions, since determination of quantitative measures of under- and over-enumeration is one of the important objectives of the procedure.

133. The one-to-one matching of census schedules to post-enumeration field check schedules is the essence of the reinterview method of census evaluation. Identification of living quarters and the household may be difficult in those parts of the world where names lack uniqueness and where street names and house numbers are practically non-existent. Nevertheless, since the efficacy of the post-enumeration field check as a remedial measure in census taking rests on the identification of errors and their correction, comparisons must be made on a one-to-one basis to the degree possible.

134. In contrast to a post-enumeration sample check in connexion with a population census, which should confine itself to the topics asked during census enumeration, during a post-enumeration sample check in connexion with a housing census, one could ask questions on housing topics additional to those asked during the census enumeration because of the permanence of the sampling units, viz., living quarters.

(4) *Quality control of data processing*

135. Sampling can be used effectively for measuring and controlling the quality of census processing operations. These include the editing of questionnaires, their coding, the recording of data on punched cards (or tape production) and their verification, some computations (rates etc.) and the tabulation of figures. Even in a country of medium size, these operations involve millions of questionnaires and a far greater number of columns of figures and of perforations.

136. Under appropriate conditions, sample inspections and, in particular, quality control techniques make it possible to control effectively and economically the quality of census data processing, 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. This course results in a much lower census cost than if the control had been performed on a complete basis. Moreover, it is, in any case, not justified to increase the processing costs of a census beyond a certain point for improving the accuracy of census results since these will still be affected by defects in enumeration (e.g., incompleteness of enumeration, response errors etc.) and other errors independent of processing. When final tabulations are in view, attention has to be paid to the accuracy of figures in a series of detailed cross-tabulations, especially those concerning relatively small areas or small groups of living quarters. This demands accuracy in small lots of data and imposes more stringent conditions in the application of statistical methods of quality control than if only larger areas or groups were to be considered.

137. For clerical processes, such as coding, key punching etc., primary controls should be on the work of individuals since the difference among individuals is a major component of variation in quality. The quality of work of an individual may vary significantly over time. Therefore, it is desirable to compute error rates frequently. In addition, each person should undergo a

qualifying period at the beginning of the operation during which his work is verified intensively, in some cases at the 100 per cent level.

138. Every effort should be made to keep operational features as simple as possible. Work to be verified should be designated by one person in each work unit rather than by making each verifier responsible for the application of sampling instructions. In general, a systematic pattern of selection with random starts is preferable to a random one. Measures of quality must be adaptable to simple record-keeping systems.

139. An inspection level of x per cent does not automatically ensure a cost saving of $100 - x$ per cent. Cost estimates must take into account 100 per cent inspection during the training period, fixed costs of handling inspection lots, 100 per cent inspection of rejected lots, costs of designing and selecting the sample and extra record keeping.

(5) *Advance tabulation of selected topics*

140. A complete national census is a huge undertaking particularly when the housing census and the population census are carried out as a combined operation. Unless sampling methods are introduced, several years may elapse beyond the date to which the census refers before some of the tabulations of the greatest economic and social interest are published. This lag may be expected in countries which are large and which do not take censuses regularly and frequently, and also in the economically less developed countries where little or no funds can be devoted to modern tabulation equipment. The danger is, however, no less serious in countries where modern tabulation equipment is available in large quantities, since most of the increased capacity of such equipment has to be utilized to meet the heavy additional demands made by the modern census in those countries.

141. It is natural, therefore, that advance provisional tabulation should be the most frequent application of sampling to census work and perhaps the first one to be made in many countries. Although it is true that in most countries interviewers prepare summaries referring to the number of living quarters, households and persons enumerated and some other basic facts at the time of enumeration, there is nevertheless a definite need for early tabulation of some of the results, such as the distribution of the population by type of living quarters, which cannot be derived from interviewers' preliminary reports. The need for advance tabulation is evident even in a small country which takes censuses regularly. It should be mentioned at this point that advance sample tabulations can be used to the best advantage when they are obtained for fairly large areas and for the country as a whole.

142. If only a sample of returns is processed and used for tabulation, the advance estimates of the basic census results thus obtained would be of current validity. The housing situation may be undergoing such rapid changes that the processing of an advance sample may present a more up-to-date picture than would a complete tabulation. An important consideration in selecting topics for the advance sample tabulation is their variability since sampling errors may tend to obscure changes that have occurred.

143. Securing advance tabulations through sampling has certain disadvantages. The results tabulated for the sample units have to be integrated with those tabulated for the non-sample units to give the final results. These operations may increase the total tabulation time of the census and its cost beyond what they would be without the special tabulation of advance results. Precautions are necessary in order to minimize the delay that may be caused in the preparation of the final results. To that end, the census plan should carefully co-ordinate the special tabulation of advance results and the tabulation of final results. One solution is to use priority processing for the sample areas and to duplicate punch cards or summaries for them; the duplicates should be processed to give the sample results and all records should be processed to give the complete results.

144. If sampling has been used as an integral part of a complete enumeration to broaden the scope of the census, by obtaining supplementary information, the same sample of living quarters will also provide a sample for advance tabulations of the census proper. Such a sampling scheme, if it is devised efficiently with a view to securing additional census information by small administrative units, may offer excellent opportunities of conveniently obtaining advance tabulations by the same administrative units.

145. Even when no sampling has been used in the actual enumeration, the sample design for advance tabulations may be comparatively simple because the complete census returns provide the sampling frame and the domain or domains of study. Advantage may also be taken of the efficiency of using small sampling units (e.g., living quarters or small areas) as the smallest units are actually the easiest to define in the census returns.

146. A sample in connexion with a housing census may be of multistage design with enumeration districts at the first stage and living quarters at the second. The list of enumeration districts provides a convenient frame at the first stage; also the enumeration districts tend to exhibit permanence. It is then necessary to list the living quarters for the selected enumeration districts only.

(6) *Final tabulation*

147. The principal limitations of completely tabulating all the information collected in a housing census are time and money. Consequently, tabulation programmes frequently provide for the complete tabulation of those elements of information which are regarded as of sufficient importance for small administrative areas, while certain other characteristics are tabulated only on a sample basis. Sampling is thus used to extend the scope of census tabulations and for obtaining data for special housing studies.

148. There are certain housing characteristics about which information may be needed only by large areas and for the country as a whole. Sampling makes it possible to obtain detailed tabulations for large areas with reasonably small sampling errors and at a much reduced cost and in shorter time than needed for tabulations on a complete basis. However, since one of the purposes of a housing census is to serve local interests, the feasibility of sampling is determined to some extent by the size of the smallest localities for

which separate tabulations are needed. In order to obtain data of acceptable precision for these divisions and localities, it may be necessary to use high sampling fractions in view of the great variability in housing statistics. There may be instances where even the use of high sampling fractions fails to give results of acceptable precision; in such cases it would be inadvisable to use sampling methods.

149. Even greater savings in cost and time than in the case of simple tabulations are achieved if cross-tabulations are prepared on a sample basis. However, it should be borne in mind that sample tabulations imply some reduction of detailed cross-classifications. Moreover, it is possible that such cross-tabulations may result in a number of cells which include a small number of units and, therefore, have high sampling errors.

C. THE CENSUS AS A BASIS FOR SUBSEQUENT SAMPLE INQUIRIES

150. A sampling frame may be a list of small areas, structures or living quarters. The census can be such a frame; in fact the census can be the only frame for subsequent sampling in the many countries which have neither good maps, village lists, nor lists of living quarters. 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. Each of these five types of defects in a frame introduces defects of a different type in the sample procedure. Emphasis should be laid at this point on the importance of up-dating the frame to the date of the sample inquiry. Otherwise the inquiry results would refer to the date at which the frame was last revised. It is desirable to investigate carefully those parts of a housing census which are to be used as the sampling frame for a proposed sample survey, since some defects are not at all apparent until a detailed examination has been made. This objective may be accomplished by examining the relevant administrative machinery of the census and the way in

which the census information is kept up to date; sometimes the investigation may even entail a certain amount of field work.

151. Although this remedy is appropriate when the frame in question is a housing census already enumerated and processed, a much more effective approach towards avoiding the above-mentioned defects would be to give very careful consideration to the problem at the stage of planning the census. A census can serve as a reasonably acceptable frame if, in addition to careful planning, the various phases of the census are executed with proper care and if the obstacles to successful execution are fully recognized.

152. Maps and prior census information concerning small areas are very important for devising a good sample plan. Maps are particularly valuable if they unambiguously indicate boundaries of very small areas and the number of living quarters, households or inhabitants living within the boundaries. This prior information need not necessarily be very accurate or up to date if it is used for grouping or stratification.

153. Reference is made to part IV which discusses the units of enumeration used in censuses of housing which furnish the common sampling frame for subsequent sample inquiries. If data on types of living quarters are available from previous censuses of housing and/or buildings, preferably up-dated by the use of current statistics, stratification by type of living quarters could form the basis of an efficient sampling scheme.

154. For many subsequent sample inquiries, the main census results may be available for use as supplementary information. The availability of individual records or punch cards, the data on which have been checked, makes it possible to select sample units from those which show characteristics relevant to the sample inquiry. Stratification and ratio estimation can thus readily be used, whereas they are difficult or impossible to employ when sampling is used as an integral part of the census, such as in tabulating advance results.

Part IV

UNITS, PLACE AND TIME OF ENUMERATION

A. UNITS OF ENUMERATION

155. Three units of enumeration are used in carrying out housing censuses: (a) living quarters (i.e., housing units and living quarters other than housing units); (b) households, and (c) buildings. It is important to bear in mind that, in statistical terms, these three concepts are clearly distinguishable. There is not necessarily an identity of exact correspondence among them nor are the terms themselves interchangeable. Several households may live together in one set of living quarters and one household may occupy more than one set of living quarters (see paragraph 202). Similarly, several sets of living quarters may together occupy one building and one set of living quarters may occupy more than one building.

156. In carrying out a census, it is essential that the units of enumeration be clearly defined and that the definitions be included in manuals of instruction for the enumeration and in census reports. The various units of enumeration are discussed separately below.

(1) *Living quarters*

157. The principal units of enumeration in a census of housing are living quarters. Only by recognizing them as such can data be obtained that will provide a meaningful description of the housing situation and a suitable basis for the formulation of housing programmes.

(a) *Definition of living quarters*

158. Living quarters are structurally separate and independent places of abode. They may (a) have been constructed, built, converted or arranged for human habitation, provided that they are *not* at the time of the census used wholly for other purposes and that, in the case of mobile housing units, improvised housing units and living quarters other than housing units, they are occupied at the time of the census, or (b) although not intended for habitation, actually be in use as such at the time of the census. (For types of living quarters, see paragraph 166.)

(i) *Separateness and independence*

159. The essential features of living quarters are separateness and independence. An enclosure may be considered as *separate* if surrounded by walls, fences etc. and covered by a roof so that a person, or group of persons, can isolate themselves from other persons in the community for the purpose of sleeping, preparing and taking their meals or protecting themselves from the hazards of climate and environment. Such an enclosure may be considered as *independent* when it has direct access from the street or from a public or communal staircase, passage, gallery or grounds, i.e., when the occupants can come in or go out of their living quarters without passing through anybody else's premises.

160. Attached rooms having an independent entrance, or detached rooms for habitation which have clearly been built, rebuilt, converted etc. to be used as a part of the living quarters should be counted as part of the living quarters. Thus, living quarters may be constituted by rooms or groups of rooms with independent entrances or by separate buildings.

(ii) *Permanence*

161. Living quarters may be permanent or semi-permanent buildings or parts of buildings intended for habitation, or natural shelters not intended for habitation but actually used as places of abode on the day or night established as the time reference of the census.

(iii) *Habitation*

162. Living quarters originally intended for habitation and used wholly for other purposes at the time of the census should normally be excluded from the census coverage, while shelters not intended for habitation, but occupied at the time of the census, should be included. In some circumstances, it may be convenient to make a separate count for national purposes of the living quarters originally intended for habitation but used wholly for other purposes at the time of the census and *vice versa*. In such cases, specific instructions for the enumeration of these must be supplied.

(iv) *Living quarters under construction, newly constructed, being demolished or awaiting demolition*

163. Instructions should be issued so that it is clearly understood at what stage of completion living quarters should be included in the housing census. They may be included in the housing census as soon as construction has begun, at various stages of construction or when construction has been completed. Living quarters being demolished or awaiting demolition should normally be excluded. The system used should be consistent with that employed for the system of current statistics and it should avoid double counting where construction statistics are used to up-date the census data.

164. Special instructions will need to be issued concerning "core dwellings" in those countries where these are provided as a preliminary phase of dwelling construction (for a discussion of core dwellings, see paragraph 175).

(b) *Classification by structural type*

165. The living quarters defined in paragraph 158 are either housing units or living quarters other than housing units. Normally the collection of information concerning housing units will be considered of first importance in a housing census since it is in housing units that the bulk of the population permanently lives.

Furthermore, housing units are intended for occupancy, or occupied, by households, and it is with the provision of accommodation for households that housing programmes are mainly concerned. However, certain types of "living quarters other than housing units" are also of significance with respect to the housing conditions of households; these include hotels, rooming houses and other lodging houses and camps occupied by households. Housing units should be classified so as to distinguish at least conventional dwellings from other types of housing units. It should be emphasized that without an adequate classification of living quarters no meaningful analysis of housing conditions based on housing census data is possible.

166. The classification outlined below and described more fully in paragraphs 168 to 196 has been designed to group in broad classes housing units and living quarters other than housing units with similar structural characteristics. The distribution of occupants (population) among the various groups supplies valuable information about the housing accommodation available at the time of the census. The classification also affords a useful basis of stratification for sample surveys.

Living quarters (para. 158)

1.0.0 *Housing units* (para. 169)

1.1.0 Conventional dwellings (para. 171)

1.2.0 Mobile housing units (para. 179)

1.3.0 Marginal housing units (para. 181)

1.3.1 Improvised housing units (para. 182)

1.3.2 Housing units in permanent buildings not intended for human habitation (para. 184)

1.3.3 Other premises not intended for human habitation (para. 186)

2.0.0 *Living quarters other than housing units* (para. 187)

2.1.0 Hotels, rooming houses or other lodging houses (para. 190)

2.2.0 Institutions (para. 191)

2.3.0 Camps (para. 192)

2.4.0 Living quarters not otherwise classifiable (para. 193)

(i) *Minimum classification of housing units and living quarters other than housing units*

167. Not all the categories in the above classification are of importance under all circumstances. For example, in some countries, certain of the groups may not need to be considered separately, while in others it will be convenient to subdivide them into smaller groups. However, some of the categories are of special significance for assessing the housing situation and should be distinguished even where a simplified classification is employed. Where the classification is reduced, at least conventional dwellings should be separately distinguished.

(c) *Definitions of each type of living quarters*

168. A more precise description of the categories shown in paragraph 166 is given below.

(1.0.0) *Housing unit*

169. A *housing unit* is a separate and independent place of abode intended for habitation by one household,^{1, 2} or one not intended for habitation but occupied

¹ Although *intended* for habitation by one household, a housing unit may, at the time of the census, be occupied by one or more households or by a part of a household.

² For definition of "household", see paragraph 201.

as living quarters by a household² at the time of the census. Thus it may be an occupied or vacant dwelling, an occupied mobile or improvised housing unit or any other place occupied as living quarters by a household² at the time of the census. This category includes housing of various levels of permanency and acceptability and therefore requires further classification in order to provide for a meaningful assessment of housing conditions.

170. It should be noted that housing units on the grounds or within the buildings housing an institution, camp etc. should be separately identified and counted as housing units. For example, if, in the grounds of a hospital, there is a separate and independent house intended for the habitation of the director and his family, the house should be counted as a housing unit. In the same way self-contained apartments located in hotel buildings should be counted as housing units if they have direct access to the street or to a common space within the building. Similar cases will need to be identified and described in the instructions for the enumeration.

(1.1.0) *Conventional dwelling*

171. A *conventional dwelling* is a room or suite of rooms and its accessories in a permanent building or structurally separated part thereof, which by the way it has been built, rebuilt or converted, is intended for habitation by one household and is not, at the time of the census, used wholly for other purposes. It should have a separate access to a street (direct or *via* a garden or grounds) or to a common space within the building (staircase, passage, gallery and so on). Examples of dwellings are houses, flats, suites of rooms, apartments etc.

172. By *permanent building* is understood a structure which may be expected to maintain its stability for ten years or more. It is recognized that the criterion of permanency or durability is difficult for the census enumerators to apply and that its adaptation to local conditions would require considerable study and experimentation by the national offices with respect to the significance of materials and methods of construction.

173. It may be noted that the terms dwelling, dwelling unit, dwelling house, residential dwelling unit, family dwelling, house, *logement*, *vivienda*, *unidad de vivienda* and so forth have been used indiscriminately to refer to living quarters of any type. The term "dwelling" is here limited to a housing unit located in a permanent building and designed for occupancy by one household. Although a dwelling is a housing unit intended — i.e., constructed or converted — for habitation by one household it may, at the time of the census, be vacant or occupied by one or more households or by a part of a household.

(i) *Dwellings which do not fully comply with the definition*

174. As already noted (paragraph 167) it may be necessary under some circumstances to expand the classification of housing units recommended. Such instances may arise in countries where a certain proportion of the housing inventory comprises housing units which possess some of the characteristics attributed to dwellings but which fall short of the

definition in certain respects. For example, in some countries "core" or "nuclear dwellings" around which a dwelling will eventually be constructed are provided as part of housing programmes. In others a significant proportion of the housing inventory is composed of dwellings which are constructed, by traditional methods, of locally available crude materials and which may be less permanent than dwellings of more conventional construction and technically improved materials. Because of the prevalence of core dwellings and semi-permanent dwellings they are discussed separately in the following paragraphs.

a. *Core dwellings*

175. Many countries with insufficient resources to meet their housing needs have attempted to alleviate the housing conditions of the population living in squatter areas by providing core or nuclear dwellings. Under these programmes the households move their improvised shacks from the squatter area to a new location, the idea being that gradually, and generally with government assistance of one kind or another, the households with core or nuclear dwellings will add to the nucleus until they can abandon their shacks entirely.

176. A core dwelling is sometimes only a sanitary unit containing bathing and toilet facilities to which may be added, in subsequent phases, the other elements which will finally comprise the completed dwelling. Such units do not fall within the definition of dwelling as set forth in paragraph 171. Obviously, however, although the household continues to occupy its original shelter (which would probably be classified as an "improved housing unit") its housing situation is vastly improved over that of households remaining in the squatter areas and the provision of the cores is a significant step towards the alleviation of housing shortages.

177. The problem is, therefore, one of reflecting in the statistics the improvements brought about by programmes such as those described above without distorting the data that refer to fully constructed conventional dwellings. It is recommended, therefore, that core dwellings should be counted as dwellings in the census if they have at least one room³ in addition to the sanitary facilities completed and also that those that have not reached this stage of completion should be recorded as cores. Arrangements should be made so that the facilities available in the core can be related during data processing to the households for whose use they have been provided.

b. *Semi-permanent dwellings*

178. Some countries will wish to give particular attention to conventional dwellings that have been constructed or erected with locally available crude materials such as bamboo, palm, straw or any similar vegetable materials. Such units often have mud walls, thatched roofs etc., and may be expected to last for only a limited time (a few months to ten years) although occasionally they may last for longer periods. This category is intended to cover housing units that are typical and traditional in many tropical rural areas. They normally correspond to a certain stage of cultural development, and in some countries they

are of special significance for large sectors of the population. Such units may be known as cabins, *ranchos* or *bohios* (Latin America), *barastis* (Bahrein), *barong barong* (Philippines) etc.

(1.2.0) *Mobile housing units*

179. A *mobile housing unit* is any type of living accommodation which has been made to be transported (such as a tent) or which is a moving unit (such as a ship, boat, barge, vessel, railroad car, caravan, trailer, yacht etc.) occupied as living quarters at the time of the census. Trailers and Bedouin tents used as permanent living quarters are of special interest.

180. Although mobile housing units are significantly different from other housing units in that they can be readily moved or transported, mobility in itself is not necessarily a measure of quality. For the assessment of housing conditions in countries with a substantial number of mobile units, it may be useful to further classify them as tents, wagons, boats, trailers etc.

(1.3.0.) *Marginal housing units*

181. *Marginal housing units* comprise three sub-groups, viz; "Improvised housing units"; "Housing units in permanent buildings not intended for human habitation", and "Other premises not intended for habitation". These units are characterized by the fact that they are either makeshift shelters constructed of waste materials and generally considered unfit for habitation (squatters' huts for example) or places which are not intended for human habitation although in use for the purpose at the time of the census (barns, warehouse, natural shelters etc.). Under almost all circumstances such places of abode represent unacceptable housing and they may be usefully grouped together in order to analyse the housing conditions of the population and for the purpose of estimating housing needs. Each subgroup is defined below.

(1.3.1) *Improvised housing units*

182. An *improvised housing unit* is an independent, makeshift shelter or structure built of waste materials and without a predetermined plan, for the purpose of habitation by one household and which is being utilized as living quarters at the time of the census. In this category are included squatters' huts (United States of America), *poblaciones callampas* (Chile), *hongos* (Peru), *favelas* (Brazil), *sarifas* (Iraq), *Jhuggi* (India and Pakistan), *gubuk* (Indonesia), *gececondu* (Turkey) and any similar premises arranged and used as living quarters though they may not comply with generally accepted standards for habitation. This type of housing unit is usually found in urban and suburban areas, particularly at the peripheries of the principal cities.

183. There is wide variation in the procedures and criteria used in classifying these units. There are many borderline cases and the countries will need to make decisions and issue detailed instructions on how to enumerate and classify improvised housing units.

(1.3.2) *Housing units in permanent buildings not intended for human habitation*

184. Included in this category are housing units (in permanent buildings) that have *not* been built, constructed, converted or arranged for human habitation but which are actually in use as living quarters at the time of the census. These include housing units in stables,

³ For definition of "room", see paragraph 324.

barns, mills, garages, warehouses, offices, booths and so forth.

185. Premises which have been converted for human habitation, although not initially designed or constructed for this purpose, should *not* be included in this category.

(1.3.3) *Other premises not intended for human habitation*

186. This category refers to living quarters which are not intended for human habitation or not located in permanent buildings but which are, nevertheless, used as living quarters at the time of the census. Caves and other natural shelters fall within this category.

(2.0.0) *Living quarters other than housing units*

187. "Living quarters other than housing units" include structurally separate and independent places of abode intended for habitation by large groups of individuals or several households and occupied at the time of the census. Such quarters usually have certain common facilities, such as cooking and toilet installations, baths, lounge rooms or dormitories, which are shared by the occupants. As indicated in paragraph 166 they may be further classified into hotels, rooming houses and other lodging houses, institutions and camps.

188. As noted in paragraph 170, housing units on the grounds or within the building housing an institution, camp, hotel etc. should be separately identified and counted as housing units.

189. The criteria established for the identification of living quarters other than housing units are not always easy to apply and it is sometimes difficult for an enumerator to decide whether living quarters should be classified as a housing unit or not. This is particularly true in the case of buildings occupied by a number of households. The enumerator should be given clear instructions as to when the premises occupied by a group of people living together are to be considered as a housing unit or as living quarters other than a housing unit.

(2.1.0) *Hotels, rooming houses and other lodging houses*

190. This group comprises permanent structures which provide lodging on a fee basis and in which the number of boarders or lodgers exceeds five. Hotels, motels, inns, boarding houses, *pensions*, lodging houses, fall within this category.

(2.2.0) *Institutions*

191. This group covers any set of premises in a permanent structure or structures designed to house groups (usually large) of persons who are bound by either a common public objective or a common personal interest. In this type of living quarters, persons of the same sex frequently share dormitories. Hospitals, military barracks, boarding schools, convents, prisons etc., fall within this category.

(2.3.0) *Camps*

192. Camps are sets of premises originally intended for the temporary accommodation of persons with common activities or interests. In this category are included military camps, refugee camps and camps established for the housing of workers in mining, agriculture, public works or other types of enterprises.

(2.4.0) *Living quarters not otherwise classifiable*

193. This is a residual category for living quarters which may not conform to the definitions of those included in groups 2.1.0 through 2.3.0. It should be utilized only when the number of units in question is small. Where the number is substantial it should be possible to include in separate groups the living quarters having characteristics which are similar and also of significance for an appraisal of housing conditions.

194. In some countries it seems that certain types of multihousehold living quarters have emerged in response to the particular needs of the population and that the characteristics of these quarters enable them to be readily identified by an enumerator. It may be useful in these countries to provide a separate subgroup for any such special types in carrying out the census. An example of such a subgroup is described below.

(i) *Multihousehold living quarters (living quarters intended for habitation by more than one household)*

195. This group includes buildings and enclosures intended for communal habitation by several households. In these, structurally separate and independent living quarters for occupancy by individual households are *not* provided. This category would include housing arrangements existing in certain countries such as long houses (Sarawak) and *qibbuz* (Israel).

196. It should be noted that the living quarters to be included in this category are those intended for communal habitation by several households, i.e., constructed or converted for this purpose. Housing units intended for occupancy by one household but which at the time of the census are occupied by several households are not to be included because this obscures the identification of households doubled up in dwellings (an important element in estimating housing needs). It is suggested that, in carrying out the census, a strict distinction be maintained between housing units occupied by more than one household and living quarters constructed or converted for communal habitation by several households.

(2) *Household*

197. For certain topics the household may serve more efficiently than living quarters as the unit of enumeration. For example, tenure is recommended to be collected for households rather than for living quarters (see paragraphs 327-329). Information about household possessions which are not normally included as part of the equipment of living quarters (radio and television receivers, for example) should be collected with reference to households. Information on rent, an item of significance in relation to both living quarters and households, would of necessity be collected in relation to the household.

198. For the purpose of a housing census, each household must be identified separately. Both the Seminar on Housing Statistics and Programmes for Asia and the Far East⁴ and the Latin American

⁴ *Report of the Seminar on Housing Statistics and Programmes for Asia and the Far East (Copenhagen, 1963)* (United Nations publication, Sales No.: 65.II.F.12).

Seminar on Housing Statistics and Programmes⁵ drew attention to the importance of using separate concepts of household and living quarters in carrying out housing censuses in order to permit the identification of the persons or groups of persons in need of a separate dwelling. If the household is defined as a group of persons occupying a set of living quarters, the number of households in living quarters and the number of occupied living quarters will always be equal and there will be no apparent housing need in terms of doubled-up households requiring separate living quarters. If living quarters are defined as the space occupied by a household, the number of households in living quarters will again be equal to the number of living quarters, with the added disadvantage that there will be no record of the number of structurally separate living quarters.

199. In countries in which it is traditional to count families, the family in the broad sense of the term may be adopted as an additional unit of enumeration; in the great majority of cases the composition of this unit will coincide with that of the household.

200. A *household*, for housing census purposes, should be defined in the same way as it is for population censuses. Therefore, the definitions that follow are the same as those set forth in *Principles and Recommendations for the 1970 Population Censuses*.⁶

(a) *Definition of a household*

201. The concept of "household" is based on the arrangements made by persons, individually or in groups, for providing themselves with food or other essentials for living. A household may be either: (a) a one-person household, that is, a person who makes provision for his own food or other essentials for living without combining with any other person to form part of a multiperson household or (b) a multiperson household, that is, a group of two or more persons who make common provision for food or other essentials for living. The persons in the group may pool their incomes and have a common budget to a greater or less extent; they may be related or unrelated persons or a combination of both.

202. Households usually occupy the whole, part of or more than one housing unit but they may also be found living in camps, in boarding houses or hotels or as administrative personnel in institutions or they may be homeless. Households consisting of extended families which make common provision for food or of potentially separate households with a common head, resulting from polygamous unions, may occupy more than one housing unit.

(b) *Persons not living in households*

203. Special provision must be made for the enumeration of persons who are not members of households. These include persons in military installations, in correctional and penal institutions, in the dormitories of schools and universities, in hospitals, in religious institutions and so forth.

204. Persons living in hotels or boarding houses do not belong in this category but should be distinguished

⁵ *Report of the Latin American Seminar on Housing Statistics and Programmes (Copenhagen, 1962)* (United Nations publication, Sales No.: 63.II.G.14).

⁶ United Nations publication, Sales No.: E.67.XVII.3, paras. 146-147.

as members of one-person or multiperson households, on the basis of arrangements which they make for providing themselves with the essentials for living. Personnel of institutions, not living in dormitories or similar accommodations, should be treated in the same way.

(3) *Building*

205. The *building* is regarded as an indirect but important unit of enumeration for housing censuses since the information concerning the building (building type, material of construction and certain other characteristics) is required to describe properly the living quarters located within the building and for the formulation of housing programmes. In a housing census the questions on building characteristics are normally framed in terms of the building in which the living quarters being enumerated are located, and the information is recorded for each of the housing units or other living quarters located within it.

(a) *Definition of building*

206. A *building* is any independent free-standing structure comprising one or more rooms⁷ or other spaces, covered by a roof and usually enclosed within external walls or dividing walls⁸ which extend from the foundations to the roof. However, in tropical areas, a building may consist of a roof with supports only, that is, without constructed walls; in some cases, a roofless structure consisting of a space enclosed by walls may be considered a "building" (see also "compound", paragraph 211).

207. A building may be used or intended for residential, commercial or industrial purposes or for the provision of services. It may, therefore, be a factory, shop, detached dwelling, apartment building, warehouse, garage, barn and so forth. In some exceptional cases facilities usually provided by a set of living quarters are located in two or more separate detached structures as when a kitchen is in a separate structure. In the case of living quarters with detached rooms, these rooms should be considered as separate buildings. A building may, therefore, contain several sets of living quarters as in an apartment building or duplex; it may be coextensive with a single detached set of living quarters or it may be only a part of a set of living quarters, e.g., living quarters with detached rooms which are clearly intended to be used as part of the living quarters.

208. The concept of "building" should be clearly defined and the instructions for the housing census should indicate whether all buildings are to be listed and enumerated or only those which are used entirely for residential purposes or in which some space is used as living quarters. Instructions should also indicate whether buildings under construction are to be recorded and, if so, at what stage of completion they are eligible for inclusion. Buildings being demolished or awaiting demolition should normally be excluded.

(b) *Classification of buildings by type*

209. The following classification by type is recom-

⁷ For definition of "room", see paragraph 324.

⁸ "Dividing walls" refer to the walls of adjoining buildings which have been constructed so that they are contiguous, e.g., dividing walls of "row" houses.

mended for buildings in which some space is used for residential purposes:

- (a) Buildings coextensive with a single detached housing unit;
- (b) Buildings containing more than one housing unit;
- (c) Buildings for persons not living in households;
- (d) All others.

210. For subsequent analysis of housing conditions, each country will find it useful to provide for separate identification of special types of buildings which are characteristic of the country concerned. For example, categories such as "shop/dwelling" may be included if required and information may be sought on whether the building is wholly residential, residential and commercial, mainly commercial and so forth.

(i) *Compound*

211. In some countries it may be appropriate to utilize the "compound" as a unit of enumeration. In some areas of the world living quarters are traditionally located within compounds and the grouping of living quarters in this way may have certain economic and social implications which it would be useful to study. In such cases it may be appropriate, during the census, to identify compounds and to record information suitable for linking them to the living quarters located within them.

B. PLACE OF ENUMERATION

212. As stated in paragraph 155, the principal units of enumeration in a housing census are living quarters, buildings and households. With the exception of mobile housing units, living quarters and buildings have a fixed location and the place where they are to be enumerated has not, therefore, to be considered. Information on households, however, and the persons in households can be collected and entered on the census questionnaire either where they are found on the day of the census or at the usual residence. The procedure followed in the housing census should be governed by that adopted in carrying out the population census where the two censuses are carried out simultaneously. Where the housing census is an independent operation, however, the procedure that is to be followed should be carefully considered since it may have a significant effect on the validity of the results of the housing census.

213. In compiling the census results by geographic areas each person can be included in either (a) the household (and hence the geographic area) where he was found on the day of the census or (b) the household (and the geographic area) where he usually resides. This allocation is not necessarily dependent upon the place at which information was collected for the individual but it can be simplified by the proper choice of a place of enumeration.

214. If only a "present-in-area" population distribution is wanted from the population census it is logical to enumerate each person at the place where he is found at the time of the census. If only a distribution by usual residence is required, it is more satisfactory to collect the information about each person at his place of usual residence. It should be noted, however,

that it is not always possible to collect information about each individual at his usual residence, as for example when an entire household is away from its usual residence at the time of the census. Some provision must therefore be made for collecting information about such persons at the place where they are found at the time of the census and for obtaining from a member of the household the necessary information concerning the household's usual living quarters to complete the housing questionnaire.

215. With the growing interest in obtaining information in the population census on households and families and on internal migration, it is becoming increasingly desirable to prepare population tabulations on the basis of usual residence rather than on the basis of place where found, since the latter is often temporary and so is not useful for the investigation of the above-mentioned topics. Since this coincides with the most desirable procedure to be followed in tabulating housing census data there would seem to be a strong case for enumerating persons at their usual residence. Also, although it is comparatively simpler to enumerate each person where he is found on the day of the census and to use a present-in-area population distribution, a usual-residence distribution is likely to be more accurate than a present-in-area distribution if the time required for enumeration is so long as to permit considerable movement of persons during the interval.

216. If it is desired to obtain information on both the usually resident population and the present-in-area population, then either each person present in each household on the census day, or each person present and each usual resident temporarily absent can be enumerated at the appropriate household. A clear distinction must then be made on the questionnaire, as applicable, among (a) persons usually resident and present on the day of the census, (b) persons usually resident but temporarily absent on the day of the census and (c) persons not usually resident but temporarily present on the day of the census.

217. Depending on the categories of persons enumerated at any given place, information may then be collected on the usual residence (address) of those only temporarily present and on the place (address) at which each temporarily absent person can be found. This information can be used both for allocating persons to the household, living quarters and geographic area with which they are to be counted, and for checking to be certain that no person is counted twice (i.e., at both his usual residence and the place where he was found). The procedures to be followed at the enumeration and through the subsequent allocation of persons must, however, be very carefully planned and strictly adhered to if the allocation is to be accurate.

218. Where persons and households are allocated to the place of usual residence they should also be allocated to the living quarters which they usually occupy. The living quarters which they are actually occupying at the time of the census should be counted as vacant if they are conventional dwellings or they should be excluded from the census if they are of a type other than conventional dwellings.⁹

⁹ By definition, all living quarters except conventional dwellings are required to be occupied in order to be included in the census.

219. Mobile housing units represent a special case as far as the place of enumeration is concerned. They should be enumerated where they are found on the day of the census, but, in accordance with the procedure adopted for the allocation of the population, mobile housing units may also be allocated to the area where the occupants usually reside provided that they are the usual living quarters of the occupants in the area of usual residence. Where they are not the usual living quarters of the occupants in the area of usual residence, the occupants would be allocated to their usual living quarters and the mobile housing unit would be excluded from the census.

C. ENUMERATION POINT OF TIME

220. One of the essential features of a housing census (see paragraphs 16-21) is that each person and each set of living quarters must be enumerated as nearly as possible in respect of the same well-defined point of time. Where there is a single census day, this is usually accomplished by fixing a census "moment" at midnight at the beginning of the census day. Each set of living quarters which has reached an established stage of completion and which is not scheduled for, or in the process of, demolition (see paragraph 163) should be included on a census schedule and counted as part of the housing inventory even though the process of completing the schedule does not take place until after the census moment or even after the census day and the living quarters may have been scheduled for demolition in the interim. Living quarters that have attained the prescribed state of completion after the census moment are not to be entered on a schedule (unless special instructions are issued for recording living quarters under construction) nor should they be included in the total number of living quarters.

221. Similarly, each person alive up to the census moment is included on a census schedule and counted

in the total population, even though the process of completing the schedule does not take place until after the census moment or even after the census day, and the person may have died in the interim. Infants born after the census moment are not to be entered on a schedule or included in the total population, even though they may be living when the other persons in their household are enumerated.

222. Where the amount of time required for enumeration is very long (exceeding one month) and the population is not likely to be able to supply information as of a single moment in the past, it may be necessary to employ different points of time in the enumeration, even to the extent of using the day of enumeration of each set of living quarters and the occupant households. If such a procedure is followed, it should be clearly explained in the census report and the total duration of the enumeration should be stated. For ease of reference and for the computation of intercensal indices, it is useful to designate a single date in the enumeration period as the official "census date". This date could be, for example, the day by which half of the population or living quarters had been enumerated.

D. TIME-REFERENCE PERIOD FOR DATA ON LIVING QUARTERS AND THE POPULATION

223. The data collected about the characteristics of living quarters and the population should be pertinent to a well-defined reference period. The time-reference period need not, however, be identical for all of the data collected. For most of the data, it will be the census moment or the census day; in some instances, however, it may be a brief period just prior to the census, as in the case of "rental" and of economic characteristics of the head of the household, or it may be a longer period as in the case of "period of construction of the building in which the living quarters are located".

Part V

TOPICS TO BE INVESTIGATED IN A HOUSING CENSUS

A. FACTORS DETERMINING THE SELECTION OF TOPICS

224. With reference to the selection of topics to be included in a housing census, attention is drawn to the importance of limiting statistical inquiries to the collection of data that can be processed and published within a reasonable period of time. Such admonitions are especially applicable in connexion with housing censuses since it is customary to conduct housing and population censuses as simultaneous or consecutive operations and there is more than the usual possibility that the amount of data included may be beyond the capacity of enumerators and data-processing facilities. It may be sufficient in some developing countries, for example, to ascertain only the number of housing units and other living quarters of various types, the number and characteristics of the occupants thereof and the availability of a water supply system. Indeed, it might be neither feasible nor desirable in some cases to do more, and, if more were attempted, the success of the census might be jeopardized.

225. However, it is false economy to collect housing data which are so incomplete that they fail to serve the principal purposes for which they are required. In this connexion, attention may be drawn to one of the main conclusions of the Seminar on Housing Statistics and Programmes for Asia and the Far East¹ in which the need was emphasized for close consultation between housing programmers and statisticians at an early stage in the preparations for a housing census in order to concentrate on providing the data most urgently required for housing programmes and supplying them in their most useful form.

226. The topics to be covered on the questionnaire (that is, the subjects regarding which information is to be collected for living quarters, households and buildings) should be determined upon balanced consideration of (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 adequate information on the topics; (d) the technical competence of the enumerators to obtain information on the topics by direct observation and (e) the total national resources available for enumeration, processing, tabulation and publication, which will determine the over-all feasible scope of the census.

(1) Priority of national needs

227. Prime importance should be given to the fact that housing censuses should be designed to meet

¹ Report of the Seminar on Housing Statistics and Programmes for Asia and the Far East (Copenhagen, 1963, para. 25.

national needs. The first consideration is that the census should provide information on the topics of greatest value to the country, with questions framed in such a way as to elicit data of maximum use to that country. Experience has shown that national needs will be best served if the census includes topics generally recognized as of basic value and defined in accordance with international standards.

228. It is recognized that many countries will find it necessary to include in the census topics of national or local interest in addition to the topics included in the recommendations, and that the census data may need to be supplemented by housing surveys in order to obtain information on topics which cannot be included in the census either because they would overburden the enumerator or because they require specially trained enumerators. It is also possible that some countries may omit from the census certain recommended topics because it can be assumed with a high degree of confidence that a particular facility, such as electricity for example, is available in virtually all living quarters in the country.

(2) Importance of international comparability

229. The desirability of achieving regional and world-wide comparability should be another major consideration in the selection and formulation of topics for the census schedule. National and international objectives are usually compatible, however, since international recommendations, being based on a broad study of country experience and practice, are recommendations of definitions and methods which have successfully met general national needs.

230. If the particular circumstances within a country require departures from international standards, every effort should be made to explain these departures in the census publications and to indicate how the national presentation can be adapted to the international standards.

(3) Suitability of topics

231. The topics investigated should be such that the respondents will be willing and able to provide adequate information on them. Those for which information is to be obtained through direct observation by the enumerator should be within his technical competence. Thus, 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 or the enumerator to answer easily. The exact phrasing for each question which is needed in order to obtain the most reliable responses will of necessity depend on national circumstances.

(4) Resources available

232. The selection of topics should be carefully considered in relation to the total resources available for the census. 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.

B. LIST OF TOPICS

233. The list of topics shown below includes "Recommended" topics and "Other useful" topics; the former are distinguished by asterisks (*). Together, the "Recommended" and "Other useful" topics comprise all of those which have been recommended as "basic" in at least one of the regional programmes for the 1970 housing censuses.²

234. The "Recommended" topics consist of (a) all those which are considered "basic" in all four of the regional programmes and (b) one additional topic, namely, "tenure", which is considered basic in three of the four regional programmes. The recommended topics are those required for the tabulations most urgently needed for the measurement and evaluation of housing conditions and for the formulation of housing programmes (see paragraph 343); a study of housing census experience indicates the feasibility of collecting information on these topics by means of housing censuses.

235. The "Other useful" topics (each of which has been recommended for investigation in at least one regional programme) may be investigated in accordance with regional needs. Even when they are of great interest to particular regions, they are usually not equal in importance to the "Recommended" topics. Their investigation should generally be considered only after it is determined that information on the "Recommended" topics will be made available. It should be emphasized that the list of other useful topics does not represent an expanded programme.

236. Each topic on the list is considered to be suitable for developing and developed countries alike. Those which are likely to present difficulties in statistically less developed countries, and which require time-consuming questioning, can probably best be investigated for a sample of living quarters (see paragraphs 120-123).

237. Certain topics which would provide useful information concerning the housing situation do not appear in the list because their inclusion in a census would present problems of enumeration which might hamper the census operation and/or lead to the collection of unreliable data. Examples of such topics are state of repair, value of living quarters and area of floor space. The collection of information on these topics could be more efficiently accomplished by means of sample surveys.

238. For convenience, the topics are grouped under three main headings: "Building in which living quarters are located"; "Living quarters", and "Occupants of living quarters". Within each of these groups the topics are arranged in alphabetical order. The paragraph

² For a tabular presentation of the topics recommended as basic in each regional programme, see the annex.

numbers in parentheses after each topic refer to the paragraphs in section C in which the definition and specifications of the topic are presented. The arrangement in section C is entirely alphabetical.

239. The following is the list of topics:

RECOMMENDED AND OTHER USEFUL TOPICS

Building in which living quarters are located — characteristics of

- * 1. Building — type of (para. 243)
- * 2. Construction material of outer walls (para. 255)
- 3. Year or period of construction (para. 338)

Living quarters — characteristics and facilities of

- 4. Bathing facilities (para. 240)
- 5. Bedrooms — number of (para. 242)
- 6. Cooking facilities (para. 258)
- * 7. Lighting — type of (para. 294)
- * 8. Living quarters — type of (para. 295)
- * 9. Location (para. 305)
- * 10. Occupancy status (para. 315)
- 11. Ownership — type of (para. 319)
- * 12. Rooms — number of (para. 324)
- * 13. Toilet facilities (para. 330)
- * 14. Water supply system (para. 336)

Occupants of living quarters — number and characteristics of

- * 15. Conjugal family nucleus (para. 249)
- 16. Demographic and economic characteristics of household head (para. 263)
 - * Age (para. 264)
 - Industry (para. 266)
 - Marital status (para. 268)
 - National and/or ethnic group (para. 274)
 - * Occupation (para. 276)
 - * Sex (para. 278)
 - * Type of activity (para. 279)
- * 17. Household (para. 289)
- * 18. Occupants — number of (para. 318)
- 19. Rental (para. 322)
- * 20. Tenure (para. 327)

* Recommended topic.

C. DEFINITIONS AND SPECIFICATIONS OF TOPICS (in alphabetical order)

(1) *Bathing facilities*

240. Information should be obtained on whether or not there is a fixed bath or shower installation within the premises of each set of living quarters. Additional information may be collected to show whether or not the facilities are for the exclusive use of the occupants of the living quarters and whether there is a supply of hot water for bathing purposes or cold water only. In some areas of the world the distinction proposed above may not be the most appropriate for national needs. It may be important, for example, to distinguish between availability of a separate room for bathing in the living quarters, a separate room for bathing in the building, an open cubicle for bathing in the building and the use of a public bath house.

241. For housing units occupied by more than a certain number of households (more than two, for example) and, for living quarters other than housing units, particularly those of the multihousehold and hotel/boarded house type, it may be useful to gather information on the number of fixed baths or showers available to the occupants. Such living quarters are usually equipped with multifacilities for the use of

large groups and information on the number of fixed baths or showers in relation to the number of occupants would be significant in analysing housing conditions.

(2) *Bedrooms — number of*

242. A bedroom is a room that is used principally and regularly for sleeping. Some countries may wish to count, in addition to bedrooms, all rooms regularly used for sleeping even though they are used principally as living rooms, dining rooms, kitchens etc. Each country should indicate the procedure that has been followed.

(3) *Building — type of*

(a) *Definition of building*

243. A *building* is any independent free-standing structure comprising one or more rooms³ or other spaces, covered by a roof and usually enclosed within external walls or dividing walls⁴ which extend from the foundations to the roof. However, in tropical areas, a building may consist of a roof with supports only, that is, without constructed walls; in some cases, a roofless structure consisting of a space enclosed by walls may be considered a "building" (see also "compound", paragraph 248).

244. A building may be used or intended for residential, commercial or industrial purposes or for the provision of services. It may, therefore, be a factory, shop, detached dwelling, apartment building, warehouse, garage, barn and so forth. In some exceptional cases facilities usually provided by a set of living quarters are located in two or more separate detached structures as when a kitchen is in a separate structure. In the case of living quarters with detached rooms, these rooms should be considered as separate buildings. A building may, therefore, contain several sets of living quarters as in an apartment building or duplex; it may be coextensive with a single detached set of living quarters or it may be only a part of a set of living quarters, e.g., living quarters with detached rooms which are clearly intended to be used as part of the living quarters.

245. The concept of "building" should be clearly defined and the instructions for the housing census should indicate whether all buildings are to be listed and enumerated or only those which are used entirely for residential purposes or in which some space is used as living quarters. Instructions should also indicate whether buildings under construction are to be recorded and, if so, at what stage of completion they are eligible for inclusion. Buildings being demolished or awaiting demolition should normally be excluded.

(b) *Classification of buildings by type*

246. The following classification by type is recommended for buildings in which some space is used for residential purposes:

- (a) Buildings coextensive with a single detached housing unit;
- (b) Buildings containing more than one housing unit;
- (c) Buildings for persons not living in households;

³ For definition of "room", see paragraph 324.

⁴ "Dividing walls" refer to the walls of adjoining buildings which have been constructed so that they are contiguous, e.g., dividing walls of "row" houses.

(d) All others.

247. For subsequent analysis of housing conditions each country will find it useful to provide for separate identification of special types of buildings which are characteristic of the country concerned. For example, categories such as "shop/dwelling" may be included if required and information may be sought on whether the building is wholly residential, residential and commercial, mainly commercial and so forth.

(c) *Compound*

248. In some countries it may be appropriate to utilize the "compound" as a unit of enumeration. In some areas of the world living quarters are traditionally located within compounds and the grouping of living quarters in this way may have certain economic and social implications which it would be useful to study. In such cases it may be appropriate, during the census, to identify compounds and to record information suitable for linking them to the living quarters located within them.

(4) *Conjugal family nucleus*

249. For the purposes of the housing census, consideration should be given to identifying married couples or parents and their never-married children in the same household, i.e., the *conjugal family nucleus*. A conjugal family nucleus⁵ consists of the following combinations: (a) a married couple without children; (b) a married couple with one or more never-married children; (c) one parent (either father or mother) with one or more never-married children. Couples living in consensual unions should be regarded as married couples.

250. Accordingly, a household which consists of a man and wife, their two never-married children and a married daughter and her husband would be considered to be composed of two family nuclei.

251. It is obvious that the above definition, although it takes into consideration the most likely family compositions, does not take account of other relatives who may compose families of a different structure, such as unmarried brothers or sisters living together without their parents, or an aunt living with an unmarried niece. It also excludes a related person living with a family nucleus as defined above, as, for example, a widowed parent living with her married son and his family. It does not, therefore, provide information on all families.

252. Where the concept of conjugal family nucleus is introduced, it should be clearly distinguished from "household" both with respect to definition and terminology. Confusion has arisen because the term "family" or "census family" has in many cases been applied to household.

253. Nor should the concept of family nucleus be confused with the broader definition of family which appears in the *Principles and Recommendations for the 1970 Population Censuses*.⁶

254. Family nuclei are usually identified at the processing stage from information on name and relationship of household members to the household head which

⁵ The term "family nucleus" as used in the remainder of this publication is to be taken as "conjugal family nucleus".

⁶ *Principles and Recommendations for the 1970 Population Censuses* (United Nations publication, Sales No.: E.67.XVII.3)

are normally available from the population census. Where the data are not available from the census of population or where the census of housing is carried out independently of the census of population, it may be sufficient, for purposes of estimating housing needs, to simply identify and record the number of married couples within each household.

(5) *Construction material of outer walls*

255. This topic refers to the construction material of the outer walls of the building in which the living quarters are located. If the walls are constructed of one or more materials the predominant material should be reported. The types distinguished (brick, concrete, wood, adobe and so on) will depend upon the materials most frequently used in the country concerned and on their significance from the point of view of permanency of construction or assessment of durability.

256. In some countries the material used for the construction of roofs or of floors may be of special significance for the assessment of durability and in such cases it may be necessary to collect this information in addition to material of walls. It should be remembered, however, that this may lead to a somewhat complicated tabulation since, for the correct interpretation of the data, the range of materials collected for each element of construction needs to be cross-classified with the material of any other elements that may have been included. For estimating replacement needs these cross-classifications must then be related to a range of years or periods of construction.

257. While material of construction is a useful addition to data collected on the type of living quarters, it should not be considered as a substitute for that information. Wood, for example, may be the material of a poorly constructed squatter's hut or of a durable and well-constructed dwelling. In these cases the type of unit adds significantly to the possibility of quality appraisal.

(6) *Cooking facilities*

258. Information should be obtained on:

(a) Whether the living quarters have a kitchen, whether they have a kitchenette or whether there is no special place set aside for cooking;

(b) The kind of equipment used for cooking (stove, hot plate, open fire), and

(c) The kind of fuel used for cooking (electricity, gas, oil, wood).

259. A *kitchen* is defined as a space which conforms in all respects to a "room", as defined in paragraph 324, is equipped for the preparation of the principal meals and is intended primarily for that purpose.

260. A *kitchenette* is a space which falls short of the attributes of a "room", as defined in paragraph 324, but which is equipped for the preparation of the principal meals and is intended primarily for that purpose.

261. It may be noted that the question on number of rooms (paragraph 324) may provide a convenient opportunity to collect information on kitchen and kitchenette where such information is desired. Additional information may be collected to show whether

the facilities are for the exclusive use of the occupants of the living quarters.

262. For housing units occupied by more than a certain number of households (more than two, for example) and for living quarters other than housing units, particularly those of the multihousehold and hotel/boarding house type, it may be useful to gather information on cooking facilities available for the occupants. Such living quarters are usually equipped with multifacilities for the use of large groups, and information on the number of kitchens or kitchenettes, the number of cooking stoves and so forth in relation to the number of occupants would be significant in analysing housing conditions.

(7) *Demographic and economic characteristics of household head*

263. From the list of topics recommended to be included in the population census the following have been selected as being of most significance in relation to housing conditions; they are defined and fully described in the *Principles and Recommendations for the 1970 Population Censuses*. For the housing census, the data usually relate only to the head of the household, although, in some cases (for a detailed study of overcrowding for example), it may be necessary to tabulate information (age and sex in this instance) for the other members of the household.

(a) *Age*

264. *Age* is the estimated or calculated interval of time between the date of birth and the date of the census, expressed in completed solar years. Every effort should be made to obtain the precise age of the head of the household.

265. Information on age may be secured either by obtaining the year, month and day of birth or by asking directly for age at last birthday. The first method usually yields more precise information but it is extremely difficult to use in enumerating illiterate persons and, in any case, it involves additional processing in converting the answers into completed years. 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.

(b) *Industry*

266. *Industry* refers to the activity of the establishment in which an economically active person worked during the time-reference period established for data on economic characteristics, or last worked, if unemployed. For purposes of international comparability, it is recommended that countries compile their data in accordance with the 1968 revision of the *International Standard Industrial Classification of all Economic Activities* (ISIC).⁷ If this is not possible, provision should be made for the categories of the classification employed to be convertible to the 1968 revision of the ISIC or at least to the major (three-digit) groups of this classification. If the national data are not classified

⁷ United Nations publication, Sales No.: E.68.XVII.8.

in accordance with the 1968 revision of the ISIC, an explanation of the differences should be given.*

267. If data on secondary occupation are collected, information on industry in regard to the secondary occupation may also be collected.

(c) *Marital status*

268. *Marital status* is the personal status of each individual in relation to the marriage laws or customs of the country. The categories of marital status to be identified are at least: (a) single, i.e., never married; (b) married; (c) widowed and not remarried; (d) divorced and not remarried, and (e) married but legally separated.

269. In some countries it will be necessary to take into account customary unions "which are legal and binding under customary law" and extra-legal unions, the latter often known as *de facto* (consensual) unions. Some countries will also wish to distinguish between married persons living with their spouses and those living apart from their spouses.

270. The treatment of persons whose only, or latest, marriage has been annulled is dependent upon the relative size of this group in the country. Where the group is substantial in size, it should comprise an additional category; if its size is insignificant, the individuals should be classified according to their marital status before the annulled marriage took place.

271. Some countries have experienced difficulties with distinguishing (a) between formal marriage and *de facto* unions, (b) between persons legally separated and those formally married but *de facto* separated, and even (c) between persons legally separated and those legally divorced. If any of these circumstances necessitates a departure from the recommended classification of marital status, the composition of each category shown in the tabulations should be clearly stated.

272. If it is desired to have complete information on marital status, then this information should be collected and tabulated for persons of all ages, irrespective of the national minimum legal age, or the customary age, for marriage because the population may include persons who have been married in other countries with different minimum marriage ages; in most countries, also, there are likely to be persons who have been permitted to marry below the legal minimum age because of special circumstances. In order to permit international comparisons of data on marital status, however, any tabulations of marital status not cross-classified by detailed age should at least distinguish between persons under fifteen years of age and those fifteen years of age and over.

273. The collection of additional information related to customs in particular countries (such as concubinage, polygamous or polyandrous marital status, inherited widows etc.) may be useful to meet national needs. For example, some countries may wish to collect data on the

* The 1968 revision of the ISIC was not available at the time of the previous (photo-offset) edition of these recommendations. Since it is now available, paragraph 266 has been revised to take into account specifically the 1968 revision, in place of the reference in the earlier issue to the ISIC "most recently approved by the United Nations". The paragraph now also takes into account the fact that the major groups of the 1968 ISIC utilize a three-digit code rather than the two-digit code previously utilized.

number of spouses of each married person. Modification of the tabulations to take account of such information should be made within the framework of the basic classification in order to maintain international comparability in so far as possible.

(d) *National and/or ethnic group*

274. The *national and/or ethnic groups* of the population about which information is needed in different countries are dependent upon national circumstances. Some of the bases on which ethnic groups are identified are: ethnic nationality (i.e., country or area of origin as distinct from citizenship or country of legal nationality), race, colour, language, religion, customs of dress or eating, tribe or various combinations of these characteristics. In addition, some of the terms used, such as "race", "origin" or "tribe" have a number of different connotations. The definitions and criteria applied by each country investigating ethnic characteristics of the population must, therefore, be determined by the groups that 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.

275. Because of the interpretative difficulties that 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.

(e) *Occupation*

276. *Occupation* refers to the kind of work done during the time-reference period established for data on economic characteristics by the person employed (or performed previously by the unemployed), irrespective of the industry or the status (as employer, employee etc.) in which the person should be classified. For purposes of international comparisons, it is recommended that countries compile their data in accordance with the latest edition of the *International Standard Classification of Occupations, 1966* (ISCO)⁸ issued by the International Labour Organisation. If this is not possible, provision should be made for the categories of the classification employed to be convertible to the ISCO, 1966 or at least to the minor (two-digit) groups of this classification. If national data are not classified in conformity with the ISCO, 1966 an explanation of the differences should be given.**

277. If it is thought that many persons in a country have more than one occupation during the time-reference period, information on the secondary occupation may also be collected.

(f) *Sex*

278. The *sex* (male or female) of the head of the household should be recorded on the census questionnaire.

(g) *Type of activity*

279. *Type of activity* is the relationship of each

** The ISCO, 1966 was not available at the time of the previous (photo-offset) edition of these recommendations. Since it is now available, paragraph 276 has been revised to take into account specifically the ISCO, 1966, in place of the reference in the earlier issue to the "latest edition" of the ISCO.

⁸ International Labour Organisation, *International Standard Classification of Occupations* (revised edition) (Geneva, 1968).

person to current economic activity. Information should be collected for heads of household, at or above the minimum age for which economic characteristics are to be tabulated, as to whether or not he or she is economically active.

280. Particular attention should be given to groups which may be especially difficult to classify such as female unpaid family workers in agriculture, young persons seeking work for the first time and persons receiving pensions consequent upon retirement from one job who are, at the same time, working at another job. Census publications should provide information on the rules which were applied in the classification of such groups.

281. The minimum age limit adopted for the census questions on economic activity should be set in accordance with the conditions in each country, but never higher than fifteen years. Those countries which have a large proportion of their labour force engaged in agriculture, a type of activity in which, normally, many children participate, will need to select a lower minimum age than do highly industrialized countries where employment of young children is rare. In order to permit international comparisons of data on the economically active population, however, any tabulations of economic characteristics not cross-classified by detailed age should at least distinguish between persons under fifteen years of age and those fifteen years of age and over.

282. The adoption of a specific time-reference for census data on economic characteristics is fundamental to the concept of the economically active population. It is recommended that the time-reference period should be not longer than one week.⁹ Where it is considered that classification on the basis of current activity over this brief time period does not reflect year-round activities, particularly where there is a highly seasonal pattern of employment and regular periodic sample surveys are not held during the year, supplementary information on "usual" economic characteristics over a longer period may also be collected. Such supplementary information might also prove useful in enabling comparisons to be made between the results obtained when the brief time-reference period is used and when a longer period is employed, in order to ascertain the effect of different time-references.

283. *Economically active population* comprises all persons of either sex who furnish the supply of labour for the production of economic goods and services during the time-reference period chosen for the investigation. It includes both persons in the civilian labour force and those serving in the armed forces. In compilations of the data, a separate category of "members of the armed forces" may be maintained, so that the category can be deducted from the total labour force whenever desirable. The civilian labour force comprises both persons employed and those unemployed during the time-reference period.⁹ These two groups should be distinguished.

284. The *employed* comprise all persons, including family workers, who worked during the time-reference period established or data on economic characteristics

or who had a job in which they had already worked but from which they were temporarily absent because of illness or injury, industrial dispute, vacation or other leave of absence, absence without leave, or temporary disorganization of work due to such reasons as bad weather or mechanical breakdown.⁹

285. The *unemployed* consist of all persons who, during the reference period, were not working but who were seeking work for pay or profit, including those who never worked before. Also included are persons who, during the reference period, were not seeking work because of temporary illness, because they made arrangements to start a new job subsequent to the reference period, or because they were on temporary or indefinite lay-off without pay.⁹ Where employment opportunities are very limited, the unemployed should also include persons who were not working and were available for work, but were not actively seeking it because they believed that no jobs were open. The recorded data on the unemployed should distinguish persons who never worked before.

286. In classifying the population by type of economic activity, participation in an economic activity should always take precedence over a non-economic activity; hence, employed and unemployed persons should not be included in the not-economically active population, even though they may also be, for example, students or home-makers.

287. *Not-economically active population* comprises the following functional categories:

(a) *Home-makers*: persons of either sex, not economically active, 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 (domestic servants working for pay, however, are classified as economically active);

(b) *Students*: persons of either sex, not economically active, who attend any regular educational institution, public or private, for systematic instruction at any level of education;

(c) *Income recipients*: persons of either sex, not economically active, who receive income from property or other investment, royalties or pensions from former activities;

(d) *Others*: persons of either sex, not economically active, who are receiving public aid or private support, and all other persons not falling in any of the above categories, such as children not attending school.

288. Since some individuals may be classifiable in more than one category of the not-economically active population (e.g., a person may be a student and a home-maker at the same time), the enumeration instructions should indicate the order of preference for recording persons in one or another of the categories. Consideration might also be given to presenting the categories on the census questionnaire in the preferred order because persons tend to answer with the first category that applies to them.

(8) Household

(a) Definition of household

289. The concept of "household" is based on the arrangements made by persons, individually or in groups, for providing themselves with food or other

⁹ See International Labour Organisation, *The International Standardisation of Labour Statistics* (Geneva, 1959), pp. 44 and 45.

essentials for living. A household may be either: (a) a one-person household, that is, a person who makes provision for his own food or other essentials for living without combining with any other person to form part of a multiperson household or (b) a multiperson household, that is, a group of two or more persons who make common provision for food or other essentials for living. The persons in the group may pool their incomes and have a common budget to a greater or less extent; they may be related or unrelated persons or a combination of both.

290. Households usually occupy the whole, part of or more than one housing unit but they may also be found living in camps, in boarding houses or hotels or as administrative personnel in institutions or they may be homeless. Households consisting of extended families which make common provision for food, or of potentially separate households with a common head, resulting from polygamous unions, may occupy more than one housing unit. For a fuller discussion of "household" see paragraph 197.

(b) *Persons not living in households*

291. Special provision must be made for the enumeration of persons who are not members of households. These include persons in military installations, in correctional and penal institutions, in the dormitories of schools and universities, in hospitals, in religious institutions and so forth.

292. Persons living in hotels or boarding houses do not belong in this category but should be distinguished as members of one-person or multiperson households, on the basis of the arrangements that they make for providing themselves with the essentials for living. Personnel of institutions, not living in dormitories or similar accommodations, should be treated in the same way.

(c) *Household head* (see also paragraph 263)

293. The head of the household is that person in the household who is acknowledged as such by the other household members. Although a more desirable definition for the purpose of formulating housing programmes would be the person who bears the chief responsibility for the economic maintenance of the household, it is not recommended that this definition be applied because of the difficulty of collecting the information needed to determine economic responsibility.

Kitchen (see *Cooking facilities*, paragraph 258)

(9) *Lighting — type of*

294. Information should be collected on the type of lighting in the living quarters such as electricity, gas, oil lamp and so forth. If the lighting is by electricity, some countries may wish to collect information showing whether the electricity comes from a community supply, generating plant or some other source (industrial plant, mine etc.).

(10) *Living quarters — type of*

(a) *Definition of living quarters*

295. *Living quarters* are structurally separate and independent places of abode. They may (a) have been constructed, built, converted or arranged for human

habitation, provided that they are *not* at the time of the census used wholly for other purposes and that, in the case of mobile housing units, improvised housing units and living quarters other than housing units, they are occupied at the time of the census or (b) although not intended for habitation, actually be in use as such at the time of the census.

(i) *Separateness and independence*

296. The essential features of living quarters are separateness and independence. An enclosure may be considered as *separate* if surrounded by walls, fences etc. and covered by a roof so that a person or group of persons can isolate themselves from other persons in the community for the purposes of sleeping, preparing and taking their meals or protecting themselves from the hazards of climate and environment. Such an enclosure may be considered as *independent* when it has direct access from the street or from a public or communal staircase, passage, gallery or grounds, i.e., when the occupants can come in or go out of their living quarters without passing through anybody else's premises.

297. Attached rooms having an independent entrance, or detached rooms for habitation which have clearly been built, rebuilt, converted etc., to be used as a part of the living quarters should be counted as part of the living quarters. Thus, living quarters may be constituted by rooms or groups of rooms with independent entrances or by separate buildings.

(ii) *Permanence*

298. Living quarters may be permanent or semi-permanent buildings or parts of buildings intended for habitation, or natural shelters not intended for habitation but actually used as places of abode on the day or night established as the time-reference of the census.

(iii) *Habitation*

299. Living quarters originally intended for habitation and used wholly for other purposes at the time of the census should normally be excluded from the census coverage, while shelters not intended for habitation but occupied at the time of the census should be included. In some circumstances, it may be convenient to make a separate count for national purposes of the living quarters originally intended for habitation but used wholly for other purposes at the time of the census and *vice versa*. In such cases, specific instructions for the enumeration of these must be supplied.

(iv) *Living quarters under construction, newly constructed, being demolished or awaiting demolition*

300. Instructions should be issued so that it is clearly understood at what stage of completion living quarters should be included in the housing census. They may be included in the housing census as soon as construction has begun, at various stages of construction or when construction has been completed. Living quarters being demolished or awaiting demolition should normally be excluded. The system used should be consistent with that employed for the system of current statistics and it should avoid double counting where construction statistics are used to up-date the census data.

301. Special instructions will need to be issued concerning "core dwellings" in those countries where

these are provided as a preliminary phase of dwelling construction (for a discussion of core dwellings, see paragraph 175).

(b) *Classification by structural type* (see also paragraphs 165-167)

302. The living quarters defined in paragraphs 158 and 295 are either housing units or living quarters other than housing units. Normally, the collection of information concerning housing units will be considered of first importance in a housing census since it is in housing units that the bulk of the population permanently lives. Furthermore, housing units are intended for occupancy, or are occupied, by households, and it is with the provision of accommodation for households that housing programmes are mainly concerned. However, certain types of "Living quarters other than housing units" are also of significance with respect to the housing conditions of households; these include hotels, rooming houses and other lodging houses and camps occupied by households. Housing units should be classified so as to distinguish at least conventional dwellings from other types of housing units. It should be emphasized that without an adequate classification of housing units no meaningful analysis of housing conditions based on housing census data is possible.

303. The classification outlined below and described more fully in paragraphs 169 to 196 has been designed to group in broad classes housing units and living quarters other than housing units with similar structural characteristics. The distribution of occupants (population) among the various groups supplies valuable information about the housing accommodation available at the time of the census. The classification also affords a useful basis of stratification for sample surveys. (The paragraph numbers in parentheses refer to the paragraphs in which the definition of each structural type can be found.)

Living quarters (para. 158)

- 1.0.0 *Housing units* (para. 169)
 - 1.1.0 Conventional dwellings (para. 171)
 - 1.2.0 Mobile housing units (para. 179)
 - 1.3.0 Marginal housing units (para. 181)
 - 1.3.1 Improvised housing units (para. 182)
 - 1.3.2 Housing units in permanent buildings not intended for habitation (para. 184)
 - 1.3.3 Other premises not intended for habitation (para. 186)
- 2.0.0 *Living quarters other than housing units* (para. 187)
 - 2.1.0 Hotels, rooming houses or other lodging houses (para. 190)
 - 2.2.0 Institutions (para. 191)
 - 2.3.0 Camps (para. 192)
 - 2.4.0 Living quarters not otherwise classifiable (para. 193)

(i) *Minimum classification of housing units and living quarters other than housing units*

304. Not all the categories in the above classification are of importance under all circumstances. For example, in some countries, certain of the groups may not need to be considered separately, while in others it will be convenient to subdivide them into smaller groups. However, some of the categories are of special significance for assessing the housing situation and should be distinguished even where a simplified classification is

employed. Where the classification is reduced, at least conventional dwellings should be separately distinguished.

(11) *Location of living quarters* (see also *Living quarters and household listing*, paragraph 64)

305. Information on location should be collected in enough detail to enable tabulations to be made for the smallest geographic subdivisions required by the tabulation plan. To satisfy the requirements of the geographic classifications recommended in the tabulations in part VI, information is needed on whether the living quarters are located in an urban or rural area, the major civil division, the minor civil division and, for living quarters located in principal localities, the name of the locality.

306. In addition to the geographic detail required for the tabulation programme it is important to record the address of the living quarters. The various geographic designations which together define the location of living quarters are discussed in the following paragraphs.

(a) *Address*

307. Information that describes the place where the living quarters are to be found and distinguishes them from other living quarters in the same locality falls within this category. As a rule the information includes the name or number of the street and the number of the living quarters; in the case of apartments, the building number and the apartment number is required. Where a permanent house-numbering system does not exist, the numbering of living quarters as part of the census operation would be useful. A clear indication of the address of living quarters is important from the point of view of the census operations (callbacks, post-enumeration checks, for example) and as a basis for carrying out sample or supplementary inquiries subsequent to the census.

(b) *Locality*

308. For census purposes, a *locality* should be defined as a distinct population cluster (also designated as inhabited place, populated centre, settlement etc.) the members of which occupy neighbouring living quarters and which has a name or a locally recognized status. It thus includes fishing hamlets, mining camps, ranches, farms, market towns, villages, towns, cities and many other population clusters which meet the criteria specified above. Any departure from this definition should be explained in the census report as an aid to the interpretation of the data.

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

310. A large locality of a country (i.e., a city or a town) is often part of an *urban agglomeration*, which comprises the city or town proper and also the suburban fringe or thickly settled territory lying outside of, but adjacent to, its boundaries. The urban agglomeration is, therefore, not identical with the locality but is an

additional geographic unit which includes more than one locality.

311. Principal localities may be subdivided into areas the living quarters or residents of which have certain characteristics of special significance for the analysis of census results. In English these are known as "census tracts".

(c) *Urban and rural*

312. Because of national differences in the characteristics which distinguish urban from rural areas, the distinction between urban and rural population is not yet amenable to a single definition which would be applicable to all countries. For this reason, each country should decide for itself which areas are urban and which are rural. The criteria used to distinguish urban areas from rural areas should be clearly stated in the census report.

313. For national purposes as well as for international comparability, the most appropriate unit of classification is the locality, as defined in paragraph 308, or, if this is not possible, the smallest administrative division of the country. If regional recommendations on the definition of urban and rural are available at the time of the census, their specifications should be followed.

(d) *Major and minor civil divisions*

314. The major and minor civil divisions to be utilized for tabulation of the census results will be those administrative areas established in the country concerned. Major civil divisions may be departments, provinces, states etc.; minor civil divisions may be districts, *communes*, *municipios*.

(12) *Occupancy status*

315. Information should be obtained for each conventional dwelling to show whether the dwelling is occupied or vacant at the time of the census. For vacant units intended for year round occupancy the type of vacancy (for rent, for sale etc.) should be reported. Occupancy status applies only to conventional dwellings since all other living quarters are required by definition to be occupied in order to fall within the scope of the census.

316. The enumeration of vacant units is likely to pose difficult problems; but at least a total count should be made for purposes of controlling the enumeration and for the reasons stated under the uses of tabulation 10 (part VI). The type of vacancy is frequently indicated by "for sale" or "for rent" signs posted on the dwelling.

317. Vacant units intended for seasonal occupancy may represent a substantial proportion of the housing inventory in resort areas and in areas where large numbers of seasonal workers are employed. The separate identification of such a category may be necessary for the correct interpretation of the over-all vacancy rate as well as for an evaluation of the housing situation in the area concerned. They may be further distinguished according to the type of occupancy for which they are intended, for example, "holiday home", "seasonal workers' quarters" and so forth.

(13) *Occupants—number of*

318. Each person usually resident in a housing unit or other living quarters should be counted as an

occupant of those living quarters. However, since housing censuses are usually carried out simultaneously with population censuses, the applicability of this definition depends upon whether the information collected and recorded for each person in the population census indicates where he was found on the day of the census or whether it refers to his usual residence (see paragraph 212). Care should be exercised to distinguish persons occupying mobile units, such as boats, caravans and trailers, as living quarters from persons using these as a means of transportation.

(14) *Ownership—type of*

319. This topic refers to the type of ownership of the living quarters themselves and not that of the land on which the living quarters stand. Type of ownership should not be confused with tenure, which is discussed in paragraphs 327 to 329. Information should be obtained to show:

(a) Whether the living quarters are owned by the public sector (central government, local government, public corporations);

(b) Whether the living quarters are privately owned (by households, private corporations, co-operatives, housing associations etc.). The question is sometimes expanded to show whether the living quarters are fully paid for, being purchased in instalments or mortgaged.

320. As a minimum, the information on ownership may be classified into two main groups, i.e., "Public ownership" and "Private ownership". Depending upon the prevalence of various types of ownership and their significance with respect to housing conditions and the formulation of housing programmes it may be useful to introduce some of the subgroups shown. The categories utilized should be consistent with those employed in the system of national accounts in the country concerned and they should be in accordance with the recommendations contained in *A System of National Accounts and Supporting Tables*.¹⁰

321. It has been observed that the collection of information on type of ownership at a general census may be hampered by the fact that the occupants may not know who is the owner of the property and that the owners or their representatives may be located outside the enumeration zone. Furthermore, there are numerous cases of borderline and mixed ownership which make the topic difficult for nation-wide enumeration. This is one of the topics for which more accurate information might be obtained through a housing survey.

(15) *Rental*

322. *Rent* is the amount paid periodically (weekly, monthly etc.) for the space occupied by a household. Information may be obtained on the basis of a scale of rents rather than on the exact amount paid. The data may be considered either in relation to household characteristics or in relation to the characteristics of living quarters. In the latter case, where more than one household occupies a single set of living quarters, the rents paid by all households would need to be summed

¹⁰ United Nations publication, Sales No.: 64.XVII.5. It should be noted that tentative proposals for a revised system of national accounts have been presented to the Statistical Commission in "Proposals for the revision of a System of National Accounts, 1952" (E/CN.3/345).

to obtain the total rent for the living quarters. In the case of living quarters which are partly rented and partly owner-occupied it may be necessary to impute the rent for the owner-occupied portion.

323. Provision must be made to indicate whether the living quarters covered by the rent are furnished or unfurnished and whether utilities such as gas, electricity, heating, water rates etc., are included. Provision also needs to be made for recording households which occupy their premises rent-free or who pay only part of the economic rent. In countries where rent for the living quarters is paid separately from rent for the land upon which it stands, separate information may need to be collected reflecting the amount of ground rent paid.

(16) *Rooms—number of*

324. A *room* is defined as a space in a housing unit or other living quarters enclosed by walls reaching from the floor to the ceiling or roof covering, or at least to a height of 2 metres, of a size large enough to hold a bed for an adult, that is, 4 square metres at least. The total number of rooms, therefore, includes bedrooms, dining-rooms, living-rooms, studies, habitable attics, servants' rooms, kitchens, rooms used for professional or business purposes and other separate spaces used or intended for dwelling purposes, so long as they meet the criteria of walls and floor space. Passageways, verandahs, lobbies, bath-rooms and toilet rooms should not be counted as rooms even if they meet the criteria. Separate information may be collected for national purposes on spaces of less than 4 square metres that conform in other respects to the definition of room if it is considered that their number warrants such a procedure.

325. Rooms used only for professional or business purposes should be separately identified. They should be included in calculating the number of rooms in living quarters but not in calculating the number of persons per room. This procedure permits density level to be studied according to the number of rooms available for living purposes in relation to the number of occupants. It also allows living quarters to be reflected according to their structural characteristics which in this case is the total number of rooms. Each country should indicate the procedure that has been followed.

326. It is recommended in paragraph 324 that kitchens be included in the count of rooms provided they meet the criteria of walls and floor space. Kitchens or kitchenettes that are smaller than 4 square metres or that have other characteristics which disqualify them, should be excluded. For national purposes, countries may wish to identify and count kitchens as a separate group of rooms that may be analysed with respect to size and utilization, and to identify separately those used exclusively for cooking.

Sewage facilities (See *Toilet facilities*, paragraph 330)

(17) *Tenure*

327. *Tenure* refers to the arrangements under which the household occupies its living quarters. Information should be obtained on:

(a) Whether a member of the household is the owner of the living quarters;

(b) Whether the household rents the living quarters as the main tenant;

(c) Whether the household rents part of the living quarters as a subtenant from another occupant who is the main tenant or owner-occupier;

(d) Whether the household occupies the living quarters under another form of tenure.

Particular attention needs to be given to persons who occupy premises free from cash rent with or without permission of the owner, especially where this is prevalent.

328. The question on tenure needs to be clearly distinguished in the questionnaire as one to be asked *of all households*; otherwise there is danger of omission in cases where more than one household occupies a single housing unit. Tenure information collected for living quarters shows very clearly the distinction between rented units and units that are owner-occupied but it fails to distinguish the various forms of subtenancy which exist in many areas and which could be obtained from a question directed at households;¹¹ nor does it allow for investigating the relationship between tenure and socio-economic characteristics of heads of household. Under some circumstances, it may be useful to distinguish separately households which, although not subtenants in the sense of renting from another occupant who is a main tenant or owner-occupier, rent part of a housing unit from a landlord who lives elsewhere. These households and subtenant households may be of special significance for the formulation of housing programmes.

329. In countries where the land and the living quarters are frequently occupied under separate tenure the topic may be expanded so as to show separate information for the tenure under which the household or households occupy the living quarters and for the tenure of the land upon which they are located.

(18) *Toilet facilities*

330. A *toilet* may be defined as an installation for the disposal of human excreta. A *flush toilet* is an installation connected with piped water, arranged for humans to discharge their wastes and from which the wastes are flushed by water.

331. As a minimum, information should be obtained to show:

(a) Whether the living quarters being enumerated have a toilet *intended* for the exclusive use of the occupants and if so whether it is a flush toilet or a non-flush toilet;

(b) Whether the living quarters have no toilet of any kind.

Whether the toilet is located inside or outside the living quarters is of varying significance according to the type being considered.

332. For living quarters reported as having a toilet, additional information may be sought to indicate whether the toilet is used exclusively by the occupants of the living quarters being enumerated or whether it is shared with the occupants of other living quarters.

¹¹ Some indication of the number of households occupying their living quarters as subtenants could be obtained from a comparison of the number of living quarters of various types with the number of occupant households.

For living quarters reported as having no toilet it would be useful to know whether the occupants have the use of a communal facility, and the type; whether they use the toilet of other living quarters and the type, or whether there is no toilet of any kind available for the use of the occupants.

333. Some countries have found it useful to expand the classification for non-flush toilets to distinguish certain types that are widely used and that indicate a certain level of sanitation.

334. For housing units occupied by more than a certain number of households (more than two, for example) and for living quarters other than housing units, particularly those of the multihousehold and hotel/boarding house type, it may be useful to gather information on the number and type of toilets available to the occupants. Such living quarters are usually equipped with multifacilities for the use of large groups and information on the number and type of toilets in relation to the number of occupants would be significant in analysing housing conditions.

335. Information may also be collected to show the sewage system used for disposal of human excreta. Information required is as follows:

(a) Whether the toilet empties into a community sewerage system and the type (piped system, open ditch);

(b) Whether the toilet empties into an individual system and the type (septic tank, cesspool, pit);

(c) Whether some other system is utilized (for example, toilets draining directly into lakes or rivers).

Vacancy (See *Occupancy status*, paragraph 315)

(19) *Water supply system*

336. The basic information to be obtained by the census is whether the living quarters have or have not a piped-water installation, i.e., whether or not water is laid on to the living quarters by pipes from a community-wide system or an individual installation, such as a pressure tank, pump etc. It is necessary to indicate also whether the living quarters have a tap inside or, if not, whether it is within a certain distance (100 metres) from the door. The following categories are recommended:

(a) Living quarters with piped water inside;

(b) Living quarters with piped water outside but within 100 metres;

(c) Living quarters without piped water (including piped water beyond 100 metres).

The living quarters may be further classified according to the source of the water available (community-wide system, tank, public well, private well, river, spring).

337. The most significant information from a health point of view is whether the living quarters have piped water within the premises. However, a category may be added to distinguish cases where the piped water

supply is not in the living quarters but is within the building in which the living quarters are located. It may also be useful to collect information which would show whether the water supply is for the sole use of the occupants of the living quarters being enumerated or whether it is for the use of the occupants of several sets of living quarters. Additional information may be sought on the availability of hot as well as cold water and on the kind of equipment used for heating water.

(20) *Year or period of construction*

338. This topic refers to age of the building in which the living quarters are located. It is recommended that the exact year be sought for buildings constructed during the intercensal period immediately preceding if it does not exceed ten years. Where the intercensal period exceeds ten years or where no previous census has been carried out, the exact year should be sought for buildings constructed during the preceding ten years. For buildings constructed prior to this, the information should be collected in periods that will provide a useful means of assessing the age of the housing stock.

339. The collection of data for single years during the intercensal period is seen as a method of checking construction statistics for deficient coverage and of more closely integrating the housing census with current housing statistics.

340. The periods should be measured in terms of events that have some special significance in the country concerned, as for example since the Second World War; between the First World War and the Second World War; prior to the First World War. Three age groups may be considered as a minimum classification. The total period covered by the age groups and the number of groups distinguished will depend upon the materials and methods of construction used in the country concerned and the number of years that buildings normally last.

341. Where parts of buildings have been constructed at different times, the year or period of construction should refer to the major part. Where living quarters are comprised of more than one building (living quarters with detached rooms, for example) the age of the building which contains the major part of living quarters should be recorded.

342. In countries where a significant number of households construct their own living quarters (countries with large non-monetary sectors, for example) it may be useful to include an additional question which will distinguish the living quarters according to whether or not they were constructed by the households occupying them. The information should refer only to living quarters constructed during the preceding intercensal or ten-year period, and it should be made clear in formulating the question that it refers to living quarters constructed mainly by households (with or without the help of other households in the community) and that it does not refer to construction executed by enterprises on behalf of households.

Part VI

TABULATIONS TO BE PREPARED IN A HOUSING CENSUS

A. SCOPE AND OBJECTIVE OF TABULATIONS

343. As countries have turned to national planning as a means of promoting and guiding economic and social development, the need for factual information on which to base the necessary programmes has become universally recognized. Resources are scarce, however, and statistical inquiries costly. It has therefore become increasingly necessary to weigh each tabulation proposed for inclusion in the census in terms of its ultimate cost and its utility for planning purposes and to restrict the number of topics to a bare but significant minimum for greater economy and efficiency. In preparing these recommendations, the first consideration, therefore, has been the selection of tabulations that would yield the data required most urgently for housing programmes.

344. The census tabulations outlined in this part include "Recommended" tabulations and "Other useful" tabulations. They employ the topics shown in paragraph 239. For the most part the "Recommended" tabulations employ "Recommended" topics.¹ However, in a few cases "Other useful" topics are shown in "Recommended" tabulations along with "Recommended" topics since it is in these tabulations that these particular "Other useful" topics should be included if they are collected in the census. Similarly a "Recommended" topic may have to be repeated in one of the "Other useful" tabulations in order to provide useful cross-classifications.

345. Accompanying each tabulation is a statement of the principal uses of the data supplied by it and an illustrative sketch outline of the tabulation showing one way of providing for the required attribute classifications. It should be emphasized that these sketches are illustrative only; they are in no sense recommended formats for the tabulations because these will depend on many other factors.

346. The tabulations set forth constitute a modest programme; many other worth-while and practicable tabulations can be included in the census programme of any country with sufficient resources to undertake a more ambitious tabulation scheme. Such other tabulations could further utilize information on the recommended or other useful topics or could introduce information on additional topics of significance in the country concerned.

347. The feasibility of preparing more detailed or additional tabulations will depend to a considerable extent on the method of data processing utilized. The application of electronic data processing makes possible the more rapid preparation of tabulations and the inclusion of a greater amount of detail within each

¹ Topics recommended as basic in the world programme and in each of the four regional programmes.

tabulation than can be accomplished by the older methods of processing.

348. The tabulations herein recommended are appropriate as final tabulations. The extent to which advance provisional tabulations of the same subject-matter are prepared depends on the rapidity with which the processing can be accomplished and the urgency of the need for the data (see paragraph 90).

349. The specifications for each tabulation include, *inter alia*, a geographic classification. This is intended to be a guide to the types of civil divisions of each country for which the information provided by the tabulation is generally needed; appropriate urban and rural classification is also indicated.

350. Countries will undoubtedly also wish to prepare at least some of the tabulations for additional areas, such as smaller civil divisions than are indicated, or economic regions. Another type of area for which tabulation is useful is the small subdivisions of principal localities (known as "census tracts" in English), which some countries have delineated for purposes of analysis of the census results. The areas for which it is feasible to show information will be affected by whether sampling was used either in the collection of the information or in the tabulation stage.

351. Tabulation I should be obtained from a total universal enumeration and processing of all the living quarters in the area covered by the census. The other tabulations may be obtained on the basis of either the universal enumeration and tabulation of all living quarters and occupants or from the enumeration and/or tabulation of a representative sample.

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

B. LIST OF TABULATIONS

353. The following list gives the title of each tabulation in order to facilitate a summary appraisal of the scope of the programme. The detailed specifications for each tabulation are given immediately following the list.

<i>Tabulation number</i>	<i>Title</i>
<i>Recommended tabulations</i>	
1.	Living quarters, households, family nuclei and persons in households, by type of living quarters
2.	Households and persons in households, by type of living quarters cross-classified by sex, marital status, national and/or ethnic group and age of head of household

Tabulation
number

Title

Recommended tabulations (continued)

3. Households and persons in households, by type of living quarters cross-classified by type of activity, occupation and sex of head of household
4. Conventional dwellings, by number of rooms cross-classified by number of occupants per dwelling
5. Households in conventional dwellings, by number of households per dwelling
6. Living quarters, households and persons in living quarters, by type of living quarters cross-classified by water supply system
7. Occupied living quarters, households and persons in living quarters, by type of living quarters cross-classified by type of toilet facility
8. Occupied conventional dwellings and persons in dwellings, by type of lighting
9. Households and persons in conventional dwellings, by tenure of household
10. Vacant conventional dwellings, by type of vacancy
11. Conventional dwellings, by year (or period) of construction building (in which dwelling is located) cross-classified by type of building and construction material

Other useful tabulations

12. Households and persons in households, by type of living quarters cross-classified by type of activity, industry and sex of head of household
13. Households occupying dwellings, by type of owner of the dwelling cross-classified by tenure of the household and availability of piped water and toilet facilities in the dwelling

Tabulation
number

Title

Other useful tabulations (continued)

14. Occupied conventional dwellings, by number of bedrooms cross-classified by number of occupants per dwelling
15. Occupied conventional dwellings, households and persons in dwellings, by availability in the dwelling of cooking facilities
16. Occupied conventional dwellings, households and persons in dwellings, by availability in the dwellings of bathing facilities
17. Rented conventional dwellings, by amount of rent paid monthly for the dwelling cross-classified by number of rooms in the dwelling
18. Households in rented conventional dwellings, by amount of rent paid monthly by the household cross-classified by number of households in the dwelling

C. SPECIFICATIONS FOR EACH TABULATION

354. Each of the tabulations listed above is described in the following paragraphs. The units of tabulation, the living quarters and the population to be included, the geographic classification and the attribute classifications are specified in each case. The paragraph reference numbers following each attribute classification correspond to the paragraphs where the respective topics are discussed. Under "Use of the tabulation", the principal uses of the data supplied by the tabulation are set forth. This is followed by an illustrative sketch outline of the tabulation.

Specifications for each tabulation follow

(1) LIVING QUARTERS, HOUSEHOLDS, FAMILY NUCLEI AND PERSONS IN HOUSEHOLD, BY TYPE OF LIVING QUARTERS (Recommended)

Units of tabulation: living quarters; households; family nuclei and persons.

Living quarters included: all living quarters (para. 158).

Households, family nuclei and persons included: all households and family nuclei and persons living in households (paras. 201 and 249).

Classifications:

- (a) *Geographic division* (paras. 305-314): (i) total country; (ii) each major civil division; (iii) each minor civil division; (iv) each principal locality. Distinguish urban and rural for (i), (ii) and (iii);
- (b) *Type of living quarters* (paras. 165-196): conventional dwellings; mobile housing units; improvised housing units; housing units in permanent building not intended for human habitation; other premises not intended for human habitation; hotels, rooming houses and other lodging houses; institutions; camps; living quarters not otherwise classifiable;
- (c) *Separate class for homeless persons* (para. 41).

Use of the tabulation:

There is wide agreement concerning the usefulness of this tabulation or variants of it. Its most important function is to make a broad distinction between permanent housing of an acceptable standard, and makeshift, temporary or improvised housing and to describe the occupants in terms of aggregates, households and family nuclei.

The regional seminars on housing statistics and programmes for Latin America² and for Asia and the Far East³ considered that it was of primary importance for the formulation of housing programmes and it is a prerequisite for the calculation of one of the basic statistical indicators of housing conditions developed by the Statistical Commission in collaboration with the Inter-Agency Working Party on Statistics for Social Programmes.⁴

The distribution of persons according to the various types of living quarters not only supplies valuable information about the housing accommodation available at the time of the census but it affords a useful basis for stratification in carrying out sample surveys.

As noted in paragraph 167 the extent to which types of living quarters are distinguished may vary according to the needs of the country concerned. In reducing the number of categories care should be exercised to ensure that a clear distinction continues to be maintained between categories that represent satisfactory housing and those which represent housing below acceptable standards. It must also be borne in mind that the data

provided by a simplified classification may need to be comparable at some future date to the data collected under an expanded classification.

The distinction between housing units and living quarters other than housing units is necessary because the problems involved and the methods of dealing with them are distinct. Living quarters other than housing units generally do not come under the responsibility of the agency responsible for housing units and housing programmes are directed for the most part towards the maintenance or improvement of housing conditions of the population living in housing units. Information concerning persons not living in households is not included in this tabulation but information on the number of these persons is available from the population census tabulation programme. Their exclusion from this tabulation facilitates the identification of persons in households occupying living quarters other than housing units.

The population in households is shown in terms of persons, households and family nuclei for several reasons. Mention has already been made of *Statistical Indicators of Housing Conditions*; the first of the basic indicators, "Proportion of population living in dwellings" and the complementary indicator "Proportion of the population living in housing units other than dwellings or which is without shelter of any kind", require for their calculation the population in terms of number of persons according to the type of accommodation occupied. These indicators measure changes in the housing situation as reflected by an increase or a decrease in the proportion of the population living in permanent dwellings and in other kinds of accommodation.

For housing programmes information is required not only as an indicator but for practical action and the number of housekeeping units or households that need to be provided with dwellings is required. The number of households according to the type of living quarters occupied and the number of households without shelter provide a first approximation of this element of housing needs.

Information on the average number of persons per household occupying each type of living quarters may be derived from the tabulation. As is well known, however, the size of households may be inflated as a result of a serious shortage of housing, and as additional dwellings become available, households tend to break up into smaller housekeeping units each requiring a separate dwelling. Good estimates of the extent to which this may occur can only be made as a result of special surveys, but a first approximation can be obtained by examining the extent to which households are composed of more than one family nucleus and the number of these families.⁵ The number of family nuclei included in the table may therefore be expected to yield data which will be useful in estimating the number of potential households and their size.

This tabulation includes all living quarters without regard to occupancy but it should be noted that with the exception of dwellings (paragraphs 171-178) which may be either occupied or vacant, other living quarters must be occupied in order to fall within the scope of the housing census.

⁵ National customs, for example the prevalence of the extended family system, must, of course, be taken into account.

² *Report of the Latin American Seminar on Housing Statistics and Programmes (Copenhagen, 1962)* (United Nations publication, Sales No.: 63.II.G.14).

³ *Report of the Seminar on Housing Statistics and Programmes for Asia and the Far East (Copenhagen, 1963)* (United Nations publication, Sales No.: 65.II.F.12).

⁴ *Statistical Indicators of Housing Conditions and International Definition and Measurement of Levels of Living: An Interim Guide* (United Nations publications, Sales Nos.: 62.XVII.7 and 61.IV.7).

ILLUSTRATION 1. LIVING QUARTERS, HOUSEHOLDS, FAMILY NUCLEI AND PERSONS IN HOUSEHOLDS,
BY TYPE OF LIVING QUARTERS

(Recommended)

<i>Geographic division^a and units of tabulation</i>	<i>Total</i>	<i>Type of living quarters</i>											<i>Homeless persons</i>
		<i>Housing units</i>						<i>Living quarters other than housing units</i>					
		<i>Total</i>	<i>Dwell- ing</i>	<i>Mobile</i>	<i>Impro- vised</i>	<i>Not intended for habitation</i>		<i>Total</i>	<i>Hotel etc.</i>	<i>Insti- tution</i>	<i>Camp</i>	<i>Other</i>	
						<i>Perma- nent</i>	<i>Other</i>						
<i>Living quarters</i>													
<i>Households</i>													
<i>Family nuclei</i>													
<i>Persons</i>													

^a (a) Total country; (b) each major civil division; (c) each minor civil division; (d) each principal locality. Distinguish urban and rural for (a), (b) and (c).

- (2) HOUSEHOLDS AND PERSONS IN HOUSEHOLDS, BY TYPE OF LIVING QUARTERS CROSS-CLASSIFIED BY SEX, MARITAL STATUS,⁶ NATIONAL AND/OR ETHNIC GROUP⁶ AND AGE OF HEAD OF HOUSEHOLD (Recommended)

Units of tabulation: households and persons.

Households and persons included: all households and persons living in households (para. 201).

Classifications:

- (a) *Geographic division* (paras. 305-314): (i) total country; (ii) each major civil division; (iii) each minor civil division; (iv) each principal locality. Distinguish urban and rural for (i), (ii) and (iii);
- (b) *Type of living quarters* (paras. 165-196): conventional dwellings; mobile housing units; improvised housing units; housing units in permanent buildings not intended for human habitation, other premises not intended for human habitation; hotels, rooming houses or other lodging houses; institutions; camps; living quarters not otherwise classifiable;
- (c) *Separate class for homeless persons* (para. 41);
- (d) *Age of head* (paras. 264-265): under 15 years; 15-29; 30-44; 45-64; 65 and over;

⁶ "Marital status" and "national and/or ethnic group" are not "recommended" topics for the housing census and therefore they would not normally be included in a "recommended" tabulation. Should either of these topics have been included in the census, however, their most useful purpose would be served by cross-classifying the information obtained with data on the "recommended" topics which would otherwise comprise tabulation 2.

- (e) *Marital status of head* (paras. 268-273): single or never married; married (including consensual unions); widowed, divorced;
- (f) *National and/or ethnic origin of head* (paras. 274-275): classification according to the needs of the country concerned;
- (g) *Sex of head* (para. 278): male; female.

Use of the tabulation:

Since, in almost all cases, housing censuses and population censuses are carried out as closely co-ordinated operations it is assumed that the economic and demographic data required for tabulations 2, 3 and 4 will be obtained from the population census. The topics proposed are recommended for collection in population censuses⁷ and, provided that the housing and population censuses are properly co-ordinated, there should be no difficulty in relating them to the housing data.

In selecting the characteristics to be used, the primary consideration should be their efficiency in providing insight into the housing requirements of the population as well as an indication of the possibilities that exist for meeting these requirements in so far as private resources are concerned and the extent to which the nature of the problem merits public assistance. The age, sex and marital status and national and/or ethnic group of the heads of the households, together with the number of persons in these households distinguished according to the type of housing occupied will provide valuable insight in this respect. This tabulation also provides one component needed to compute headship rates specific for age, sex and marital status, for the projection of number of households.

⁷ *Principles and Recommendations for the 1970 Population Censuses.*

ILLUSTRATION 2. HOUSEHOLDS AND PERSONS IN HOUSEHOLDS, BY TYPE OF LIVING QUARTERS CROSS-CLASSIFIED BY SEX, MARITAL STATUS^a NATIONAL AND/OR ETHNIC GROUP^a AND AGE OF HEAD OF HOUSEHOLD^b

(Recommended)

<i>Geographic division^c and characteristics of head of household</i>	<i>Total^b</i>	<i>Type of living quarters</i>										<i>Homeless persons</i>	
		<i>Housing units</i>						<i>Living quarters other than housing units</i>					
		<i>Total</i>	<i>Dwell- ing</i>	<i>Mobile</i>	<i>Impro- vised</i>	<i>Not intended for habitation</i>		<i>Total</i>	<i>Hotel etc.</i>	<i>Insti- tution</i>	<i>Camp</i>		<i>Other</i>
						<i>Perma- nent</i>	<i>Other</i>						
Male head of household (within appropriate national and/or ethnic group ^d)													
Single or never married.....													
Under 15 years.....													
15-29													
30-44													
45-64													
65 years and over.....													
Married													
Age groups as above.....													
Widowed													
Age groups as above.....													
Divorced													
Age groups as above.....													
Female head of household (with- in appropriate national and/or ethnic group ^d)													
Marital status and age groups as above													

^a "Marital status" and "national and/or ethnic group" are not "recommended" topics for the housing census and therefore they would not normally be included in a "recommended" tabulation. Should either of these topics have been included in the census, however, their most useful purpose would be served by cross-classifying the information obtained with data on the recommended topics which would otherwise comprise tabulation 2.

^b This tabulation is to be made for (1) households, (2) persons.

^c (a) Total country; (b) each major civil division; (c) each minor civil division; (d) each principal locality. Distinguish urban and rural for (a), (b) and (c).

^d Classified according to the needs of the country concerned.

- (3) HOUSEHOLDS AND PERSONS IN HOUSEHOLDS, BY TYPE OF LIVING QUARTERS CROSS-CLASSIFIED BY TYPE OF ACTIVITY, OCCUPATION AND SEX OF HEAD OF HOUSEHOLD (Recommended)

Units of tabulation: households and persons.

Households and persons included: all households and persons living in households (para. 201).

Classifications:

- (a) *Geographic division* (paras. 305-314): (i) total country; (ii) each major civil division; (iii) each minor civil division; (iv) each principal locality. Distinguish urban and rural for (i), (ii) and (iii);
- (b) *Type of living quarters* (paras. 165-196): conventional dwellings; mobile housing units; improvised housing units; housing units in permanent buildings not intended for human habitation; other premises not intended for human habitation; hotels, rooming houses and other lodging houses; institutions; camps; living quarters not otherwise classifiable;
- (c) *Separate class for homeless persons* (para. 41);
- (d) *Occupation of head* (paras. 276-277): according or convertible to the major groups of the International Labour Organisation's *International Standard Classification of Occupations, 1966* (ISCO, 1966);*
- (e) *Sex of head* (para. 278): male; female;
- (f) *Type of activity of head* (paras. 279-288): economically active; not economically active.

*The ISCO, 1966 was not available at the time of the previous (photo-offset) edition of these recommendations. Since it is now available, this paragraph has been revised to take into account specifically the ISCO, 1966, in place of the reference, in the earlier issue, to the "latest revision" of the ISCO.

Use of the tabulation:

The relationships established in this tabulation provide data on the type of activity, occupation and sex of heads of households occupying each type of living quarters together with the number of households and persons in each of the categories established. This tabulation attempts to isolate population groups in need of housing in terms of the occupation of the economically active heads of households. In the absence of data on income, which is not normally available from the population census, this tabulation may provide at least a general indication of socio-economic level.

In addition to its significance from the point of view of the resources available to the head of the household, occupation may be of importance where the aim is to stimulate the development of certain sectors of the economy. The International Labour Organisation has recommended that "Special consideration should be given in national housing programmes, particularly in developing countries, to the housing needs of workers employed in, or required by, industries or regions which are of great national importance."⁸ In this connexion also, attention has been drawn by the Asian Regional Conference of the International Labour Organisation to the provision of workers' housing as a means of raising the productive capacity of the economy.⁹ Where national plans are directed towards the development of certain key sectors of the economy, occupation may be of particular significance for determining priorities in meeting housing needs.

⁸ International Labour Organisation, *Official Bulletin*, vol. XLIV, No. 1 (Geneva, 1961), "Recommendations concerning workers' housing; suggestions concerning methods of application", paras. 1-2.

⁹ *Ibid.*, vol. XXXVI, No. 4 (Geneva, 1953), "Asian Regional Conference of the International Labour Organisation; resolutions adopted by the Conference: I. Resolution concerning workers' housing", para. 4(b).

ILLUSTRATION 3. HOUSEHOLDS AND PERSONS IN HOUSEHOLDS, BY TYPE OF LIVING QUARTERS CROSS-CLASSIFIED BY TYPE OF ACTIVITY, OCCUPATION AND SEX OF HEAD OF HOUSEHOLD^a

(Recommended)

<i>Geographic division^b and characteristics of head of household</i>	<i>Type of living quarters</i>											<i>Homeless persons</i>	
	<i>Total^a</i>	<i>Housing units</i>						<i>Living quarters other than housing units</i>					
		<i>Total</i>	<i>Dwell- ing</i>	<i>Mobile</i>	<i>Impro- vised</i>	<i>Not intended for habitation</i>		<i>Total</i>	<i>Hotel etc.</i>	<i>Insti- tution</i>	<i>Camp</i>		<i>Other</i>
						<i>Perma- nent</i>	<i>Other</i>						
Economically active head of household													
Male													
Female													
Occupation — Major group 0/1*													
Male													
Female													
Occupation — Major group 2*													
Male													
Female													
Occupation — Major group													
[Occupation groups according or convertible to the major groups of the <i>International Standard Classification of Occupations</i> (ISCO, 1966)]													
Head of household not economically active													
Male													
Female													

*The major group codes of the *International Standard Classification of Occupations, 1966*, have been substituted for the codes of the previous ISCO, which were shown in the earlier (photo-offset) issue of these recommendations.

^a This tabulation is to be made for (1) households, (2) persons.
^b (a) Total country; (b) each major civil division; (c) each minor civil division; (d) each principal locality. Distinguish urban and rural for (a), (b) and (c).

(4) CONVENTIONAL DWELLINGS, BY NUMBER OF ROOMS
CROSS-CLASSIFIED BY NUMBER OF OCCUPANTS PER
DWELLING (Recommended)

Unit of tabulation: living quarters.

Living quarters included: conventional dwellings
(paras. 171-178).

Classifications:

- (a) *Geographic division* (paras. 305-314): (i) total country; (ii) each major civil division; (iii) each minor civil division; (iv) each principal locality. Distinguish urban and rural for (i), (ii) and (iii);
- (b) *Number of occupants per dwelling* (para. 318): 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 and over;
- (c) *Number of rooms per dwelling* (paras. 324-326): 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 and over.

Use of the tabulation:

Density of occupation in terms of the number of persons per room is a widely recognized measure of the adequacy of housing conditions. One of the aims of housing policy is to reduce the density of occupation to a level consistent with the maintenance of health and privacy of the occupants. This aspect of housing is regarded as being of sufficient importance in many countries for legal standards to have been adopted which specify the maximum number of persons by age, sex and family relationships to be housed in dwellings having a specified number of rooms and bedrooms.¹⁰

The number of persons per room furnishes the basis for two of the indicators included in the *Statistical Indicators of Housing Conditions*¹¹ and the housing component of the *International Definition and Measurement of Levels of Living: An Interim Guide*.¹² As a fundamental of healthful residential environment the Expert Committee on the Public Health Aspects of Housing¹³ drew attention to the importance of a sufficient number of rooms as well as a suitable separation of rooms according to the age and sex of the occupants.

¹⁰ "Minimum standards of occupancy and fitness for habitation of urban dwellings enforceable under penalty; report of the Secretary-General (E/CN.5/207/Add.1, 2, 3 and 4, annex I).

¹¹ United Nations publication, Sales No.: 62.XVII.7, paras. 18-22, 32-36.

¹² United Nations publication, Sales No.: 61.IV.7, paras. 37-41.

¹³ World Health Organization, *Expert Committee on the Public Health Aspects of Housing, First Report, Technical Report Series No. 225* (Geneva, 1961), sections 2.3.1 and 2.3.2.

The table provides for the manual or automatic selection of data concerning any desired level of density considered of significance, from extreme overcrowding to under-occupancy. In establishing the *Statistical Indicators of Housing Conditions* (para. 19) the Statistical Commission and the Inter-Agency Working Party on Statistics for Social Programmes agreed that, for international purposes, dwellings with densities of three or more persons per room should be considered as overcrowded under any circumstances. For national use this level may be raised or lowered according to circumstances; or different levels may be set for urban areas than for rural areas (the outdoor spaces in rural areas are sometimes considered as offsetting to some extent high densities prevailing within the dwellings).

The geographic classification may be modified but it should be noted that high levels of density may coexist with a reasonably low average, and classification of the data by small geographic areas may be more revealing in this respect than data which refer to more extensive regions.

It should be kept in mind that only an approximate index of over-all average density can be derived from this tabulation. Aggregates for rooms and occupants can be obtained only by estimating the open-end classifications for the number of rooms and the number of occupants in dwellings (ten and over). For a more precise index, these aggregates should be obtained for predetermined areas in the course of tabulating the data required for the table.

This tabulation may be extended to include an additional category for semi-permanent dwellings where these represent a substantial proportion of the housing stock and are considered as providing acceptable housing in the country concerned.

Improvised housing units and housing units and other premises not intended for habitation are excluded from the classification because their structural characteristics call for the replacement of these units on this basis alone. Also, because of the varied and unconventional character of such places of abode there is a problem of identifying within them spaces conforming to the definition of room. The same argument would generally apply to mobile housing units where these represent tents, wagons, carts etc. In some circumstances, mobile housing units may also be considered as providing satisfactory housing (e.g., in the case of well-constructed and properly equipped trailers) and, in such cases, it may be useful to investigate and tabulate information on the number of rooms and the number of persons occupying them.

ILLUSTRATION 4. CONVENTIONAL DWELLINGS, BY NUMBER OF ROOMS CROSS-CLASSIFIED BY
NUMBER OF OCCUPANTS PER DWELLING

(Recommended)

<i>Geographic division ^a and occupants per dwelling</i>	<i>Total dwellings</i>	<i>Dwellings with the following number of rooms</i>									
		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10+</i>
Total dwellings											
Occupants per dwelling:											
0											
1											
2											
3											
4											
5											
6											
7											
8											
9											
10+											

^a (a) Total country; (b) each major civil division; (c) each minor civil division; (d) each principal locality. Distinguish urban and rural for (a), (b) and (c).

(5) HOUSEHOLDS IN CONVENTIONAL DWELLINGS, BY NUMBER OF HOUSEHOLDS PER DWELLING (Recommended)

Units of tabulation: households.

Households included: households occupying conventional dwellings (paras. 171, 201 and 318).

Classifications:

- (a) *Geographic division* (paras. 305-314): (i) total country; (ii) each major civil division; (iii) each minor civil division; (iv) each principal locality. Distinguish urban and rural for (i), (ii) and (iii);
- (b) *Number of households per dwelling* (paras. 201-202); 1; 2; 3+.

Use of the tabulation:

This tabulation provides information on the number of households that are sharing dwellings with other households and it thus provides an important basis for estimating housing needs. The importance of a separate dwelling for each household that desires one is widely recognized and is discussed under the uses of tabulation No. 1. Tabulation No. 9, which shows the number of subtenant households, provides similar information since

subtenant households as defined in the *Principles and Recommendations* are households which share housing units with one or more other households. However, this tabulation provides additional information since it shows the number of households that occupy the shared units.

The classification of households per dwelling could be extended according to the extent of doubling-up in the country concerned. If information has been collected to show whether the sharing is voluntary or involuntary additional subclassifications could be usefully included in the tabulation to reflect this.

The tabulation is restricted here to households occupying dwellings. In countries where other housing units are considered acceptable (mobile housing units, for example), households occupying these units may also be included in the tabulation. Households occupying unacceptable housing units such as improvised housing units and places not intended for habitation would be considered in need of housing irrespective of whether or not they are doubled up and these households are therefore not included in the tabulation. The tabulation is not applicable to living quarters other than housing units.

ILLUSTRATION 5. HOUSEHOLDS IN CONVENTIONAL DWELLINGS, BY NUMBER
OF HOUSEHOLDS PER DWELLING

(Recommended)

<i>Geographic division^a and unit of tabulation</i>	<i>Total households</i>	<i>Number of households per dwelling</i>		
		<i>1 Household</i>	<i>2 Households</i>	<i>3+ Households</i>
Households				

^a (a) Total country; (b) each major civil division; (c) each minor civil division; (d) each principal locality. Distinguish urban and rural for (a), (b) and (c).

(6) LIVING QUARTERS, HOUSEHOLDS AND PERSONS IN LIVING QUARTERS, BY TYPE OF LIVING QUARTERS CROSS-CLASSIFIED BY WATER SUPPLY SYSTEM (Recommended)

Units of tabulation: living quarters, households and persons.

Living quarters included: all living quarters (para. 158).

Households and persons included: occupants of living quarters (paras. 158 and 318).

Classifications:

- (a) *Geographic division* (paras. 305-314): (i) total country; (ii) each major civil division; (iii) each minor civil division; (iv) each principal locality. Distinguish urban and rural for (i), (ii) and (iii);
- (b) *Type of living quarters* (paras. 165-196): conventional dwellings; mobile housing units; improvised housing units; housing units in permanent buildings not intended for human habitation; other premises not intended for human habitation; hotels, rooming houses and other lodging houses; institutions; camps; living quarters not otherwise classifiable;
- (c) *Water supply system* (paras. 336-337): with piped water inside; with piped water outside but within 100 metres; without piped water.

Use of the tabulation:

From this tabulation information may be derived concerning the number of persons and the number of households with ready access to a protected water supply as well as the availability of piped water for each class of living quarters. The supplying of water through pipes is recognized as the most effective means of protecting it from pollution and of ensuring its purity, provided that the water supply system is efficiently administered. The provision of as large a proportion of living quarters as possible with a piped water installation is, therefore, one of the primary objectives of housing policy as well as of public health policy, and the availability of piped water is considered to be perhaps the most valuable indicator of sanitary conditions. The availability of a protected water supply for the occupants of each set of living quarters is essential for the prevention of communicable diseases as well as for the cleanliness and general comfort of the occupants. Furthermore, since it is a universal practice for the majority of persons to take their principal meals in their living quarters, the availability of a water supply installation is of particular importance in connexion with the preparation of food.

At its first meeting in Geneva in 1961 the WHO Expert Committee on the Public Health Aspects of Housing recommended that, as a fundamental of a healthful residential environment, "A potable and palatable water supply be provided in each dwelling unit or in the courtyard where it is easily and readily acces-

sible".¹⁴ The Committee noted that "In the developing countries it may be economically feasible to supply the water only to a tap located in the courtyard or other similar area serving a group of houses. While this standard will permit the attainment of at least a minimum level of sanitation and cleanliness, the Committee suggests that the long-range objective in developing countries be the installation of piped water into each dwelling-unit".¹⁵

The classification of water supply recommended in tabulation 6 is proposed as a minimum classification which may be expanded according to the needs of a particular country. Many countries have found it useful to tabulate information about the source of the water supply in addition to information on whether or not it is piped to the living quarters; some have distinguished a supply used only by the occupants of the living quarters being enumerated from that used by the occupants of several living quarters; others have qualified further the location of the piped water supply by including a separate category for a supply which is not inside the living quarters but which is inside the building in which the living quarters are located.

The percentage of occupied dwellings with piped water inside the dwelling or outside but within 100 metres was selected as a basic indicator for the *Statistical Indicators of Housing Conditions*¹⁶ and for the housing component of the *International Definition and Measurement of Levels of Living: An Interim Guide*.¹⁷

Because of the universal importance of a protected water supply for the total population, all classes of living quarters are included in the tabulation with their total occupants (those in households as well as those not living in households). Households are tabulated according to whether they occupy housing units or living quarters other than housing units. It should be noted, therefore, that the cells for housing units will contain the number of households together with the number of persons in those households. However, there is no relationship between households and persons in the cells that fall under "Living quarters other than housing units" since the number of persons includes persons not living in households.

It is recommended that the data be tabulated in geographic detail because of the importance of the topic and the use to which the information yielded may be put. In cities and towns particularly, the provision of piped water is normally a public responsibility and data concerning the areas lacking this facility may provide the basis for extending municipal systems. Where individual living quarters located in areas to which municipal systems have been extended are found to be without piped water systems the data may provide the basis for initiating local sanitation programmes.

¹⁴ World Health Organization, *Expert Committee on the Public Health Aspects of Housing, First Report*, p. 59.

¹⁵ *Ibid.*, section 2.4.1, p. 22.

¹⁶ Paras. 23-26.

¹⁷ Para. 37.

ILLUSTRATION 6. LIVING QUARTERS, HOUSEHOLDS AND PERSONS IN LIVING QUARTERS, BY TYPE OF LIVING QUARTERS
CROSS-CLASSIFIED BY WATER SUPPLY SYSTEM ^a

(Recommended)

<i>Geographic division ^b and availability of piped water in the housing unit</i>	<i>Total ^a</i>	<i>Type of living quarters</i>										
		<i>Housing units</i>						<i>Living quarters other than housing units</i>				
		<i>Total</i>	<i>Dwell- ing</i>	<i>Mobile</i>	<i>Impro- vised</i>	<i>Not intended for habitation</i>		<i>Total</i>	<i>Hotel</i>	<i>Insti- tution</i>	<i>Camp</i>	<i>Other</i>
						<i>Perma- nent</i>	<i>Other</i>					
With piped water inside.....												
With piped water outside but within 100 metres.....												
Without piped water.....												

^a This tabulation is to be made for (1) living quarters, (2) households, (3) persons.

^b (a) Total country; (b) each major civil division; (c) each minor civil division; (d) each principal locality. Distinguish urban and rural for (a), (b) and (c).

(7) OCCUPIED LIVING QUARTERS, HOUSEHOLDS AND PERSONS IN LIVING QUARTERS, BY TYPE OF LIVING QUARTERS CROSS-CLASSIFIED BY TYPE OF TOILET FACILITY (Recommended)

Units of tabulation: living quarters, households and persons.

Living quarters included: all living quarters (para. 158).

Households and persons included: occupants of living quarters (paras. 158 and 318).

Classifications:

- (a) *Geographic division* (paras. 305-314): (i) total country; (ii) each major civil division; (iii) each minor civil division; (iv) each principal locality. Distinguish urban and rural for (i), (ii) and (iii);
- (b) *Type of living quarters* (paras. 165-196): conventional dwellings; mobile housing units; improved housing units; housing units in permanent buildings not intended for habitation; other premises not intended for habitation; hotels, rooming houses and other lodging houses; institutions; camps; living quarters not otherwise classifiable;
- (c) *Toilet facilities* (paras. 330-335): with toilet installation (flush toilet; non-flush toilet); without toilet installation of any type.

Use of the tabulation:

From this tabulation data may be obtained on the number of living quarters by type with the number of occupants and the type of toilet facilities available to them. The extent to which living quarters (particularly those located in closely populated areas) are equipped with satisfactory means of disposing of human waste is extremely important from a health point of view.

The World Health Organization considered that

"Along with the provision of water supplies, the safe and efficient disposal of human waste is one of the great problems of environmental sanitation. It is considered among the first basic steps which should be taken towards assuring a suitable environment for man's well-being. In large areas of the world, and indeed in parts of every country, proper excreta disposal is among the most pressing public health problems, as indicated by the number of requests received from Governments for assistance in this field".¹⁸

Living quarters other than housing units are included in the tabulation and in fact information concerning the availability of toilet facilities in institutions, hotels etc., is frequently collected in housing censuses. However, with respect to these units separate tabulations which would also show the number of toilets in relation to the number of occupants may be more useful than in-

¹⁸ "General review of the development and co-ordination of the economic, social and human rights programmes and activities of the United Nations and the specialized agencies as a whole; appraisal of the programme of the World Health Organization, 1959-1964; note by the Secretary-General" (E/3344, 7 April 1960).

formation which indicates merely the availability of a toilet and the type. Similar information may be tabulated for housing units occupied by more than a certain number of households (more than two has been suggested).

The tabulation of toilet facilities shown provides the minimum data required for an evaluation of living quarters according to the facilities available. The information for dwellings is required for the computation of indicators included in *Statistical Indicators of Housing Conditions*¹⁹ and in the housing component of the *International Definition and Measurement of Levels of Living: An Interim Guide*.²⁰ Toilet facilities was proposed by the Seminar on Housing Statistics and Programmes for Asia and the Far East²¹ and by the Latin American Seminar on Housing Statistics and Programmes²² as a topic on which data are required for housing programmes.

In many countries the classification has been elaborated to provide information concerning the availability of particular types of toilets (other than flush) which are prevalent and characteristic of the country concerned and which imply varying degrees of efficiency from a sanitary point of view. The tabulation may show whether the toilet facilities are used exclusively by the occupants of the living quarters or are shared with the occupants of other living quarters. For living quarters reported as having no facilities, the tabulation may be extended to reflect whether the occupants use a communal toilet, whether they use the toilet facilities of other living quarters or whether there are no facilities available for their use.

The tabulation may be extended to show the methods of disposing of human excreta (community sewerage system; individual system such as a septic tank or pit; other systems such as toilets draining directly into lakes or rivers).

The geographic classification is subject to modification according to the proposed use of the data. The proximity of a public sewerage system to the living quarters will frequently be the factor that determines whether or not the living quarters can be equipped with a flush toilet. It will, therefore, be of interest to city planners to obtain information on the location of living quarters without flush toilets both within and beyond the areas to which the public sewerage system is extended; this may require data for small areas. The proportion of living quarters with flush toilet has quite different implications in cities and towns from the proportion in rural or sparsely populated areas; moreover, the type of arrangement considered satisfactory in rural areas may not come up to the standards established by public health authorities for urban areas, and thus some differentiation of the data by rural and urban may be necessary for its correct interpretation.

¹⁹ Paras. 38-40.

²⁰ Paras. 37-40.

²¹ *Report of the Seminar on Housing Statistics and Programmes for Asia and the Far East (Copenhagen, 1963)*.

²² *Report of the Latin American Seminar on Housing Statistics and Programmes (Copenhagen, 1962)*.

ILLUSTRATION 7. OCCUPIED LIVING QUARTERS, HOUSEHOLDS AND PERSONS IN LIVING QUARTERS,
BY TYPE OF LIVING QUARTERS CROSS-CLASSIFIED BY TYPE OF TOILET FACILITY ^a

(Recommended)

<i>Geographic division ^b and type of toilet facility available in living quarters</i>	<i>Type of living quarters</i>											
	<i>Total ^a</i>	<i>Housing units</i>					<i>Living quarters other than housing units</i>					
		<i>Total</i>	<i>Dwell- ing</i>	<i>Mobile</i>	<i>Impro- vised</i>	<i>Not intended for habitation</i>		<i>Total</i>	<i>Hotel etc.</i>	<i>Insti- tution</i>	<i>Camp</i>	<i>Other</i>
						<i>Perma- nent</i>	<i>Other</i>					
With toilet												
Flush												
Non-flush												
Without toilet												

^a This tabulation is to be made for (1) living quarters, (2) households, (3) persons.

^b (a) Total country; (b) each major civil division; (c) each minor civil division; (d) each principal locality. Distinguish urban and rural for (a), (b) and (c).

(8) OCCUPIED CONVENTIONAL DWELLINGS AND PERSONS IN DWELLINGS, BY TYPE OF LIGHTING (Recommended)

Units of tabulation: living quarters and persons.

Living quarters included: occupied conventional dwellings (paras. 171-178).

Persons included: occupants of dwellings (paras. 171 and 318).

Classifications:

(a) *Geographic division* (paras. 305-314): (i) total country; (ii) each major civil division; (iii) each minor civil division; (iv) each principal locality. Distinguish urban and rural for (i), (ii) and (iii);

(b) *Type of lighting* (para. 294): electricity; gas; oil lamp etc.

Use of the tabulation:

Countries in all regions attach considerable importance to the source of energy used for lighting. The

Expert Committee on the Public Health Aspects of Housing enumerated "sufficient natural and artificial illumination" as one of the factors contributing to a healthful residential environment.²³

The data are tabulated only for dwellings because other types of housing units are inherently unsatisfactory (with the exception of certain mobile units) and programmes would not normally be directed at providing them with electricity or other improved sources of lighting. The tabulation could provide for planners a useful indication of areas where community lighting needs to be extended.

For dwellings lit by electricity additional information may be tabulated to show whether the electricity comes from a community supply, generating plant or some other source (industrial plant, mine etc.).

The geographic classification may be modified in accordance with the proposed use of the data.

²³ World Health Organization, *Expert Committee on the Public Health Aspects of Housing, First Report*, section 2.2 (j).

ILLUSTRATION 8. OCCUPIED CONVENTIONAL DWELLINGS AND PERSONS IN DWELLINGS, BY TYPE OF LIGHTING (Recommended)

<i>Geographic division^a and unit of tabulation</i>	<i>Total</i>	<i>Type of lighting</i>			
		<i>Electricity</i>	<i>Gas</i>	<i>Oil lamp</i>	<i>Other types of significance in the country concerned</i>
Dwellings					
Persons in dwellings.....					

^a (a) Total country; (b) each major civil division; (c) each minor civil division; (d) each principal locality. Distinguish urban and rural for (a), (b) and (c).

(9) HOUSEHOLDS AND PERSONS IN CONVENTIONAL DWELLINGS, BY TENURE OF HOUSEHOLD (Recommended)

Units of tabulation: households and persons.

Households and persons included: households and persons occupying conventional dwellings (paras. 171, 201 and 318).

Classifications:

- (a) *Geographic division* (paras. 305-314): (i) total country; (ii) each major civil division; (iii) each minor civil division; (iv) each principal locality. Distinguish urban and rural for (i), (ii) and (iii);
- (b) *Tenure* (paras. 327-329): owner, tenant; subtenant; other forms of tenure.

Use of the tabulation:

The above tabulation yields data showing the type of tenure under which households occupy their living space. The data are tabulated in terms of households rather than dwellings in order to show more clearly the tenure status of households sharing dwellings. The number of owner-occupied dwellings can be obtained from the tabulation from the corresponding figures for owner households in each category; an approximation for rented units could be obtained by subtracting the number of owner-occupied units from the total occupied dwellings shown in tabulations 4, 7 or 9.

The extent to which households own or rent the accommodation which they occupy is of special significance for housing programmes. Housing programmes frequently include special provisions for assistance to owner occupiers for the maintenance or improvement of their dwellings, and housing policy is invariably concerned with rent levels and the population likely to be

affected by rent policy. The number of households occupying their living quarters as subtenants is indicative of the seriousness of the housing shortage, and such households will be of primary concern in formulating housing programmes. In some countries a separate category may be tabulated for households that occupy their living quarters free of cash rent.

In some cases, it may be useful to tabulate the data for households occupying other types of living quarters. A greater variation of tenure status seems to exist among the occupants of certain types than was hitherto supposed. Whereas it was once assumed that the inhabitants of squatter areas erected and owned their own improvised shacks it now appears that the economic demand for this type of housing has manifested itself in the appearance of squatter "entrepreneurs" who trade in squatter accommodation by buying, selling or renting it as the opportunity arises.²⁴ In countries with substantial numbers of households living under these conditions, a tabulation of all households may be useful provided that the tenure data obtained are sufficiently reliable for the results to be meaningful.

Several variations of the classification of tenure have been found useful. Tenure data are sometimes classified so as to distinguish the tenure under which the living quarters are occupied from the tenure of the land upon which they stand (for some countries such a classification may be of special significance). Owner occupants are shown in some cases according to whether the dwelling is fully paid for or whether it is being paid for in instalments or mortgaged; rental data are subclassified to show separate information for accommodation rental unfurnished and accommodation rented furnished.

²⁴ Charles Abrams, *Man's Struggle for Shelter in an Urbanizing World* (Cambridge, Massachusetts, MIT Press, 1964).

ILLUSTRATION 9. HOUSEHOLDS AND PERSONS IN CONVENTIONAL DWELLINGS, BY TENURE OF HOUSEHOLD (Recommended)

<i>Geographic division^a and units of tabulation</i>	<i>Total</i>	<i>Tenure of household</i>			
		<i>Owner</i>	<i>Tenant</i>	<i>Subtenant</i>	<i>Other form of tenure</i>
Households					
Persons					

^a (a) Total country; (b) each major civil division; (c) each minor civil division; (d) each principal locality. Distinguish urban and rural for (a), (b) and (c).

(10) VACANT CONVENTIONAL DWELLINGS, BY TYPE OF VACANCY (Recommended)

Units of tabulation: living quarters.

Living quarters included: vacant conventional dwellings (paras. 171-178).

Classifications:

- (a) *Geographic division* (paras. 305-314): (i) total country; (ii) each major civil division; (iii) each minor civil division; (iv) each principal locality. Distinguish urban and rural for (i), (ii) and (iii);
- (b) *Type of vacancy* (paras. 315-317): seasonally vacant; suitable for year-round occupancy (for rent; for sale; other; unknown).

Use of the tabulation:

Vacancy data are important from several points of view. In many countries the vacancy rate runs from 3 to 5 per cent of the housing inventory which is equal to and, in some cases, a good deal more than, the number of dwellings produced annually from new construction. It seems appropriate, therefore, that the number of vacant units should be kept under careful surveillance in order to ensure that the stock of housing is used as fully and as economically as possible. The vacancy ratio provides insight into the proportion of dwellings required to allow for a turnover of housing among owners and renters. This rate can be applied to calculations of housing needs in order to provide for a similar vacancy ratio in estimating the number of new dwellings that it will be necessary to construct.

Vacancy data classified according to the type of vacancy should furnish useful information concerning the availability of housing. For example, seasonally vacant dwellings can be ruled out as a source of additional permanent accommodation. These units may be further classified, however, to distinguish those intended for holiday accommodation from those intended for other seasonal accommodation such as that reserved for the use of seasonal or migrant workers. An examination of the reasons for vacancy of dwellings suitable for year-round occupancy may reveal an over-abundance in categories which do not correspond to the requirements or the resources of the population groups in need of housing (it may be noted that information as to the size of vacant dwellings is available from tabulation 4). Corrective action may be taken in these circumstances either by restricting, directly or indirectly, the construction of the type of dwelling in question or by subsidizing the purchase or rental of dwellings.

This tabulation confines itself to data relating to dwellings because all other types of housing units are required by definition to be occupied in order to fall within the scope of the census; a classification by occupancy would not, therefore, be applicable to them.

In some housing censuses, vacancy information is recorded during the listing of living quarters and summaries of these lists provide the aggregates furnished by this tabulation although generally not in detail as far as reasons for vacancy are concerned. Such a procedure may, however, provide an economic means of obtaining the data where there are important reasons to curtail the number of tabulations.

ILLUSTRATION 10. VACANT CONVENTIONAL DWELLINGS, BY TYPE OF VACANCY

(Recommended)

<i>Geographic division^a and unit of tabulation</i>	<i>Total</i>	<i>Type of vacancy</i>			
		<i>Seasonally vacant</i>	<i>Suitable for year-round occupancy</i>		
			<i>For rent</i>	<i>For sale</i>	<i>Other</i>
Dwellings					

^a (a) Total country; (b) each major civil division; (c) each minor civil division; (d) each principal locality. Distinguish urban and rural for (a), (b) and (c).

(11) CONVENTIONAL DWELLINGS, BY YEAR (OR PERIOD) OF CONSTRUCTION²⁵ OF BUILDING (IN WHICH DWELLING IS LOCATED) CROSS-CLASSIFIED BY TYPE OF BUILDING AND CONSTRUCTION MATERIAL (Recommended)

Units of tabulation: living quarters.

Living quarters included: conventional dwellings (paras. 171-178).

Classifications:

- (a) *Geographic division* (paras. 305-314): (i) total country; (ii) each major civil division; (iii) each minor civil division; (iv) each principal locality. Distinguish urban and rural for (i), (ii) and (iii);
- (b) *Construction material of outer walls* (paras. 255-257): construction material of the walls (sub-classified into types of construction material which are of significance for permanence and durability);
- (c) *Type of building* (paras. 243-248): buildings coextensive with a single detached housing unit; buildings containing more than one housing unit; buildings for persons not living in households; all others;
- (d) *Year of period of building construction* (paras. 338-342): single years for buildings constructed during the intercensal period immediately preceding (if it does not exceed ten years) or during the preceding ten years (where the intercensal period exceeds ten years or where no previous census has been carried out); specified periods for buildings constructed prior to this.

Use of the tabulation:

This tabulation provides information on the number of dwellings by type of building in which the dwelling is located and by material of construction of the walls of the building cross-classified by the year or period of construction of the building. The inventory considered in terms of age and type of building provides a basis for estimating maintenance costs; it also furnishes insight into the housing patterns of the population, a factor which experience has shown should not be neglected in formulating housing programmes. The data derived from this tabulation are of special importance for the formulation of housing programmes since they provide the basis for appraising the dwelling inventory in terms of durability and expected rate of replacement and also provide the basis for an estimate of the annual rate of dwelling construction during the intercensal period or the preceding ten years.

As is well known, construction data are difficult to collect and seriously lacking in most countries, particularly for the private sector, yet they are indispensable for determining the extent to which housing programmes are meeting the need for new dwellings. The

²⁵ "Year or period of construction" is not a "recommended" topic for the housing census and therefore it would not normally be included in a "recommended" tabulation. Should it have been included in the census, however, its most useful purposes would be served by cross-classifying the information obtained with data on the "recommended" topics "construction material" and "type of building" which would otherwise comprise tabulation 11.

construction data obtained may thus fill a serious gap in the series of statistics required for housing programmes. They may also provide a means of checking construction statistics for deficient coverage and of more closely integrating the housing census and current housing statistics.

Also lacking in most countries are estimates of the investment devoted to dwelling construction. If data can be provided that will reflect even approximately the rate of dwelling construction for a given period together with a broad description by type and material of construction (as provided by tabulation 11) a reasonable estimate of housing investment should be possible. This is an important factor in assessing, and also in establishing the role of housing in over-all plans for economic and social development.

If, as is suggested in paragraph 342, data have been collected which distinguish separately living quarters that have been constructed by the households occupying them, then a separate category for this information would need to be provided in the classification. The information obtained may be used to provide estimates of the rate of dwelling construction attained and likely to be attained, outside the construction carried out by enterprises or other organizations and of the resources being devoted to this type of dwelling construction. It should be noted, however, that the data would be incomplete since they would not include all living quarters constructed by households but only those occupied at the time of the census by the households that had constructed them. Neither would the information take into account the rebuilding and renewal of dwellings which is a continuing operation where dwelling construction is traditionally a household activity.

The tabulation also provides part of the data required for the computation of one of the *Statistical Indicators of Housing Conditions*, namely, "Index of dwelling construction in relation to estimated requirements (for three-year periods)".

The question of whether to include only conventional dwellings in the tabulation or other types of living quarters as well will depend upon the importance of the latter as far as the over-all housing situation is concerned. In tropical countries where a substantial proportion of the population lives in housing units constructed of locally available material such as bamboo, palm, thatch etc., information on the rate of construction of these units may be considered sufficiently important for them to be included.

The tabulation includes material of construction for walls only since this appears to be of most significance as an indicator of durability. Information on the construction material of the roof and floor are also frequently sought in housing censuses, particularly the former, but certain complications arise in tabulating construction material for more than one element of the dwelling. Obviously, if mechanical tabulation methods are used, combined data of this kind could be easily obtained, but for a basic tabulation the classification is restricted to the type of material used in the construction of the outer walls.

The classification by type of building may be modified or expanded as the occasion demands. It may be found

useful to introduce information on whether buildings are mainly residential or mainly non-residential, on the number of floors in the building, particularly with respect to apartment buildings, and also the number of dwellings in the building.

In some countries, single years have been used over a longer period than that shown to tabulate information on the date of construction; however, it must be borne in mind that as the period is extended the quality of the data may be impaired.

ILLUSTRATION 11. CONVENTIONAL DWELLINGS, BY YEAR (OR PERIOD) OF CONSTRUCTION ^a OF BUILDING (IN WHICH DWELLING IS LOCATED) CROSS-CLASSIFIED BY TYPE OF BUILDING AND CONSTRUCTION MATERIAL

(Recommended)

<i>Geographic division,^b type of building and construction material of walls</i>	<i>Total dwellings</i>	<i>Year or period of building construction</i>														
		<i>Year prior to census^c</i>									<i>Period</i>					
		<i>0</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>I</i>	<i>II</i>	<i>III</i>		
Building coextensive with a single detached housing unit																
Material of walls:																
Material A																
Material B																
Material C																
.....																
.....																
Building containing more than one housing unit....																
Classification of material as above																
Building for persons not living in households.....																
Classification of material as above																
All others																
Classification of material as above																

^a "Year or period of construction" is not a "recommended" topic for the housing census and therefore, it would not normally be included in a "recommended" tabulation. Should it have been included in the census, however, its most useful purposes would be served by cross-classifying the information obtained with data on the "recommended" topics "construction material" and "type of building" which would otherwise comprise tabulation 11.

^b (a) Total country; (b) each major civil division; (c) each minor civil division; (d) each principal locality. Distinguish urban and rural for (a), (b) and (c).

^c Census year (0) and years preceding the census year.

- (12) HOUSEHOLDS AND PERSONS IN HOUSEHOLDS, BY TYPE OF LIVING QUARTERS CROSS-CLASSIFIED BY TYPE OF ACTIVITY, INDUSTRY AND SEX²⁶ OF HEAD OF HOUSEHOLD (Other useful)

Units of tabulation: households and persons.

Households and persons included: all households and persons living in households (paras. 201-202).

Classifications:

- (a) *Geographic division* (paras. 305-314): (i) total country; (ii) each major civil division; (iii) each minor civil division; (iv) each principal locality. Distinguish urban and rural for (i), (ii) and (iii);
- (b) *Type of living quarters* (paras. 165-196): conventional dwellings; mobile housing units; improvised housing units; housing units in permanent structures not intended for human habitation; other premises not intended for human habitation; hotels, rooming houses and other lodging houses; institutions; camps; living quarters not otherwise classifiable;
- (c) *Separate class for homeless persons* (para. 41);
- (d) *Type of activity of head* (paras. 279-288): economically active; not economically active;
- (e) *Industry of head* (paras. 266-267): according or convertible to the major (one-digit) divisions of the 1968 revision of United Nations *International Standard Industrial Classification of All Economic Activities* (ISIC);*

* The 1968 revision of the ISIC was not available at the time of the previous (photo-offset) edition of these recommendations. Since it is now available, this paragraph has been revised to take into account specifically the 1968 ISIC, in place of the general reference in the earlier issue.

²⁶ "Type of activity" and "sex" of head of household are "recommended" topics and, therefore, they would not normally be included in an "other useful" tabulation. They are required, however, to utilize properly the data on "industry" which is the main topic in the tabulation.

- (f) *Sex of head* (para. 278): male, female.

Use of the tabulation:

Tabulation 12 provides a basis for analysing the housing situation in terms of basic economic characteristics. The population accommodated in various types of housing is classified by type of activity, industry and sex of the head of the household. Industry may be useful from several standpoints. It may be of assistance in determining whether certain groups of the population falling within the major industrial divisions are characterized by poor housing conditions and thus provide a starting point for an investigation of causes, effects and possible remedial action. Other non-housing characteristics of the population within these groups may be of considerable assistance in this respect, for example, the average income and the social characteristics of workers in the respective industries.

In addition to its significance from the point of view of the resources available to the head of the household, industry may be of importance where the aim is to stimulate the development of certain sectors of the economy. The International Labour Organisation has recommended that "Special consideration should be given in national housing programmes, particularly in developing countries, to the housing needs of workers employed in, or required by, industries or regions which are of great national importance".²⁷ In this connexion also, attention has been drawn by the Asian Regional Conference of the International Labour Organisation to the provision of workers' housing as a means of raising the productive capacity of the economy.²⁸

²⁷ International Labour Organisation, *Official Bulletin*, vol. XLIV, No. 1 (Geneva, 1961), "Recommendations concerning workers' housing; suggestions concerning methods of application", paras. 1-2.

²⁸ *Ibid.*, vol. XXXVI, No. 4 (Geneva, 1953), "Asian Regional Conference of the International Labour Organisation; resolutions adopted by the Conference: I. Resolution concerning workers' housing", para. 4(b).

ILLUSTRATION 12. HOUSEHOLDS AND PERSONS IN HOUSEHOLDS, BY TYPE OF LIVING QUARTERS CROSS-CLASSIFIED BY TYPE OF ACTIVITY,^a INDUSTRY AND SEX^a OF HEAD OF HOSEHOLD^b

(Other useful)

Geographic division ^c and characteristics of heads of households	Total ^b	Type of living quarters										Homeless persons	
		Housing units						Living quarters other than housing units					
		Total	Dwell- ing	Mobile	Impro- vised	Not intended for habitation		Total	Hotel etc.	Insti- tution	Camp		Other
						Perma- nent	Other						
Economically active head of household													
Male													
Female													
Industry — Major division 1*													
Male													
Female													
Industry — Major division 2*													
Male													
[Industry divisions according or convertible to the major (one-digit) divisions of the 1968 revision of United Na- tions, <i>International Standard Industrial Classification of All Economic Activities</i> (ISIC)*]													
Head of household not econo- mically active													
Male													
Female													

* The major division (one-digit) codes of the 1968 revision of the *International Standard Industrial Classification of All Economic Activities* have been substituted for the one-digit codes of the earlier edition of these recommendations.

^a "Type of activity" and "sex" of head of household are "recommended" topics and, therefore, they would not normally be included in an "other useful" tabulation. They are required,

however, to elaborate "industry" which is the main topic in the tabulation.

^b This tabulation is to be made for (1) households, (2) persons.

^c (a) Total country; (b) each major civil division; (c) each minor civil division; (d) each principal locality. Distinguish urban and rural for (a), (b) and (c).

- (13) HOUSEHOLDS OCCUPYING DWELLINGS, BY TYPE OF OWNER OF THE DWELLING CROSS-CLASSIFIED BY TENURE²⁹ OF THE HOUSEHOLD AND AVAILABILITY OF PIPED WATER²⁹ AND TOILET FACILITIES²⁹ IN THE DWELLING (Other useful)

Units of tabulation: households.

Households included: households occupying conventional dwellings (paras. 171 and 201).

Classifications:

- (a) *Geographic division* (paras. 305-314): (i) total country; (ii) each major civil division; (iii) each minor civil division; (iv) each principal locality. Distinguish urban and rural for (i), (ii) and (iii);
- (b) *Type of ownership* (paras. 319-321): government (central, local, corporations); private (households, other);
- (c) *Tenure* (paras. 327-329): owner; tenant; subtenant; other form of tenure;
- (d) *Water supply system* (paras. 336-337): with piped water inside; with piped water outside but within 100 metres; without piped water;

²⁹ "Tenure", "water supply" and "toilet facilities" are "recommended" topics and, therefore, they would not normally be included in an "other useful" tabulation. They are required, however, to utilize properly the data on "type of owner" which is the main topic in the tabulation.

- (e) *Toilet facilities* (paras. 330-335): with toilet installation (flush toilet; non-flush toilet); without toilet installation of any type.

Use of the tabulation:

In this tabulation households are tabulated according to the tenure under which they occupy their dwellings, the principal facilities available in the dwelling and the type of owner. In the present tabulation the information on toilet and water supply is not related. It may be useful to cross-classify the data so that the tabulation would show the number of households by tenure and owner of the dwelling according to whether the dwelling has piped water and/or toilet facilities or neither of these facilities.

Ownership of dwellings lacking basic facilities would be of particular interest and it would be useful for the purpose of housing programmes to know whether these units are occupied by their owners or occupied by tenants.

Ownership may also be of interest in analysing other aspects of housing and the tabulation may comprise type of owner cross-classified by tenure and rent paid or type of owner, rent paid and number of rooms. The form of the tabulation should be carefully considered in relation to the kind of analysis that it is planned to carry out.

ILLUSTRATION 13. HOUSEHOLDS OCCUPYING DWELLING, BY TYPE OF OWNER OF THE DWELLING CROSS-CLASSIFIED BY TENURE^a OF THE HOUSEHOLD AND AVAILABILITY OF PIPED WATER^a AND TOILET FACILITIES^a IN THE DWELLING

(Other useful)

<i>Geographic division,^b tenure of the household and facilities in the dwelling</i>	<i>Total households</i>	<i>Type of owner</i>				
		<i>Government</i>			<i>Private</i>	
		<i>Central</i>	<i>Local</i>	<i>Corporations</i>	<i>Households</i>	<i>Other</i>
Owner household						
Water supply:						
With piped water inside						
With piped water outside but within 100 metres						
Without piped water						
Toilet facilities:						
With toilet						
Flush						
Non-flush						
Without toilet						
Tenant household						
Same classification of facilities as above						
Subtenant household						
Same classification of facilities as above						
Household with other form of tenure						
Same classification of facilities as above						

^a "Tenure", "water supply" and "toilet facilities" are "recommended" topics and, therefore, they would not normally be included in an "other useful" tabulation. They are required, however, to utilize properly the data on "type of owner" which is the main topic in the tabulation.

^b (a) Total country; (b) each major civil division; (c) each minor civil division; (d) each principal locality. Distinguish urban and rural for (a), (b) and (c).

(14) OCCUPIED CONVENTIONAL DWELLINGS, BY NUMBER OF BEDROOMS CROSS-CLASSIFIED BY NUMBER OF OCCUPANTS³⁰ PER DWELLING (Other useful)

Units of tabulation: living quarters.

Living quarters included: conventional dwellings (paras. 171-178).

Classifications:

- (a) *Geographic division* (paras. 305-314): (i) total country; (ii) each major civil division; (iii) each minor civil division; (iv) each principal locality. Distinguish urban and rural for (i), (ii) and (iii);
- (b) *Number of occupants* (para. 318): 1, 2, 3, 4, 5, 6, 7, 8, 9, 10+;
- (c) *Number of bedrooms* (para. 242): 1, 2, 3, 4, 5+.

Use of the tabulation:

Sleeping arrangements are of special significance in an assessment of the adequacy of housing and the Expert

³⁰ "Number of occupants" is a "recommended" topic and it would not normally be included in an "other useful" tabulation. It is required, however, to utilize properly the data on "number of bedrooms" which is the main topic in the tabulation.

Committee on the Health Aspects of Housing of the World Health Organization has recommended³¹ that there should be a suitable separation of rooms as used for sleeping by adolescent and adult members of the opposite sex except husband and wife.

For a thorough analysis of rooms and their use in relation to the needs of the occupants, detailed information concerning the use of the rooms and the age, sex and family relationships of the occupants of the dwellings being considered would have to be obtained. This type of analysis would normally be carried out on the basis of data obtained in a housing sample survey. However, the housing census provides a means of providing approximate data on this aspect of housing if information is collected on the number of rooms used principally and regularly for sleeping. The information, related to the number of occupants in the dwelling, provides insight into the adequacy of sleeping arrangements.

³¹ World Health Organization, *Expert Committee on the Public Health Aspects of Housing, First Report*, para. 22 (c) (i).

ILLUSTRATION 14. OCCUPIED CONVENTIONAL DWELLINGS, BY NUMBER OF BEDROOMS CROSS-CLASSIFIED BY NUMBER OF OCCUPANTS^a PER DWELLING

(Other useful)

<i>Geographic division^b and occupants per dwelling</i>	<i>Total</i>	<i>Dwellings with the following number of bedrooms</i>				
		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5+</i>
Total dwellings						
Occupants per dwelling:						
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10+						

^a "Number of occupants" is a "recommended" topic and it would not normally be included in an "other useful" tabulation. It is required, however, to utilize properly the data on "number of bedrooms" which is the main topic in the tabulation.

^b (a) Total country; (b) each major civil division; (c) each minor civil division; (d) each principal locality. Distinguish urban and rural for (a), (b) and (c).

(15) OCCUPIED CONVENTIONAL DWELLINGS, HOUSEHOLDS AND PERSONS IN DWELLINGS, BY AVAILABILITY IN THE DWELLING OF COOKING FACILITIES (Other useful)

Units of tabulation: living quarters, persons, households.

Living quarters included: conventional dwellings (paras. 171-178).

Persons and households included: persons and households occupying conventional dwellings (paras. 171, 201 and 318).

Classifications:

- (a) *Geographic division* (paras. 305-314): (i) total country; (ii) each major civil division; (iii) each minor civil division; (iv) each principal locality. Distinguish urban and rural for (i), (ii) and (iii);
- (b) *Availability of kitchen or kitchenette* (paras. 259-260): with kitchen; with kitchenette; without kitchen or kitchenette;
- (c) *Equipment used for cooking* (para. 258): stove;

hot plate; open fire (and/or other categories appropriate in the country concerned);

- (d) *Fuel used for cooking* (para. 258): electricity; gas; wood; oil (and/or other categories appropriate in the country concerned).

Use of the tabulation:

In many countries the availability of a kitchen and the equipment and type of fuel used for cooking are important aspects in considering the adequacy of housing.

The classifications utilized in this tabulation for equipment and fuel used for cooking should be formulated to conform to the types of equipment and types of fuel normally used in the country concerned.

If information has been gathered (as suggested in paragraph 262) on the number of kitchens or kitchenettes or the number of stoves in housing units occupied by more than a certain number of households and for living quarters other than housing units, such as hotels, boarding houses, multihousehold living quarters, it would be useful to tabulate this information according to the type of living quarters and the number of households.

ILLUSTRATION 15. OCCUPIED CONVENTIONAL DWELLINGS, HOUSEHOLDS AND PERSONS IN DWELLINGS, BY AVAILABILITY IN THE DWELLING OF COOKING FACILITIES

(Other useful)

<i>Geographic division^a and units of tabulation</i>	<i>Total</i>	<i>Availability of kitchen or kitchenette</i>			<i>Equipment used for cooking^b</i>			<i>Fuel used for cooking^b</i>		
		<i>With kitchen</i>	<i>With kitchenette</i>	<i>Without kitchen or kitchenette</i>	<i>Stove</i>	<i>Hot plate</i>	<i>Open fire</i>	<i>Electricity</i>	<i>Gas</i>	<i>Wood</i>
Occupied dwellings										
Households in dwellings ...										
Persons in dwellings										

^a (a) Total country; (b) each major civil division; (c) each minor civil division; (d) each principal locality. Distinguish urban and rural for (a), (b) and (c).

^b Classification of equipment and fuel used for cooking should correspond to the needs of the country concerned.

(16) OCCUPIED CONVENTIONAL DWELLINGS, HOUSEHOLDS AND PERSONS IN DWELLINGS, BY AVAILABILITY IN THE DWELLING OF BATHING FACILITIES (Other useful)

Units of tabulation: living quarters, persons, households.

Living quarters included: conventional dwellings (paras. 171-178).

Persons and households included: persons and households occupying conventional dwellings (paras. 171, 201 and 318).

Classifications:

- (a) *Geographic division* (paras. 305-314): (i) total country; (ii) each major civil division; (iii) each minor civil division; (iv) each principal locality. Distinguish urban and rural for (i), (ii) and (iii);
- (b) *Bathing facilities* (paras. 240-241): with fixed bath or shower; without fixed bath or shower.

Use of the tabulation:

The availability of bathing facilities is an important factor in considering the adequacy of housing units from a health point of view. The Expert Committee on the Public Health Aspects of Housing of the World Health Organization stressed in its *First Report*³² the desirability that each household or family should be provided with some means of body bathing.

³² World Health Organization, *Expert Committee on the Public Health Aspects of Housing, First Report.*

If additional information has been collected which shows whether the facilities are for the exclusive use of the occupants of the dwelling and whether there is hot water for bathing purposes or cold water only, this information may be included in the tabulation.

Information may also be collected which shows whether the occupants of dwellings reported as having no fixed bath or shower share the facilities of another dwelling, use a public facility or have no access to bathing facilities. In such cases the tabulation may be further expanded to include appropriate classifications for this information.

The tabulation is recommended only for acceptable types of housing units. Here it is limited to conventional dwellings since these are the most widely acceptable type but it may be expanded to include rustic housing units or mobile units in countries where these are considered acceptable and where they constitute a substantial part of the housing stock. Marginal housing units are not usually equipped with fixed bathing facilities and in any event housing programmes would normally be aimed at providing more suitable housing units for the occupants rather than equipping them with these facilities; their inclusion in the tabulation would not, therefore, be appropriate.

If information has been gathered (as suggested in paragraph 236) on the number of fixed baths or showers available in housing units occupied by more than a certain number of households and for living quarters other than housing units, such as hotels, boarding houses, multihousehold living quarters, it would be useful to tabulate this information according to the type of living quarters and number of occupants.

ILLUSTRATION 16. OCCUPIED CONVENTIONAL DWELLINGS, HOUSEHOLDS AND PERSONS IN DWELLINGS, BY AVAILABILITY IN THE DWELLINGS OF BATHING FACILITIES

(Other useful)

<i>Geographic division^a and units of tabulation</i>	<i>Total</i>	<i>Availability of fixed bath or shower</i>	
		<i>With</i>	<i>Without</i>
Occupied dwellings			
Households in dwellings			
Persons in dwellings			

^a (a) Total country; (b) each major civil division; (c) each minor civil division; (d) each principal locality. Distinguish urban and rural for (a), (b) and (c).

(17) RENTED³³ CONVENTIONAL DWELLINGS, BY AMOUNT OF RENT PAID MONTHLY FOR THE DWELLING CROSS-CLASSIFIED BY NUMBER OF ROOMS³⁴ IN THE DWELLING (Other useful)

Unit of tabulation: living quarters.

Living quarters included: rented³³ conventional dwellings (para. 71).

Classifications:

- (a) *Geographic division* (paras. 305-314): (i) total country; (ii) each major civil division; (iii) each minor civil division; (iv) each principal locality. Distinguish urban and rural for (i), (ii) and (iii);
- (b) *Rent paid* (paras. 322-323): a scale of rents established in accordance with the range of rent normally paid and the currency in the country concerned;
- (c) *Rooms per dwelling* (paras. 324-326): 1, 2, 3, 4, 5, 6, 7+.

Use of the tabulation:

Two tabulations (17 and 18) are proposed for the analysis of rent paid. In this tabulation, rent is the total amount of rent paid for the dwelling. The data would be

³³ "Rented" in this case means wholly or partly rented, as, for example, when a dwelling is occupied by the owner who rents part of it to another household.

³⁴ "Number of rooms" is a "recommended" topic and it would not normally be included in an "other useful" tabulation. It is required, however, to utilize properly the data on "amount of rent paid" which is the main topic in the tabulation.

obtained from the information on rent paid by households. In cases where a dwelling is occupied by only a single household the amount of rent paid by the household and the rent paid for the dwelling are the same. In cases where dwellings are occupied by two or more households the rents paid by each of the households will need to be aggregated in order to provide the total rent paid for the dwelling. It will be necessary either to exclude from the tabulation dwellings which are partly rented and partly owner-occupied or impute the rent for the owner-occupied portion.

In this tabulation rent paid is related to the number of rooms in the dwelling since space is an important factor in determining the cost of housing. However, it may be useful in some cases to expand the tabulation so that it includes not only the number of rooms in the dwelling but an indication of the availability of certain basic facilities such as piped water and toilet. If information has been collected which shows whether or not the rent is controlled this could usefully be included in the tabulation.

Special attention is sometimes given to the identification of rented single-room dwellings located in multi-dwelling buildings ("single-room letting" these have been termed in the European region). Where they represent a significant proportion of the housing inventory, and the housing services that they provide are thought to be inadequate in relation to the needs of the occupants, special tabulation of such units may be useful. They may be identified in the present tabulation by selecting out from the rented units with one room those located in multidwelling buildings.

ILLUSTRATION 17. RENTED^a CONVENTIONAL DWELLINGS, BY AMOUNT OF RENT PAID MONTHLY FOR THE DWELLING CROSS-CLASSIFIED BY NUMBER OF ROOMS^b IN THE DWELLING

(Other useful)

Geographic division ^c and rooms per dwelling	Total	Monthly rent paid for dwellings					
		Scale of rents					
Total dwellings							
Rooms per dwelling:							
1.							
2.							
3.							
4.							
5.							
5.							
7+							

^a "Rented" in this case means wholly or partly rented, as for example, when a dwelling is occupied by the owner who rents part of it to another household.

^b "Number of rooms" is a "recommended" topic and it would not normally be included in an "other useful" tabulation. It is required, however, to utilize properly the data on "amount of rent paid" which is the main topic in the tabulation.

^c (a) Total country; (b) each major civil division; (c) each minor civil division; (d) each principal locality. Distinguish urban and rural for (a), (b) and (c).

(18) HOUSEHOLDS IN RENTED³⁵ CONVENTIONAL DWELLINGS, BY AMOUNT OF RENT PAID MONTHLY BY THE HOUSEHOLD CROSS-CLASSIFIED BY NUMBER OF HOUSEHOLDS IN THE DWELLING (Other useful)

Unit of tabulation: households.

Households included: households occupying rented³⁵ conventional dwellings (paras. 171, 201 and 327).

Classifications:

- (a) *Geographic division* (paras. 305-314): (i) total country; (ii) each major civil division; (iii) each minor civil division; (iv) each principal locality. Distinguish urban and rural for (i), (ii) and (iii);
- (b) *Rent paid* (paras. 322-323): a scale of rents established according to the range of rents nor-

³⁵ "Rented" in this case means wholly or partly rented, as, for example, when a dwelling is occupied by the owner who rents part of it to another household.

mally paid and the currency in the country concerned;

- (c) *Households per dwelling* (paras. 171 and 201): 1, 2, 3+.

Use of the tabulation:

Two tabulations (17 and 18) are proposed for the analysis of rent paid. In this tabulation, rent paid refers to the amount paid monthly by the household for the space which it occupies. The amount of rent paid is related to the number of households occupying the dwelling. However, it might also be related to the occupation or industry of the heads of households, particularly where these characteristics provide a significant indication of the income levels of large sectors of the population.

The tabulation may be expanded to show whether the space rented is furnished or unfurnished and whether the rent includes utilities such as gas, electricity and heating.

ILLUSTRATION 18. HOUSEHOLDS IN RENTED^a CONVENTIONAL DWELLINGS, BY AMOUNT OF RENT PAID MONTHLY BY THE HOUSEHOLD CROSS-CLASSIFIED BY NUMBER OF HOUSEHOLDS IN THE DWELLING

(Other useful)

<i>Geographic division^b and households per dwelling</i>	<i>Total</i>	<i>Monthly rent paid by households</i>				
		<i>Scale of rents</i>				
Total households						
Households per dwelling:						
1.						
2.						
3+						

^a "Rented" in this case means wholly or partly rented, as, for example, when a dwelling is occupied by the owner who rents part of it to another household.

^b (a) Total country; (b) each major civil division; (c) each minor civil division; (d) each principal locality. Distinguish urban and rural for (a), (b) and (c).

Annex

BASIC TOPICS INCLUDED IN REGIONAL PROGRAMMES FOR THE 1970 HOUSING CENSUSES

(“x” indicates that the topic has been included as basic in the given regional programme, “-” that it has not been included as basic)

Recommended and other useful topics in the world programme	Topics included as basic in regional programme of			
	Conference of African Statisticians	Conference of Asian Statisticians	Conference of European Statisticians	Committee on Improvement of National Statistics (COINS) of Inter-American Statistical Institute
<i>Building in which living quarters are located—characteristics of</i>				
*1. Building—type of	x	x	x	-
*2. Construction material of outer walls..	x	x	x	-
3. Year or period of construction.....	-	x	x	-
<i>Living quarters—characteristics and facilities of</i>				
4. Bathing facilities	-	-	x	x
5. Bedrooms—number of	-	-	-	x
6. Cooking facilities	x ^a	x ^b	x ^a	x ^a
*7. Lighting—type of	x	x	-	x
*8. Living quarters—type of	x	x	x	x
*9. Location	x	x	x	x
*10. Occupancy status	x	x	x	x
11. Ownership—type of	-	x ^c	x	-
*12. Rooms—number of	x	x	x ^d	x
*13. Toilet facilities	x	x	x	x
*14. Water supply system	x	x	x	x
<i>Occupants of living quarters—number and characteristics of</i>				
*15. Conjugal family nuclei	x	x	x	x
16. Demographic and economic characteristics of household head				
*Age	x	x	x	x
Industry	x	-	-	x
Main source of livelihood and socio-economic status	-	-	x	-
Marital status	-	-	x	x
National and/or ethnic group.....	x	-	-	-
*Occupation	x	x	x	x
*Sex	x	x	x	x
*Type of activity.....	x	x	x	x
*17. Household	x	x	x	x
*18. Occupants—number of	x	x	x	x
19. Rental	-	-	-	x
*20. Tenure	x ^e	x ^c	x	x

* Recommended in the world programme.

^a Availability of kitchen.

^b Type of cooking fuel used.

^c Tenure and ownership combined.

^d In the European programme the topic includes “number of rooms and, if possible, useful floor space”.

^e For urban areas only.

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