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SOCIAL AND DEMOGRAPHIC STATISTICS: HOUSING AND RELATED STATISTICS

Status report on and plans for the improvement of housing and related statistics

Report of the Secretary-General

SUMMARY

At its sixteenth session (1970), the Statistical Commission considered a progress report on housing and related statistics and gave high priority to work on the compilation and publication of housing statistics. The present document summarizes the progress attained during the 1970s as well as the emerging uses of and statistical requirements for analysis, forecasting, formulation and implementation of human settlements policies and programmes.

The report also presents several proposals to enhance the present status of the field. These are, inter alia, improvement of current housing statistics, work on methodology of forecasting housing needs at the national and subnational levels to aid in planning, organization of seminars to assess user requirements and to promote effective utilization of housing census statistics and development of a multidisciplinary training programme to create a cadre of trained personnel which can improve the collection and evaluation of statistics needed for the formulation of effective human settlements policies and programmes. Points for discussion by the Commission are included (para. 63).

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INTRODUCTION

- 1. At its sixteenth session (1970), the Statistical Commission considered a progress report on housing and related statistics (E/CN.3/413/Add.1) and assigned high priority to work on the compilation and publication of housing statistics. 1/The Commission also urged the improvement of national and international statistics on housing together with the exchange of information on problems of methods and applications in this field. 2/ Pursuant to these decisions, the Compendium of Housing Statistics, 1971 3/ was prepared by the Statistical Office with the assistance of the Population Division and in co-operation with the then Centre for Housing, Building and Planning, and published in 1974. This Compendium was also intended to meet the statistical needs of the report on the World Housing Survey requested in General Assembly resolution 2598 (XXIV) of 16 December 1969.
- 2. Work on the collection of international housing statistics was, inter alia, given priority and continued in the subsequent years. As a result, the Compendium of Housing Statistics, 1972-1974 4/ was published in 1976 and the Compendium of Housing Statistics, 1975-1977 5/ is being printed for release in 1980. In addition, work had been directed towards the 1980 World Population and Housing Census Programme. 6/
- 3. During the period covered by the present report, world conferences were held on population, food, environment and human settlements. Discussions held in these conferences focused not only on the problems characteristic of these fields but also drew significant attention to the interrelations among the various factors, particularly, population, resources, environment, human settlements and development. Efforts, therefore, to understand the interrelations of the various factors of development as well as to seek an integrated approach to development will intensify in the future. Corresponding to these new perceptions governing development strategy, the statistical needs of communities and countries are and will undergo important changes, both in quantitative and qualitative terms, reflecting a multidisciplinary approach to the collection and dissemination of statistics.
- 4. HABITAT: the United Nations Conference on Human Settlements, which was held in the period under review, adopted a number of recommendations on human settlement

^{1/} Official Records of the Economic and Social Council, Fiftieth Session, Supplement No. 2 (E/4938), para. 115, projects 27, 29, 30 and 32.

^{2/ &}lt;u>Ibid.</u>, para. 114 (10) (c).

^{3/} United Nations publication, Sales No. E/F.73.XVII.4.

^{4/} United Nations publication, Sales No. E/F.75.XVII.12.

^{5/} United Nations publication, Sales No. E/F.80.XVII.4 (in press).

^{6/} The 1980 Census Programme was considered by the Statistical Commission at its eighteenth, nineteenth and twentieth sessions. See "Draft principles and recommendations for population and housing censuses" (E/CN.3/515 and Add.1-Add.3).

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problems and the quality of life. These pertained to the six subject areas of the HABITAT Conference: (a) settlement policies and strategies; (b) settlement planning; (c) shelter, infrastructure and services; (d) land; (e) public participation; and (f) institutions and management. 7/ Implementation of these recommendations will require a vast body of information which few countries may now possess. Therefore, the present status as well as planned improvements in housing and related statistics assume great importance in the formulation and implementation of national human settlements policies and programmes in one or more of the six subject areas of the HABITAT Conference.

5. Against this background, the present report assesses the status of work on housing and related statistics and outlines plans to meet emerging needs for statistics. It summarizes the evolution of the present programme covering collection, compilation and methodological developments, identifies major uses and needs of housing and related statistics, describes the links with a number of related areas of statistics and outlines proposals for further work.

I. EVOLUTION OF THE PRESENT PROGRAMME ON HOUSING AND RELATED STATISTICS

6. The present programme contains two components: (a) collection and compilation of housing and related statistics, and (b) methodological studies and guidelines. The second component consists, inter alia, of conducting surveys of national practices concerning concepts, definitions, classifications, tabulations and dissemination of statistics and establishing international standards for improvement and comparability of data.

A. Collection and compilation of statistics

1. Compendium of Housing Statistics

- 7. As recommended by the Commission, 8/ a Compendium of Housing Statistics, 1971 was published presenting data on housing stock and characteristics that were available from the censuses. Although the bulk of data contained in the Compendium was taken from the national censuses, other data that had a bearing on the housing situation were also included in order to give a better understanding of the housing situation. These included information on population trends including projections, dwelling construction, the cost of housing and capital formation in housing.
- 8. The second issue of the <u>Compendium</u> contained updated versions incorporating information received during the period 1972-1974 of all of the tables included in

^{7/} Report of HABITAT: United Nations Conference on Human Settlements, Vancouver, 31 May-11 June 1976 (United Nations publication, Sales No. E.76.IV.7).

 $[\]underline{8}/$ Official Records of the Economic and Social Council, Fiftieth Session, Supplement No. 2 (E/4938), para. 115 (32).

the first publication. However, in some tables, changes were made in the geographic breakdown and, in some, additions to the content were made. The geographic breakdown represented urban and rural categories whereas only totals were published in the first issue or occasionally a distribution by size of urban agglomerations. The tables also included such derived measures as the average size of household or of dwelling. A new table presented population estimates and projections, at 10-year intervals, through the year 2000.

9. The third issue, now in press, contains updated versions of the tables previously presented. However, some series on population estimates and projections which appeared in the previous two issues, were dropped in favour of retaining and expanding population data more directly relevant to users. At the same time, three new tables were added to meet the emerging user requirements in the field. These include tables on water supply system, toilet facilities and electricity for population in urban agglomerations; land use in urban agglomerations; and environmental pollution (i.e., information on measurement and control activities related to air, water and noise pollution in urban agglomerations). Some of the material used in two of these tables was obtained from the questionnaires used by the International Statistical Institute for collecting data on large towns. The list of tables contained in the third issue is given in annex I of the present document.

2. Statistics on human settlements

10. As noted above, the HABITAT Conference was an important milestone in the seventies. The Statistical Office actively collaborated in the technical work of this Conference and prepared the Statistical Annex to the Global Review of Human Settlements, 9/ which served as a valuable reference document for participants in the Conference as well as for others working in the field of human settlements. In addition to the Annex, the Statistical Office prepared two papers as part of its contribution to the Conference. These were summaries of urban planning projects, one at Calcutta, India, and the other in Venezuela, demonstrating the manner in which housing statistics were used in the planning process. 10/ The data in the Annex were extracted from the Compendium of Housing Statistics, 1972-1974 and covered additional items in order to focus on selected aspects of human settlements. These new items were: urban land use, additional information on infrastructure and housing facilities and environmental pollution. Following this expanded demand for statistics, these new items were also included in the Compendium of Housing Statistics, 1975-1977. 11/

^{9/} United Nations Conference on Human Settlements, Vancouver, 31 May-11 June 1976, A/Conf.70/A/1/1 Add.1 (Oxford: Pergamon Press, 1976).

^{10/ &}quot;Basic development plan for the Calcutta Metropolitan District, 1966-1986; summary of a plan issued by the Calcutta Metropolitan Planning Organisation, Government of West Bengal, 1966" and "Phenomenon of urbanization in Venezuela; summary of a preliminary report issued by the Centre for Development Studies (CENDES), Central University of Venezuela". Both summaries are unpublished.

^{11/} United Nations publication, Sales No. E/F.80.XVII.4 (in press).

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ll. Two points, however, need to be stressed with respect to the experience so far in the collection of international statistics on housing and related factors and more recently those pertaining to human settlements. First, since the data in the aforementioned publications were derived from many different sources and were the product of various systems of data collection, adequate caution should be applied with respect to comparability and consistency between and among the arrays of national data, let alone the subnational statistics. Secondly, it should also be underscored that, although the data provided an opportunity for insights into the conditions and problems in human settlements and a basis for preliminary comparison among countries or areas of the world, the validity of such comparison was limited in some cases by the small number of countries or areas for which data were available. The inadequacy of data, on the one hand, and the lack of comparability among available series, on the other, point to the urgency of making national and international efforts to further improve the data.

B. Methodological studies and guidelines

- 12. During the period under review, the methodological research and developments were mainly focused on the 1980 World Housing Census Programme and on relevant concepts, classifications and data requirements in connexion with the development of social indicators as well as work on the framework for integration of social and demographic statistics (FSDS). 12/ The Statistical Commission at its twentieth session adopted the draft principles and recommendations for population and housing censuses contained in documents E/CN.3/515 and Add.1-3, modified in accordance with its discussions and conclusions. These documents were revised and are now in press as a single volume entitled Principles and Recommendations for Population and Housing Censuses (ST/ESA/STAT/SER.M/67).
- 13. In its discussion of the 1980 recommendations, the Statistical Commission "stressed that a population and housing census should not be viewed as an isolated statistical activity but rather should be conceived as one element of an integrated statistical system that included household sample surveys as well as statistics obtained from administrative sources". 13/ It also urged that population and housing censuses be carried out simultaneously. 14/ This will not only have many practical advantages but also make it possible to produce integrated series of population and housing statistics to accord with the emerging multidisciplinary approach and data requirements.

^{12/} For details, see Social Indicators: Preliminary Guidelines and Illustrative Series (United Nations publication, Sales No. E.78.XVII.8); Studies in the Integration of Social Statistics: Technical Report (United Nations publication, Sales No. E.79.XVII.4); and Improving Social Statistics in Developing Countries: Conceptual Framework and Methods (United Nations publication, Sales No. E.79.XVII.12).

 $[\]underline{13}/\underline{0}$ fficial Records of the Economic and Social Council, 1979, Supplement No. 3 (E/1979/23), para. 95.

^{14/} Ibid., para. 97 (k).

14. Table 1 summarizes information on housing censuses for each region on (a) the number of countries or areas which have already taken a housing census between 1975 and 1979, and (b) the plans of other countries for a housing census. For comparison, the number of countries or areas which took a census during the 1965-1974 and 1955-1964 world census decades, is also shown. Information available as of 1 January 1980 indicates that the 1980 round of housing censuses will include 114 countries or areas and, on the assumption that countries or areas which took a census during 1965-1974 would also do so during 1975-1984, it may be anticipated that census housing statistics will be available for about the same (or a slightly higher) number of countries as during the 1970 round. What is noteworthy, however, is that the housing data will be available from at least two censuses for many countries, thus making it possible to analyse the changes in housing conditions over time.

II. MAJOR USES AND NEEDS FOR HOUSING AND RELATED STATISTICS

- 15. There are many uses of housing and related statistics. Instead of listing all of them here, it may be helpful to categorize the various uses into a few important groups and to discuss the types of information required with a view to assessing the present status of the field and exploring possible ways to improve housing and related statistics. It is also important to take into account the future requirements for data in this field. Accordingly, the numerous uses are discussed under the following three principal categories: (a) uses in housing analyses and studies; (b) uses in estimates and projections of housing needs or requirements; and (c) uses in formulation and implementation of human settlements policies and programmes.
- 16. In addition to the foregoing categories, recent socio-economic trends, particularly in the developing countries, underscore the need for special programmes which also merit ample attention in respect of their statistical requirements. These programmes are rural settlements and policies, slums and squatter settlements and housing conditions and environment.

A. Uses in housing analyses and studies

- 17. Broadly speaking, housing data are useful to assess housing conditions both in quantitative and qualitative terms and to analyse the socio-economic factors affecting the past and present trends in the housing situation. The housing census is the main source and sometimes the only available source which provides insights into the problem. Measurement of changes during the intercensal period are not possible if countries do not have reliable current housing statistics or conduct annual housing surveys. Comparison of information from successive housing censuses can, however, provide changes over time in the housing situation as well as show the effects of housing programmes and of socio-economic development.
- 18. Unfortunately, it appears that few national studies or monographs were completed based on the data from the 1970 round of housing censuses. It is not clear whether the dearth of studies is due to an inadequacy of current housing and

Table 1. Number of countries or areas which have taken at least one housing census during the periods 1955-1964, 1965-1974 and 1975-1979, and plans for 1980-1984

(as of 1 January 1980)

		1975-1984							
		At least one census taken or definitely planned			Intention	No -	1955-1964	1965-1974	
	Contin e nt	Total number of countries or areas	Total	Census taken (1975-1979)	Intention to take a census indicated a/	to take a census assumed but not indicated a/	present plans for a census <u>b</u> /	At least one census taken	At least one census taken
То	tal	213	114	43	71	31	68	137	143
	Africa .	55	1 5	7	8	7	33	21	22
	America, North	35	30	2	28	3	2	32	33
	America, South .	14	9	2	7	l t	1	13	12
	Asia	43	27	13	14	2	14	21	26
	Europe .	37	23	10-	13	11	3	34	34
	Oceania .	28	10	9	1	Ţŧ	14	15	16
	USSR	ı	-	-	-	-	1	1	

a/ Excluding countries which have already taken a census during the period 1975-1979.

b/ Including countries or areas for which no information was received.

related complementary statistics or a lack of resources, including trained personnel to analyse the data.

19. Housing statistics and studies also have many international uses. More and more, a global solution to the problems of mankind is sought in as much as the nations and their economies have become increasingly interdependent. A case in point is the increasing concern of the international community with human settlements problems, as exemplified in General Assembly resolution 34/114 of 14 December 1979, that called for a "Global report on human settlements" every five years. Compilations of world housing and related statistics are also useful in the technical co-operation activities of the United Nations and other international organizations, aimed at improving the housing situation.

B. <u>Uses in estimates and projections of housing requirements</u>

- 20. Estimates and projections of population, labour force, housing, consumption, investment etc. are prerequisites for the formulation of national plans and programmes. The lack of adequate housing and related statistics as well as of in-depth studies has frequently been a serious constraint on formulating national plans. It is often important to establish priorities and to choose between alternative "scenarios" which require reasonable sets of projections of housing demand and supply based on an appropriate data set.
- In considering present housing requirements, data from recent censuses or surveys of housing are used as a benchmark and an allowance is made on the basis of either the rate of increase of population or, if feasible, the rate of growth of housing stock observed during the preceding intercensal period. This crude approach is owing to the present state of the art of forecasting, which in turn reflects the existing deficiencies in the available data base and the limited research and knowledge concerning the housing situation and the factors affecting it. Moreover, crude estimates of housing requirements are sometimes not deemed to be serious pitfalls in the context of a general housing shortage. But this view is changing as the treatment of housing as an endogenous factor of economic and social plan becomes widespread. This shift in approach and the formulation of long-term plans will need sophisticated projections of housing requirements. The increased demand for housing projections, even those made by conventional techniques, will require more information in the nature of flow statistics obtained through a system of current housing statistics, housing surveys or housing registers. Until recently, housing requirements were considered principally in quantitative terms but now the qualitative aspects such as housing standards, types, facilities, environment and so on are beginning to be stressed.
- 22. In the conventional approach, housing requirements may be arrived at by estimating the following components: (a) the future increase in the number of households, (b) the losses from the housing stock through demolition, deterioration etc., (c) the trend towards a reduction in density of occupancy and (d) the extent of reduction or increase in housing units through repairs and conversions to the existing housing stock. Adequate information concerning

the losses from housing stock is generally lacking. Inferences can, however, be drawn if statistics on the age of buildings can be obtained from housing censuses or other sources. Estimation of the remaining components requires comprehensive population and family statistics, administrative statistics concerning the number of permits issued for conversions, repairs etc. An additional problem that must be dealt with is changes in the housing stock arising from activities in the informal sector.

- 23. The emerging new concepts of housing requirements will entail an expanded data base and projections by types of dwellings, size of family, number of rooms, housing cost and so on. Likewise, data on improvements in the existing housing stock (e.g. quality of roof, walls, foundation and similar characteristics) will be needed even more in the future. Since not all information on the quality of housing stock can be collected in a housing census, other sources such as special housing surveys must be developed to serve the need for more extensive and detailed information pertaining to housing quality.
- In the developed countries, the study of housing requirements assumes new perspective in the light of striking differences in demographic trends, notably the aging of population and the changing life style. Most countries have reached a balance between housing needs and housing supply and, as a result, housing requirements should be forecast on a more sophisticated basis using a variety of data and housing models. Housing requirements should also be carefully worked out by size, type and geographical regions so that there is no surplus in the housing market, or a high vacancy rate. Indeed, the study of housing requirements, besides combining quantitative and qualitative aspects, is no longer approached in terms of a single most probable series of housing requirements. Instead, as indicated in paragraph 20 above, the perspective on housing requirements is considered in terms of "scenarios". Under this approach, each "scenario" rests upon a number of factors having a direct impact on housing stock, both in its quantitative and qualitative aspects. The housing data base for such uses should include not only information on changes in the housing situation but also information on the factors of change that have an impact, although of a varying degree of importance, on the housing situation in a country.

C. <u>Uses in formulation and implementation of human</u> settlements policies and programmes

25. Traditionally, housing policy was conceived as a response to market forces and was directed towards balancing the demand for housing with the supply of housing or, at least, narrowing the gap between demand and supply (that is, the "housing gap"). Even in this traditional view of housing policies and programmes, increasing attention was given to tastes of families in housing in terms of number of rooms, location and access to community facilities (e.g., parks, clubs, recreational centres), infrastructures and services (e.g., mass transport, electricity, gas, water) and institutions (e.g., schools, religious institutions). In a similar way, even though at the national level, housing policies and programmes were concerned principally with rapid urbanization, big cities and urban agglomerations, increasing attention was also given to such issues as the

deterioration of the urban environment, air pollution, congestion, squatter settlements, shortage of land for housing, needed infrastructure, lack of open spaces and the encroachment of cities on fertile agricultural land. 15/

- 26. During the early 1970s there was a growing recognition that housing policies and programmes could not proceed in isolation, but were necessarily part of a broader and more systematic approach to human settlements as well as the entire process of development. Indeed, this new outlook served as the unifying theme of the 1976 HABITAT Conference. As mentioned in paragraph 4 above, the Conference specified six broad areas for national action: (a) settlement policies and strategies; (b) settlement planning; (c) shelter, infrastructure and services; (d) land; (e) public participation and (f) institutions and management.
- 27. Some further idea of the nature and breadth of this new perspective may be gained by noting the 18 issues on which the Conference made recommendations in the single area of shelter, infrastructure and services (the area which corresponds most closely to the traditional view of housing). These are: (i) comprehensive approach to shelter, infrastructure and services; (ii) shelter, infrastructure and services as tools of development; (iii) standards for shelter, infrastructure and services; (iv) designs and technologies for shelter, infrastructure and services; (v) energy; (vi) long-term cost of shelter, infrastructure and services; (vii) national construction industry; (viii) construction by the informal sector; (ix) national housing policies; (x) aided self-help; (xi) infrastructure policy; (xii) water supply and waste disposal; (xiii) waste management and prevention of pollution; (xiv) transportation and communication; (xv) social services; (xvi) services for rural areas; (xvii) reorganization of spontaneous urban settlements; and (xviii) recreation. 16/
- 28. From the above and the full report of the HABITAT Conference, it is clear that the statistics needed for a complete assessment of all aspects of the human settlements field requires a wide variety of data that would, in other contexts, be characterized as social, economic, demographic or environment statistics. In such a context, data on housing are enriched, in many important ways, by being used in close conjunction with data from almost every other field of statistics. For example, the Conference recommended that "all countries should establish as a matter of urgency a national policy on human settlements, embodying the distribution of population, and related economic and social activities, over the national territory". 17/ Such a policy formulation will require a comprehensive

^{15/} See Report of the Seminar on Housing Statistics and Programmes for Asia and the Far East, Copenhagen, 25 August-14 September 1963 (United Nations publication, Sales No. 65.II.F.12); Report of the Seminar on Housing Statistics and Programmes for Africa, Copenhagen, 31 August-15 September 1966, (United Nations publication, Sales No. E.68.II.K.7); and Report of the Latin American Seminar on Housing Statistics and Programmes, Copenhagen, 2-25 September 1962 (United Nations publication, Sales No. 63.II.G.14).

^{16/}Report of HABITAT: United Nations Conference on Human Settlements, Vancouver, 31 May-11 June 1976 (United Nations publication, Sales No. E.76.IV.7), recommendations C.1-18.

^{17/} Ibid., recommendation A.1 (b).

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data base and a critical assessment of human settlements, particularly the housing stock and housing needs, the emerging trends and the impact of past programmes.

- 29. Similarly, the Conference recommended that "a national policy for human settlements and the environment should be an integral part of any national economic and social development policy". 18/ Such an integrated human settlements policy will need a data base that is not only comprehensive but also integrated appropriately with statistics on relevant economic and social factors of development.
- 30. Hevertheless, the very breadth of the approach to human settlements adopted at the HABITAT Conference requires some selection of key issues and concerns, just as the Conference recognized that "a national human settlements policy should concentrate on key issues and provide basic directions for action". 19/ Since one may expect some variations over time and among countries and regions in what aspects of human settlements are identified to be of critical importance, one may expect parallel variations in the content of housing and related statistics and in how these statistics are used in human settlements plans and programmes.
- 31. In this connexion, examples from recent work on human settlements by the Economic Commission for Europe (ECE) secretariat and the ECE Committee on Housing, Building and Planning may be cited. At the fortieth session of the Committee (10-14 September 1979) under the agenda item entitled "Current trends and policies in the field of human settlements", two documents were considered. One had as addenda a series of three analytical reports dealing with "Socio-economic aspects of housing policy", "Construction and building materials" and "Urban and regional physical planning", prepared by the secretariat on the basis of country monographs submitted to the Committee at its September 1978 session. 20/
- 32. The report on "Socio-economic aspects of housing policy" covered the following major issues: (a) problems and government policies; (b) main categories of investors; (c) housing finance; (d) cost of housing in relation to household earnings; (e) developments in quality of housing; (f) management, maintenance and improvement; (g) housing for specific population groups; (h) results achieved in the field of housing and (i) prospects. 21/ The outlines of the other two analytical reports are less detailed and so do not give as clear an indication of the kinds of data required.
- 33. The other document considered by the Committee under this agenda item was a note by the secretariat reviewing the work of the Committee in assessing human settlements trends and policies and containing proposals for future work in this area. 22/ Some indication of the important role that housing and related

^{18/} Ibid., recommendation A.2 (b).

^{19/} Ibid., recommendation A.3 (b).

^{20/} See HBP/R.114/Add.1-3.

^{21/} HBP/R.114/Add.1.

^{22/} HBP/R.115.

statistics will play in future work in the ECE region is given in the "Draft outline for country monographs on current trends and policies in the field of human settlements" that was approved by the Committee at its fortieth session; 23/ it is reproduced in annex II to the present document.

34. Naturally, there will be some variation among the regions of the world in the specific points of emphasis, but it should be clear from the present discussion that housing and related statistics form a body of data of central importance to those engaged in human settlements planning and programmes.

III. COMPLEMENTARITY AND INTERRELATIONSHIP WITH OTHER AREAS OF STATISTICS

35. From the discussion in section II above, of the uses and usefulness of housing statistics, it is clear that statistics from several related areas need to be utilized in an integrated manner to analyse in depth the housing situation and to formulate housing and human settlements policies and programmes. What are the statistics needed for enhanced usefulness of housing and related statistics? In a sense, the full range of statistics needed cannot be finalized at this juncture and must indeed await: (a) further studies of factors affecting housing conditions and (b) a synthesis of national experiences concerning the interrelations among the various socio-economic factors and the housing sector and the evolving consensus as to which areas in the human settlements field countries wish to attach priority attention. The present knowledge on these aspects is limited, as the new integrated approach is of recent vintage. Nevertheless, the more obvious among the related areas of statistics are briefly discussed below with a view to appraise their links in an effort to further improve statistics for integrated analysis and planning uses.

A. Demographic statistics

36. Demographic factors (or statistics) are in many ways directly interrelated to housing trends. Nationally, the size, composition and distribution of population influence significantly the housing conditions and requirements over time and by subdivisions of a country. The important demographic statistics and indicators needed for housing assessment and planning are population estimates and projections; international and internal migration statistics, including rural, urban and return migration; information on marriage trends and family (or household) formations; on family (or household) size; on household headship rates; on joint family, dissolution of family and household; single family (or household) and so on. In short, the demographic factors are the principal determinants of the quantitative dimensions of housing stock and needs of countries.

^{23/} ECE/HBP/28.

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- 37. In a number of developing countries, the demographic statistics required for housing studies and planning are fairly developed or are being improved at the national level. Below the national level, however, the demographic series needed for housing planning cease to be adequate and reliable. Considering that the housing phenomenon is local in character and that, unlike human beings, dwelling units are usually immobile, the housing planning at the subnational level is seriously hampered by the inadequacy of reliable small-area demographic statistics and projections. However, in the developed countries, the demographic factors and their impact on housing will be rather qualitative in nature, stemming from the slowdown of population growth, the changing life style leading to a rise in single-family households and the increase in households headed by the elderly and widowed. Furthermore, there is a growing demand in some countries and regions for secondary and vacation homes. These aspects, which require a detailed analysis and data base, will have substantial implications for housing sectors in terms of building activities, character and type of dwelling units, including construction or renovation required, vacancy rates, location or site of housing and so on.
- 38. Finally, a factor of immense significance for both the developed and an increasing number of developing countries is international migration, particularly the short-term flow with its fluctuating or seasonal impact on housing requirements in large cities. A related factor of equal or perhaps even greater significance for almost all countries is tourism and its competition with available resources and capital for the housing sector. Statistics on these factors are very inadequate in most countries.

B. Construction statistics

- 39. Another directly related field is that of construction statistics. While the demographic trends govern, by and large, the demand for housing and help formulate the housing policy, the construction statistics indicate the supply situation and the extent of implementation of housing programmes. The balance, as noted in paragraph 25 above, provides an estimate of the "housing gap". Another useful series is the cost of constructing a dwelling, which will determine the number of new units that may be added to the housing stock per year given the availability or allocation of capital and other resources to the housing sector.
- 40. Further, national housing policies and programmes may promote popular participation through direct loans or subsidies to families as an alternative to building by contractors. This programme will not only entail an economy but also increase the supply at a faster rate than if reliance were placed solely on housing contractors and the organized sector of the building industry. Thus construction statistics for the non-organized sector could become more significant in the future should housing policy be increasingly used to better living conditions, particularly of low-income families capable of self-help and of participation in building their own houses.
- 41. In addition to the building of housing units, the construction of basic facilities such as roads, sewage, water supply etc. has a bearing on housing programmes. In urban areas, land development cost is an important element of

housing policy concerning the type of urban settlements, i.e., multi-storied buildings, rooms per dwelling and so on. Construction statistics are also useful to evaluate the standards of housing, including materials used and built-in devices to save energy. Data on the aforementioned aspects are complementary to housing statistics but their availability depends on the systematization of concepts and collection procedures followed by the various administrative departments and private construction groups.

C. Land-use statistics

42. Data on land use, particularly trends in build-on areas and other land (unused), are important for housing planning. Of serious concern in urban housing planning are the increasing encroachment on fertile agricultural land, on the one hand, and the adequacy of open space (parks, gardens, playgrounds etc.), on the other. Further, as planning for the better use of space is steadily extended to rural as well as urban areas, it is important not only to obtain statistics on a geographical basis but to be able to integrate data on land use with housing and related statistics as part of a broad approach to human settlements.

D. Energy statistics

- 43. The demand for, and supply of, energy in all its forms assumes critical importance in the economic planning and programmes of all countries. The supply of energy is essential for many purposes, for example, heating, lighting and cooking. In the developing countries, the average household consumption of energy is now far less than in the developed countries. Improvement in housing conditions in the future may mean an increased demand for energy in many developing countries. Energy statistics will therefore be in great demand for purposes of allocation among competing sectors (housing, agriculture, industry etc.) at the national and regional levels, and for forecasting the energy requirements of the housing sector.
- 44. The significance of energy statistics to the entire human settlements field will perhaps become even greater in the developed countries in the future. The pattern of settlements that had been based on low-cost energy may be affected by the energy situation and infrastructure costs. Energy impact may in these countries give rise ultimately to a new settlement pattern and dwelling preferences that may be carefully taken into account in future housing programmes. Statistics on energy may need to be co-ordinated with those on housing in the light of prospective national energy policies and programmes.

E. Economic statistics

45. To apply the concept of integrated planning, several series of economic statistics relating to housing activities are necessary. As the concept is steadily introduced in the planning process, the scope and nature of related economic data requirements will become evident. Nevertheless, on the basis of existing knowledge, the following areas may be identified as closely relevant to

housing planning and programmes: (a) system of national accounts (gross domestic product, fixed capital formation, investment in housing, input-output tables); (b) price statistics (prices of building materials etc.); (c) trade statistics (imports and exports of building materials, interregional trade); (d) wage and labour statistics (salaries of construction workers etc.); (e) financial and banking statistics (mortgage loans, interest, terms and costs of loans etc.); and (f) income and expenditure statistics (per capita income, household income and expenditure for housing and transport etc.).

- 46. Under a system of integrated planning, the formulation of housing policies should depend on the share of housing in the total resources. In this respect, national accounts data are essential to draw up a careful housing programme and to be aware of other sectoral and general economic trends. This implies a need for close co-ordination between national accounts statistics and the basic statistics regularly collected as part of a national housing statistics programme from the point of view of integrated planning requirements. It may also be necessary to have additional information for understanding the interrelationships between housing programmes and other activities. For example, investment decisions in housing may require supplementary information on outlays directed to infrastructure projects (water supply, drainage, electricity and roads) and community facilities (schools, health and marketing centres etc.).
- 47. In addition to finance and provision of essential services, the availability of local materials and labour will have a vital impact on the size of housing programmes and on the type or standard of housing units that can be built. Housing programmes can also influence the employment situation (particularly rural under-employment) and national income. Statistics on these related aspects will become increasingly important as national housing policies in the developing countries begin to focus on the rural sector in particular and as housing policies are widely used to promote economic and social development.

F. Environment statistics

- 48. Work in the field of environment statistics has particular relevance to housing and related statistics. Human settlements is one of the priority topics of concern in the environmental field, particularly among developing countries. As recognized by the HABITAT Conference, a wide variety of environmental and housing issues are closely interrelated in the human settlements field. These interrelationships involve considerations of infrastructure, services, facilities, as well as many of the quantitative and qualitative aspects of rural and urban environments. Moreover, there are a number of aspects of environment statistics involving forms of data that are not routinely obtained by national statistical agencies that are of critical importance to the proper understanding of housing and human settlements policies.
- 49. In view of the close relationship between housing and related statistics and environment statistics, particularly in the context of the broad field of human settlements, the present programme will be developed in close harmony with the

Statistical Office programme on environment statistics (see document E/CN.3/553, also before the Commission). Of special relevance to work on housing and related statistics is a draft technical report on human settlements statistics prepared as part of the Statistical Office environment statistics programme.

IV. PROPOSALS FOR FURTHER WORK

50. In view of the present status of and developments in this field, particularly after the HABITAT Conference, it is proposed that further work be undertaken in the directions of (a) collection and improvement of housing statistics, (b) integration of housing statistics with related data, and (c) development of methodology and new sources of information required for housing analysis, housing projections and models and for planning and policy purposes in the broader area of human settlements. In the above context, the specific proposals for future work are the following:

A. Collection and compilation of statistics

- 51. As indicated in section I above, three issues of the <u>Compendium of Housing Statistics</u> were published, presenting statistics for 1971, 1972-1974 and 1975-1977, respectively. Over these years, the coverage was expanded to include selected statistics that were needed by users for an understanding of some aspects of human settlements problems. As more countries start to collect data on housing and related factors, the <u>Compendium</u> will be more useful for national and international studies and problems and issues of relevance to human settlements policies and programmes.
- 52. Towards this goal, it is proposed to review and revise the questionnaire used to collect information on housing and related statistics from countries, taking into account the statistical requirements of users 24/ and of the "Global report on human settlements" called for in General Assembly resolution 34/114 of 14 December 1979. The revision will be carried out in consultation with the United Nations Centre for Human Settlements (Habitat), regional commissions and other interested organizations. On the basis of the revised questionnaire, statistics will be collected for a statistical compendium covering the years 1978-1980 and for publication in 1981. It is also proposed to publish the compendium at four-year intervals. Consistent with the past evolution of the Compendium of Housing Statistics and the entire field, even greater emphasis will be placed on orienting the future compendium towards meeting the data needs of the human settlements field.

 $^{2\}frac{1}{4}$ / See "The feasibility of undertaking the special studies requested by the Commission at its first session" (HS/C/2/8), 22 February 1979, para. 17; and the report of the Commission on Human Settlements on the work of its second session (Official Records of the General Assembly, Thirty-fourth Session, Supplement No. 8 ($\frac{A}{3^4}$ /8)).

53. There is also a plan to computerize the data files as early as feasible. Since 1962, the housing and related statistics received in the Statistical Office from every country or area in which a housing census or survey was held, have been transcribed manually to data cards. A study of the possibility of computerizing these files was undertaken in 1970. The conclusion was that, due to the relatively small number of data series and to the many units of tabulation involved, it was not advisable to computerize at that time. However, as a result of technology that is now available in the Statistical Office, computerization of the data files and of the production of a compendium now appears to be costeffective.

B. Methodological studies and guidelines

- 54. A gap exists in many countries in respect of the current housing data that are available for forecasting and planning purposes. The main sources of current statistics are housing surveys, housing registers and administrative records. Special housing surveys provide a convenient vehicle for collecting detailed information on the quality of housing and housing facilities. Likewise, information on socio-economic factors of relevance to housing and human settlements patterns (e.g., income of family or household, economic activity, educational level, access to relevant social services etc.) can be obtained through appropriate household surveys. The countries participating in the National Household Survey Capability Programme can use it to collect current statistics of relevance to housing and human settlements policies and programmes (see document E/CN.3/556, also before the Commission).
- 55. Statistics on the number of newly constructed dwellings, conversions etc. provide important information for the proper assessment of the housing field and related issues. Construction statistics are primarily derived from administrative files, such as construction permits and housing registers. Relevant concepts and procedures for the collection of construction statistics are contained in International Recommendations for Construction Statistics 25/ and Construction Statistics; 26/ these have been and are being used by countries. Nevertheless, countries, particularly developing countries, have encountered a number of problems in implementing the recommendations. The problems, particularly in developing countries, are derived from (a) the complexities and peculiar characteristics of the construction industry, (b) the lack of resources in the national statistical offices to expand the scope and coverage and to improve the quality and timeliness of the data gathered in current surveys and (c) the limitations of existing administrative records.
- 56. As a first step in strengthening national capacities to provide intercensal data on housing supply and conditions, it is proposed to carry out a study of national practices on sources, methods of collection, evaluation and uses of

^{25/} United Nations publication, Sales No. E.68.XVII.ll.

^{26/} United Nations publication, Sales No. E.66.XVII.4.

current housing statistics to estimate annual housing supply and the size, location and basic characteristics of housing stock in the intercensal years. The study is expected to result in technical reports on methods of collection and compilation of current housing statistics as well as to serve as the basis for a continuing exchange of information among countries on their uses of housing and related statistics in housing and human settlements policies and programmes. These technical reports would draw, where relevant, on existing guidelines in related fields of statistics.

- 57. In the light of the growing importance of the quality of housing, both at the policy and programme level, a study is proposed to examine the existing data base and potential data sources with a view to aid policy-makers in identifying a set of norms and standards of quality that may correspond to the different levels of living and aspirations of people and to the social goals of a country. Such norms and standards will need to be expressed in quantitative terms in a way that can be used in the assessment of housing conditions or the quality of housing stock, particularly in rural areas, on the one hand, and in programming future housing, on the other. Since housing standards differ from country to country as well as within a country, depending on a variety of factors social, cultural, economic, climate, location and so on any study should take account of these variations.
- 58. A related, but independent, effort involves work on elaborating the component of FSDS dealing with housing and its environment as a continuation of earlier work in this area (see para. 12 above). It is anticipated that this work will lead to one or more technical reports on the organization and contents of a national programme of statistics in this area.
- 59. Finally, there is a proposal for the preparation of a technical report dealing with the methodology of housing forecasting, particularly at the subnational level. New demographic trends and rapid urbanization in the developing countries require careful analysis and necessitate the incorporation of all relevant factors when estimating housing needs over a long term. Although the future may be marked by housing shortages in many developing countries, projections of housing requirements are prerequisites for national and regional planning and programming and, as already emphasized in paragraphs 20-24, projections ought to be prepared on a more sophisticated and regular basis.
- 60. In 1967, the Statistical Office issued a technical manual entitled Methods of Estimating Housing Needs. 27/ Considerable advances in housing forecasting and programming have since been made in the developed countries, but the experience of developing countries in this area is very limited. Therefore, it would be of great assistance to revise the manual by taking into account improvements in data base, methodology and national experience in forecasting for various uses. This proposal should be regarded as a medium-term goal and, subject to available resources, be carried out preferably by a consultant in collaboration with the United Nations Centre for Human Settlements (Habitat), the Population Division, regional commissions and other interested bodies.

^{27/} United Nations publication, Sales No. E.67.XVII.15.

C. Training activities

- 61. A review of this field indicated that the data from censuses or other sources were not fully exploited for analysis and planning purposes. Few countries have carried out in-depth analytical studies or prepared monographs based on housing census data. In the absence of analysis and widespread use of statistics, it is difficult, on the one hand, to assess the quality and usefulness of data and, on the other, to take further steps to improve or develop new sources of information. It is therefore proposed, subject to availability of funds, to organize, in collaboration with the United Nations Centre for Human Settlements (Habitat) and other interested international and national bodies, one or more seminars on utilization of housing census and related statistics for human settlements planning in developing countries. The seminar may focus on rural or urban sectors and deal with some of the following themes: (a) evaluation and quality of housing census and related statistics for human settlements planning, (b) methodology of estimating housing needs, (c) statistical indicators of the quality of housing stock, (d) subject-matter coverage and contents of national compendiums of human settlements statistics, and (e) methodology for collection and improvement of statistics concerning slums and squatter settlements.
- 62. Lastly, a major problem in this area seems the lack of trained personnel to carry out statistical programmes and research. In addition, there is a growing need for a multi-disciplinary training programme in accordance with the new trends in the human settlements field. At present, the specialists in the field have background and training primarily in a single discipline, for example, economics, statistics, civil engineering, architecture, town planning etc. An integrated training programme should be designed and offered at the national and regional statistical training institutes to deal effectively with the emerging issues and statistical requirements in the human settlements field.

V. POINTS FOR DISCUSSION

63. The Commission may wish to:

- (a) Comment on the evolution of the present programme on housing and related statistics (paras. 6-14) in light of the major uses and needs for these statistics (paras. 15-34) and the interrelationships between these statistics and other areas of statistics (paras. 35-49);
- (b) Comment on and endorse the proposals for the further collection and compilation of statistics in this area, including the issuance of a statistical compendium every four years (paras. 51-53); and
- (c) Comment on and endorse the proposals for methodological studies and guidelines (paras. 54-60) and training activities (paras. 61-62).

Annex I

LIST OF TABLES IN THE COMPENDIUM OF HOUSING STATISTICS, 1975-1977 a/

Table number

SUMMARY OF HOUSING CONDITIONS

1. Housing conditions. Population; households; tenure; housing units by occupancy status, size, density of occupation and facilities; dwelling construction; capital formation in residential building construction: country or area, urban and rural, as of two latest available censuses (for data on dwelling construction, years closest to census years; for capital formation, 1971 and 1976)

HOUSING SUPPLY AND DISTRIBUTION OF OCCUPANTS

- 2. Living quarters, households and persons in households by type of living quarters: country or area, urban and rural; two latest available censuses
- 3. Living quarters, households and persons in households by type of living quarters: percentage distribution; country or area, urban and rural; two latest available censuses

SIZE OF HOUSING UNITS

4. Size of housing units. Occupied housing units by average size and number of rooms per housing unit: number and percentage; country or area, urban and rural; two latest available censuses

DENSITY OF OCCUPATION AND TENURE

- 5. Density of occupation. Average number of persons per room in occupied housing units and distribution by level of density; number and percentage; country or area, urban and rural; two latest available censuses
- 6. Tenure of households in housing units and number of housing units per 100 households: number and percentage; country or area, urban and rural; latest available census since 1954

FACILITIES

7. Water supply system and type of toilet in occupied housing units: number and percentage; country or area, urban and rural; two latest available censuses

a/ United Nations publication, Sales No. E/F.80.XVII.4 (in press).

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Table number

- 8. Electric lighting; kitchen or kitchenette and fixed bath or shower in occupied housing units: number and percentage; country or area, urban and rural; two latest available censuses
- 9. Water supply system, toilet facilities and electricity for population occupying housing units in urban agglomerations of 20,000 or more inhabitants by size of agglomerations: country or area, two latest available censuses

DWELLING COMSTRUCTION

- 10. Dwelling construction. Conventional dwellings constructed annually: number and rate per thousand mid-year population; country or area; ten latest years
- 11. Dwelling construction. Conventional dwellings constructed annually by type of investor: country or area; three latest available years since 1970

CAPITAL FORMATION IN HOUSING AND COST OF HOUSING

- 12. Capital formation in housing and cost of housing: value and changes in level; country or area; 1971 and 1976 at constant prices
- 13. Capital formation in housing as a percentage of gross domestic product, fixed capital formation, and total construction; cost of housing as a percentage of private consumption expenditure: country or area; 1971 and 1976 at constant prices

ESTIMATES OF HOUSING NEEDS

14. Housing needs: national estimates; country or area; periods for which data are available

POPULATION AND HOUSEHOLDS

- 15. Households. Number, rate of growth and average size: estimates and projections; medium variant; world, level of development, country or area; 1970-2000
- 16. Households. Average size and distribution by number of persons per household: number and percentage; country or area, urban and rural; latest available census since 1959
- 17. Population in urban areas: percentage; estimates and projections; country or area; 1950-2000
- 18. Population in urban agglomerations of 100,000 inhabitants and over and number of urban agglomerations by size category: estimates and projections; world; level of development and macro-regions; 1950-2000

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Table number

LAND USE

19. Land use. Population density, distribution of land area by use: cities or urban agglomerations; latest year for which data are available

ENVIRONMENTAL POLLUTION

20. Environmental pollution. Information on measurement and control activities by type of pollution (air, water and noise): cities or urban agglomerations with 500,000 or more inhabitants; 1976

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Annex II

DRAFT OUTLINE FOR COUNTRY MONOGRAPHS ON CURRENT TRENDS AND POLICIES IN THE FIELD OF HUMAN SETTLEMENTS a/

General guide-lines

The present outline should be used as a basis for the preparation of country monographs, every second year (even years), and of updating notes in intervening years, which will serve, inter alia, as background documentation for the discussion of current trends and policies at the annual sessions of the Committee on Housing, Building and Planning and its Working Parties.

The national monographs should be prepared in as many as possible of the three ECE working languages (English, French and Russian) and should contain a maximum of 25 to 35 pages of standard size typed text (some 6 to 8 pages for each of the four principal parts). The monographs should concentrate on recent trends and policies. In particular, they should indicate clearly (a) those problems which are most acute and (b) the action taken by public authorities to tackle them. (More general descriptive information is provided separately in country monographs on "The state of the human settlements situation", which are prepared every five years and to which reference can be made as appropriate (project 08.1.3)).

PART I. INTEGRATED SETTLEMENTS POLICIES AND STRATEGIES

- 1. Changes in the institutional framework for the preparation and implementation of human settlements policies.
- 2. Problems and policies related to urbanization and to the distribution of population and of activities in the country (to redress regional imbalances, to limit the growth of metropolitan areas to separate industrial and recreational activities etc.).
- 3. Problems and policies relating to the co-ordination and integration of human settlements policies with over-all national policies and plans relating to economic and social and development and environmental protection.
- 4. Problems and policies relating to the establishment of new towns.
- 5. Problems and policies relating to the extension of existing settlements.
- 6. Problems and policies relating to renewal and rehabilitation of existing settlements.

 $[\]underline{a}$ / HBP/R.115, annex I; adopted by the ECE Committee on Housing, Building and Planning.

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- 7. Problems and policies related to second homes and settlements for tourism and recreational purposes.
- 8. Impact of energy considerations on human settlements policies.
- 9. Measures taken to promote citizen participation in the planning, construction, modernization and management of human settlements.
- 10. Problems and policies relating to research in the field of human settlements.
- 11. Problems and policies relating to education and training in the field of human settlements.

Section B (optional)

12. Information on any other topic of major interest relating to integrated human settlements policies.

Section C (optional)

13. Which of the above-mentioned topics should be given priority attention by the Committee on Housing, Building and Planning?

PART II. URBAN AND REGIONAL PLANNING

- 1. Progress made towards the establishment of a national physical plan for the country.
- 2. Development of regional physical planning and problems of integration and co-ordination with regional plans for economic development, environmental protection and transportation.
- 3. Problems and policies relating to physical planning of urban areas (in particular, the impact of energy considerations and of urban transportation policies on physical planning).
- 4. Land-use policy in urban areas.
- 5. Problems and policies relating to the planning of rural settlements.
- 6. Problems and policies relating to the planning of recreational areas.
- 7. Problems and policies relating to the co-ordination and integration of physical plans on the national, regional and local levels.
- 8. Innovations in planning methodology.

Section B (optional)

9. Information on any other topic of major interest relating to urban and regional physical planning.

Section C (optional)

10. Which of the above-mentioned topics should be given priority attention by the Working Party on Urban and Regional Planning?

PART III. SOCIO-ECONOMIC ASPECTS OF HOUSING POLICY $\underline{b}/$

- 1. General problems in regard to new housebuilding and the existing housing stock and the related government policy.
- 2. Measures taken to adapt the volume and composition of new housing units to changing housing needs and demand.
- 3. Measures taken to achieve an appropriate balance between the construction of new housing units, on the one hand, and modernization, rehabilitation and maintenance activities, on the other.
- 4. Current effects of general economic developments and of physical planning trends on housing activities.
- 5. Trends and policies with regard to main categories of investors in the housing sector (state, municipalities, other public authorities, co-operatives, enterprises, housing associations, private bodies, private persons).
- 6. Problems and policies relating to housing finance (sources, credits, interest rates, subsidies, tax problems) and, as far as relevant, the relationship of housing finance to the development of the over-all financial situation.
- 7. Trends and policies relating to the cost of housing in relation to household earnings (cost of new housing, purchase prices of existing housing, rents, subsidies and direct or indirect financial assistance).
- 8. Problems and policies relating to the quality of housing, including ancillary facilities and services and the immediate surroundings of dwellings (a) for new housing; (b) for existing housing.
- 9. Problems and policies relating to special housing needs (housing for young families, elderly persons, students, handicapped, etc.)
- 10. Problems and policies relating to the management of housing.

 $[\]underline{b}$ / The term "housing" should be understood in a wide sense, to include ancillary facilities and services.

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11. Problems and policies relating to maintenance, modernization and rehabilitation of housing and its surroundings.

Section B (optional)

12. Information on any other topic of major interest relating to socio-economic aspects of housing policy.

Section C (optional)

13. Which of the above-mentioned topics should be given priority attention by the Working Party on Housing?

PART IV. BUILDING

- 1. Trends in total construction output (a commentary on official statistical data on investments in construction works, estimated gross value of maintenance activities, contribution by the construction sector to gross domestic product or net material product, total number of economically active persons directly employed in construction, etc.) c/
- 2. Trends in the composition of total construction output (housing, non-residential buildings, civil engineering and public works).
- 3. Trends in building costs (public and private sectors) and policies to reduce cost increases.
- 4. Problems and policies relating to the quality of buildings (a commentary on available indicators).
- 5. Impact of energy considerations on building policies (insulation, ventilation, technical equipment, building design, etc.).
- 6. Trends in building legislation, regulations and standards.
- 7. Structural changes in the building industry (number and size of building enterprises, integration and/or specialization of enterprises, etc.) to meet new demands (e.g. increased building modernization and renewal activities).
- 8. Trends and policies relating to the industrialization and mechanization of construction activities (prefabrication, mechanization, automation, etc.).
- 9. Trends in labour productivity.

c/ Reference should be made to the data submitted for the Annual Bulletin of Housing and Building Statistics for Europe.

- 10. Measures taken to improve the work environment and safety on building sites.
- 11. Trends in the production and use of building materials (cement and concrete products, burnt clay products, steel, non-ferrous metals, wood, plastics, etc.).

Section B (optional)

12. Information on any other topic of major interest relating to building.

Section C (optional)

13. Which of the above-mentioned topics should be given priority attention by the Working Party on Building?