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SAMPLE SURVEYS IN WHICH HOUSING INFORMATION
WAS COLLECTED, 1953-1960

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I. Introduction

1. This paper includes a description of nineteen sample housing surveys, and other sample enquiries which include questions on housing taken during the period 1953-1960 in fifteen countries. The surveys were either taken for the purpose of studying a particular aspect of housing or were used to collect housing information in connexion with an enquiry dealing primarily with some other topic. The information concerning the surveys was obtained from material available in the Statistical Office (some of which has already been included in Sample Surveys of Current Interest (Ninth Report)^{1/}) and although this was insufficient to permit any selection of the surveys included, it is hoped that this compilation may serve to show to some extent the kind of enquiries that are being undertaken in the various countries in relation to housing and that it may also serve as a starting point for more detailed investigations concerning specific types of housing surveys and of the methods employed.

2. The enquiries included in this paper are referred to as sample surveys and in this connexion it may be useful to consider the following distinctions with regard to the principal methods of collecting housing information:

(i) housing censuses in which, as a minimum, the basic items of housing information (as recommended in the General Principles for a Housing Census^{2/}) are collected for the country as a whole by means of a universal enumeration of housing units;

(ii) housing censuses in which a count of housing units is made for the country as a whole and the information concerning facilities and characteristics is collected for a sample of the units;

(iii) partial housing censuses in which information is collected by means of a universal enumeration for a specified area or population group which has not been selected by means of sampling;

(iv) sample housing surveys in which the principal purpose of the enquiry is to collect housing information and all of the information is collected for a representative sample of the population;

^{1/} See Annex II No. 12.

^{2/} See Annex II No. 10.

(v) sample surveys concerning topics other than housing in which housing information is collected for a representative sample of the population.

3. A housing census has been defined as "the total process of collecting compiling, analysing and publishing statistical data pertaining, at a specified time, to all housing units and occupants thereof in a country or in a well delimited territory for the purpose of obtaining information concerning the housing inventory and housing conditions of the population".^{3/} The enquiries shown in paragraph 2 (i), (ii) and (iii) above would all normally fall within this definition. In the case of (i) and (ii), both of which refer to country-wide censuses, a distinction has been made between the two because it is considered that the fact of whether the basic items of housing information, such as the number of rooms, availability of piped water, toilet facilities etc., are collected by means of a universal enumeration or whether they are collected through the use of sampling methods may be of some significance in considering the way in which the census data may be used. (It may be noted that in Canada, where the second type of census has been taken, it has been referred to as a "sample census".)

4. In circumstances where a country-wide housing census is not feasible a complete enumeration of housing units is sometimes made for a limited area such as a capital city or other principal cities or for urban areas or certain population groups. Such areas or population groups are selected for the enquiry because it is considered that housing information is required for the particular areas or population groups and they are not determined by means of any sample selection. These enquiries also fall within the definition of a housing census shown above but here also it is considered that a distinction should be made between censuses which are of limited coverage and those which are carried out on a country-wide basis. Tentatively the term "partial census" has been applied to this type of enquiry - as it has to the population census - but it may be sufficient to suggest that the coverage of these limited censuses be clearly indicated in the title of the publications referring to them.

^{3/} See Annex II No. 10.

5. The housing enquiries included under paragraph 2 (iv) above are those in which sampling methods are employed to select either the geographic areas included in the survey or the units of enumeration or both and whose principal purpose is to collect housing information. These surveys generally include topics other than housing but only as they are required for the interpretation of the housing information collected.

6. In the sample enquiries shown under (v) housing information is a secondary topic and is either collected to supplement information concerning the main topic of the survey (e.g. housing costs as part of a household expenditure enquiry) or because the survey offers a convenient way of collecting the information simultaneously with the information concerning the principal topics of the survey (e.g. where the housing unit is the sample unit for an enquiry concerning a topic other than housing.)

7. The enquiries shown under (iv) and (v) above are the types of enquiries which have been included in the present paper.

II. Relationship between sample housing surveys and housing censuses or other enquiries

8. The relationship between housing censuses and sample housing surveys offers considerable variations. The two are almost indistinguishable in cases where housing information is collected simultaneously by means of a universal enumeration of some housing items and a sample enumeration of others. In this case the sample survey is generally considered to be part of the housing census. However, even this relationship varies from cases in which, as a minimum, the basic items of housing information are collected by means of a universal enumeration with additional items being collected by means of sampling (United States 1960), to censuses in which little more than a count of housing units is made on a universal basis and the remaining information, including basic items, is collected by means of sampling (Canada 1961, Brazil 1960).

9. The most usual relationship perhaps is that of the housing census clearly distinguished from sample housing surveys which are taken

/during the

during the intercensal period. Here the role of the sample survey is generally one of supplementing the basic housing data collected during the census. Here also, however, it sometimes occurs that the census is used to make only an over-all count of housing units and to obtain information concerning their occupancy while the sample surveys are used to collect the bulk of the information concerning housing (Japan).

10. It is considered that the basis for the collection and interpretation of housing information is the housing inventory which implies a universal enumeration of all housing units and hence a housing census, whatever its scope, and that other housing enquiries, for whatever purposes, may be considered as supplementing this basic information. These supplementary enquiries may vary widely in scope and purpose and may refer to such aspects of housing as characteristics, facilities and condition of housing units, rent paid, cost of construction, the relationship between housing desires and housing needs, housing conditions in old and in new dwellings, etc.

11. In taking sample housing surveys, particularly those which refer to housing conditions in general, it is usually found necessary to collect data in addition to that which may strictly be considered housing information. Some demographic data concerning the occupants of the housing units enumerated is almost always required and additional data such as economic and employment information may also be considered necessary. Thus most sample housing surveys are of a multi-subject nature with housing as the principal topic. Conversely, in connexion with sample surveys whose principal purpose is related to a topic other than housing it is sometimes found necessary to collect housing information as a secondary topic. At its meeting in Geneva (9-13 October 1961) an Ad Hoc Working Group of Specialists in Sample Survey Methods ^{4/} noted that it was more important to present, tabulate and publish data concerning most of the indicators of levels of living ^{5/}, including housing, by size of

^{4/} See Annex No. 15.

^{5/} See Annex No. 14.

income or expenditure or other suitable classifications of household, and not merely in the form of national averages. The Working Group noted also that while national averages are of value in certain types of comparisons these alone have limited usefulness in connexion with policy decisions of national governments which may have to be differentiated in relation to special groups of the population. In order to conform to the above a survey concerning housing conditions would therefore need to include the necessary economic and social data to enable the housing data to be analyzed according to socio-economic classifications of the occupants. The combining of surveys concerning housing with those concerning topics other than housing may also be done as a matter of convenience and economy since it sometimes occurs that the housing unit is the enumeration unit for a survey concerning a topic other than housing and the two surveys may therefore be usefully taken together. In connexion with the integration of surveys, the following excerpt is taken from the report of the Ad Hoc Working Group of Specialists in Sample Survey Methods^{6/}. (These remarks refer to household surveys but in general they could apply equally to sample housing surveys in which the housing unit rather than the household is the sample unit.)

"(a) Integration with Reference to Household Surveys

"Throughout the meeting frequent reference was made to the integration of surveys as a means of economizing the use of resources and also as the most effective way of studying household levels of living. It became clear that there were in fact several levels or aspects of integration which should be noted and elaborated ... In the first place in several countries there is a permanent central sampling staff conducting a series of repetitive surveys which frequently include questions on the same topics to provide continuous series deemed of special importance to the country. Questions on these topics are frequently supplemented by questions on other topics, depending upon the needs of the country. This ensures close integration and may provide cross-tabulations of considerable

^{6/} See Annex II No. 15.

value. Thus, because the same investigators may be used for all aspects of the inquiry, this method assures more or less automatic integration both substantively and operationally. The method, in principle, has very obvious advantages but it is not, at present, applied in all countries for various reasons. In still other cases it may be necessary, because of various circumstances, including the level of education and institutional arrangements, to use different sets of enumerators for different topics of investigation. Nevertheless, the Group was strongly impressed with the merits of integration especially as it has already been used successfully in several countries for a number of years.

"There is also the kind of integration implied in the combination in one ad hoc survey of items of information on two or more topics such as demographic characteristics, health and housing. This in fact is the usual practice in a great majority of household surveys. This has the advantages of economy in enumeration and of the possibility of valuable cross-tabulations so long as the survey does not become over-extensive to the point where response and accuracy are impaired and the entire operation becomes too complicated to manage. Considerable care must be taken in these cases; it is for this reason that comprehensive surveys of too many aspects of living conditions of households can hardly be recommended as a desirable practice of all topics are to be investigated in full detail with all respondents. It is for the national authorities to decide which particular aspects of living conditions can be suitably integrated in household surveys."

12. The Handbook of Household Surveys now being prepared by the United Nations deals in some detail with the question of collecting housing information in multi-subject household surveys either as the main topic of the survey or as a supplementary topic in a survey whose principal purpose is to collect information concerning some other topic. While the economic advantages and also the advantages of being able to obtain useful cross-tabulations are pointed out, attention is also drawn to the need to bear in mind that in household surveys the household is the unit of enumeration and that housing information collected will therefore refer to households

rather than housing units. Difficulties may arise because more than one household may occupy a single housing unit and also because vacant housing units will not be included in a household survey. The problem of having a sample which is incorrect for investigating housing units must be remembered throughout the survey and the questionnaire must be so drafted that it is clearly understood whether the questions relate to the household or the housing unit. In particular, it will be necessary to ask whether the household being investigated is the only household occupying the housing unit and, if not, how many households share the housing unit and whether the facilities being investigated are for the exclusive use of the household. The information may then be adjusted, processed and analyzed separately for households and for housing units. If, as happens in some sampling schemes, all households in a housing unit are surveyed if one is surveyed the problem of obtaining information which refers directly to the housing unit is facilitated.

III. Purpose of the surveys examined and methods employed

13. The following tables have been compiled in order to present a summary of the principal features of the survey material which has been examined and of the information collected. In connexion with stratification and the frame used for the various surveys, information is included in Table 1 where it was available but in some cases the material concerning the surveys was meagre and these aspects were not discussed. The topics shown for each survey represent a general classification of the more detailed items collected which are shown in the description of the individual surveys included in Annex I.

(a) Purposes

14. The stated purposes of the eleven sample surveys whose principal purpose was to investigate housing include the following: to obtain general information concerning the housing conditions of the population in the area covered; to obtain information concerning the environmental conditions; to compare housing conditions in old and in new dwellings; to study the relationship between housing desires and housing needs; to

/Table 1

Table 1

ANALYSIS OF SAMPLE SURVEYS IN WHICH HOUSING INFORMATION WAS COLLECTED, 1953-1960

Country and title of survey	Date of survey included	Periodicity	Topics covered	Geographic coverage	Sample units and frame utilized			Sampling ratio
					1st stage	2nd stage	3rd stage	
<u>Burma</u> 1. Housing sample survey	1953	One-time	Housing Characteristics Facilities Occupants Tenure Rent paid	Country	List of households a/ Population census			20% (Survey not completed)
<u>Canada</u> 2. Survey of urban family expenditure	1960	Biennial	Housing Facilities Characteristics Expenditure Rented units Owned units water and fuel Tenure Change of living quarters during last 12 months Family composition and characteristics Expenditure and expenses Ownership of durables Family income Employment status of head Change in financial position	Urban centres	Areas (81) from labour force survey (Stratified by size geo-location and average income levels)	Segments of each area from labour force survey	Sub-sample of households a/ (2 000 usable schedules) from labour force survey	1/500 1/800 1/300 1/600
<u>Czechoslovakia</u> 3. Sample survey of housing conditions	1959	One-time	Housing Characteristics Facilities Tenure Rent paid Occupants Distance from work Transportation Community facilities Length of time household has occupied dwelling Desire for larger or smaller dwelling	Country	Communities (stratified by population)	Housing units from a previous survey	Sub-sample of old housing units a/ (7 474)	

Table 1 (continued 1)

Country and title of survey	Date of survey included	Periodicity	Topics covered	Geographic coverage	Sample units and frame utilized			Sampling ratio
					1st stage	2nd stage	3rd stage	
<u>France</u> 4. Employment survey	1960	Annual	Housing Characteristics Facilities Tenure Demographic Employment	Country	Canton (stratified according to population)	Commune (Stratified according to population)	Dwellings (26 000) selected from the list of dwellings b/ from 1954 census of housing (stratified by socio-professional category of head of household)	1/600
<u>Germany, Federal Republic</u> 5. 1% supplementary sample survey	1957	One-Time	Housing Characteristics Occupants Income Tenure Housing desires Steps taken to realize housing desires	Country	Municipalities (stratified by size, dominant economic character of population, etc.)	Sub-sample of municipalities	Households a/	1%
<u>Ghana</u> 6. Survey of population and budget of cocoa producing families in Oda-Swedra-Assman-kese area	1955/56	One-time	Housing Characteristics Occupants Rent paid Demographic Employment Farms and buildings owned Sales of agricultural products Income	Selected cocoa producing areas	Enum. areas 1948 population census (90) All households a/ (22 772 in the selected areas were enumerated) (For the budget enquiry an additional sample was selected from cocoa-producing families)			40% approx.
<u>Greece</u> 7. Construction and housing in urban areas	1958 (series)	One-time planned)	Buildings constructed Dwellings Characteristics Facilities. Tenure Occupants	Urban centres Dwellings constructed after 7 April 1951	Towns or sections of towns (stratified by population with sub-strata according to building activity, etc.)	City blocks	Buildings constructed after April 1951 - All buildings in the selected city blocks were listed and grouped by year of construction (A sample of 1 500-2 000 buildings was aimed at)	1%

Table 1 (continued 2)

Country and title of survey	Date of survey included	Periodicity	Topics covered	Geographic coverage	Sample units and frame utilized			Sampling ratio
					1st stage	2nd stage	3rd stage	
India 8. Economic survey of Madras	1957	One-time	Housing Characteristics Facilities Tenure Rent Occupants Demographic Employment Income	Madras	Household from the National register of citizens			5%
9. Survey of housing-conditions in Patna	1957	One-time	Housing Characteristics Facilities Occupants Rent paid Housing desires Financial resources Assistance required	Patna	Holdings			10%
10. Cholera outbreak survey in Chetla	1958	One-time	Housing Characteristics Facilities Refuse collection Incidence of cholera	Chetla	Household-Central Statistical Registry of the Health Centre			10% & 20%
Japan 11. Housing survey	1958	Every 5 years	Housing Characteristics Facilities Occupants Tenure Rent paid Income and occupation of head of household	Country	Enumeration districts Population census (For stratification see description of survey) [all housing units a/ in the selected areas were enumerated]			1/7 urban 1/14 Rural
12. House rent survey		Monthly	Housing Characteristics Occupation of tenants Number of occupants Date of moving in Rent	Cities	All "A" and "B" cities from retail price survey	Enumeration districts (672) from population census [All tenants households a/ in selected areas were enumerated]		
13. Revision survey of the construction cost of buildings		Monthly	(Information not available)	Urban areas	Buildings start reports (5 800)			1/20 reports
Pakistan 14. Sample survey of Karachi population	1959	One-time (first phase)	Housing (Detailed information not available) Demographic Occupation Income Property owned	Karachi	Sample areas (124)	Segments of sample areas (204) [All households in selected segments were enumerated]		

Table 2

Title of survey	Survey in which housing was primary topic																													
	Housing	Characteristics	Facilities	Information concerning occupants a/	Tenure	Rent paid	Income a/	Expenditure for housing a/	Place of work and distance	Housing desires	Steps taken to realize housing desires	Financial resources	Financial assistance required for housing	Length of time in present dwelling	Leisure time residence	Transportation	Distance and kind of community	Dwelling constructed	Buildings constructed	Ownership of durables	Change in financial position	Demographic information a/	Employment information a/	Farms and building owned	Sales of agr. products	Refuse collection	Incidence of cholera	Income a/	Expenditure a/	
1. Housing sample survey (Burma)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
2. Survey of urban family expenditure (Canada)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
3. Sample survey of housing conditions (Czechoslovakia)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
4. Employment survey (France)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
5. 1/2 supplementary sample survey (Housing) Germany, Fed. Rep.)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
6. Survey of population and budgets (Ghana)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
7. Construction and housing in urban areas (Greece)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
8. Economic survey of Madras (India)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
9. Survey of housing conditions in Patna (India)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
10. Cholera outbreak survey in Chatal (India)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
11. Housing survey (Japan)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
12. House rent survey (Japan)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
13. Revision survey of the const. cost of buildings (Japan)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
14. Sample survey of Karachi population b/ (Pakistan)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
15. Survey of urban housing (Peru)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
16. Salisbury African demographic survey (Rhodesia and Nyasaland, Fed. of)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
17. Stockholm housing and travelling survey (Sweden)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
18. Survey of housing conditions in Turkey	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
19. Demographic enquiries in Viet-Nam	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

a/ Information concerning occupants includes demographic and employment information and also information concerning income and expenditure, where the questions concerning these items were obviously related to the housing enquiry they have been included under "Information concerning occupants" or as a separate item under "housing". Where these items represented a separate enquiry however they are shown separately.

b/ Detailed information concerning housing data collected not available.

/determine the

determine the types of dwellings desired and on what financial terms; to gather information on the level of homogeneity obtained in determining housing zones; to determine the number of new dwellings completed during a specific period, their characteristics and facilities and the extent to which they were occupied and in what legal form; to provide information concerning the rent of houses and rooms; to determine the actual amount of money spent on the construction of buildings and to revise the anticipated construction cost; and to provide a basis for building and traffic planning.

(b) Information collected

15. Considering the limited amount of material available in connexion with sample housing surveys and other sample surveys which include housing, the housing information collected in the surveys covers a fairly wide range of topics. The eleven surveys dealing primarily with housing cover housing conditions generally (i.e. characteristics and facilities of housing units and number of occupants), tenure and rent paid, housing desires, steps taken to realize these desires, financial resources of the occupants and financial assistance required in connexion with housing, income of occupants and expenditure for housing, the number of dwellings constructed and the construction cost of buildings, distance from place of work, information concerning transportation, the availability of community facilities and the length of time the household has occupied the present dwelling.

16. Of the surveys whose principal purpose was to investigate a topic other than housing three were used primarily to collect demographic information (Karachi, Salisbury and Viet-Nam) three were used to obtain economic data (Canada, Ghana and Madras), one to obtain employment data (France) and the remaining survey to investigate the incidence of cholera (Chetla). In the three demographic surveys the housing information collected was confined to general items such as type of housing unit and material of construction, number of families or

/households, number

households, number of rooms, and whether there was piped water and electric light. Of the three economic surveys the Canadian Survey of Urban Family Expenditure, in addition to information concerning characteristics and facilities of housing units and housing conveniences, obtained detailed information concerning direct and indirect housing expenditure for rented and owned living quarters. The Economic Survey of Madras and the survey of the cocoa producing families in Ghana included general housing information such as type of housing unit, construction material, number of rooms, tenure and rent. The survey of employment (France) included information concerning the number of rooms, facilities and tenure while that concerning the incidence of Cholera (Chetla) included information concerning the type of house, water supply and toilet facilities.

(c) Periodicity

17. Of the eleven sample housing surveys one was quinquennial, two were monthly, seven were one-time, and one was a continuation of a previous survey. Of the other eight surveys whose principal purpose was a topic other than housing five were one-time, one was biennial, one annual and one was stated to be the first phase of subsequent enquiries.

(d) Coverage

18. Four of the eleven sample housing surveys were taken for the country as a whole, two for urban areas, two for principal cities and three in a single city or a part of a city. Of the eight other surveys one was for the whole country, one for urban areas, one for principal cities, four for a single city or part of a city and one was for a selected rural area.

(e) Sample design

19. Four of the sample housing surveys were single-stage, four were two-stage and three were three-stage sample designs. Of the eight sample surveys not primarily concerned with housing three were single-stage, one two-stage, three three-stage and one was without information.

/20. Information

20. Information has been included concerning stratification if it was available. However, detailed information concerning the surveys was frequently not available and it should therefore not be concluded that because there is no mention of stratification, it was not used. For the sample housing surveys the information available indicated that the sample areas were stratified by population, dominant economic characteristics of the population, kind and condition of housing units predominant, whether the areas were business or residential, rural or urban, etc. In some cases the strata established for previous enquiries were used and stratification in these cases depended upon the purpose of the previous enquiry that had been carried out. Also in connexion with the stratification used for surveys whose principal purpose was to investigate a topic other than housing, the stratification was related more closely to the main purpose of the survey than to housing.

21. In several of the sample housing surveys, enumeration districts from a previous population census served as a frame for the selection of sample areas and in some cases lists of households or lists of housing units from a previous housing census were used. Building start reports, national registration lists and information from previous surveys were all mentioned as having provided a frame for the selection of sample units or sample areas. In several cases it was stated that special lists of the housing units or households in selected areas had to be prepared to serve as a frame for the selection of sample units but, as in the case of stratification, information was not available concerning the frame used in all cases.

(f) Sample units

22. The number of sample units included in the eight surveys for which information was available ranged from 1 941 in the survey of Urban Housing in Peru to 26 000 in the Employment Survey of France. Information was available for thirteen surveys concerning the sampling ratio which ranged from less than 1 per cent in Canada and France to approximately 40 per cent in Ghana^{7/}

23. With reference to the kind of sample unit used in the eleven surveys whose principal purpose was to collect housing information the surveys seemed to indicate the need to select the sample unit according to the aspect of housing being investigated. In seven of these surveys housing conditions in general were investigated and in five of these the housing unit was the sample unit. The exceptions were the Housing Sample Survey in Burma where the household was used (it was indicated that the use of housing units would have provided a more definite and complete idea of the housing situation) and the Survey of Housing Conditions in Patna in which "holdings" were used as the sample unit and here no definition was available. Of the four surveys whose purpose was to investigate a particular aspect of housing one is a continuing survey of house rent (Japan), one a survey concerned with housing desires (Germany) and two are primarily concerned with construction or construction costs. In the surveys concerning rent and housing desires the household was used as the sample unit and for the surveys of construction the building was used in one case and the building permits in the other.

24. Of the eight surveys whose principal purpose was to investigate a topic other than housing there seemed to be no particular pattern with regard to the sample unit used. Three were demographic surveys, in two of which the sample unit was the housing unit and in the other the household^{8/}. In the three economic surveys the household was used as the sample unit. For the survey of employment (France) the housing unit was the sample unit and for the survey concerning the incidence of cholera (Chetla) households were used.

7/ This refers to the population survey. It should be noted that one of the principal purposes of the survey was to collect information concerning the budgets of cocoa producing families. These families were identified from among the households selected for the population survey and provided the frame for a sub-sample which was used to investigate the budgets.

8/ In some cases definitions of household and housing unit were not available and they could have been equivalent concepts i.e., a household could have been defined as the group of persons occupying a housing unit.

IV. Conclusions

25. Although the information available is insufficient to provide a basis for any definite conclusions or recommendations in connexion with sample housing surveys, the surveys which have been examined provide a general indication of the aspects of housing that it has been considered necessary to investigate and the way in which sampling methods have been applied. The sample design used for the various enquiries varies considerably and probably depends to some extent on the material available in the various countries which could be used as a frame for obtaining samples of geographic areas and of housing units or households. In some of the enquiries the final sample was taken from a list of housing units or households and in others all the households or housing units were enumerated in the geographic areas ultimately selected. In this connexion, no particular trend could be observed from the material available. In one report it was stated that the idea of enumerating complete blocks or parts of blocks instead of dispersed housing units was to obtain results which would be more closely related to the types of housing units which exist and also to overcome the difficulty of enumerators avoiding the enumeration of difficult cases. The question of economy is also undoubtedly a factor in determining whether individual housing units will be selected or whether all of the housing units in a selected area will be enumerated. To effect economies in this respect the method has been employed of grouping housing units and of making a sample selection of the groups rather than of individual housing units. This increases the savings effected as between the travel time to housing units grouped together and the time needed to travel to individual housing units, particularly where the sampling fraction is low and the individual housing units are scattered over a wide area. In the case of a demographic sample survey taken in Brazil^{2/}, groups of housing

^{2/} Annex II No. 13 (A description of this survey has not been included in the paper since it was not used to collect housing information. It was considered however, that the information concerning the way in which the housing units were used to select the sample for the demographic survey would be of interest in connexion with sample housing surveys).

units were used as the sample unit. It was estimated approximately that for the cost of investigating the occupants of 600 individually selected housing units the occupants of 300 groups each containing seven housing units (or more than 2 000 housing units) could be enumerated.

26. In connexion with the surveys primarily concerned with housing the material available seems to indicate the need to select the sample units according to the aspect of housing being investigated. For surveys designed to obtain information about housing conditions in general the housing unit was used as the sample unit; to obtain information concerning rent and housing desires the household was used; and to obtain information concerning construction or the cost of construction the building or building permits were used.

27. Several points of general interest, which it may be useful to mention, were noted in examining the material. In the case of the Housing Sample Survey of Burma independent definitions were used of household and housing unit. It was stated in the report that difficulties arose because it was considered that, in general, one household would be found to occupy one housing unit and in order to simplify the sampling procedure the list of households from the housing census was used as a basis for the sample. It was also anticipated that because of the acute housing situation vacant units would be negligible. However, experience during the enumeration revealed that housing units with several households were not uncommon (there were about 10 per cent more households than housing units) and that there were a number of vacant units. Because of these factors, it was considered that the results presented in terms of housing units classified by housing characteristics would be seriously biased. Accordingly, the results were shown in terms of households classified by housing characteristics, and the facilities of the housing units occupied by them. It was stated, however, that although they represented data directly indicative of the housing condition of

/the people

the people they did not give a definite and complete idea of the actual housing situation.

28. In connexion with the Survey of Employment taken in France attention is drawn to the considerable amount of work required to check the lists of housing units even when these are available from a previous census. Housing units listed as secondary places of residence were not to be included in the survey and had therefore to be checked to ensure that they were still secondary places of residence. Housing units listed as vacant had to be checked to see if they were still vacant. New dwellings had to be added to the list, using the information from building permits. (In the housing survey of Japan it was noted that the number of new dwellings sometimes necessitated the modification of the boundaries of the enumeration districts affected.) After the housing units were selected the original census document concerning each housing unit had to be traced in order to check the information and ensure that the enumerator would locate the housing unit selected in the sample and not another one.

29. The need to use large first stage sampling units in order to avoid unnecessary travelling in rural areas was mentioned in connexion with the Survey of Population and Budgets of Cocoa Producing Families in Ghana.

30. In connexion with the sample survey of newly constructed buildings in Greece, the difficulties caused by the construction which took place during the period of the survey were discussed. In some parts of the country six months elapsed between the listing of the buildings and their final selection for the sample. During this time some of the buildings in the course of construction at the beginning of the period would have been completed, others would have been started, and the possibility was discussed of others which might have been started and completed during the interval.

31. It was stated variously that the surveys were taken because, in view of the personnel and financial resources available, a census was

/not feasible;

not feasible; that the survey was in the nature of a pilot survey serving the dual purpose of obtaining data and training personnel for a future census; that it was taken to provide supplementary data; and that it was taken as a first step towards the organization of a series of surveys. The report on the Japan Housing Survey stated that although questions concerning the number of housing units and density of occupation will continue to be included in the census as long as a housing shortage exists, it is considered that surveys are more efficient for collecting detailed and more technical information concerning housing since they enable especially trained enumerators to be used.

32. It would be useful to study the relative merits of universal housing enquiries as opposed to sample investigations and the circumstances in which one or the other might be most appropriately employed, the sample design that could be utilized under various conditions, as well as the question of the limitations, if any, in connexion with the use of sample data for the formulation and implementation of housing programmes. Such a study, however, is beyond the scope of this paper and would need to be undertaken on the basis of more detailed information concerning sample housing surveys than is presently available and concerning the way in which survey and housing census data are being used in actual practice in connexion with housing programmes.

Annex I

Description of Sample Surveys in which housing
information was collected 1953-60

1. The nineteen sample surveys for which material is available are described in the following pages. In some cases insufficient material was available to provide more than a brief outline of the main features of the surveys while in others the descriptions had to be severely reduced. The aim is to show the principal purposes of the surveys and the methods used by the various agencies responsible in taking them. The descriptions are not intended to provide a detailed insight into the technical aspects of the sample design employed. This would require a more thorough study of the material available and, in most cases, additional information from the agencies concerned. For some of the surveys included, the material was the same as had been used to compile Sample Surveys of Current Interest (Ninth report), (See Annex 11 No. 12) and in these cases the description of the methods has generally been taken from that publication. Much of the material is unpublished information that has been forwarded to the Statistical Office from the national statistical offices.

2. The descriptions are intended to show for each survey:

- (a) Time reference
- (b) By whom conducted
- (c) Purpose
- (d) Coverage
- (e) Housing information collected
- (f) Method employed
- (g) Tabulations
- (h) Analysis
- (i) Conclusions

For most of the surveys information concerning tabulations, analysis and conclusions is not available.

/BURMA ✓

BURMA^{1/}

Housing sample survey

1. Time reference. 1953
2. By whom conducted. Central Statistical Office.
3. Purpose. It was stated that, in Burma after the war, there was an urgent need for statistical data relating to the population as a whole and its social and economic conditions. A nation-wide collection of such information was not considered feasible in view of the time factor, personnel resources and financial implications. Because the aim was to obtain urgently needed data in a reasonable time within the available resources it was decided to use sampling methods.
4. Coverage. The censuses and surveys which comprised the total enquiry were originally planned to be taken in stages. They had to be abandoned for various reasons after the second stage. It was estimated that about one fifth of the country had been covered including 248 cities and towns in Burma proper and four towns in the Kachin State covered in the first stage and 2 143 village tracks in Burma proper and 1 016 village tracks in the Kachin State in the second stage.
5. Housing information collected:
 - Type of structure (single or multi-dwelling)
 - If multi-dwelling the number of units
 - Material of construction of roof, walls, floor and post
 - What is the length and breadth of the housing unit
 - How many storeys are there in the housing unit
 - Tenure
 - Rent paid
 - Do any persons other than those included in the sample household live in the housing unit
 - If there are other persons the name of the head of the other households and number of persons in each of these households
 - Water supply
 - Source of drinking water
 - Electricity
 - Number of bedrooms
 - Toilet facilities

^{1/} See Annex II, No. 1.

6. Method employed. The following censuses and surveys were taken together:

- Population census
- Population sample survey
- Housing sample survey
- Census of industry
- Census of cottage industry
- Census of home consumed production industry
- Census of agriculture

After the enumeration of the population census which included only a few basic questions a sample of every fifth household was selected. The selection was made on the basis of a prescribed selection chart indicating household numbers to be selected in relation to the number of the enumeration district. The housing survey was carried out by completing a questionnaire for the housing unit occupied by each selected sample household. It was stated that this approach was followed to avoid double sampling and to simplify enumeration. It was considered that normally one housing unit was occupied by one household, and multi-household housing units were assumed to be comparatively negligible. It was also considered that the number of vacant units would be negligible in view of the acute housing position. However, experience during the enumeration revealed that multi-household housing units were not uncommon (there were about 10 per cent more households than housing units) and that there were a number of vacant units. Because of these factors it was considered that the results, presented in terms of housing units classified by housing characteristics, would be seriously biased. Accordingly, the results were shown in terms of households classified by housing characteristics and the facilities of the housing units occupied by them. It was stated that although they represented data directly indicative of the housing condition of the people they did not give a definite and complete idea of the actual housing situation.

CANADA^{2/}

Survey of Urban Family Expenditure

1. Time reference: The survey was carried out during March and April 1960 but referred to the calendar year 1959 and was one of a series of surveys which have been carried out at two-year intervals since 1953.
2. By whom conducted: Dominion Bureau of Statistics.
3. Purpose: The survey was conducted to obtain information on the expenditure pattern of families and individuals in urban centres with a population of 15 000 and over.
4. Coverage: Families and individuals in urban centres with a population of 15 000 and over.
5. Information collected: Information was collected concerning family composition and characteristics, housing conditions, expenditures made and expenses during 1959, ownership of durables at the end of 1959, family income, employment status of head and change in financial position during 1959. The following information was collected concerning housing:

Type of dwelling - house, apartment or flat, rooms
Tenure
Total number of rooms in the dwelling
Number of rooms sublet for living quarters, number used for business
Living Conveniences - indicate private or shared

- Running water from taps
- Flush toilet
- Telephone
- Electric light
- Furnace heating
- Space heater
- Mechanical refrigerator
- Gas or electric cooking stove
- Power washing machine
- Automobile
- Television
- Air conditioner

Did living quarters change during the last 12 months - if yes give date, reason etc.

^{2/} See Annex II No. 12 and material received from the Dominion Bureau of Statistics, Ottawa, Canada.

Rented living quarters

- Did you occupy a rented dwelling at any time in the last 12 months
- If the rent paid covered both living quarters and business quarters how many rooms were used for family, sublet as living quarters, for business
- Rent payments (including business quarters) for each month (for quarters only, quarters and board, meals per day included in rent)
- Repairs, decorating, improvements paid for by family in rented dwelling
- Concessions in rent made by landlord (explain)

Owned living quarters

- Did you occupy a dwelling you owned at any time in the last 12 months
- If you used your home for your business quarters or for rental quarters as well how many rooms were used for family, sublet, living quarters, business quarters,
- Property taxes and special assessments
- Premium for insurance on home (total premium paid in last 12 months)
- Repairs and replacements including decorating (divided according to the cost of material and the cost of labour) Painting (outside and inside)
- Plastering
 - Papering
 - Floors
 - Plumbing
 - Heating system
 - Electric work
 - Roofing
 - Masonry
 - Carpentry
 - Metal work
 - Grounds
 - Other (specify)
- Cost of new additions and major improvements (list items)
- Details concerning mortgage on owned living quarters
- Other expenses (specify)

Other housing expenses

- Lodging while away at school or college
- Lodging while working away from home, excluding business expenses
- 8 Amount spent for rented vacation home
- Amount spent for owned vacation home (taxes, insurance, repairs, interest on mortgage etc.)
- Lodging for persons travelling or on holiday not included above

/Water and

Water and Fuel -- for centers and home owners -- Cost of:

Water
 Gas
 Electricity
 Coal
 Wood
 Coke
 Oil
 Sawdust
 Other heating costs e.g. central community heating

6. Method employed: The sample for the survey was designed to cover approximately 3 000 households from the self-representing units of the Canadian labour force survey (cf. Sample Surveys of Current Interest, eighth report, p. 6). The sample design was similar to that of the labour force survey, namely, a three-stage design with stratification. Of the 81 self-representing areas in Canada, 35 were large enough to support at least one enumerator's assignment based on the sampling fractions of 1 in 1 500 in Toronto and Montreal, 1 in 800 in Vancouver, 1 in 300 in the self-representing areas in Newfoundland and 1 in 600 in the remaining self-representing areas. The remaining 46 areas were grouped into strata according to size, geographical location and average income levels. The strata were formed to permit the random selection of at least two urban areas or two assignments from each stratum. Twenty-five cities were drawn into the sample through this method making a total of 60 urban areas altogether.

At the second stage, the segments used for the labour force survey were also recognized for this survey. The following is a description of the selection procedure within the various self-representing areas: In Toronto and Montreal, one-third of the labour force sample segments were selected by using the rotation groups 3 and 5 in Toronto and group 1 and 4 in Montreal, the total number of rotation groups in each city being six. The March survey included segments of rotation groups 3 and 1 of Toronto and Montreal respectively whereas segments in groups 5 and 4 were covered in April. In Vancouver, one half of the labour force sample segments were selected by using rotation groups 2, 4 and 6. All the segments in group 2 and half of those in group 6 were covered in March while all the segments in group 4 and the remaining half of those in group 6 were selected for April. In all other selected cities, all the segments in the labour force survey were selected for this survey.

/Even numbered

Even numbered segments were covered in March and odd numbered segments in April.

At the third stage, for selection of households within the sample segments, two criteria of selection were established to aid in defining the sub-sample of households to be selected from the labour force sample. Where possible, the sub-sample consisted of new households which, under the present rotation system, (one-sixth of the segments rotated at each survey and a sample household enumerated for only six consecutive labour force surveys) were defined as either those households drawn from the labour force sample which would not be enumerated for at least two years or those households which have not been or will not be enumerated in a labour force survey because of a change made in the rotation pattern to offset the bias in segment rotation. The reason for establishing this criterion was to eliminate any possible effect that this survey may have on response obtained from a future labour force survey. If it were not possible to select new households, the sub-sample was drawn from a labour force sample at least two years old. Households chosen under this criterion, were termed old households. In some cases, it was not possible to select either new or old labour force sample households within segments that were in the continuing labour force sample as of March 1960. When these instances arose, households were chosen from a segment previously used or one yet to be introduced. The selection of a sub-sample of households from either a new or old labour force sample of households was made systematically with a random start. The random start was dependent upon the family expenditure sub-sampling fraction within segments which was: 1 in 5 in Toronto and Montreal, 1 in 4 in Vancouver and 1 in 6 in all other areas.

Data were collected in interviews under the direction of eight regional officers who selected the interviewers from the most competent and experienced labour force enumerators and trained them according to head office instructions. Training of field officers were conducted by headquarters personnel.

/The response

The response rate was estimated to be between 63 and 65 per cent and a total of almost 2 000 usable schedules was obtained. The analysis of data is carried out with a view to establishing the target group to be surveyed in the 1962 survey of family expenditures on which the next revision of the consumer price index will be based. This is the first survey since 1947/48 which covers all urban families regardless of family composition or income level. Analysis of data will therefore review the current validity of criteria established in the light of 1947/48 survey data. In addition, the analysis will pay special attention to groups not included in earlier surveys, i.e. one person units, large families, low-income families and high-income families. Expenditure data will be analysed according to a variety of family characteristics, i.e. tenure, number of earners, employment status of wife of head, education of head, origin and others. Another phase of the analysis will examine differences between income data collected in the expenditure survey and the results obtained in the larger survey of non-farm incomes.

The number of enumerators employed in the survey was 134. Administration of field work was carried out by regional office personnel. The headquarters staff consisted of one senior professional, a junior professional and three clerks. Tabulation of survey results is carried out in the Mechanical Tabulation Division by peg-bar and comptometer and conventional IBM equipment. Cost of field work in the survey including enumerator instruction, total enumeration costs, and other regional costs amounted to almost 26 000 dollars. Annual headquarters costs for 1960/61 have been approximately 24 000 dollars exclusive of costs of mechanical tabulation.

CZECHOSLOVAKIA^{3/}

Sample Survey of housing conditions

1. Time reference: 1959
2. By whom conducted: The State Population Commission in co-operation with the State Statistical Office, the Housing and Architecture Research Institute and the Health Ministry.

3/ See Annex II Nos. 2 and 12.

3. Purpose:

3. Purpose: To study the characteristics of families in dwellings, a dwelling as a technical unit, a housing unit, its equipment and relationship to the broader urbanistic whole, and to compare the housing conditions in the old and new houses.

4. Coverage: Country wide.

5. Housing information collected:

I. Information concerning occupants

Name
Date of birth
Name of Head of Household
Family structure
State of health of children
Distance from work
Kind of transportation
Information concerning the place where the occupants sleep

II. Information concerning households

Number of households
Average size of household during the year
How long has the household lived in the dwelling

III. Information concerning housing unit

(a) General information

Individual dwelling
Divided dwelling
Attic dwelling
Rent paid
If you had the opportunity to change your dwelling would you want a larger or a smaller dwelling

(b) Structure

Number of rooms (excluding kitchen and bathroom)
Area in sq. metres

(c) Toilet - kind

Bathroom
Space for food storage
Is there a verandah
Is there any other additional space - corridors
Kind of furniture

(d) Water

Electricity
Gas
Heating

/(e) Activity

(e) Activity in dwelling

Living, eating, cooking, teaching children, etc.
Method used for laundry

(f) Is the dwelling quiet

Space

Tenure

Are you satisfied with your dwelling

IV. Information concerning the building

(a) Size

Age

Number of dwellings

Number of floors

(b) Facilities

Shops, drying space for laundry, garages, garden, etc.
Distance from the building to kindergarten, school, health
service, cultural centre, etc.

6. Method employed: A sub-sample of 7 474 households was selected systematically out of a sample of 31 974 households established for a survey of households in 1959. For the selection of this larger sample, a two-stage design with stratification was employed. At the first stage, communities were selected at random within each of three strata established on the basis of the populations of the communities. At the second stage, dwelling units were selected systematically within the selected communities. Allocation of sample units to strata was based on the total number of households estimated from the 1950 census data.

The survey was carried out during the last quarter of 1959 and the processing of data during the first half of 1960. The sub-sample of 7 474 households used in this survey was considered to be one of old housing units and a sample of new housing units was available for comparison consisting of 3 077 households.

7. Tabulations: In addition to those on demographic characteristics of households, tabulations were made on households by type, distribution of households per dwelling unit, size of dwelling units, equipment of dwelling units, rent, age of houses and others.

FRANCE^{4/}

Employment survey

1. Time reference: October 1960. The surveys regularly take place in the spring of each year but an exception was made in 1960.
2. By whom conducted: Central Statistical Office (Institut National de la Statistique et des Etudes Economiques).
3. Purpose: To obtain information for the household on demographic characteristics, the main occupation of each member of the household 14 years of age and over and characteristics of the dwelling and, for these individuals who had a main occupation at the time of the survey, the main occupation, number of working hours, reason for reduced activity (if any), regular, seasonal or occasional work, retirement and old age benefits and whether looking for employment, etc.
4. Coverage: Country-wide
5. Housing information collected: In addition to the questions concerning demographic characteristics and employment, the following questions concerning the housing unit were included in the questionnaire:

Type of housing unit
Number of rooms used for dwelling purposes (not including kitchen)
Kitchen - Is there a large kitchen serving as a living room
 Is there a kitchen not serving as a living room (size indicated)
 No kitchen

Tenure
Water
Gas
Electricity
Bath or shower
Toilet facilities
Central heating

6. Method employed:

Sample design for household surveys

For many of the surveys carried out by the Central Statistical Office the final unit of selection is a household defined as a group of persons living in the same dwelling. This is true, in particular, of all surveys

^{4/} See Annex II No. 12 and material received from the Institut National de la Statistique et des Etudes Economiques, Paris, France.

on consumption and those on employment. For other enquiries, the ultimate unit is the individual, but where a list of individuals is not available, a sample of households is used to draw a sample of individuals.

The sampling frame for the selection of dwelling units is the list of dwellings from the 1954 population census. For each dwelling a sheet is available (feuille de logement, hereinafter referred to as FL) containing inter alia, the name of the occupant at the date of the census as a means of identifying the dwelling. Hotels and furnished apartments (meublés) are covered by the survey. Dwellings listed as secondary places of residence are checked to ensure that they are still secondary places of residence and their occupants, if present at the moment of the survey, are not interviewed. Vacant dwellings are checked to see whether they are still vacant. Institutions are often excluded from the sample, as are trailers, boats and other mobile units. New dwellings are added to the original list by consulting building permits issued by the Ministry of Construction, etc.

The sample design introduced in October 1960 and used currently for various household surveys involves three stages with stratification. Until 1954 use was made of a stratified two-stage design with communes as the first-stage units and dwellings the second-stage units. The design used from 1954 to 1959 was similar to the one introduced in October 1960, although there were some differences (mainly in stratification).

In the October 1960 design, the first-stage unit was the canton (a group of communes, defined below), the second-stage unit the commune and the third stage unit the dwelling.^{5/}

Employment survey

For the survey of employment carried out in October 1960, the above sample design was used. The sample size was increased from 7 000 households enumerated in 1958 and 1959, to 26 000 with a corresponding increase

^{5/} For more detailed information concerning the sample design used for household surveys in France, see Sample Surveys of Current Interest (Ninth Report) (ST/STAT/SER.C/10).

in the sampling fraction from 1 in 2 000 to 1 in 600. In order to ensure greater comparability between successive surveys, the samples of the 1958 and 1959 surveys were to a great extent similar (about three-fourths of the households) but despite this precaution and extremely careful stratification carried out a posteriori, it became apparent that the results relating to the economically active population and to its distribution by socio-professional groupings or by collective activities were quite unreliable due to the weakness of the initial sample. This necessitated the introduction of a new sample.

The drawing of dwellings in the sample was done from lists prepared mechanically, which permitted a classification of dwellings in each commune by socio-professional category of the heads of household (SCH). For each commune in the sample the FL were listed, one per line as follows: dwellings occupied as main places of residence in a furnished place (hotel, meublé), other main places of residence by SCH indicated above; dwellings occupied as secondary places of residence, vacant dwellings and others (mobile or collective households). The set of cards used to establish the communal lists comprised either the total FL cards of the commune or the 5 per cent sample already mentioned, depending on the importance of the commune. Where the 5 per cent sample was not utilized, either all cards of the set were listed or only 20 per cent. The choice of the set as well as the fraction of cards to be listed (20 per cent or all) was made in such a way that the list for each commune contained 5 to 10 times more dwellings than needed for the survey of employment. These lists were to be utilized for future surveys (on dwellings and on household budgets of low-income families).

The list included for each dwelling, the means of identifying it (serial number within the commune) and of tracing the document which contains the name of the 1954 occupant and his address (street and number). The tracing of the documents required many hours of work of the employees of the Central Statistical Office, despite the fact that the documents are classified in geographical order within the commune.

/In order

In order to achieve accuracy in identifying the dwellings in the sample, use was made for the first time in this survey of an address slip showing the principal 1954 data from the FL, i.e. name, occupation and year of birth of the head of the household, detailed address (including floor and stairway whenever possible), type of dwelling, number of rooms, and list of occupants. All these details were meant to ensure that the enumerator would locate the dwelling selected in the sample and not another one. Information was collected by enumerators on two types of questionnaires, a household questionnaire (FL) and an individual questionnaire (two varieties). The household questionnaire sought information on demographic characteristics, the main occupation of each member of the household 14 years of age and over, and characteristics of the dwelling. Those who had a main occupation at the time of the survey (according to the household questionnaire) were enumerated individually by using one of the two individual varieties of questionnaire. The individual questionnaire sought information on main occupation, number of working hours, reason for reduced activity (if any), regular, seasonal or occasional work, retirement and old age benefits and whether looking for employment, etc.

FEDERAL REPUBLIC OF GERMANY^{2/}

1 per cent Supplementary Sample Survey

1. Time reference: A general census and a 10 per cent sample survey were held on 25 September 1956 and the 1 per cent supplementary sample survey was carried out between March and May 1957.
2. By whom conducted: Federal Statistical Office
3. Purpose: To obtain data concerning housing amenities and, in particular, the relationship between housing desires and housing needs.
4. Coverage: country-wide
5. Housing information collected: (compiled from information shown in the tables - questionnaire not available).

Number of persons in the household, age and relationship
 Monthly net income of household
 Households occupying normal dwellings
 Owners
 Principal tenants

Households without own normal dwelling

- Sub-tenants
- Occupants of emergency dwelling

Is a change of dwelling sought because:

- The household wishes to own a house
- The household wishes to obtain:
 - freehold flat
 - independent rental dwelling
 - larger rental dwelling
 - smaller rental dwelling
 - cheaper rental dwelling
 - better equipped rental dwelling
 - more conveniently situated rental dwelling
- The present dwelling is unsuitable for habitation
- Marriage is contemplated
- Setting up a joint household is contemplated
- Return to native municipality is contemplated
- Other reasons given
- No reasons given
- Does the household wish to obtain
 - a dwelling in an old building
 - a dwelling in a new building
 - no preference
 - no reply
- Prospective rent in dollars per month
- Estimated purchase price or building cost of dwelling that the household wishes to obtain
- Type of heating sought
- Has the household taken any definite steps in connexion with a change in dwelling such as making an application to a housing office, negotiating with a building contractor, purchase of a building site, opening a buildings savings account, insertion of an advertisement, registration with an estate agent, etc.

6. Method employed: The general census and 10 per cent sample survey were held on 25 September 1956, and the 1 per cent supplementary sample survey was carried out between March and May 1957. The material for the supplementary sample survey was selected as an independent sample from the data provided by the 10 per cent sample survey. A stratified sample was taken in which the municipalities were classified according to various features such as their size, the dominant economic character of their population, and so forth. These municipalities were then used as the basis for a random sampling of municipalities in which all population strata were represented. Within the selected municipalities, the separate household and the persons living in institutions, camps and the like were determined in such a way that the population of each municipality was represented in the 1 per cent selection in the same proportion as in the total population. By means of

this sampling procedure, it was possible to confine the supplementary sampling survey to specific municipalities without impairing the random character of the selection.

The survey itself was conducted by interviewers who visited the selected households. This procedure was necessary because the information required regarding the relationship between present and future accommodation, income, the amount of rent a household was prepared to pay, and so forth, could not be obtained with sufficient reliability by means of written inquiries. The interviewers were recruited and thoroughly trained by the Land statistical offices in co-operation with the relevant municipal authorities. They were supplied with survey forms in which most of the desired information was already indicated in the form of questions. The survey form served as a guide to the interviewer in questioning the head of the household or - if the latter was not available - another member of the household.

The inquiries related mainly to the composition and the living conditions of the household and to whether the household intended to move to another dwelling. If the answer to the latter question was affirmative, it was ascertained in the further course of the interview whether this intention was nothing more than a desire or whether steps had already been taken to acquire other accommodation and the "need" had thus been made known. Important information regarding the extent and type of housing needs was obtained from a comparison of the desires of households with the steps actually taken.

In a sample with a sampling fraction of 1 per cent, an extensive differentiation can easily lead to a cell frequency that is too sparse to enable sound conclusions to be drawn. With a cell frequency of 100 cases (in an inflated cell, 10 000 cases), the computable "random error" is already comparatively high, so that the true cell frequency can only be said to lie within a wide range of variations. Account must also be taken of the fact that this random error is magnified by the so-called "systematic error" due to technical and human deficiencies at various stages of the survey and processing operations.

In the present instance, the sample has been inflated to give the complete result. Where, however, a cell frequency would, when inflated, comprise less than 10 000 cases, it has so far as possible been disregarded. In the event that smaller figures are shown, they are inserted within brackets to indicate their lesser reliability.

In examining the figures given, it must constantly be borne in mind that they represent the result of an independent sample survey and that a comparison with the figures of the general census or with the inflated figures of the 10 per cent sample survey of 25 September 1956 is not readily feasible even though the terms were uniformly defined for the various surveys carried out in connexion with the 1956/57 housing statistics. In the September 1956 survey, the data in the census papers were furnished by the informants themselves, who had to be relied upon to answer the inquiries properly. On the other hand, account also had to be taken of the fact that misunderstandings would to some extent arise. By contrast, in the personal inquiry it was possible for the relevant circumstances to be checked on the spot by a trained interviewer and to be uniformly evaluated on the basis of the actual facts. It should also be noted that for procedural reasons the two surveys were carried out at different times, with the result that changes in dwellings and households could have taken place in the interval.

EXPLANATION

of terms used in the tables

Building costs

The amount which, in the household's opinion, can be spent for the construction or the purchase of a dwelling is shown as "building costs" or "purchase price". The cost of acquiring and developing a piece of land is not included.

Owner

The owner of a building and the owner of a dwelling are both regarded as owners. A household occupies a dwelling as "owner of the dwelling" if it has acquired (purchased) the dwelling (not the building) in accordance
/with the

with the property laws and the title has been entered in the land register. Neither the principal tenant nor the owner of the building is considered to be the owner of a dwelling. A household occupies the dwelling as "owner of the building" if the ownership of the building in which the household lives legally vests in whole or in part (community of heirs) in a member of the household.

One-family and two-family houses

All residential buildings containing one or two dwellings are regarded as one-family or two-family houses and are listed together as one group.

Principal tenant

The dwelling occupant who has acquired the right to the use of a dwelling by virtue of a tenancy agreement with the owner of the building is considered to be the principal tenant. It is immaterial whether rent is currently being paid for the dwelling or not (for example, in the case of an official residence or of a rental dwelling granted rent free to relatives of the owner of the building).

Household

A household within the meaning of these statistics is a group of individuals who share their housekeeping (household), i.e., who finance their living needs jointly and, in particular, share the same living quarters. An individual keeping house by himself, a sub-tenant or a lodger, for example, is also regarded as a household. A person who was entitled to be regarded as a member of the household but who, for occupational or other reasons, was absent on the day of the survey was also included with the household. The same treatment was accorded to relatives still prisoners of war (other than those missing in action or presumed dead) but not to persons who were merely visiting. Agricultural labourers (male and female), maids, housekeepers, apprentices, foster-children and retired farmers enjoying free board and lodging were also considered part of the household.

Purchase price

See under "Building costs".

Multiple-family houses

All residential buildings with three or more dwellings are regarded as multiple-family houses.

Rent

"Prospective" rent is the amount which in the opinion of the household can be spent for the desired dwelling each month.

Rental dwellings

A dwelling which the dwelling occupant does not own is considered to be a rental dwelling. It is immaterial whether rent is payable for the dwelling or not (for example, in the case of an official residence or of a dwelling granted rent free to relatives of the owner of the building). Official residences, company-owned dwellings, dwellings provided by charitable institutions, and rental dwellings to which a right to permanent residence as recorded in the land register is attached are also included among rental dwellings.

Non-residential buildings

Non-residential buildings are buildings used mainly for purposes other than as dwellings, e.g., hotels, business premises and office buildings.

Stove heating

A dwelling equipped with a stove built between the walls (multiple-room stove) which heats more than one room simultaneously (sometimes by means of air vents) is also included under this heading.

Part households

See under "Housing desire".

Accommodation other than in dwellings

All establishments such as hotels, inns, boarding houses, mass shelters (refugee camps) and all other public and private accommodation, in so far as the persons residing there have been lodged there because of the housing shortage until they obtain a dwelling of their own, are regarded as constituting accommodation other than in dwellings. Staff and inmates of institutions, as well as permanent guests in hotels who do not intend to acquire a dwelling of their own, are not included under accommodation other than in dwellings.

/Sub-tenant

Sub-tenant

All additional households (including an individual sub-tenant or a lodger) to whom parts of a dwelling are ceded by the dwelling occupant (owner of the building, owner of the dwelling, principal tenant), with or without payment of rent, are considered to be sub-tenants.

Dwelling

A dwelling is generally considered to be a set of rooms structurally designed to accommodate a household and having:

- (a) A kitchenette provided for in the building plan;
- (b) An independent entrance leading from a staircase or vestibule or from the outside.

It is immaterial whether one or more households are actually accommodated in this dwelling unit even though separate cooking facilities are installed for each household. If a larger dwelling is altered or further enlarged and thus converted into two or more independent dwellings, each of the new units counts as a dwelling. In the case of multiple-family houses or blocks of flats, each self-contained flat, including individual rooms which may be situated outside the self-contained area (for example, an attic or separate room), is counted in its entirety as a dwelling for the purpose of these statistics. If in a multiple-family house there are no dwellings that are self-contained by virtue of being on separate floors, the rooms which, together with the kitchen belonging thereto, are occupied or rented by one household in normal (pre-war) conditions are considered to be a dwelling for the purpose of these statistics. One-family houses are generally regarded as one dwelling. They are regarded as containing an additional dwelling or dwellings only if the rooms in each case are situated together on the same floor, include a completely equipped kitchen or kitchenette and are not merely intended for the temporary accommodation of a separate household. In the case of farm premises, the entire farm house is generally counted as one dwelling, including when appropriate individual rooms in the farm buildings (for example, a farm worker's room in a stable, retired farmer's quarters in an out-building). They are regarded as containing an additional dwelling or dwellings only if the rooms in each

/case are

case are situated together on the same floor in the farm house or in a separate building, include a completely equipped kitchen or kitchenette and are not merely intended for the temporary accommodation of a separate household. Dwellings are classified as normal dwellings and emergency dwellings. Emergency dwellings are those which by reason of their structure and equipment are unsuitable for permanent occupation by a household. Under this heading are included all dwellings without a kitchen or kitchenette, those cellar dwellings, temporary dwellings in converted attics and dwellings in emergency residential buildings - that is to say, improvised dwellings - of less than 30 square metres, Nissen and other types of huts, air-raid shelters, summer-houses, corrugated-iron and wooden shacks, garages, ruins, caravans and boats no longer in operation.

Housing desires and housing needs

By housing desire is meant the wish of a household to change its existing housing situation and move into another dwelling. A housing desire may be expressed by the whole household as it exists on the day of the survey or by individual members of the household only (one or more part households). A "housing need" exists if definite steps have already been taken to carry out the intention to move. The need may be made known by means of an application to a housing office, negotiations with a building contractor, purchase of a building site, opening of a building savings account, insertion of an advertisement, registration with an estate agent, and so forth.

Dwellings unsuitable for habitation

Dwellings unsuitable for habitation include, in addition to emergency dwellings, those which, in the opinion of respondents wishing to change their dwelling, are unfit for continuous occupation because they are difficult to heat, badly damaged, damp, in a dilapidated condition, and so forth.

Central heating

Central heating includes heating from an outside source and floor-heating. In the case of "central heating" and of "heating from an outside source" all the rooms of a dwelling are heated by means of a

system of pipes connected to a central heating source outside the dwelling area. The heating unit is generally situated in the cellar in the case of central heating, and outside the premises in the case of "heating from an outside source", as the unit supplies heat simultaneously to several buildings. In the case of "Floor heating", all the rooms of a flat are likewise heated by means of a system of pipes, but the source of central heating is situated inside the dwelling area.

1. Household with desire or need for a dwelling
listed according to existing dwelling conditions and reason for the intended change of dwelling
in the Federal Republic (excluding the Saarland and Berlin (West) by size of municipality and by Land, and in Berlin (West)
Inflated from the 1 per cent supplementary survey, 1956/57 housing statistics

Dwelling conditions <u>Land</u>	Number of house- holds	Change of dwelling sought because											Other reasons given	No reasons given	
		Own house	Free- hold flat	Indepen- dent rental dwelling	Larger rental dwelling	Smaller rental dwelling	Cheaper rental dwelling	Better equipped rental dwelling	More con- veniently situated rental dwelling	Present dwelling is unsuit- able for habi- tation	Marri- age	Setting up a joint house- hold			Return to native munici- pality
		is desired								is contemplated					
Dwelling desires															
<u>Total, Federal Republic</u>															
Occupants of normal dwellings															
Owners															
Principal tenants															
Without own normal dwellings															
Sub-tenants															
Occupants of emergency dwellings															
No information															
Total															
<u>Municipalities classified by size</u>															
Class 1 (under 2 000 inhabitants)															
Total															
Occupants of normal dwellings															
Without own normal dwellings															

/2. Households

**2. Households with desire or need for a dwelling listed according
to the accommodation sought**

in the Federal Republic (excluding the Saarland and Berlin (West)) by size of municipality
and by Land, and in Berlin (West)

Inflated from the 1 per cent supplementary survey, 1956/57 housing statistics

Housing condition sought	Housing desire				Housing need			
	Household or part household				Household or part household			
	Total	in a			Total	in a		
		One- or two-family house	Multi- family house	Normal building without mention of type		One- or two-family house	Multi- family house	Normal building without mention of type
Owner of dwelling								
Owner of building								
Principal tenant								
Other types including no reply								
Total								
Total								
Owner								
Principal tenant								

13. Households

**3. Households with desire or need for a dwelling
listed according to amount of rent**

in the Federal Republic (excluding the Saarland and Berlin (West)) by size of municipality
and by Land, and in Berlin (West)

inflated from the 1 per cent supplementary survey, 1956/57 housing statistics

Prospective rent in DM per month	Housing desire				Housing need			
	Households				Households			
	Total	Dwelling desired			Total	Dwelling desired		
		In an old building	In a new building	No preference or no reply		In an old building	In a new building	No preference or no reply
<p>No reply or no preference</p>								
<p>Total</p>								

/4. Households

4. Households with desire or need for a dwelling listed according to the accommodation sought and the amount of the estimated building costs (excluding the cost of the land) or the estimated purchase price

in the Federal Republic (excluding the Saarland and Berlin (West)) by size of municipality and by Land, and in Berlin (West)

Inflated from the 1 per cent supplementary survey, 1956/57 housing statistics

Type of heating sought	Housing desire							Housing need						
	Total, households and part households	With estimated building costs or purchase price of....DM						Total, households and part households	With estimated building costs or purchase price ofDM					
		Less than 30 000	30 000 to less than 40 000	40 000 to less than 50 000	50 000 to less than 100 000	100 000 or over	No reply or no preference		Less than 30 000	30 000 to less than 40 000	40 000 to less than 50 000	50 000 to less than 100 000	100 000 or over	No reply or no preference
Central heating														
Stove heating														
No preference														
Total														

/5. Households

5. Households with desire or need for a dwelling listed according to present housing conditions,
income and number of persons

In the Federal Republic (excluding the Saarland and Berlin (West))
Inflated from the 1 per cent supplementary survey, 1956/57 housing statistics

Size of household	Households									
	Total	With a monthly total net income of DM								
		Less than 300	300 to Less than 400	400 to Less than 500	500 to Less than 600	600 to Less than 700	700 to Less than 800	800 to Less than 1 000	1 000 or over	No information about income

GHANA 1955-1956⁷

Survey of population and budgets of cocoa producing families in
the Oda-Swedra-Asamankese area

1. Time reference: 1955-56
2. By whom conducted: Central Bureau of Statistics.
3. Purpose: The inquiry in the Oda-Swedra-Asamankese area was the first of the larger scale household surveys to be conducted in rural areas and its objectives were more general in nature than those of the previous urban surveys. The survey was taken in two stages. The first stage, referred to as the population survey provided information concerning the population structure of the area covered, together with general information about farming and other activities, housing and property. The second stage referred to as the family budget survey included only cocoa producing families and provided information concerning the sources and distribution of income and the economic relationship between these families and the rest of the community.
4. Coverage: It was necessary that the area covered should be as large as possible within the limitations of the staff and supervisory capacity available and the district including the towns of Oda, Swedra and Asamankese was chosen as convenient for this first cocoa inquiry as it was one of the older established cocoa areas accounting for about one tenth of the country's production and was outside the devastated part of the Eastern Region. It covered an area of nearly 2 500 square miles and had a population of rather more than a quarter of a million persons.
5. Information Collected: Records made in each district consisted firstly of a list of all the houses visited showing the following information:
 - House number
 - Number of resident families, distinguishing between "cocoa" and "non cocoa" families
 - Total number of persons
 - Number of rooms in the house
 - Structure of roof, walls and floor
 - Year when built

7/ Information received from the Central Bureau of Statistics.

/Cocoa families

Cocoa families were defined as those owning established cocoa, i.e., one or more, farms which were actually bearing or else caretakers working for farmers living outside the survey area. The latter were included to cover the case of farmers who had no chance of being recorded in the enumeration, but it turned out that they were very few in number.

A separate record was made for every household within the houses visited, using the same household definition as in previous surveys. The household record consisted of a list of members on a "de jure" basis, plus additional information about the family as a whole. The items were as follows:

Serial Number of household within house

For each household members:

- Name
- Relationship to head of house
- Sex and age
- Tribe
- Occupation
- Occupational status if an earner
- Monthly wage if an employee

For the household as a whole:

- Number of rooms occupied
- Monthly rent, or, if no rent was paid, the condition of tenancy
- Number of farms owned in or near the village or elsewhere, divided between food crops, established cocoa, or new cocoa (not bearing)
- Number of residential and other buildings belonging to the household in or near the village or elsewhere, apart from own accommodation
- Sales of food crops, cocoa and livestock in the year before the survey
- Summary sections showing:
 - The number of household members, divided between adult males and females and juveniles (under 15 years of age)
 - The number of incomes from sale of cocoa and food crops, wages, trading and other sources.

6. Method employed: The design of the survey was basically the same as that of all previous household enquiries and, to obviate the need for special training of enumerators, it was desirable that recording methods should be similar to those to which they were already accustomed. Such differences as there were arose from the size of the area covered, the wider range of incomes to be expected in respect of the budget families and the nature of their monetary transactions.

To minimise travelling it was necessary to use very much larger first stage sampling units than the houses which had formed the basis of the preliminary enquiry in the urban areas. The only convenient frame available was provided by the geographical organization which had been used in the previous population census in 1948. This gave a division of the whole country into enumeration areas with a list of villages for each area. It was not a very satisfactory frame because it was out of date, enumeration area boundaries had not been mapped and, in many cases, small villages had been treated in groups and were not listed separately. It did, however, provide the means of drawing a reasonably unbiased sample, covering the whole survey area without the need for lengthy preliminary planning.

At the outset of the survey it was decided to exclude the two urban areas of Swedra and Oda plus some other towns known to be mainly concerned with diamond mining. The enumerators' district records for the remainder of the area then formed the basis of the sampling frame. But, as there was considerable variation in the size of the enumerator's districts, the larger ones were sub-divided into units of approximately 1 000 persons each as at 1948, while the smaller districts when situated close together were amalgamated. The alternative of this procedure would, of course, have been a selection with probabilities proportional to size. The units obtained (referred to here as districts) were then numbered serially to give 225 divisions of the survey area.

/The sample

The sample for the population survey was obtained by making a simple random selection of 90 of these districts. After the selection, a few districts near the boundaries of the survey area were discarded and replaced by substitutes as it was not practicable for interviewing teams to visit them, but these changes were small and not sufficient to affect the random quality of the sample. The 90 districts selected contained a recorded 1948 population of 93 099 persons.

Districts selected were grouped in threes as conveniently as possible according to geographical location. A team of two interviewers was posted to each group and their task was to compile a simple census-type record for the entire population of each of the three districts in the group.

There were 31 districts which formed only part of one of the original census enumerators' districts and these arose from the division of the larger districts. They were situated in the larger villages and towns and in these cases no attempt was made to sub-divide the area geographically, but a systematic sample was drawn from all the houses in the original enumerator's district. For example, if one of the original districts had been divided into four parts on a population basis and one of these parts had been selected for the population sample, records were made for every fourth house in the original district. The advantage of this method was that simple instructions could be issued to enumerators for those places where a systematic selection was needed and there was no time spent in selecting and demarcating sub-divisions of towns.

The population survey took place in the latter part of July and during August 1955. This was the period immediately preceding the beginning of main-crop harvesting. The number of households enumerated was 22 772, the total number of persons being 100 394. From the cocoa producing households included in this survey a sample was selected for the family budget survey.

GREECE^{8/}

Construction and Housing in Urban Areas

1. Time reference: This survey was undertaken in 1958 as a first step towards the organization of periodical surveys of construction activities.
2. By whom conducted: The National Statistical Service of Greece.
3. Purpose: In view of the boom in the building industry during recent years, it became more and more desirable to obtain ampler and better knowledge regarding this activity and its actual results. Public and private agencies were interested to know the number of new dwellings completed, their distribution by number of rooms, whether their equipment included or lacked modern conveniences, not to speak of elementary sanitary installations. They were also interested to know to what extent the new dwellings were occupied, and in what legal form they were occupied (i.e. by their owners, or by tenants) and many similar things. Furthermore it was of some considerable interest to obtain at least summary information regarding premises built for non-residential purposes.
4. Coverage: The survey included a detailed investigation of the size and equipment of the dwellings completed since 1951, and of housing conditions in these dwellings. Because a general census of buildings and dwellings had been taken on 7 April 1951, it was decided to include in the present survey only buildings completed after that date. Originally, the survey was intended to cover the country-side as well as cities and towns. Later, for practical reasons, the survey was limited to Greater Athens and municipalities with more than 5 000 inhabitants.
5. Information collected: No questionnaire was available for this survey but from the tabulations it seems that the following items of information were obtained:

Number of buildings constructed during the period 1951-1958
Number of structurally separate units - dwellings - other (shops,
offices, etc.)
Year of construction
Number of rooms in buildings

^{8/} See Annex II No. 4.

Characteristics of buildings completed during the period 1951-1958

Type - new, reconstructed, extended
One-family house, one-family house with shop, other buildings solely
or mainly for habitation, other.
Number of floors
Number of new dwellings included in the building
Number of new shops included in the building
Number of new rooms included in the building
Material of outer walls
Electricity - main supply
Water main
Sewage main
Gas main
Central heating
Elevator
Sewage tank

Characteristics of dwellings

Total number of dwellings completed 1951-1958
In one-family houses - in other buildings
With rooms only in the basement or half-basement
Number of rooms
In buildings connected with:
 water main
 sewage main
 sewage tank
 Central heating
With kitchen over 4 m^2 - under 4 m^2
With bath
With shower
With electric light
With gas
With drinking water from main - tap inside building tap outside building
 own well with pump
 own well without pump
 public well
 rain water tank
 fountain or spring
 cart
With toilet installation - water closet)
 other) Private or shared
Without toilet installation
Material of floor
Tenure
Vacant
Number of households
Number of persons

6. Method employed: General plan of the survey. Combing through the whole area of Greater Athens and the municipalities with a view to finding

/and recording

and recording all new buildings would have required a large number of personnel, and would have cost several million drachmae. Therefore the only solution was to organize a sample survey.

Existing records of building licenses issued could not be used as a frame for the sample, first because licensing is practised only in areas under a town plan, secondly because some unauthorized building also takes place in those areas. As no other frame was available it became necessary to undertake an area sample survey.

Only general information existed beforehand regarding the intensity of building activities in different towns and in different districts within towns, the size of the new dwellings in terms of rooms, and so forth. It was therefore difficult to determine how many buildings or dwellings the sample would have to contain, to what extent different districts ought to be represented, etc., so that estimates based on the sample might be sufficiently precise. The precision of the estimates would become known only a posteriori. From this point of view the survey has the character of a pilot survey.

It was decided to organize the survey in two different stages:

(a) The first step was intended to provide precise information for an estimate of the total number of buildings constructed, reconstructed or extended since April 1951. This information was to be obtained through an investigation of these facts in regard to all buildings existing in many small areas selected at random, but with a known probability for each such area to be included in the sample.

(b) From the list of new buildings recorded in the sample area, a sub-sample of buildings was to be drawn, with a view to collecting detailed information regarding various characteristics of these buildings and of the dwellings they contained. It was foreseen on the basis of current estimates of the number of building licenses utilized, and of buildings constructed without a license, that an overall sampling ratio of 1/100 in regard to the ultimate sampling unit (the building) would give a sample containing 1 500-2 000 buildings. This number was thought to be sufficient for reasonably precise estimates regarding the frequency of certain important characteristics among all new buildings and dwellings.

In technical terms the sample design was for a three-stage sample with the following hierarchy of sampling units: towns (or sections of towns), city-blocks, buildings. (Originally a four-stage sample, with dwellings as the ultimate sampling unit was under consideration. Although such a sample might have given a greater precision to certain estimates, this plan was abandoned because it would have involved more time consuming field work and more complicated computations.)

In Greater Athens and each one of the cities with more than 50 000 inhabitants, primary sampling units were formed through outlining unit areas called sections, approximately equal in size (about 250 000 square metres in Greater Athens, about 100 000 square metres in the other big cities). These were to be drawn into the sample with equal probabilities. In regard to towns with 5 000-50 000 inhabitants, the total areas of each one of them was taken as the primary sampling unit, and sampling of these towns was to be performed with probabilities proportional to their population according to the 1951 population census.

The following stratification of primary units was introduced:

(a) Greater Athens and each big city (Salonika, Patras, Volos and Herakleion) were treated as separate strata (strata I-V). Within Greater Athens and each city mentioned, the primary sampling units (i.e. the sections) were grouped into sub-strata, called zones, as follows:

Zone K - areas in which lively building activities have taken place in recent years

Zone B - areas with many industrial establishments

Zone KB- areas with both many industrial establishments and many new buildings

Zone O - areas, mainly residential in character, with little construction in recent years.

Zone A - areas mainly agricultural in character, with few buildings.

The reason for distinguishing an industrial zone and a combined KB zone was that the sample was to be used simultaneously for a survey intended as a check on the directory of manufacturing establishments compiled in 1957.

/(b) The smaller

(b) The smaller towns were grouped into three strata as follows: towns with 25 000-50 000 inhabitants, 10 000-25 000 inhabitants and 5 000-10 000 inhabitants (strata VI-VIII).

Sampling fractions for the different strata and for each one of the aforementioned stages of the sampling procedure were laid down as follows:

Sampling fractions

Strata	Sections or towns	City blocks	Sub-sample of new buildings	Over-all for	
				City blocks	Sub-sample of new buildings
1-V					
KB	1	1/3	3/100	1/3	1/100
K	1/2	1/5	1/10	1/10	1/100
B	1/2	1/5	1/10	1/10	1/100
O	1/5	1/10	1/2	1/50	1/100
A	1/20	1/1	1/5	1/20	1/100
VI	1/2	1/25	1/2	1/50	1/100
VII	1/5	1/10	1/2	1/50	1/100
VIII	1/10	1/5	1/2	1/50	1/100

Before stage three was undertaken the new buildings recorded in the selected city blocks were stratified by year of construction, number of floors and type of construction. By type of construction is meant whether the building was new, reconstructed or expanded, or under construction.

To the municipalities of Salonika, Volos and Herakleion certain neighbouring communes were added, so as not to miss such construction as often takes place on the outskirts of big cities. In other cases it became necessary more or less arbitrarily to exclude some villages situated far away from the main agglomeration.

In Greater Athens 976 sections were outlined on the map. In the other big cities the corresponding number was as follows: Salonika 428, Patras 324, Volos 109, Herakleion 181. (As already mentioned, sections in the

/other big

other big cities were made less than half as large as in Greater Athens). The sections were numbered consecutively in a serpentine fashion within each zone, and were then sampled systematically with equal probabilities. City blocks in the selected sections were numbered in a similar way and sampled from a single list of blocks also systematically and with equal probabilities.

The third stage of the sampling procedure, namely the sub-sampling of buildings, could not take place before the recording of all new buildings in the selected city blocks had been carried out, and not before these buildings had been grouped by year of construction, number of floors, and type of construction. When this had been done buildings were selected through systematic sampling and with equal probabilities from a single list of buildings which was made up for each zone or each town.

The field work in connexion with the canvassing of city blocks, and the subsequent stratification of buildings, took some time, so that in certain cases a considerable delay occurred until it was possible to carry out the detailed investigation of buildings and dwellings. In the provincial towns the selected city blocks were canvassed in June-July 1958 and the detailed survey of buildings and dwellings took place in August-September 1958 (in one or two small towns as late as October). In Greater Athens, the canvassing of the city blocks had been made as early as December 1957-January 1958 whereas the detailed survey of buildings and dwellings could be undertaken only in June, six months later. The effect of these delays in regard to the classification of buildings as completed or under construction is discussed below.

Methods of estimation and precision of the estimates

The listing of all new buildings in sample blocks was intended to constitute the basis for estimating

- (a) the total number of buildings constructed, reconstructed or extended since April 1951
- (b) the distribution of these buildings by number of floors
- (c) the number of buildings completed annually since April 1951
- (d) the number of buildings under construction

In actual practice it was found more convenient to base the estimates (a)-(c) on the sub-sample of buildings. The difference between these

estimates and those obtained directly from the lists was in most cases found to be negligible. This was due, naturally, to the detailed stratification of buildings reported in the lists, which had been undertaken before the sub-sample was drawn.

One important difference occurred, however, in regard to buildings reported as completed in 1958 or still under construction. During the interval between the canvassing of city blocks and the detailed survey of the sub-sample of buildings, many buildings reported as under construction on the first occasion had been completed when the detailed survey took place.

On the other hand, because it was impossible to undertake a new canvassing of city blocks, no buildings on which work had begun during the interval were included in the sub-sample. Consequently, estimates of the number of buildings under construction, had they been based on the sub-sample, would have become much too low.

The estimates of the number of buildings under construction are therefore based directly on the lists obtained through the canvassing of city blocks. They are independent of the estimates regarding buildings completed. They can be assumed to correspond approximately to the number of buildings under construction at the beginning of 1958 in Greater Athens and in the early summer of 1958 in the provincial towns. Estimates regarding buildings completed, on the other hand, included buildings completed until June 1958 in Greater Athens and until August-October in the provincial towns.

The question arises whether the delay discussed in the foregoing paragraphs affected the estimates of buildings completed. Were the buildings on which work was begun during this delay, and which therefore were included neither in the lists nor in the sub-sample, completed by the time the detailed survey of the sub-sample was undertaken? This might have occurred in Greater Athens, where the delay amounted to six months, but probably to a very limited extent, because only small and primitive buildings can be completed in less than six months.

Technically, the estimates were made by multiplying the figures derived from the sample by grossing factors corresponding to the reciprocal of the over-all sampling fraction, stratum by stratum,

(a) For buildings completed and dwellings contained therein the grossing factor was 100 throughout. However, in regard to towns with less than 50 000 inhabitants (strata VI-VIII) which had been drawn into the sample with probabilities proportional to their population in 1951, the estimates were performed town by town, and they were then weighted by the reciprocal of the probability for each town to be included in the sample.

(b) In regard to buildings under construction, the grossing factor was the reciprocal of the over-all sampling ratio for buildings included in the canvass lists, i.e. before undertaking the sub-sampling (this, in strata I-V, is 3 for the KB-zone, 10 for the K-zone, etc., as shown in the list of sampling fractions in paragraph 6 above).

INDIA^{9/}

Economic Survey of Madras

1. Time reference: The field investigation commenced in September 1954 and terminated in August 1957 for the main survey. The special surveys relating to slums, family budgets of middle class were finished by October 1957.
2. By whom conducted: The survey was conducted by the Department of Economics of the University of Madras at the instance of the Research Programme Committee under the auspices of the Planning Commission, Government of India.
3. Purpose: The purpose was to study the problems of rapid urbanization viz., the growth in urban area, the increase in population, the nature and extent of migration since 1940, urban unemployment and a study of special problems like slums, congestion, refugees and municipal administration.
4. Coverage: The survey covered the entire city of Madras consisting of 50 divisions but excluded the 51st division, which is outside the administration of the Corporation of Madras City.
5. Information collected: The data collected included particulars regarding age, sex, mother tongue, education, employment, unemployment, earnings, housing conditions, causes of migration, industrial and occupational distribution of the households, etc. The following items of housing information were collected:

Type of housing

- Gardenhouse
- New type colony house
- Storeyed house
- Old type house (tiled or terraced)
- Old type house (thatched)
- Hutment (non-thatched)
- Thatched huts

Tenure

- Owned
- Rented
- Mortgage
- Hire purchase

Number of living rooms

Ventilation

Good

Bad

Indifferent

Electrified or not

Rent or rental value

General remarks

Pleasant

Good

Comfortable

Fair

Uncomfortable

Bad

Household composition

Natural

Joint

6. Method employed: A pilot study of 250 households was undertaken to test the adequacy of the questionnaire and to give some preliminary training to the field staff. The fifty Corporation-divisions were taken as the strata. A uniform fraction of 1/20 households from each stratum was selected. Weights were assigned to each stratum depending on the population of the stratum. The National Register of citizens was used as the frame for the survey. To provide for the inter-divisional movement of households and non-response, an additional reserve sample of 3 per cent of the total households in each division was prepared simultaneously. One Deputy Director and two Supervisors supervised the work of five investigators and later on their strength was increased to eight and then to ten. The tabulation work was done by two persons.

7. Conclusions: The salient facts emerging from the survey were:

(a) a large proportion of the unprecedented increase in the population of the city between 1941 and 1951 was due to immigration and this in the absence of a similar increase in the number of houses, has led to unhealthy congestion and the growth of slums.

/(b) the

(b) the immigrant population is not of a floating character and is a stable population of the city.

(c) the unemployment study showed that the rate of unemployment is not very high (10 per cent of the economically active population). The proportion of unemployed among the educated class is larger as compared to that of the uneducated class. This is probably due to disguised unemployment or underemployment among the educated.

INDIA^{10/}

Survey of Housing Conditions in Patna

1. Time reference: 1957
2. By whom conducted: Directorate of Economic and Statistics, Bihar.
3. Purpose: The survey was undertaken with a view to assessing the intensity of the housing problem and to find out what types of houses are desired and on what financial terms.
4. Coverage: The survey covered households residing within the Patna Municipal Corporation Area.
5. Housing information collected: Information concerning the following topics was collected:

Number of rooms

Area of living space

Does the household occupy a complete and independent housing unit or does it share one with other families

Does it have facilities such as latrine, tap, etc.

Rent paid

Is the household satisfied with the accommodation - if not, the reasons

Does the household wish to build a house in Patna - if so, in which area and the approximate cost

Are the financial resources available

Is Government help required - if so to what extent and on what terms

Would they wish to become a member of the Co-operative Societies

The type of house desired, etc.

10/ See Annex II No 5.

5. Method employed: Before the start of the actual survey a pilot survey was carried out from August 1957 to October 1957. The main survey was started thereafter and was expected to be over within two months. A 10 per cent random sample was taken of holdings in the Municipal Corporation area excluding the barren and uninhabited ones. The survey was conducted by six research investigators and a research supervisor under the control of an assistant director.

INDIA ^{11/}

Cholera Outbreak Survey in Chetla

1. Time reference: April 1958 to June 1958
2. By whom conducted: All India Institute of Hygiene and Public Health
3. Purpose: To study the incidence and associated environmental condition of cholera in the urban health centre area of Chetla in Calcutta.
4. Coverage: Households living in wards N° 71 and N° 72 of the City of Calcutta were covered. Persons living in army barracks and jails were excluded.
5. Information Collected: Information was collected concerning the following topics:
 - Type of house
 - Water supply
 - Latrine used
 - Refuse collection
 - Diagnosis given by doctors
 - Movement of the patient within one week before onset of the disease
 - Occupation of the patient
 - Nature of treatment

11/ See Annex II N° 5.

6. Method employed: The sample frame was taken from the Central Statistical Registry of the Health Centre. A 10 per cent systematic sample for the non-bustee households and a 20 per cent systematic sample for the bustee households formed the total sample of the survey. Where a member of the family was not available, return calls were arranged. Four field investigators, a sanitary inspector and a field medical officer formed the field staff. Two computers assisted in the analysis. A 10 per cent coefficient of variation was the target in estimating the attack rate for the area.

JAPAN^{12/}

Housing Survey

1. Time reference: Housing surveys are taken on a country-wide basis every five years - the first in the series was taken in 1948, the second in 1953 and the third in 1958. Censuses of population and housing were taken in 1950, 1955 and 1960. Additional housing surveys covering cities and cities-towns and villages were taken in 1950 and 1955 respectively.
2. By whom conducted: Bureau of Statistics, Office of the Prime Minister.
3. Purpose: The housing survey was conducted in 1958 in order to collect information on the number of dwellings and housing conditions. It is stated that housing questions will continue to be included with the population censuses in Japan as long as there is a housing shortage, since they provide information on the actual number of housing units and the density of occupation, but it is considered that surveys are more efficient for collecting detailed and more technical information concerning housing since they enable specially trained enumerators to be used.
4. Coverage: Cities and counties of each prefecture and each city with 200 000 or more residents.

5. Housing information collected:

Building number

Type of building (detached, tenement house, apartment house, other)

Housing unit number

Occupancy

Number of households

For all households

Name of head of household

Number of household members

Kind of household (family, non-family)

Number of dwelling rooms

Principal household or non-principal

For all occupied housing units

Number of dwelling rooms

Number of tatami

Type of housing unit (dwellings used exclusively as dwellings)
dwellings combined with agricultural and fishery use

commercial or industrial use

other use

institutions or boarding houses

non-dwelling houses

Structure (wooden, fire resistant, temporary huts)

Total floor space

Condition of the house

Year build

Kitchen

Water supply

Drainage installation

Toilet installation

Tenure

/For all

For all family households

Rent

Occupation of head of household

Class of work of Head of household

Income

The following information was collected by means of the housing census taken with the population census in 1960:

Kind of household (ordinary, quasi)

Kind of quasi household

Kind of living quarters (dwelling house, dormitory, boarding house, other)

Tenure

Number of tatami

6. Method employed: A single-stage sample design with stratification was used for the survey. The enumeration districts of the 1955 population census formed the units (in some cases enumeration district boundaries had to be revised because of new construction since the 1955 census) which were stratified as follows: ordinary enumeration districts containing households of less than 50 members were grouped into eight strata similar to those in the labour force survey, while those containing households of 50 members or more were stratified by kind of household. Special enumeration districts (for example, mountains, forests, social institutions, large factory area and others) with households of not more than 50 members were further stratified by suffix number of enumeration districts. A sub-stratification into urban and rural areas as of 1 October 1955 was further carried out in each of the above strata. Enumeration districts were then selected systematically in each sub-stratum with sampling fractions 1 in 7 and 1 in 14 respectively for urban and rural sub-strata. Information was collected from all housing units in the enumeration districts which had been selected.

Another procedure was adopted for the census enumeration districts in which there was a group of 30 or more dwellings built since 2 October 1955. Each of these groups was used as a unit in case the

/number of

number of the newly built dwellings was less than 70. If the number of dwellings exceeded 70, the group of these dwellings was further divided into units with 50 dwellings. The sampling fractions for these modified enumeration districts were the same as those for the other enumeration districts.

Data were processed with a view to tabulating in detail the results of the survey for Japan as a whole, for all cities and for all countries. Separate tabulations in sufficient detail were made for the prefectures and the six largest cities. Basic tables on number of dwellings and housing conditions were also obtained for cities and countries separately for prefectures and each city with a population of 200 000 and above.

The coefficient of variation based on data for enumeration districts was computed for each of the main items and this coefficient was below 5 per cent for an estimated figure of size about 50 000 for Japan as a whole, below 4 per cent for all cities and slightly exceeding 5 per cent for all countries. Certain multiplying factors were also established in order to obtain the sampling errors of estimates for prefectures and cities with 200 000 or more residents from the corresponding errors of estimates for all cities and all countries.

JAPAN^{13/}

House rent survey

1. Time reference: Every month since June 1950
2. By whom conducted: Bureau of Statistics, Office of the Prime Minister, except the field work, which is entrusted to the local governments.
3. Purpose: To provide information on the rent of publicly and privately owned houses and rooms, as a part of the Retail Price Survey (N° 41, Japan 3).
4. Coverage: All tenants of houses or rooms in all cities (cities as of 1 April 1949).

5. Housing information collected:

Privately owned housing

On household

Name and address of head of household
Occupation
Number of family members
Number of resident employees with meals
Number of resident employees without meals
Date of entrance into the house or room

On housing

Use of building (exclusively dwelling, combined with other use)
Kind of building (detached, tenement house, apartment house, number of storeys)
Date of construction
Material of construction
Equipment (piped water, gas, bathroom)
Size (total floor space, number of rooms, number of tatami)
House or room rent (amount per month, deposit, premium and other)

Publicly owned housing

Name of housing area
Location
Managing agency
Total floor space
Total rent
Date of construction
Kind of main structure (fire proof, wooden)
Kind of building (detached, tenement house, apartment house)
Number of residents
Category (publicly owned houses are classified according to the income of tenants)

6. Method employed: This survey is divided into the publicly-owned house rent survey and the privately-owned house rent survey. The former is directly in charge of the supervisors who obtain information on all the publicly-owned rented houses from the operational records every month. The privately-owned house rent survey is conducted by the field workers within the survey districts selected. All "A" cities and "B" cities for the Retail Price Survey proper were included in the survey.

/Enumeration districts

Enumeration districts for the 1955 population Census were used as second stage sampling units; 672 enumeration districts were sampled. All the tenant-households in selected enumeration districts were enumerated.

The districts selected at the beginning of each year are divided into three groups which are rotated so that each group is surveyed every three months. In districts not being surveyed the rents are assumed to be the same as at the last survey. Out of the districts surveyed a few are successively surveyed for two months to include the changes from the previous month.

For the enumeration of households, the enumerators prepare the sketch maps and lists of households in the sample districts. Enumerators visited the sample households and conducted the interviews. The same field force of 353 enumerators and 61 supervisors who participated in the Retail Price Survey proper were used.

Results obtained in the form of rent of houses or rooms per tsubo (about 3.3 square metres). Rent for two preceding months was used without adjustments in a non-linear estimator as to the result figures being published.

The cost of the survey is included in the budget for the Retail Price Survey and the data obtained is published in the Monthly Report on the Retail Price Survey.

JAPAN^{14/}

Revision survey of the construction cost of buildings

1. Time reference: The survey is conducted continuously every month but the processing is done once a year.
2. By whom conducted: Ministry of Construction and prefectural governments, which are responsible for field operation. A report of the results of the survey was published as Results of the Revision Survey Conducted in 1958.

^{14/} See Annex II, N° 11.

3. Purpose: The expected construction cost of buildings estimated at the time when the work was started is checked in the Building Start Statistics included in the Dynamic Statistics of Buildings. However, it is more important to know the actual amount spent on the construction than to know the estimated or expected construction cost. This survey was conducted for revising the expected construction cost.
4. Coverage: Urban areas including 285 cities.
5. Information collected: Items related to the cost of building. (Questionnaire not available).
6. Method employed: The Building Start Reports of wooden buildings in the urban area, submitted by the owners before starting work, were numbered serially. 1/20 of reports were selected at random. The number of samples was about 5 800.

Some information was transcribed from the Building Start Reports. On-the-spot surveys were conducted. Information on the amount of money spent for carrying out the work was obtained from the contractor or from the owner if the work was directly managed by him.

About 1 000 surveyors were used and the cost of the survey was about 1 100 000 yen.

PAKISTAN^{15/}

Sample survey of Karachi population (first phase)

1. Time reference: 1959.
2. By whom conducted: Central Statistical Office, Ministry of Finance, Karachi.
3. Purpose: This survey was designed to supplement the information collected by the census of displaced persons in Karachi, with a view to estimating the over-all size of the Karachi population and to describe its various characteristics.
4. Coverage: Population in the Karachi area.

^{15/} See Annex.II, N° 11.

5. Information collected. Information was collected for:

Family composition

Age

Sex

Occupation

Income

Housing condition

Landed property

Births and deaths for the families

Ability of the respondents to purchase government constructed quarters or plots (e.g. instalments or cash payments)

6. Method employed: In each of 124 chunks of Karachi, a block was selected with probability proportionate to the number of segments contained in the block. If a block consists of two or more segments, segmentation was done on the basis of area and density of population. Surveyors were sent to selected blocks to get the detailed maps so that the block could be sub-divided into segments with identifiable boundaries. Selection of segments was done at random. In all, 20% segments were selected. In each selected segment, all households were enumerated.

PERU^{16/}Survey of Urban Housing

1. Time reference: The enumeration took place on 23 December 1956 and 6 and 9 January 1957.
2. By whom conducted: The survey was conducted by the Comisión para la Reforma Agraria y la Vivienda with the collaboration of the Faculty of Architecture (University of Lima).
3. Purpose: To obtain information in connexion with the following:
 - (a) The level of homogeneity that had been obtained in determining housing zones.
 - (b) To determine the population density in the housing zones.

^{16/} See Annex II N° 7.

- (c) The physical condition of the housing units in the various zones.
 - (d) Social condition of the occupants of the housing units.
 - (e) Economic condition of the occupants of the housing units.
 - (f) Number of families occupying the various types of housing units.
4. Coverage: The survey included the Metropolitan area of Lima excluding the barriadas, which had been the object of a special study by the Commission, and the Municipality of San Isidro where a complete census had been taken almost at the same time as this investigation.
5. Housing information collected:

Type of housing unit

private

collective

apartment or room in an apartment building

apartment or room in casa de vecindad

apartment or room in a house which has been subdivided

apartment or room in a building with other uses

improvised on a roof or patio

improvised in a compound

Access shared or private

Number of rooms

Material of walls, floor and roof

Water supply and sewerage - private or shared

Is there a shower

Is there a toilet

Is there a patio or garden - private or shared

Kitchen - in a separate room, in the dining room or in a bedroom

Is there electric light

Tenure - owner, renter, squatter

Condition of housing unit - dangerous, able to be repaired, good

Head of the household

Origin - Lima, provinces

Usual occupation

Number of married couples in the housing unit (including consensual unions)

/Number of

Number of persons in the household by age and sex

Social services - state the distance of school, market and work

Monthly income

Normal income of head of household

Additional income of head of household

Income from other members of the household

Monthly expenditure

Rent

Food

Clothing

Education

Servants

Light, water and services

6. Method employed: The available resources would permit the inclusion in the survey of a maximum of 2 000 households. The population was estimated at 240 000 households and therefore the sample provided would represent 0,8 per cent of the total. In order to increase the percentage it was decided not to include the very poor types nor the very good types in the range of housing units because the barriadas which included much of the poor housing had been the subject of a special study by the Commission and a complete census was being taken by the Municipality of San Isidro where a large part of the better housing was to be found. The separate investigations would be taken into account along with the results of the present survey.

In determining the basis for the example it was decided that the number of sample units ought to be more or less in proportion to the population of housing units classified as follows:

Good condition

A Average density

B High density

Incomplete

C Lacking adequate facilities, generally constructed by the owners lacking social and community services.

Modern - unsanitary

D Average density

E High density

Old

F Subdivided

G Vecindad

/From previous

From previous population estimates and a knowledge of the type of housing unit which predominated in each zone the number of blocks that had to be selected according to the types of housing units was determined.

The zones or parts of zones were stratified according to the type of housing unit predominant in each.

A selection of the zones was made with a sampling probability more or less in proportion to the population estimated to be living in the various types of housing units.

Blocks were selected from each of the selected zones, or parts of zones.

The idea of enumerating complete blocks or at least parts of blocks instead of dispersed housing units was to obtain results which would be more closely related to the types of housing units which exist and also to overcome the difficulty of enumerators avoiding the enumeration of difficult cases.

The enumeration was carried out without any major difficulties with the exception of those related to the collection of economic data. The households of a higher social level were reluctant to answer the questions even though, economically, they were of the same level or lower than those who would be considered ordinary workers. These in general offered complete collaboration in answering the questions. In cases where it was difficult to obtain replies to the questions the enumerators deduced the replies from their conversation with the respondents.

In connexion with the question concerning the number of married couples in each housing unit, the results were not clear and it was felt that the question was not put clearly enough to arrive at any definite conclusions concerning duplication in connexion with the use of housing units.

Schedules were obtained for 1 941 households but 119 had to be voided because the information was incomplete or erroneous.

7. Analysis: The data obtained during the survey was used to provide information concerning the following:

(a) A comparison of the population in the areas covered by the survey with other population estimates. It was found that there had been an alarming increase in the population of zones classified as having predominantly modern unsanitary housing units of high density and those with housing units in good condition but with high density.

(b) A study of the distribution of the various types of housing units.

(c) The density of occupation (number of persons per room) according to the types of housing unit. Housing units with more than 1.65 persons per room were considered overcrowded. The most serious overcrowding was found to exist in zones which had been classified for the purpose of the survey as those where modern housing units of high density predominated. 63 per cent of the housing units in these zones were found to be overcrowded.

(d) Material of construction of the various types of housing units. Data was tabulated only for those housing units with roofs constructed of waste material and those with earthen floors.

(e) Number of housing units by type according to the availability of toilet facilities and kitchen. Some 35 per cent or more of the households surveyed had only shared toilet facilities and at least 20 per cent had no toilet facilities.

(f) Condition of housing units by type. It was stated that the results of this part of the survey had to be accepted with reservations because the classifications were based on the criteria adopted by individual enumerators. It was found, however, that 51 per cent of the housing units in zones with predominantly modern unsanitary housing units were in need of repairs.

(g) Origin and occupation of the head of the household according to the type of housing unit. It was found that for all types of zones included in the survey 61 per cent of all heads of household had come from the provinces. It was also found that this migratory increase in the population of Lima was taking place at all levels.

/(h) Households

(h) Households according to type of housing unit and monthly income. The calculation of family income and expenditure was stated to have been difficult but it was evident that only in a very few cases was there a margin to allow for savings. The results of the survey indicated that only 30 per cent of households could afford to pay for a minimum dwelling.

FEDERATION OF RHODESIA AND NYASALAND ^{17/}

Salisbury African Demographic Survey

1. Time reference: 1958.
2. By whom conducted: Central African Statistical Office.
3. Purpose: To collect demographic information concerning the African population at Salisbury.
4. Coverage: Salisbury. Dwellings of Africans.
5. Housing information collected: In addition to demographic data the following housing information was collected:

Type of dwelling - the following classification was used:

Hostel rooms)	
Brick and concrete under asbestos)	
Brick and concrete under iron)	Permanent dwellings
Brick under tile)	
Brick and concrete under concrete)	
Asbestos under asbestos)	
Brick under grass)	Semi-permanent dwellings
Brick under other)	
Pole and dagga (mud) and grass under grass)	Temporary
Other temporary structures)	Structures
Sleeping in employer's house)	

Number of persons

Number of families by size

Floor area

Electric light

Number of rooms (for permanent and semi-permanent dwellings).

17/ See Annex II, N° 8.

6. Method employed: During the African demographic survey held in Salisbury in August-September 1958 information was collected concerning the housing of Africans. The dwellings visited were selected on a sample basis and represent one-tenth of the total in African residential areas and one-twentieth elsewhere. Dwellings ranged from detached cottages of brick under asbestos construction to pole and dagga (mud) huts and also included single rooms in hostels. It is estimated that there were just over 41 000 occupied African dwelling units in the area covered by the survey.

SWEDEN^{18/}

The Stockholm Housing and Travelling Survey

1. Time reference: 1958. The survey, which referred to conditions in the autumn of 1958, was a continuation and extension of the 1955 housing and travelling survey.
2. By whom conducted: The survey was carried out by the Statistical Office of the City of Stockholm with the co-operation of the City of Stockholm Tramways Corporation and the Greater Stockholm Planning Board. Various other City bodies and the Survey Research Centre of the Central Bureau of Statistics have taken part in the planning of the survey.
3. Purpose: The purpose of the survey was to provide a basis for building and traffic planning in Greater Stockholm.
4. Coverage: The survey area comprises the City of Stockholm and 20 suburban communes. The population was the residential population of the area. The sample drawn comprised a total of 7 800 dwelling units.
5. Information collected: The following list of the section headings in the questionnaire used gives an indication of the particulars that were collected (four different kinds of questionnaires were used in the interviews).

^{18/} Information received from the Central Bureau of Statistics,
Stockholm, Sweden.

/Questionnaire A

Questionnaire A, which referred to the head of the dwelling unit's own household, contained the following sections:

- I. Particulars about the occupant of the dwelling unit and his household
- II. Particulars on the occupant of the dwelling unit's housing conditions.
- III. The occupant of the dwelling unit's housing costs.
- IV. Place of work and working hours.
- V. Ownership of a vehicle and driving license.
- VI. Leisure-time residences, etc.

Questionnaire B, which referred in principle to each member of the household (although not to children under school age), only contained one section.

- VII. Travel undertaken the day before the interview.

Questionnaire C, which referred to the household, consisted of these sections:

- VIII. Travel to work and to school.
- IX. Tickets.
- X. Transport and fare changes in 1957.
- XI. Travel to leisure-time residences.

Questionnaire D, which corresponded to questionnaire A, was only used for households in lodgings.

6. Method employed: The particulars were collected by interviewers who visited the selected households. The field work, the greater part of which was carried out between 5 October and 15 December 1958, was conducted by the field organization of the Survey Research Centre. Special care was taken to reduce the non-response of the interview units. Those to be interviewed who were difficult to get in touch with or refused to take part were contacted by letter or telephone and then re-visited by one or sometimes two new field-workers. A sample of the non-response from the autumn's field work was processed again at the beginning of 1959. By doing so, the actual interview non-response could be limited to 8 per cent. There was, in addition, some minor "natural"

/non-response due

non-response due to houses being pulled down, empty flats, etc. In all, 7 021 dwelling households covering more than 18 000 persons were interviewed. Certain supplementary data concerning the dwelling units and the income of the occupants were also collected by means of the registers available.

The sample was drawn in accordance with a regional stratification, in Stockholm by parishes and districts and in the suburban communes by a two-stage procedure. In Stockholm the sampling frames were the national registration forms and in the other communes the national registration lists. In Stockholm the sampling fraction was 1/55 while for the adjacent communes the number of sampling units were fixed in advance at 2 000.

The processing was divided according to the coverage of the material; the Statistical Office accordingly scrutinized, coded and did the machine processing of the data referring to the households and the dwelling units, i.e. questionnaires A and D with the supplementary data, and the Tramways Corporation dealt with the data on travel and travelling habits, i.e. questionnaires B and C.

A number of punched card groups have been set up and their tabulation has taken place partly in the punched card sections of the Statistical Office and partly in the data processing centre of the Tramways Corporation. The tabulations and calculations, which have mostly been made in both offices, have not yet been completed as new requests regarding the use of the material have been received from time to time.

Variance estimates have been made to some extent. However, owing to the coverage of the material they have had to be limited to approximate standard methods and account could not be taken of the net effect of the stratification. It has been possible to make comprehensive point checks on the findings of the survey against figures from other sources and these have given positive results.

/The findings

The findings of the survey in traffic planning have to a large extent been put to good use, primarily in the planning for collective transport but also as a basis for forecasts on parking requirements in various parts of the city. In addition, when estimates were being made of the future housing demand and the future housing construction requirements of Greater Stockholm the analyses of the material from the survey could be used.

The survey was directed by a Working Group consisting of representatives of the Statistical Office, the Tramways Corporation (with executive deputies), the City Building Office, the Real Estate Office and the Regional Planning Office. The executive deputies (both with statistical qualification) have taken part in the work connected with the survey ever since the preparations were made in 1958 and at times they have been assisted by a very large office staff.

The appropriation for the survey amounted to 325 000 kronor of which 75 000 kronor was contributed by the Statistical Office, the Tramways Corporation and the Real Estate Board respectively and 100 000 kronor by the Regional Planning Union. In reality, however there was an additional cost in the salaries of certain permanent staff who were lent for the period of the survey. The sum involved cannot be estimated exactly, partly because all the work is not yet complete. As regards the distribution of the costs, 180 000 kronor was absorbed by the field work and 12 000 kronor by the printing of the interview questionnaires. The rest of the funds have been used for salaries, the rental of machines and miscellaneous material, i.e. mainly work that could be classified, such as the drawing of the sample, coding, punch-carding and the statistical processing.

In the printed report, which it was intended to issue, both this survey and the main findings of the 1955 survey were to be published. Stenciled reports, mainly intended for internal use, have been issued.

TURKEY^{19/}

Survey of housing conditions in Turkey

1. Time reference: 1960
2. By whom conducted: Central Statistical Office
3. Purpose: The survey was carried out in order to study the housing conditions in 20 cities.
4. Coverage: The survey covered only normal dwellings in the 20 selected cities and, therefore, excluded hospitals and other institutions, boarding houses and dormitories, military quarters and others.
5. Housing information collected:
 - Number of dwelling units, total occupied and vacant
 - Number of households
 - Number of inhabitants
 - Number employed
 - Rent of rented dwelling unit
 - Occupied dwelling units, total
 - Separate for 1 family
 - Attached for 1 family
 - Apartment created in a house
 - Apartment in regular apartment house
 - With kitchen - separate, shared
 - Without kitchen
 - With or without bathroom
 - With running water
 - Toilet - connected to sewer collection by city
 - other
 - With or without electricity
 - With or without gas
 - Heat - central, stove, other
 - State of dwelling unit (condition for living) - good, medium, bad

^{19/} See Annex II N° 12 and information received from the Central Statistical Office, Turkey.

Suitability of building for habitation

Good (built for dwelling unit, with running water, gas, electricity)

Medium (lacking some essentials of standard dwelling)

Badly suited for dwelling unit

Tenure - owned, rented, other

Transportation used by head of household - walk, bus, train, other

Number of rooms in dwelling unit

Construction area of dwelling unit (square metres)

Number of people in the household regularly employed

Size of household

6. Method employed: In each of the 20 cities, a sample of addresses was selected, replicated in two independent sub-samples. The steps involved in the selection of addresses were as follows: the city was divided into three practically geographical strata, namely, business area, regular residential area and irregular complex areas. The method of selection of the sample described below indicates that the sample number allocated to each stratum was approximately proportional to the number of addresses in the stratum. A list of areas (hereinafter called "blocks") was prepared for the whole city within each stratum, using maps or other records and creating artificial boundaries where necessary. A number of sampling units of intended size of 8 dwelling units each was ascribed to each block (the intended size being determined as optimum by minimizing variance, given cost, of the estimate of some important characteristic of dwelling units, the variance involving between and within block components) and cumulated block by block giving a serial number to every sampling unit. For this purpose, a rough count of the number of dwelling units in each block, determined by judgement, aided if time permitted by a quick trip into the territory, was considered adequate since the inaccuracy of the rough count would not lead to bias in the final results except that the standard errors might be exaggerated. Further, a sampling table in two sub-samples was prepared with zoning interval Z where $Z = N/150$, N being the total number of dwelling units in the frame and 150 the number of sampling units desired

/in each

in each sub-sample. (The desired number of blocks in the sample was 300, computed on the basis of predicted variances between and within blocks and the precision required. The number of blocks intended for each sub-sample was accordingly 150). For obtaining sub-sample 1, a random number was used to select a sampling unit within a zone and for sub-sample 2, a second random number was used (which could be a duplicate of the first number) within the same zone. A list was made of the blocks to which the selected sampling units belonged showing for each block the random number and the sub-sample. A list of addresses was prepared by the interviewers visiting each sample block so that no address should contain more than three dwelling units. The additional dwelling units at an address were listed separately and a random number given or description made for any address without a number. Further, using random numbers, one address in every successive m addresses was selected where m is the number of sampling units shown for the block based on the rough count made in the beginning. This drawing was repeated without replacement, for every random number (relating to the sampling unit) that fell in the block. The sub-sample was designated for every set of drawings. Interviews were carried out in the dwelling unit at the selected address and in every dwelling unit between this address and the next address (using the idea of a half-open interval). Definitions of the characteristics of dwelling units followed the recommendations of the United Nations (See General Principles for a Housing Census, Series M, No 28, 1958).

The non-response rate was very small. The refusal rate was practically zero. About 92 per cent of the first calls were effective. Two call-backs reduced the non-response, in most cities, to a mere 3 or 4 dwelling units.

Estimates were computed for a number of characteristics, for example, occupied dwelling units, with kitchen, without kitchen, with bathroom, without bathroom, with running water, without running water, with electricity, without electricity, owned by occupants, not owned by occupants, and others. Coefficients of variation, were computed by

the use of the two sub-samples. The calculation was exceedingly simple and rapid, although there was only one degree of freedom for the standard error. However, the pooled variance from the three strata has nearly 3 degrees of freedom if the three strata are not greatly different. The proportions were estimated by employing the ratio method of estimation and, here again, the estimate of coefficients of variation was extremely simple. The estimates of standard errors were observed to be small in most cases. In addition, the two sub-samples were used to detect certain non-sampling errors, for example, in one of the cities where the two sub-samples differed widely in rent, investigation disclosed the omission of some figures from one sub-sample.

Plans for the survey commenced in March 1960. Field work started in Ankara in July and the results, including standard errors, were available by August. The results for the last city surveyed were ready by January 1961. Field work took place in several cities simultaneously. Interviewers were local people, mostly school teachers. Special training courses, including field demonstrations, had been taken at Ankara by the team which conducted the training of field workers.

REPUBLIC OF VIET-NAM^{20/}

Demographic Enquiries in Viet-Nam

1. Time reference: A series of demographic surveys were conducted between June 1958 and January 1959, which were the first among those planned to be carried out in the main towns and in numerous villages of the country. The first of these surveys was undertaken in Saigon during June and July 1958. Other surveys were conducted in Hué in August, in the suburbs of Saigon in November, in Cànthà during December 1958, in Nhatrang during December 1958 and January 1959 and in Dalat at the end of January 1959.
2. By whom conducted: The National Institute of Statistics (Institut National de la Statistique).

^{20/} See Annex II Nos. 9 and 12.

3. Purpose: Since no population census was ever taken in the country, these surveys were in the nature of pilot surveys conducted with the dual objective of providing the Government with initial numerical data on the population and its structure, and obtaining information and experience and training personnel for the future census.

4. Coverage: The surveys covered all social classes of the population without distinction residing within the official limits of the Prefecture of Saigon, Hué, Cànthà, Nhatrang and Dalat.

5. Housing information collected: In addition to demographic data, the following housing information was collected:

Location

Use - habitation, professional, mixed

Number of floors

Number of rooms used for habitation

Number of households living in the housing unit

Characteristics:

Type - building

Villa

Compartment en maçonnerie

Walls of wood

Walls of palm leaf

Boat

Others - state

Is there running water in the housing unit

Is there electricity in the housing unit.

6. Method employed: The map of the Prefecture was the only available sampling frame which had to be brought up-to-date and this involved a good deal of preparatory work, namely, visits to a number of districts, the tracing of new streets, the marking of inhabited places, the division of blocks into sub-blocks, and others. A stratified three-stage sample design with uniform sampling fraction was employed for the survey. The entire area was divided into blocks which were completely demarcated by public or private roads. The natural blocks thus obtained

/varied as

varied as regards area. In order to reduce these disparities, small blocks were combined and large blocks divided. Further, those blocks which contained only gardens and public buildings (schools, barracks, hospitals and others) were eliminated. The blocks thus formed were grouped into the following six strata: buildings and villas, middle class dwellings, working class dwellings, premises for commercial use, dwellings in semi-urban sectors and mobile dwellings. Within each stratum, blocks were numbered according to their relation to a moving horizontal line starting from the northern border of the map. The choice of blocks was then made systematically with a random start and a sampling fraction of 1 in 5. Thus, 152 blocks were selected in the sample out of a total of 753. The blocks thus chosen were sub-divided into sub-blocks limited by lanes. In each block, all sub-blocks were numbered according to a spiral moving in a predetermined direction from the outside inwards. The choice of the sub-blocks at the second stage was made systematically within each stratum with a sampling fraction 1 in 2. The number of sub-blocks selected was 605. At the third stage all the addresses of the housing units in the sub-blocks chosen were picked out and numbered. The numbering of the addresses in the sub-blocks was done in the same way as for sub-blocks at the second stage. These addresses were chosen within each stratum systematically with a sampling fraction of 1 in 6. Thus, the over-all sampling fraction was 1 in 60 and 3 148 addresses were selected in the sample.

The interviewers collected information with the help of two types of questionnaires, namely, a household questionnaire and individual questionnaires. The household questionnaire sought information on essential characteristics of premises including address, number of households in the dwelling, type of dwelling, construction material, number of rooms, facilities and others; composition of household; births and deaths and others. The individual questionnaire contained questions on the demographic characteristics of each member of the household including sex, age, marital status and the like, language, literacy, religion and others and for persons over 14 years of age, questions on economic activity, number of days of work during

/the previous

the previous two weeks, reasons for less than 12 days work and others. The results of the survey on demographic characteristics, cultural characteristics such as religion and mother tongue, economic activity and education, have been presented in 16 tables. The coefficient of variation for the total population estimate was 5.5 per cent.

Field work was carried out under the direction of the head of the Census and Survey Branch with the help of two assistant statisticians. There were 24 investigators and two supervisors. Two trial surveys covering 100 households each were conducted in order to test and improve the questionnaire and to train the staff. Checking and coding were done by the staff. The punching and tabulation work were done at the Mechanographic Service of the Directorate General of the Budget. Post survey checks also were made using a sub-sample of addresses which showed that the performance of the investigators was satisfactory.

Other surveys. The demographic surveys in Hué, Cànthà, Nhatrang and Dalat were conducted by using more or less the same stratification as in Saigon except that in most cases there were fewer strata. However, in the suburbs of Saigon the five regional agglomerations practically formed the strata. The sample designs were in two stages with blocks as first-stage units and addresses as second-stage units. The overall sampling fraction was 1 in 30 for all the surveys except in the suburbs of Saigon where it was 1 in 60. The sample consisted of 379 addresses in Hué, 731 in the suburbs of Saigon, 287 in Cànthà, 226 in Nhatrang and 207 in Dalat.

Annex II

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THE
MAYOR
OF
CITY OF
NEW YORK
OFFICE OF THE
MAYOR
100 WALL STREET
NEW YORK, N.Y. 10038

OFFICE OF THE
MAYOR
100 WALL STREET
NEW YORK, N.Y. 10038

OFFICE OF THE
MAYOR
100 WALL STREET
NEW YORK, N.Y. 10038