Habitat:

United Nations Conference on Human Settlements

Vancouver, 31 May to 11 June 1976

Global Review of Human Settlements

Item 10 of the Provisional Agenda

Distr.
GENERAL

A/CONF.70/A/1
8 March 1976

ORIGINAL: ENGLISH

GLOBAL REVIEW OF HUMAN SETTLEMENTS

A support paper for Habitat: United Nations Conference on Human Settlements

Three support papers are submitted to the Habitat Conference for information and discussion only:

A/CONF.70/A/1, the present document, provides essential statistical information;

A/CONF.70/A/2 focuses on subitems 10 (a), (b) and (f); and

A/CONF.70/A/3 on subitems 10 (c), (d) and (e) of the provisional agenda.

NOTE

The designations employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

The designation of countries or regions as "developed, more developed or industrialized" or "developing, less developed or third world" are intended for statistical convenience and do not, necessarily, express a judgement regarding the stage reached by a particular country or area in the development process.

The composition of regions and subregions is as reported in part C, section 8 of this report, unless otherwise stated.

In the present publication, references to "China" are to be understood in the light of General Assembly resolution 2758 (XXVI) of 25 October 1971.

Symbols of United Nations documents are composed of capital letters combined with figures. Mention of such a symbol indicates a reference to a United Nations document.

Reference to "tons" indicates metric tons, and to "dollars" ($) United States dollars, unless otherwise stated.

Three dots (...) indicate that data are not available or are not separately reported.

A dash (-) indicates that the amount is nil or negligible.

CONTENTS

/...

CONTENTS (continued)

/...

CONTENTS (continued)

/...

CONTENTS (continued)

/...

List of tables

/...

List of tables (continued)

/...

List of tables (continued)

/...

List of tables (continued)

List of figures

List of figures (continued)

INTRODUCTION

1. At the informal consultation of the Habitat Preparatory Committee, held in May 1974, and at its first session, it was decided that the description of the global situation of human settlements should not be discussed at the Conference itself, but submitted by the Secretary-General of Habitat in the form of a special report.

2. The purpose of this report is to provide a global review of human settlement conditions and of the factors affecting their present and future development. It contains information, analyses and conclusions but it formulates no recommendations, these being contained in the specific papers prepared for and by the Conference under each agenda item. The information included in this report is presented in global, regional or subregional terms without attempting to deal comprehensively with conditions on a country-by-country basis. However, illustrations drawn from the experience of individual countries are mentioned where appropriate.

3. The report is divided into three parts. In the first, particular emphasis is placed on the process of urbanization, its causes and effects; in the second, the following factors affecting the quality of life in human settlements are described: land, housing and infrastructure. Consequently, this report is a limited study of the factors affecting human settlements. There are also other limitations imposed by the availability of information and data; it is hoped, however, that the information included will convey, with an acceptable degree of accuracy, the essential available global information on human settlements. The third part comprises the relevant definitions, the list of tables included in the statistical annex, which is issued as a separate document (A/CONF.70/A/1/Annex), and a list showing the country composition of major regions.

4. The "Global review of human settlements" has been prepared at the request of and in consultation with the Habitat Secretariat by the Centre for Housing, Building and Planning of the Department of Economic and Social Affairs of the United Nations Secretariat. The Population Division and the Statistical Office of the Department of Economic and Social Affairs as well as the relevant United Nations specialized agencies co-operated with the Centre in the preparation of this report.

A. THE URBANIZATION PROCESS

1. Demographic aspects

1.1 The world population situation

5. Before surveying the demographic circumstances of urban and rural settlements, it is necessary to make a few observations about the world population situation in general.

6. Since about 1950 there has been an unprecedented upsurge in world population growth. Thus, between 1950 and 1975 the combined world population grew from about 2,500 million to about 4,000 million, an increase of 60 per cent.

7. Having stated this, one is obliged at once to draw attention to the wide contrast between demographic circumstances in the more developed and the less developed regions. Birth rates in the less developed regions, on an average, are about twice as high as those in the more developed regions and most recently this gap has even shown a tendency to widen. Death rates in the less developed regions also exceed those in the more developed regions, but in this respect the gap is now much smaller and becoming narrower. Natural increase, that is the difference between the birth and death rate, is far greater in the less developed regions and has accelerated further between 1950 and 1975; it may now be near its maximum, with rediuctions already occurring in some countries and others likely to follow soon in others. In the more developed regions, around 1950, restoration of peace also brought the temporary "baby boom", but this has subsided since then and the moderate level of population growth is now falling off further to quite low rates. Thus it is that between 1950 and 1975 the population of the more developed regions combined grew by about one third, whereas in the less developed regions it increased about three-quarters.

8. The future prospects contrast in similar fashion. According to the United Nations population projections, between 1975 and the year 2000, the total population of the more developed regions may grow by about one fifth, and that of the less developed regions again by about three-quarters despite an expected gradual slowing-down.

9. In less developed regions, the youthful age structure inherited from hitherto high birth rates reinforces the "demographic inertia" of rapid growth. In the more developed regions, with rising proportions of the population at advanced ages, death rates no longer decrease and may even rise somewhat. In the youthful less developed regions, meanwhile, death rates may still fall to unprecedentedly low levels.

1.2 Growth of urban 1/ and rural settlements in different parts of the world

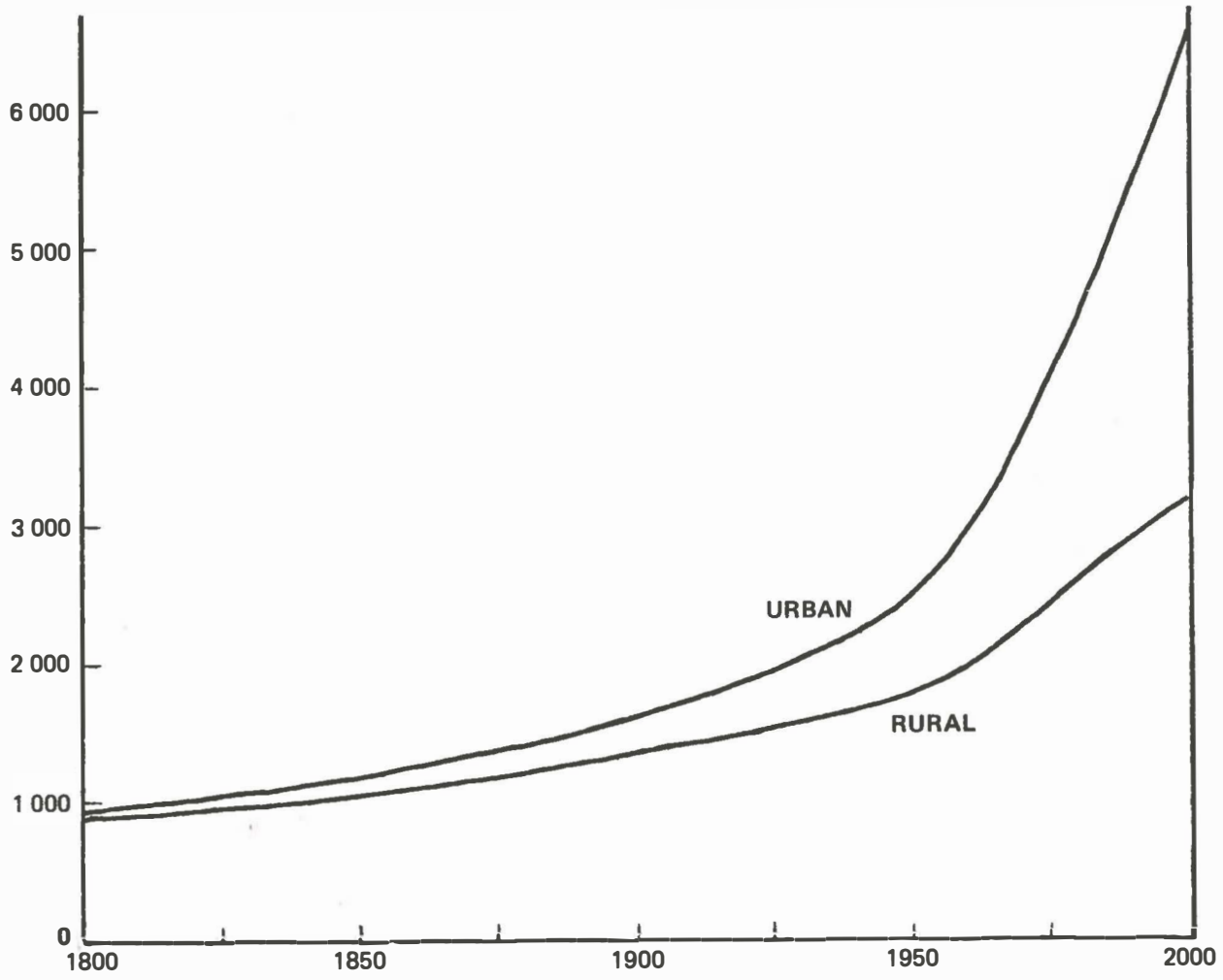
10. At the beginning of the last century, the world was perhaps about 3 per cent urban. By the end of the last century the concentration of population in cities was said to have been "the most remarkable social phenomenon" of that century, 2/ even though fewer than 15 per cent of the world's population were then urban. The world is now almost two-fifths urban, and by the year 2000 the world may be fully one-half urban. The growth of urban and rural population between 1800 and the year 2000 is illustrated in figure 1.I.

11. Contrasting conditions between at present more developed and less developed regions must again be borne in mind. The less developed nations, taken as a group, are not yet as highly urbanized. The more developed regions, at present, are more than two-thirds urban, and the less developed, on an average, only about one fourth. Nevertheless, because of the enormous population of the less developed world combined, the absolute totals of urban population are now about equal between these two portions of the world. Moreover, population in the less developed regions is growing more rapidly so that, with time, they will contain an increasing majority of the world's combined urban population. It also bears emphasis that the vast majority of the world's rural population is to be found in the less developed regions. As has been calculated, by the year 2000 the less developed regions may attain an average level of urbanization equal to that of the more developed regions about the year 1930.

1/ The international study of urbanization is still impeded by the fact that, in the several national statistics, "urban" settlements are diversely defined. In some of the statistics used here, "urban" places are localities with at least, say, 2,000 to 5,000 inhabitants, whereas in other instances they are distinguished by administrative criteria or by the prevalence of non-agricultural activities. This lack of a common statistical measure weakens international comparison but also reflects an actual diversity of qualitative features. What can be regarded as significantly "urban" in one country need not be so regarded in another, for instance, because settlements of the same size do not necessarily have comparable urban amenities in view of widely differing levels of economic and social development. For national definitions of urban-rural, see statistical appendix, relevant definitions.

2/ Adna F. Weber, The Growth of Cities in the Nineteenth Century (Ithaca, New York, Cornell University Press, 1963), p. 1. The book was originally published for Columbia University in 1899 by the Macmillan Company in New York. A similar observation was made by another contemporary author: "Un des phénomènes les plus considérables de l'histoire au dix-neuvième siècle a été sans contredit la formation et le développement inoui des agglomérations urbaines". M. Paul Meuriot, Des agglomérations urbaines dans l'Europe contemporaine, Paris, Belin Frères, 1898.

Figure 1.1.
The growth of the world's urban and rural population, 1800–2000
(In millions)



Sources: Data for 1800, 1950, 1900 adapted from estimates made by Kingsley Davis and Hilda Hertz as published in P. M. Hauser (editor), *Urbanization in Asia and the Far East* (Calcutta, UNESCO 1975), p. 56
Data for 1950 from United Nations Population Division.

1.2.1 Regional differences in urban-rural population

12. In order to get beyond the extremely general categories of "developed" and "developing", it may be helpful to distinguish 24 world regions, nine of them more developed and 15 less developed. 3/ In each of the world's regions, the population of urban settlements is increasing decidedly faster than that of rural settlements (see table 1.1), but it is also to be noted that increase in the combined total population is almost three times as rapid in less developed regions as compared with the more developed ones. One result of these circumstances is that even the rural population in some of the less developed regions grows with greater speed than does the urban population in some of the more developed regions.

13. In nearly all the developed regions rural population is declining. But in the less developed regions combined, population gains in urban areas are still exceeded by those in rural areas, the gains amounting to 143 million and 167 million, respectively. In three Asian and two African regions, not yet highly urbanized, the rural areas still have markedly larger population gains than do the urban areas. The 64 million gain in the rural population of Middle South Asia nearly equals the 65 million gained by the urban population of all the more developed regions combined.

14. As can be seen in table 1.2, the more developed and less developed regions differ also in the level of urbanization attained in 1975. All the more developed regions are now at least 55 per cent urbanized, and all the less developed regions less than 60 per cent. In the range between 55 and 60 per cent, there is a slight overlap, as the urbanization levels in Middle and Tropical South America are comparable with those in Southern and Eastern Europe. During 1950-1975, the urbanization level in the more developed regions advanced from 53.4 to 69.2 per cent, that is by 15.8 points. In the less developed regions, it advanced from 15.6 to 27.3 per cent, that is by 11.7 points. Yet urbanization in the less developed regions should be judged as progressing more rapidly because the initial percentage level was much lower.

1.3 Urban concentration

15. Returning again to table 1.2, we note that the population contained by cities with at least one million inhabitants is growing more rapidly than the combined urban population which includes numerous smaller cities and towns. This is not entirely due to population growth in the big cities themselves, since the number of million-cities also increases whenever some new city comes to surpass this size limit. For instance, the world had only 71 million-cities in 1950, as compared to 181 in 1975. During the twenty-five years, the number of million-cities rose from 48 to 91 in the more developed regions, and from 23 to 90 in the less developed regions.

3/ The composition of regions and sub-regions is given at the beginning of the report.

Table 1.1. Rates and amounts of increase in total, urban and rural population, 1970-1975, in more developed and less developed regions of the world

Region	Annual growth rate (per cent per year)			Amount of growth (millions)		
	Total population	Urban population	Rural population	Total population	Urban population	Rural population
More developed regions	0.86	1.73	-0.97	47.7	65.0	-17.3
Northern Europe	0.41	0.74	-0.54	1.7	2.2	-0.5
Western Europe	0.58	1.21	-1.40	4.4	6.9	-2.5
Eastern Europe	0.64	1.81	-0.78	3.4	5.2	-1.8
Southern Europe	0.72	1.72	-0.66	4.7	6.5	-1.8
Northern America	0.90	1.53	-1.03	10.5	13.4	-2.9
Soviet Union	0.99	2.33	-0.92	12.3	17.0	-4.7
Japan	1.26	2.32	-1.64	6.8	9.1	-2.3
Temperate South America	1.43	2.13	-1.28	2.7	3.2	-0.5
Australia and New Zealand	1.83	2.15	0.03	1.5	1.5	0.0
Less developed regions	2.31	4.07	1.69	309.7	142.7	167.0
China	1.66	3.26	1.20	67.0	29.6	37.4
Caribbean	1.93	3.31	0.73	2.5	2.0	0.5
Other East Asia a/	2.15	4.26	0.25	5.7	5.4	0.3
Middle Africa	2.27	5.84	1.23	4.9	2.8	2.1
Melanesia	2.41	8.82	1.56	0.4	0.2	0.2
Polynesia and Micronesia	2.54	4.29	1.77	0.2	0.1	0.1
Western Africa	2.58	5.03	2.06	14.0	4.7	9.3
Middle South Asia	2.59	4.05	2.22	96.1	31.7	64.4
Southern Africa	2.68	3.74	1.82	3.5	2.2	1.3
Eastern South Asia	2.70	4.64	2.18	40.9	14.8	26.1
Eastern Africa	2.74	5.67	2.37	14.7	3.5	11.2
Northern Africa	2.74	4.53	1.65	12.6	7.9	4.7
Western South Asia	2.83	4.77	1.45	11.6	8.2	3.4
Tropical South America	2.90	4.35	0.96	24.2	20.8	3.4
Middle America	3.21	4.43	1.68	11.6	8.9	2.7

Source: United Nations Population Division.

a/ East Asia other than China or Japan.

Table 1.2. Percentages of urban in total population, million-city population in urban population, and million-city population in total population, 1950 and 1975, in eight major areas and 24 regions of the world

Area or region	Percentage of urban in total population		Percentage of million-city population in urban population		Percentage of million-city population in total population	
	1950	1975	1950	1975	1950	1975
NORTHERN AMERICA	63.6	76.5	37.9	47.5	24.5	36.3
OCEANIA	64.5	71.6	36.6	37.0	23.6	26.5
EUROPE	54.8	67.2	28.4	31.2	15.5	20.9
SOVIET UNION	39.4	60.5	10.5	16.4	4.1	9.9
LATIN AMERICA	40.9	60.4	22.5	36.9	9.2	22.3
EAST ASIA	16.6	30.7	27.6	36.0	4.6	11.0
AFRICA	13.2	24.4	8.2	22.0	1.1	5.4
SOUTH ASIA	15.5	23.0	15.3	29.7	2.4	6.8
More developed regions	53.4	69.2	30.5	33.5	15.1	23.2
Australia and New Zealand	78.7	85.5	37.4	39.2	29.4	33.6
Temperate South America	62.8	80.8	34.9	44.6	21.9	36.0
Western Europe	63.2	77.1	23.2	30.7	14.7	23.7
Northern America	63.6	76.5	37.9	47.5	24.5	36.3
Japan	50.3	75.2	27.5	38.6	13.8	29.0
Northern Europe	70.8	75.1	44.8	41.3	31.7	31.0
Soviet Union	39.4	60.5	10.5	16.4	4.1	9.9
Southern Europe	44.9	59.2	25.3	32.6	11.4	19.3
Eastern Europe	42.2	56.6	20.4	19.8	8.6	11.2
Less developed regions	15.6	27.3	18.4	31.4	2.9	8.6
Tropical South America	36.5	59.3	17.0	38.9	6.2	23.1
Middle America	39.5	57.1	20.3	32.2	8.0	18.4
Other East Asia a/	23.2	50.0	33.7	57.8	7.8	28.9
Caribbean	33.0	48.2	20.1	17.4	6.6	8.4
Southern Africa	36.5	46.2	0.0	31.2	0.0	14.4

Table 1.2 (continued)

Area or region	Percentage of urban in total population		Percentage of million-city population in urban population		Percentage of million-city population in total population	
	1950	1975	1950	1975	1950	1975
Less developed regions (continued)						
Western South Asia	23.3	43.7	0.0	30.7	0.0	13.4
Northern Africa	23.2	39.5	19.8	32.0	4.6	12.6
Micronesia and Polynesia	20.6	32.1	0.0	0.0	0.0	0.0
Middle Africa	8.1	24.6	0.0	18.4	0.0	4.5
China	11.1	23.5	26.9	31.8	3.0	7.5
Eastern South Asia	13.4	22.1	13.3	34.2	1.8	7.6
Middle South Asia	15.6	21.1	18.0	27.6	2.8	5.8
Western Africa	9.6	18.5	0.0	9.7	0.0	1.8
Melanesia	2.0	13.7	0.0	0.0	0.0	0.0
Eastern Africa	5.3	12.3	0.0	7.7	0.0	0.9

Source: United Nations Population Division.

a/ East Asia other than China or Japan.

16. The percentage of million-city population in the urban population can be regarded as a measure of urban concentration. Between 1950 and 1975, this measure rose from 30.5 to 33.5 per cent in the more developed regions, and from 18.4 to 31.4 per cent in the less developed. In other words, million-cities have become as important a part of the urban population in the latter regions as they are in the former. In 1975, the highest concentration of urban population in million-cities, namely 57.8 per cent, is estimated for East Asia other than China or Japan. Concentrations higher than 40 per cent can be noted in Northern America, Temperate South America and Northern Europe. Among more developed regions, the concentration of the urban population is below 20 per cent in seven of the less developed regions, four of them having no million-city as yet.

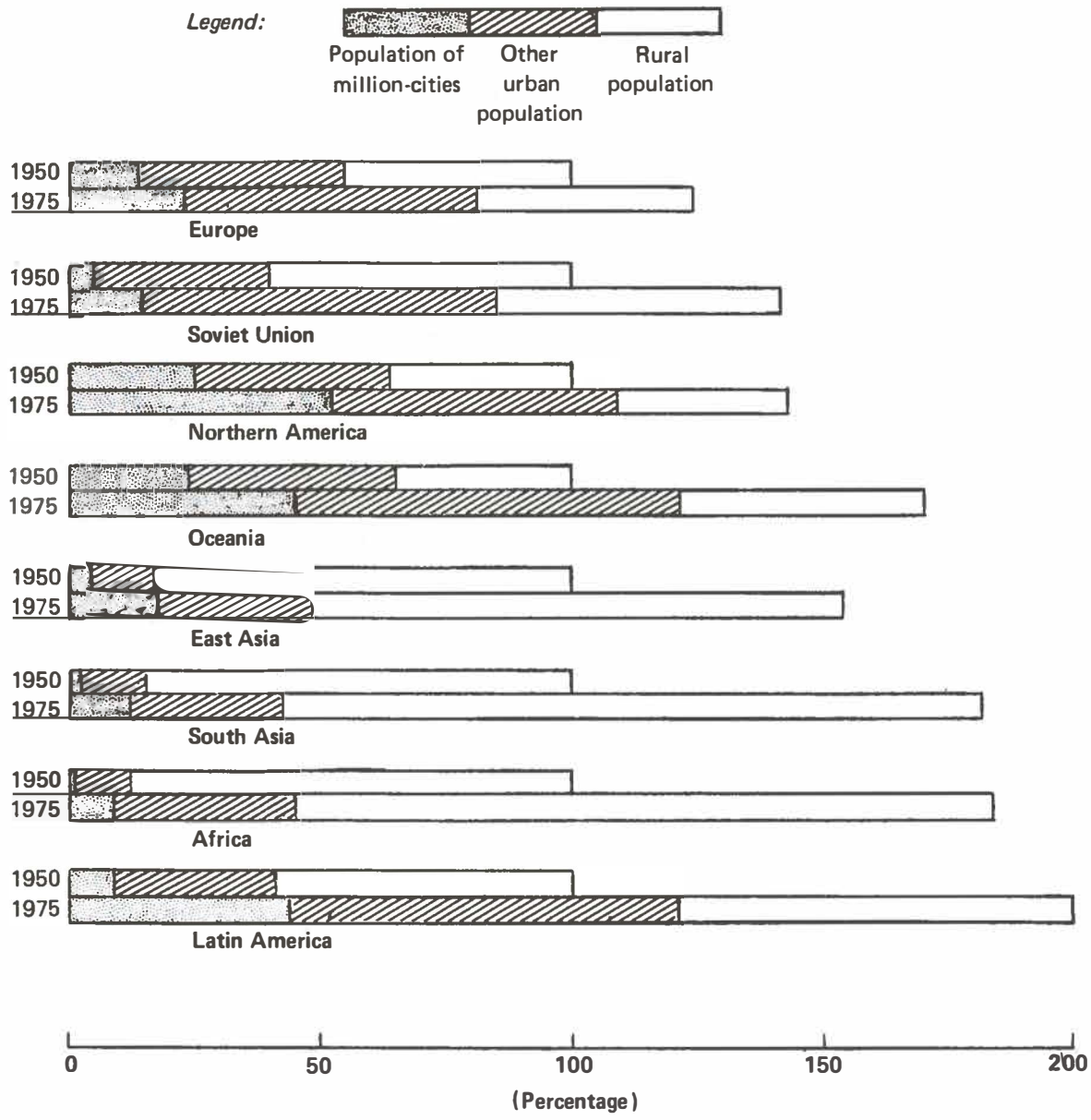
17. As a consequence of the combination of rising urbanization levels and rising concentration levels of the urban population the percentage of million-city population in the total population is rising with marked speed. Thus, in the more developed regions 15.1 per cent of the total population inhabited million-cities in 1950, and 23.2 per cent in 1975. Still more significantly, the percentage rose from 2.9 to 8.6 in the less developed regions. The jumps in percentage level were particularly great in Tropical South America and East Asia other than China or Japan. By 1975, roughly one third of the total population inhabited million-cities in Australia and New Zealand, Temperate South America, Northern America and Northern Europe, and more than one quarter in Japan and Other East Asia (other than Japan or China). Fewer than 10 per cent of the total population lived in million-cities in the Soviet Union and in nine of the 15 less developed regions.

18. For a better visualization, figure 1.II summarizes the corresponding population estimates by eight major world areas. All estimates are proportioned to 100 of the total population in 1950. Thus, it can be seen that between 1950 and 1975 the total population of Europe increased only by about one fifth, whereas that of Latin America doubled. Increases in urban population (million-cities as well as all other urban settlements) were such that in 1975 the urban populations of Northern America, Oceania and Latin America exceeded the corresponding total populations of 1950. In Latin America, furthermore, there was also so large a gain in the population of million-cities, that in 1975 the latter comprised more inhabitants than did all urban settlements combined in 1950. Despite such urban gains, it remains necessary to draw attention to the large proportions of rural population, and their continuing increases, in East Asia, South Asia and Africa.

1.4 City size and city growth

19. There has been some argument that, as cities grow larger, their growth rates tend to slow down. World-wide comparisons of population growth rates for city size groups seem to bear this out, but it so happens that some of the world's largest cities are situated in countries of comparatively slow growth rates in the total population. When that circumstance is taken into account, the evidence becomes rather inconclusive. One may visualize, of course, that ultimately there is some limit to the size an agglomeration can ever attain, and such limits may in fact have been operative in historic times when the techniques of transport and

Figure 1.II.
Population of million-cities, other urban population, and rural population in eight major areas of the world in 1950 and 1975 (as percentage of total population in 1950)



Source: United Nations Population Division.

sanitation, among other things, were less advanced. There is no evidence, however, that any of today's much larger cities are encountering such limits. Policies may emerge, or exist already, intended to restrict the growth of some of the largest cities, but on this score knowledge is still too limited to be taken into account for the purpose of the present simple projections. The problem has been investigated by K. Davies, leading him to two conclusions. In the first place,

> "... the largest cities are more represented in the slowly growing developed countries than in the fast growing less developed nations, and, even among the less developed nations, they are found predominantly in unknown China and in slowly growing India." 4/

For this and various other reasons, he finds:

> "Large size, in and of itself, does not cause cities to grow slowly. Neither does it cause cities to grow rapidly. There is, in fact, no verifiable relationship between the size of cities and their subsequent rate of growth." 5/

20. The reader may wish to verify the relationship between city size and city growth on the basis of our estimates as shown in table 1.3. For the world as a whole it appears indeed that cities of more than 5 million have been growing slowest and those of 100,000 to 200,000 fastest. To a minor extent that can also be said of the more developed regions, though it must be borne in mind that in the Soviet Union and Eastern Europe policies have been in effect which account for part of these observations. In the less developed regions combined, population has grown with similar speed in all size groups except that of more than 5 million, where it was much slower. As regards the last-mentioned group, however, the observations depend largely on the estimates for Shanghai and Calcutta, two comparatively slow-growing cities as borne out also by the observations for China and India only. In other less developed regions, by contrast, the largest cities appear to have grown rather faster than cities which were less large. Unless the experience in Shanghai and Calcutta is to be taken as a pointer at the future, there is no need to expect that the growth of agglomerations will slow down with increasing size except perhaps under more extreme conditions which are not yet foreseeable.

4/ K. Davis, World Urbanization 1950-1970, Vol. II, Analysis of Trends, Relationships, and Development (Berkeley, Institute of International Studies, University of California, 1972), p. 111.

5/ Ibid., p. 110.

Table 1.3. Annual growth rates in groups of identical agglomerations according to size at the beginning of each five-year period, 1950-1970 (per cent per year)

Region and initial size	1950-55	1955-60	1960-65	1965-70	Mean, 1950-70
WORLD TOTAL					
More than 5 million	2.18	2.59	1.80	2.40	2.24
2 to 5 million	3.05	3.12	2.96	2.87	3.00
1 to 2 million	2.85	3.25	2.43	2.56	2.77
500,000 to 1 million	3.49	3.32	2.63	2.79	3.05
200,000 to 500,000	3.32	3.64	2.97	3.12	3.26
100,000 to 200,000	3.23	3.55	3.30	3.28	3.34
MORE DEVELOPED REGIONS					
More than 5 million	2.15	2.58	1.66	1.57	1.99
2 to 5 million	2.45	2.00	1.50	1.74	1.92
1 to 2 million	1.94	2.27	1.65	1.46	1.83
500,000 to 1 million	2.56	2.65	2.25	2.11	2.39
200,000 to 500,000	2.58	2.70	2.17	2.10	2.39
100,000 to 200,000	2.76	2.92	2.45	2.49	2.66
LESS DEVELOPED REGIONS					
More than 5 million	2.36[a]	2.66[a]	2.68[b]	4.21[c]	2.98
2 to 5 million	4.18	4.19	4.19	4.05	4.15
1 to 2 million	4.84	4.69	3.43	3.88	4.21
500,000 to 1 million	4.82	4.38	3.16	3.69	4.01
200,000 to 500,000	4.54	4.96	4.04	4.30	4.46
100,000 to 200,000	3.94	4.43	4.25	4.16	4.19
China					
More than 5 million	2.36[a]	2.66[a]	2.97[a]	3.57[d]	2.89
2 to 5 million	4.58	3.83	2.37	1.56	3.08
1 to 2 million	5.18	3.97	1.43	2.09	3.17
500,000 to 1 million	5.11	3.86	2.14	1.88	3.25
200,000 to 500,000	6.29	5.98	3.98	3.78	5.01
100,000 to 200,000	4.12	5.50	4.01	3.39	4.26

/...

Table 1.3 (continued)

Region and initial size	1950-55	1955-60	1960-65	1965-70	Mean, 1950-70
India					
More than 5 million	...	...	2.27[e/]	2.29[f/]	2.28
2 to 5 million	2.62	2.64	3.87	4.37	3.50
1 to 2 million	2.85	3.02	4.07	3.31	3.41
500,000 to 1 million . . .	3.26	3.28	3.02	3.46	3.25
200,000 to 500,000	2.62	2.68	3.31	3.58	3.05
100,000 to 200,000	2.56	2.93	3.35	3.66	3.12
Other less developed regions					
More than 5 million	...	...	...	5.32[g/]	5.32
2 to 5 million	4.95	5.05	5.17	4.98	5.04
1 to 2 million	5.51	5.64	4.41	4.97	5.13
500,000 to 1 million . . .	4.91	5.08	3.94	4.70	4.66
200,000 to 500,000	4.51	5.22	4.33	4.87	4.73
100,000 to 200,000	4.44	4.43	4.68	4.70	4.56

Source: United Nations Population Division (ESA/P/WP.58).

a/ Shanghai only.

b/ Shanghai and Calcutta.

c/ Nine cities.

d/ Shanghai and Peking.

e/ Calcutta only.

f/ Calcutta and Bombay.

g/ Mexico City, Sao Paulo, Rio de Janeiro, Cairo and Seoul.

1.5 Migration and natural increase

21. About one half of the growth of urban population is due to natural population increase (births minus deaths) within the urban settlements themselves, and most of the other half to migratory and other transfers of population from rural to urban places. 6/ This observation applies equally to the more developed and less developed regions, each of them taken as one group, though among individual regions or countries more varied observations can be made. The impact of rural-to-urban population transfers upon the rate of change in rural population, on the other hand, can be most diverse. In a predominantly rural country, even the very fast growth of cities can draw away only a comparatively small portion of the natural increase occurring in the rural population. In a predominantly urban country, even a slow or moderate growth of cities can absorb rural migrants in excess of the rural rate of natural population increase. Regional estimates for the components of urban and rural population change, referring to the year 1960, will be found in the statistical annex (table 2).

22. In that table, the birth rates, death rates and rates of natural increase for urban and rural areas are those calculated from a detailed analysis of urban and rural population age structures, as estimated for 1960. It has not yet been possible to bring this detailed calculation forward to a more recent date, but a more summary calculation with regard to 1970-1975 is now possible. In the calculations for 1960, the over-all observation was made that in each region the rates of natural increase do not necessarily differ much between urban and rural areas. True, both the rural birth and death rates are usually higher than the corresponding urban rates, but when death rates are subtracted from birth rates, the resulting balances are often of a similar magnitude. 7/ While it is not assured that urban and rural rates of natural increase are equal in the same

---

6/ For the most part, rural-to-urban population transfers result from the balance of migration (migration into, minus migration out from, urban areas). A minor part of the transfer, however, is due to the reclassification of previously rural areas in the urban category. This may happen when previous villages grow to the size of towns, or when adjacent peripheral areas are absorbed by a geographically expanding urban agglomeration. In both instances, those areas are most likely to be reclassified where there has been an especially rapid growth in local population, probably due in large measure to migration. In a few countries, the growth of cities is also significantly influenced by international migration, mostly from urban settlements in one country to urban settlements in another. This factor was not taken into account in the present calculations.

7/ Some readers may be surprised by this finding, since it is known that very often larger numbers of children tend to be born to rural than urban women. Differences between urban and rural population age structures, however, have partly compensating effects. Young adults predominate in the urban population, and these are subject to higher fertility risks and lower mortality risks than other population segments.

regions, the assumption that they may be nearly equal probably does not involve the risk of a large error. With this assumption, therefore, rough estimates could be made also for 1970-1975 similar to those calculated in greater detail for 1960. The findings obtained for 1960, and the tentative findings for 1970-1975, can be compared in table 1.4 below, which presents a balance-sheet.

Table 1.4. Components of urban and rural population change, around 1960 and during 1970-1975, in urban and rural areas of more developed and less developed regions (rates per 1,000 per year)

Component	More developed regions			Less developed regions		
	Total pop.	Urban pop.	Rural pop.	Total pop.	Urban pop.	Rural pop.
Around 1960						
Birth rate	21.5	20.1	23.3	42.8	37.9	44.1
Death rate	9.0	8.9	9.3	20.3	15.4	21.7
Rate of natural increase	12.5	11.2	14.0	22.5	22.5	22.4
Transfer rate a/	0.0	+12.3	-16.6	0.0	+23.0	-5.9
Rate of growth	12.5	23.5	-2.6	22.5	45.5	16.5
Transfer rate as a percentage of:						
Natural increase	0	+110	-119 b/	0	+102	-26
Growth rate	0	+48	... b/	0	+50	-36
1970-1975						
Birth rate	17.2	... c/	... c/	37.5	... c/	... c/
Death rate	9.2	... c/	... c/	14.3	... c/	... c/
Rate of natural increase	8.0	8.0 d/	8.0 d/	23.2	23.2 d/	23.2 d/
Transfer rate a/	0.0	+9.3	-17.7	0.0	+17.5	-6.3
Rate of growth	8.0	17.3	-9.7	23.2	40.7	16.9
Transfer rate as a percentage of:						
Natural increase	0	+116	-221 b/	0	+75	-27
Growth rate	0	+54	... b/	0	+43	-37

Source: United Nations Population Division.

a/ Consists of net rural-to-urban migration and rural-to-urban area reclassification.

b/ Both terms are negative.

c/ Not yet determined.

d/ Rate of natural increase roughly assumed to be equal in urban and rural areas.

23. Perhaps the most important phenomenon apparent from this table is that, in less developed regions, natural increase is becoming a larger component of urban growth than migration. This trend has serious implications for government policy over the next 25 years. Efforts to discourage migration, even if successful, are likely to have decreasing impact on urban growth because the already large urban population is young and growing rapidly by the force of natural increase alone.

24. While the relative influence of migration on urban growth seems to be decreasing with less developed countries, it appears to be increasing in the more developed regions where transfers may now be responsible for more than one half of the urban growth. The impact of transfers on the rural population of more developed regions, however, has greatly intensified, as the rural population becomes more and more reduced to a minority. Around 1960, in the rural areas, natural increase was 14.0 per 1,000, the transfer from rural to urban areas occurred at a rate of 16.6 per 1,000 rural population and rural population decreased slightly because transfers somewhat exceeded the rural natural increase. In 1970-1975, apparently, rural natural increase could have been 8.0 per 1,000 whereas the transfer rate, 17.7 per 1,000, may have been at least twice as high, with the consequence of a considerable rate of decrease in the rural population.

25. In the less developed regions, in 1960, the urban population grew at an annual rate of 45.5 per 1,000, nearly evenly divided between the rate of urban natural increase, 22.5 per 1,000, and the rate of transfers relative to the urban population, which was 23.0 per 1,000. More recently, urban population may have increased at 40.7 per 1,000 per year, of which 23.2 by natural increase and 17.5 by transfers; as compared with 1960, the urban rate of natural increase may have risen slightly, and that of transfers fallen a little, so that transfers now account for somewhat less than one half of the urban growth in the less developed regions. In the same regions, the rate of growth in rural population may have stayed nearly the same, near 17 per 1,000 at both dates. Rural natural increase may have risen slightly, but so also may the rate of transfers, relative to the rural population. In both periods, transfers from rural to urban areas offset somewhat more than one quarter of the rural natural increase.

1.5.1 Migration vs. natural increase in eight major regions - 1960

26. Returning to the calculations for 1960, which are more detailed, we find the urban and rural growth components for eight major world areas which are displayed in figure 1.III. Relative to the urban population, the positive rates of transfer were particularly high in the Soviet Union, East Asia, Africa and Latin America. Relative to the rural population, the negative transfer rates were particularly high in Europe, the Soviet Union, Northern America and Latin America. In Europe, the Soviet Union and Northern America, transfers exceeded the rural rates of natural increase, so that the rural populations were declining. In South Asia and Africa, despite rapid urban population growth, the transfers had a comparatively small impact on the growth in rural population because the rural population is still of a comparatively very large size. Some of the rates on which figure 1.III is based are brought together in table 1.5 below.

Table 1.5. Components of urban and rural population growth (or decline), around 1960, in eight major areas of the world

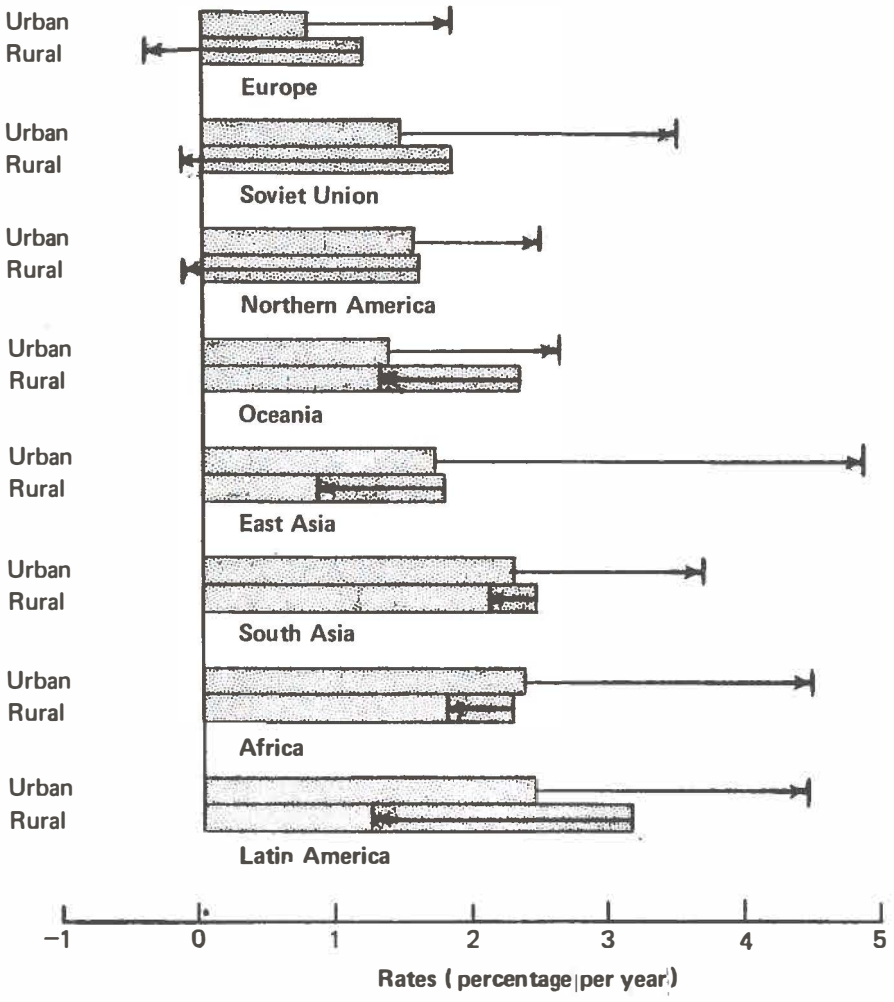
Area	Urban population				Rural population			
	Rate of growth	Rate of natural increase	Rate of transfer	Same, as % of urban growth rate	Rate of growth	Rate of natural increase	Rate of transfer	Same, as % of rural natural increase
Europe	17.9	7.6	10.3	58	-4.2	12.2	-16.0	-134
Soviet Union	34.5	14.3	20.2	59	-1.4	18.1	-19.5	-108
Northern America	24.3	15.3	9.0	37	-1.2	15.5	-16.7	-108
Oceania a/	26.2	13.6	12.6	48	13.2	23.2	-10.0	-43
East Asia b/	48.6	16.9	31.7	65	8.6	17.4	-8.8	-51
South Asia	36.7	22.8	13.9	38	21.2	24.2	-3.0	-12
Africa	44.8	23.6	21.2	47	18.0	22.7	-4.7	-21
Latin America	44.6	24.3	20.3	45	12.7	31.6	-18.9	-60

Source: United Nations Population Division.

a/ Note that most of Oceania's urban population is that of Australia and New Zealand, whereas the majority of its rural population is that of Melanesia, Micronesia and Polynesia.

b/ Conditions may have changed considerably since 1960 in view of new government policy in China aimed at reducing the rate of population growth in major cities.

Figure 1.III.
Composition of urban and rural rates of population growth (or decline) in eight major areas of the world, about 1960, by rates of natural increase and rates of net rural-to-urban population transfers



Note: Rates of natural increase are shown in shading. The length of the arrows, positive for the urban and negative for the rural population, represents the rates of transfer, relative to the two population segments. The arrows point from the rate of natural increase to the rate of population growth.

Source: United Nations Population Division

27. As can be seen, around 1960 the rural-to-urban transfers contributed more than one half to urban population growth in Europe, the Soviet Union and East Asia and almost one half in Oceania, Africa and Latin America, whereas in Northern America and South Asia they contributed distinctly less. The transfers exceeded the rural natural increase in Europe, the Soviet Union and Northern America, offset about one half the rural natural increase in Oceania, East Asia and Latin America, but constituted only a small fraction of rural natural increase in South Asia and Africa.

28. The large numbers involved in annual rural-to-urban net population transfers is illustrated below (table 1.6).

Table 1.6. Components of urban and rural population change, around 1960 and during 1970-1975 (annual average), in urban and rural areas of more developed and less developed regions (in millions)

Component	More developed regions			Less developed regions		
	Total pop.	Urban pop.	Rural pop.	Total pop.	Urban pop.	Rural pop.
Around 1960						
Births	21	11	10	86	16	70
Deaths	9	5	4	41	6	35
Natural increase	12	6	6	45	10	35
Rural-to-urban transfer	0	7	-7	0	9	-9
Growth	12	13	-1	45	19	26
1970-1975 (annual average)[a/]						
Births	19	...	...	100	...	...
Deaths	10	...	...	38	...	...
Natural increase	9	6	3	62	16	46
Rural-to-urban transfer	0	7	-7	0	12	-12
Growth	9	13	-4	62	28	34

Source: United Nations Population Division.

a/ Calculated on the rough assumption that in each region urban and rural rates of natural population increase are the same.

1.6 Sex and age composition of urban and rural settlements

1.6.1 Sex

29. Everywhere in the world, as shown, the proportion of urban in total population is rising, largely as a result of migration. Net migration from rural to urban settlements, therefore, is a universal phenomenon. But this seeming uniformity disappears at once when we examine the sex composition of the migratory streams. It becomes evident that the social processes which attend urbanization can be quite diverse.

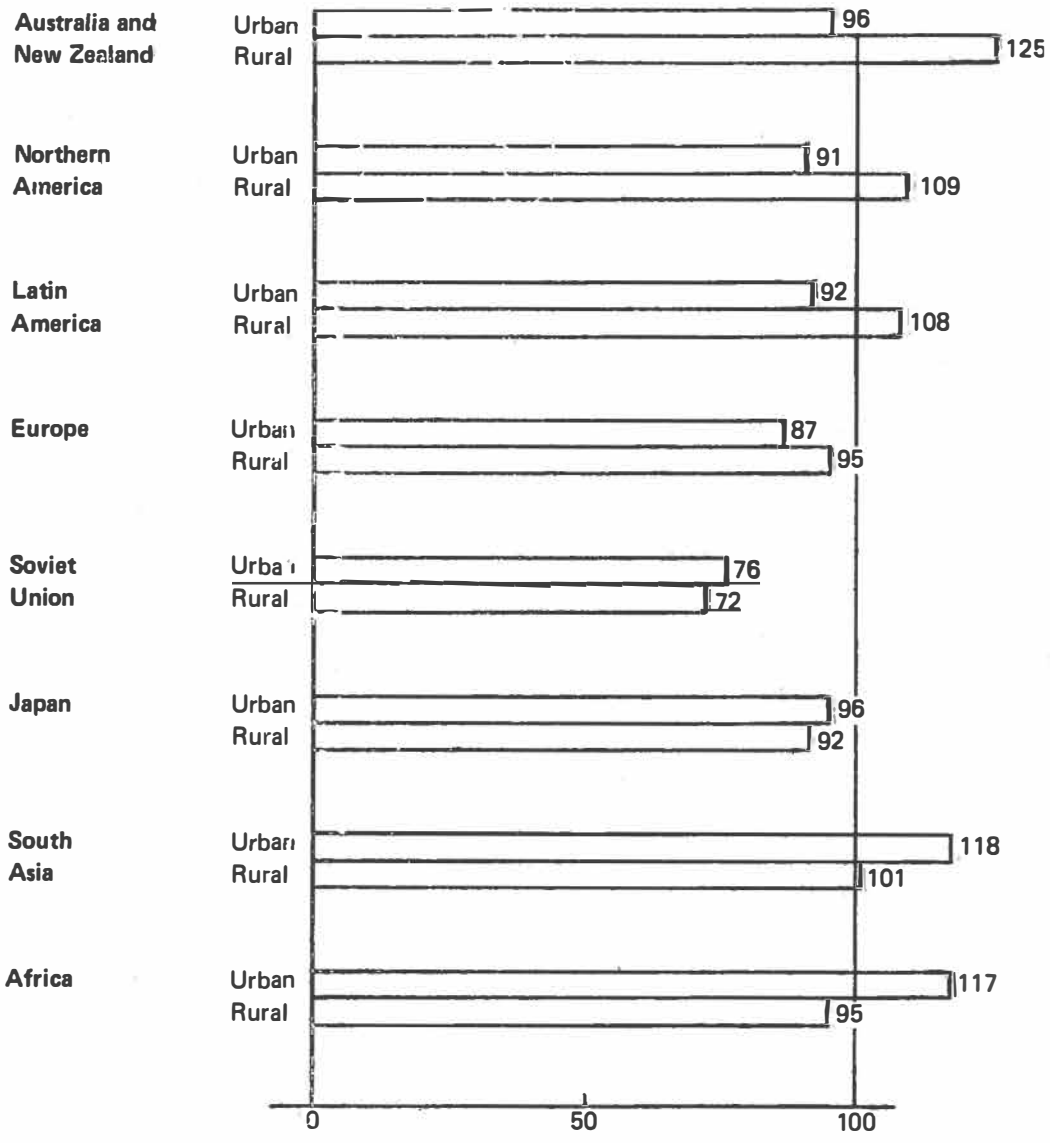
30. In some regions of the world, men migrate to urban areas more often than women, whereas in some other regions the opposite is the case. This fact is clearly reflected in comparisons of sex and age compositions of urban and rural populations. Different background factors must be at work if in some instances the character of urbanization is predominantly masculine, and in some other instances largely feminine. Economic, social and cultural circumstances determine differently in the cases of men and women whether movement to cities is advantageous or feasible. The consequence of unequal migration by members of either sex, both in the rural settlements whence they depart, and in the urban places where they arrive, must also be quite diverse. Viewed as a social process, therefore, the seemingly universal trend towards urbanization occurs under a wide range of conditions and can have a variety of implications. Interregional comparisons, in this respect, are still very few, but the United Nations has made a beginning with such studies, so far resulting in estimates for 1960.

31. Children for the most part reside with their parents, hence only minor variations in sex composition can be expected below the age of 15 years. Figure 1.IV therefore shows sex ratios of urban and rural populations at ages above 15 years. The areas and regions are in ascending order of the masculinity of the urban population as compared with that of the rural population. On a whole, it can be said that in Oceania, Northern America and Latin America, there are more males than females in rural areas. While the situation is reversed in South Asia and Africa where urban areas are predominantly male. In Europe, the Soviet Union and Japan, females outnumber males in urban as well as rural areas, but in the Soviet Union and Japan, the ratio is higher in urban areas, and in Europe, it is higher in rural areas. Europe is not shown in further detail here, but conditions vary among parts of Europe, generally speaking; in the north-west, the sex ratio is higher in rural areas; in the south-west, the ratios in urban and rural areas are very close.

32. Census data of pre-partition India (i.e. including Bangladesh and Pakistan) show a fairly steady rise in the urban sex ratio until it stood as high as 123 males per 100 females in 1941. Between 1951 and 1971 the urban sex ratio of post-partition India fluctuated between 116 and 118 while, in 1961, it was as high as 126 in Pakistan and 142 in Bangladesh.

33. In Africa, urban employment as originally organized by the Europeans was almost exclusively male. Residences were provided in the form of male dormitories

Figure 1.IV.
Sex ratios a/ of the adult population in urban and rural settlements, in eight major regions or countries, about 1960



a/ Males per 100 females (ages 15 and over)

Source: United Nations Population Division.

unsuitable for family habitation. In fact, many legal restrictions were imposed against travel of unmarried women from rural to urban areas in some parts of Africa. Since independence it has been recognized in many places that the restrictions against travel of women to urban areas have created a highly unstable social situation in the cities. The earlier regulations have since then been revoked in most places. The urban employment that does exist for women, however, is still mostly in the form of petty trading in the traditional markets, forming part of the so-called "bazaar economy".

34. Evidence from the two largest cities in tropical Africa, Lagos and Kinshasa, substantiates the impression that, since national independence, the character of African urbanization has undergone much change. Lone males are no longer so prevalent among the migrants, and the migration of entire families has become possible. In 1931, the sex ratio in Lagos stood at 126, and by 1961 this ratio was reduced to 108. 8/ Similarly, in Kinshasa the sex ratio was reduced from 135 in 1955 to 110 in 1970. 9/

35. In Japan and the Soviet Union, women participate heavily in both the urban and rural labour forces, though in Japan the terms of employment for women are often less favourable than those for men. In Japan, however, there are new indications of incipient sexual imbalances between urban and rural areas. There are now more women than men in the agricultural labour force, and a new type of "housewife farming family" is becoming increasingly prevalent. In such families the husband finds urban employment, while the wife remains on the farm. 10/

36. In Canada, the United States, Australia, and a number of European countries there is also recent evidence of an increasing participation of women in agriculture relative to men. 11/ In some countries, the number of women working

---

8/ Charles N. Ejiogu, African Migrants in Lagos Suburbs, doctoral dissertation, The Australian National University, January 1968, p. 48.

9/ Maurice Ducreux, "La croissance urbaine et démographique de Kinshasa", in Colloques internationaux du Centre national de la recherche scientifique, La croissance urbaine en Afrique noire et à Madagascar (Talence 1972), Tome I, p. 560.

10/ Because of the rapidly rising prices of land in Japan it is often considered practical for the wife to remain on the land and farm it so that it can be sold later at a higher price or, alternatively, used as a retirement residence when the husband becomes too old to obtain urban employment. Because of the shortage of land in Japan, agriculture is very intensive, requiring much hand work which can be done by women. Occasional needs for heavy labour are supplied by hired male workers.

11/ Evidence was found in recent United Nations Demographic Yearbooks indicating a relative increase in female participation in agriculture in the following countries: Australia, Austria, Canada, Denmark, Japan, Sweden, the United Kingdom and the United States.

in agriculture is merely declining less rapidly than the number of men. In other countries, however, the number of women workers in agriculture is actually rising in the face of decreasing male participation. Agriculture has traditionally been a highly male occupation in these countries, requiring the use of heavy field machinery. It is still predominantly male in most of these countries, though this situation appears to be in process of some modification. The reasons for the recent shift in the balance between the sexes in agricultural employment have not been widely discussed as yet. It is possible that highly intensified agricultural methods provide much work that is suitable for women. Perhaps in the future there will be greater balance in the agricultural employment patterns of these countries.

1.6.2 Age

37. Age structures also differ between urban and rural settlements in various ways. First, urban birth rates are nearly everywhere below the rural rates, hence the urban populations contain relatively fewer children. Secondly, most migrants of rural origin being young adults, urban settlements have a larger share of population in the prime working ages than do the rural settlements. Finally, depending on various circumstances and conditions, migrants may either remain in the urban settlement up to advanced ages or prefer to return sooner or later to their rural places of origin. Table 1.7 and figure 1.V show the proportions of population aged under 15, 15 to 44, and 45 years and over, in urban and rural settlements in different parts of the world. The same table also shows the urban-rural differences in those proportions.

38. Striking observations result when the urban-rural differences are considered. The comparative urban deficit in children is common to all regions, and it is greatest in Latin America (difference of -7.5) and Japan (-6.5), being least in Northern America (-3.3), South Asia (-3.0) and Africa (-3.8). All regions also share a comparative urban excess of population in prime working age groups, with positive differences ranging from 0.7 (Oceania) and 1.9 (Northern America) to as much as 8.6 (Soviet Union) and 10.3 (Japan). It is to be noted that heavy urbanization is already an older phenomenon in Oceania and Northern America, where the comparatively small rural populations no longer constitute a large reservoir of potential migrants; in the Soviet Union and in Japan, heavy urbanization has more recently progressed with much speed, hence it has brought numerous comparatively young adults into the urban areas.

39. Particularly interesting, perhaps, are the observations concerning the proportions of population at mature and advanced ages (45 years and over). Here, the urban population has a relative excess in Oceania, Northern America, Latin America and Europe, and a relative deficit in the Soviet Union, Japan, South Asia and Africa. It so happens that the first four regions are also the ones where the urban settlements have a comparative excess of females, and the second four regions are those where the urban settlements have a comparative excess of males (see table 1.6). The observation tends to support the view that the presence of

Table 1.7. Percentage of population aged under 15, 15-44, and 45 years and over, in urban and rural settlements, and urban-rural differences in these percentages, in eight major regions or countries, about 1960

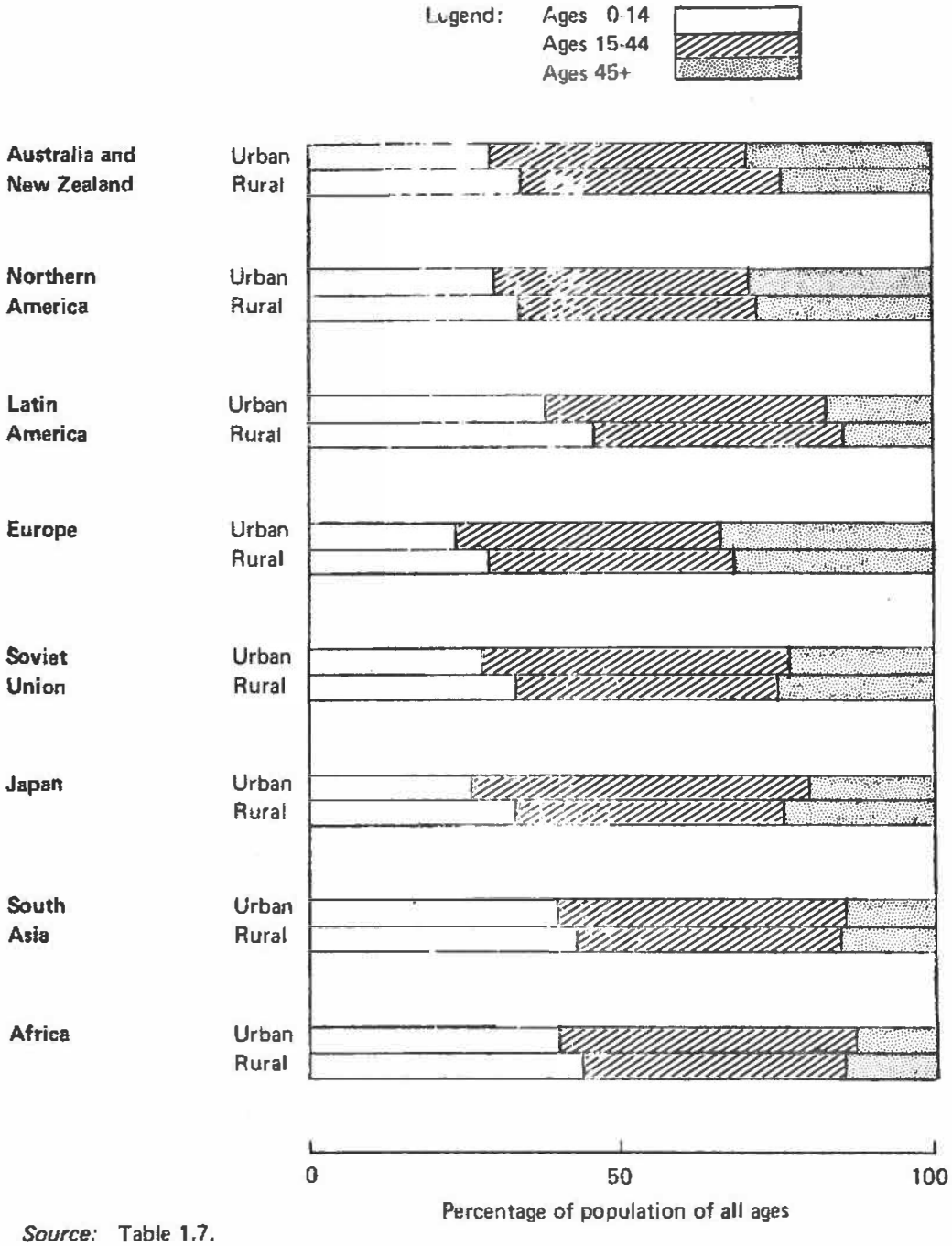
Area	All ages	Age group (years) 0-14	15-44	45 and over
Percentages in urban and rural settlements				
Oceania a/				
Urban	100.0	29.4	41.3	29.3
Rural	100.0	35.1	40.6	24.3
Northern America				
Urban	100.0	30.3	40.4	29.3
Rural	100.0	33.6	38.5	27.9
Latin America				
Urban	100.0	38.4	44.4	17.2
Rural	100.0	45.9	40.3	13.8
Europe				
Urban	100.0	23.6	42.3	34.1
Rural	100.0	28.7	39.9	31.4
Soviet Union				
Urban	100.0	27.8	48.8	23.4
Rural	100.0	33.4	40.2	26.4
Japan b/				
Urban	100.0	26.4	53.3	20.3
Rural	100.0	32.9	43.0	24.1
South Asia				
Urban	100.0	39.9	46.6	13.5
Rural	100.0	42.9	42.4	14.7
Africa				
Urban	100.0	40.0	47.5	12.5
Rural	100.0	43.8	42.0	14.2
Difference (urban percentage minus rural percentage)				
Oceania a/	...	-5.7	0.7	5.0
Northern America	...	-3.3	1.9	1.4
Latin America	...	-7.5	4.1	3.4
Europe	...	-5.1	2.4	2.7
Soviet Union	...	-5.6	8.6	-3.0
Japan b/	...	-6.5	10.3	-3.8
South Asia	...	-3.0	4.2	-1.2
Africa	...	-3.8	5.5	-1.7

Source: United Nations Population Division.

a/ Australia and New Zealand only.

b/ "Urban" population taken as that of densely inhabited districts.

Figure 1.V.
Percentage of population under 15, aged 15-44, and 45 years and over, in urban and rural settlements, in eight major regions or countries, about 1960



Source: Table 1.7.

many women in the urban population has a stabilizing effect, so that many former rural-to-urban migrants elect to reside in the urban settlements indefinitely and no longer have the wish to return to their places of origin; and that a relative shortage of women in urban settlements causes much residential instability, and hence the frequent and often definitive return of former migrants to the rural settlements from which they had originated. 12/

1.6.3 Sex and age combined

40. Table 1.8 shows sex ratios in the urban and rural population separately for different age groups. The resulting urban-rural differences, shown at the bottom of the table, are of particular interest.

41. Already at ages below 15, as can be seen, in several regions there is an urban deficit of males, or urban excess of females, as compared with the rural population. It must be presumed that migration involves many children and among them often more girls than boys. The resulting effect on the sex ratio is most noteworthy in Latin America, but it is significant even in Africa where otherwise urbanization is a predominantly male phenomenon.

42. At ages 15-44, the first four regions show an urban excess of women, and the last three regions an urban excess of men, as is to be expected in relation to the observations already made with regard to table 1.6. What is of interest, however, is the succession of comparative urban sex ratios from age 45 onwards.

43. In all regions except the Soviet Union and Japan, urban femininity rises, or urban masculinity declines from age group 15-44 to age group 45-64. The contrary observations in the Soviet Union and Japan find their explanation in observed historic trends according to which, in both countries, urbanization was more dominantly masculine in earlier times than it has become more recently. These two exceptions aside, in most of the remaining regions the shift towards a less masculine or a more feminine urban population past the age of 45 is considerable.

44. Passing from the 45-64 age group to ages 65 and over, we find a considerable further shift towards a feminine urban population in all eight regions or countries. It is surprising that even in Africa, with an otherwise heavily masculine urban population, past the age of 65 women are more often found in urban places of residence than are men.

12/ A complicating factor, which could not be separated in the present argument, is the comparative aging effect of a comparatively low birth rate in the long run. If the urban-rural birth-rate difference is of very long standing, this circumstance alone can in part account for a greater aging of the urban, as compared with the rural, population. But this possible circumstance cannot explain the differences observed separately for each sex, as discussed further in the text.

Table 1.8. Sex ratios by age group in the urban and rural population, and urban-rural differences therein, in eight major regions or countries, about 1960 (males per 100 females of equal age)

Area	Age group (years)			
	0-14	15-44	45-64	65 and over
	Urban and rural population			
Oceania a/				
Urban	104.4	101.9	96.7	70.8
Rural	106.0	125.1	128.6	115.6
Northern America				
Urban	103.0	94.0	91.9	76.3
Rural	104.5	111.3	108.4	101.3
Latin America				
Urban	99.8	93.1	88.5	79.8
Rural	104.5	107.1	111.9	105.2
Europe				
Urban	104.3	95.4	84.5	62.7
Rural	104.9	100.7	92.6	76.0
Soviet Union				
Urban	103.9	87.7	61.5	42.0
Rural	103.9	87.7	54.6	50.5
Japan b/				
Urban	103.6	98.2	94.4	73.5
Rural	103.7	93.1	93.1	78.6
South Asia				
Urban	104.5	120.1	115.0	89.0
Rural	104.2	100.2	105.2	97.0
Africa				
Urban	99.3	122.1	106.6	79.9
Rural	100.4	96.0	92.9	83.6
	Difference (urban ratio minus rural ratio)			
Oceania a/	-1.6	-23.2	-31.9	-44.8
Northern America	-1.5	-17.3	-16.5	-25.0
Latin America	-4.7	-14.0	-20.5	-25.4
Europe	-0.6	-5.3	-8.1	-13.3
Soviet Union	0.0	0.0	6.9	-8.5
Japan b/	-0.1	5.1	7.2	-7.4
South Asia	0.3	19.9	9.8	-8.0
Africa	-1.1	26.1	13.7	-3.7

Source: United Nations Population Division.

a/ Australia and New Zealand only.

b/ "Urban" population taken as that of densely inhabited districts.

45. No satisfactory explanation has as yet been found to account for this seemingly greater preference for urban settlement on the part of women as compared with men. However, some additional light on this matter is thrown by a United Nations study 13/ on marital-status differences between the urban and rural population, for selected countries. It was noted in that study that widowed women, in particular, were urbanized to a greater degree than women in general, whereas for widowed men the opposite observation could be made. Table 1.9 below summarizes observations concerning widowed persons in the selected age group of 65-69 years. It appears that widowed men had no greater preference for an urban residence than men of the same age who were either single or married. Widowed women, on the other hand, were markedly more urbanized than other women of the same age. This observation was found to have equal validity in different parts of the world.

Table 1.9. Percentage of widowed persons of either sex among persons aged 65-69 years in the urban and rural population, and urban-rural difference in that percentage, in four groups of selected countries

Group of countries	Men			Women		
	Urban	Rural	Difference	Urban	Rural	Difference
North and South America 8 countries	10.8	12.1	-1.3	39.0	34.1	4.9
Europe and Soviet Union 10 countries	11.0	11.5	-0.5	43.6	36.7	6.9
East and South Asia 8 countries	16.4	17.7	-1.3	65.9	62.3	3.6
Africa 10 populations	11.2	10.6	0.6	63.8	55.3	8.5

Source: United Nations Population Division.

46. Briefly summarized, the observations point towards the following highly tentative conclusions:

(a) Limitations due to social roles, lack of education or early marriage in some regions prevent women from urbanizing to the same extent as men;

13/ United Nations Population Division Working Paper, "Urban-rural differences in the marital-status composition of the population," 7 August 1973 (ESA/P/WP.51).

(b) Women, however, seem everywhere to have a stronger preference for urbanization than do the men, as suggested by observations with advancing age and with widowhood;

(c) Where urban women are relatively abundant, the stability of urban residence is increased; and

(d) There is a likelihood that with time, improving education and generally increasing urbanization the urban populations will acquire an increasingly feminine character, eventually also causing a growing scarcity of women in the rural settlements.

47. These propositions, at present, can only be suggested as they still lack a more definite demonstration. Because of the importance of the subject-matter from the standpoints of social well-being and the quality of life, these hypothetical statements should be tested by means of specifically designed research or surveys.

1.7 The demographic outlook

48. It remains to discuss the latest United Nations projections of urban, rural and city populations up to the year 2000. 14/ Summary results are brought together in table 1.10.

49. The estimated and projected growth of urban populations is also illustrated in figure 1.VI, drawn on a logarithmic scale so that equal slopes of the graphs signify equal rates of growth. As can be seen, in Europe, Northern America and the Soviet Union urban growth, while still considerable, is now likely to slow down towards comparatively moderate rates. In East Asia, an exceptionally fast growth of urban population during the 1950s has been followed by a somewhat reduced but still very high rate which, according to the projections, may not slow down very much before the end of this century. Very high rates of urban population growth are likely to persist in South Asia, Latin America and Africa. As compared with 1975, the urban population is likely to increase, until the year 2000, by about one third in Europe, one half in Northern America and the Soviet Union, and two thirds in Oceania, whereas it may double in East Asia, grow two and one half times in Latin America and treble in Africa and South Asia.

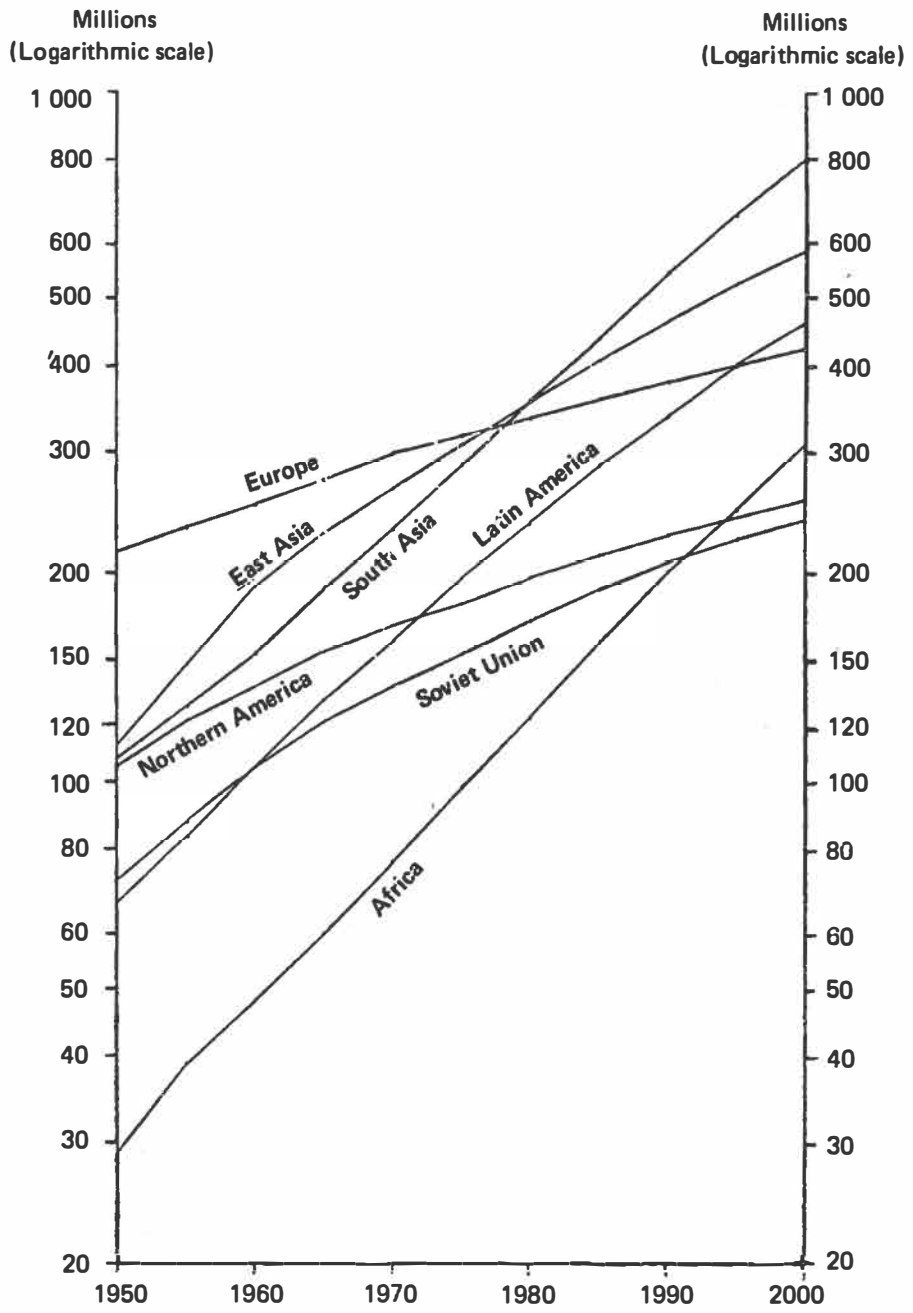
14/ As assessed in 1973 and 1974. The projection method makes flexible use of observed trends in the difference between urban and rural population growth rates, and between growth rates in given cities and in the remainder of the urban population. It leads to mutually consistent projections of urban, rural and city population. Methods are described in Manual VIII. Methods for projections of urban and rural population (United Nations publication, Sales No. 74.XII.3).

Table 1.10. Population size, 1975 and 2000, average annual population growth rates, 1975-2000, and percentage relationships, 1975 and 2000, regarding urban and rural population, with distinction also of million-cities, in presently more developed and presently less developed regions

Quantity	Presently more developed regions		Presently less developed regions	
	1975	2000	1975	2000
Population size (millions)				
Urban population of which:	783	1 107	775	1 996
Million-cities	262	447	244	916
Other urban population	521	660	531	1 080
Rural population	349	254	2 060	2 896
Total population	1 132	1 361	2 835	4 892
Average growth rates (per cent per year), 1975-2000				
Urban population of which:	1.4		3.8	
Million-cities	2.1		5.4	
Other urban population	1.0		2.9	
Rural population	-1.3		1.4	
Total population	1.0		2.2	
Percentage relationships				
Urban in total population	69.2	81.4	27.3	40.8
Million-cities in:				
Urban population	33.5	40.4	31.4	45.9
Total population	23.2	32.9	8.6	18.7

Source: Statistical annex (A/CONF.70/A/1/Annex), tables 1, 5 and 6.

Figure 1.VI.
Urban population, 1950-2000, in seven major areas



Source: Statistical annex (A/CONF. 70/A/1/Annex), table 1.

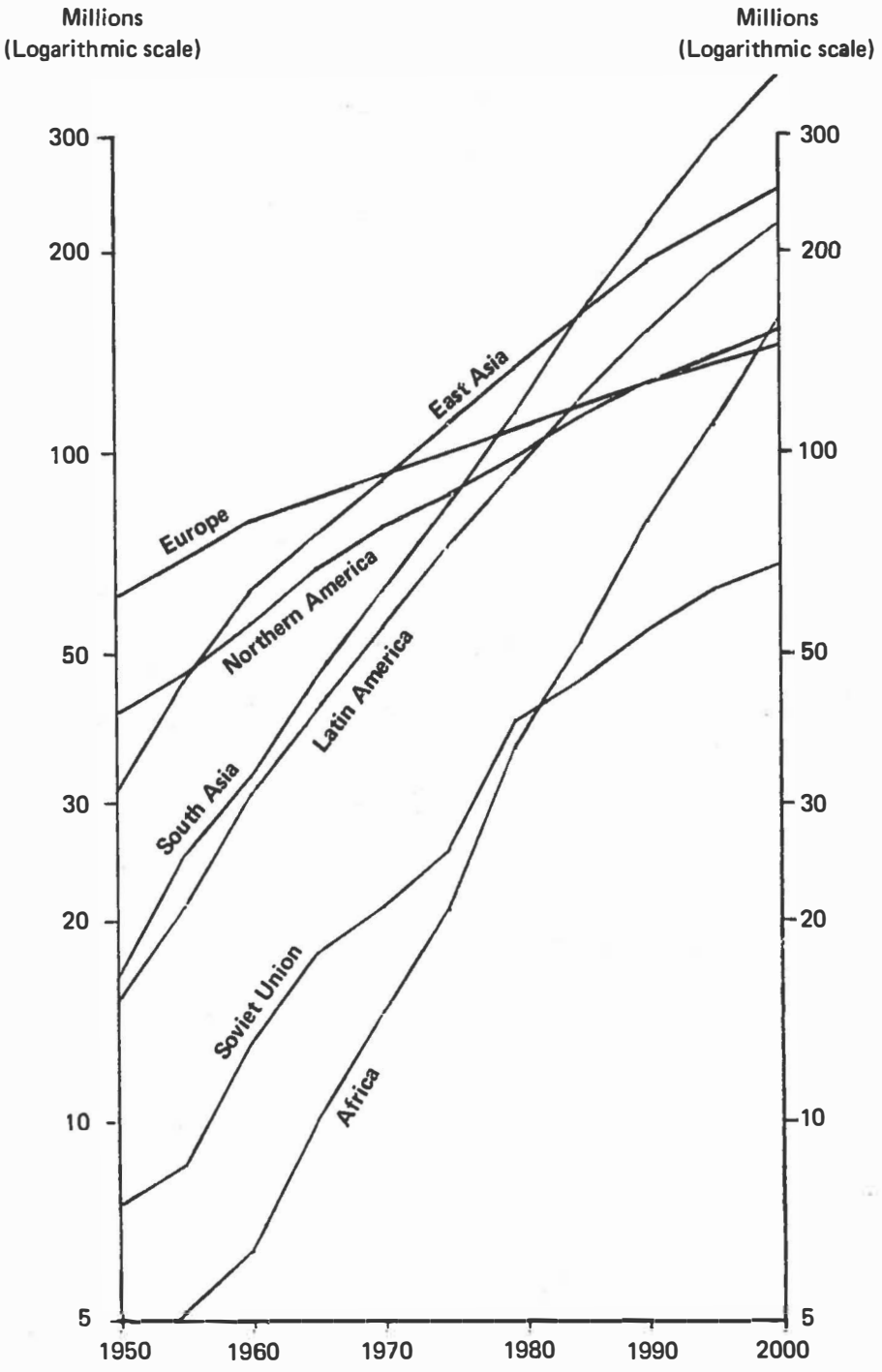
50. As illustrated in figure 1.VII, the population of large agglomerations, or cities exceeding 1 million inhabitants, will rise more steeply than the urban population as a whole, partly because of continuing growth in existing million-cities, and partly also because, with time, additional cities enter this size category. Again, it is South Asia, Latin America and Africa where foreseeable city growth will be the fastest. Between 1975 and the year 2000, million-city population is apt to increase by one half in Europe and by two thirds in Northern America, whereas it is likely to double in East Asia, to grow two and one half times in Oceania and the Soviet Union, and to increase threefold in Latin America, fourfold in South Asia and, conceivably, even sevenfold in Africa, partly because in that continent million-cities are still few but will, no doubt, become more numerous.

51. The growing importance of million-cities in the urban population can be inferred from these trends. Of the combined urban population, the percentage in million-cities may rise, between the years 1975 and 2000, from 16 to 27 in the Soviet Union, from 22 to 51 in Africa, from 30 to 46 in South Asia, from 31 to 34 in Europe, from 36 to 42 in East Asia, from 37 to 48 in Latin America, from 37 to 56 in Oceania and from 47 to 59 in Northern America. While more moderate in the Soviet Union and Europe, the proportion of urban population in big agglomerations is likely to approach or even exceed one half in all the other major areas.

52. To complete the picture, figure 1.VIII shows estimated and projected changes in rural population which are consistent with the urban estimates already discussed. In Europe, the Soviet Union and Northern America, rural population ceased to grow in the 1950s, is already declining and is apt to decrease with greater momentum in the future. A moderate but continuing rate of rural population growth is foreseen for Latin America and a diminishing rate also for East Asia. In South Asia and Africa rapid growth in rural population will presumably persist at least until the year 2000.

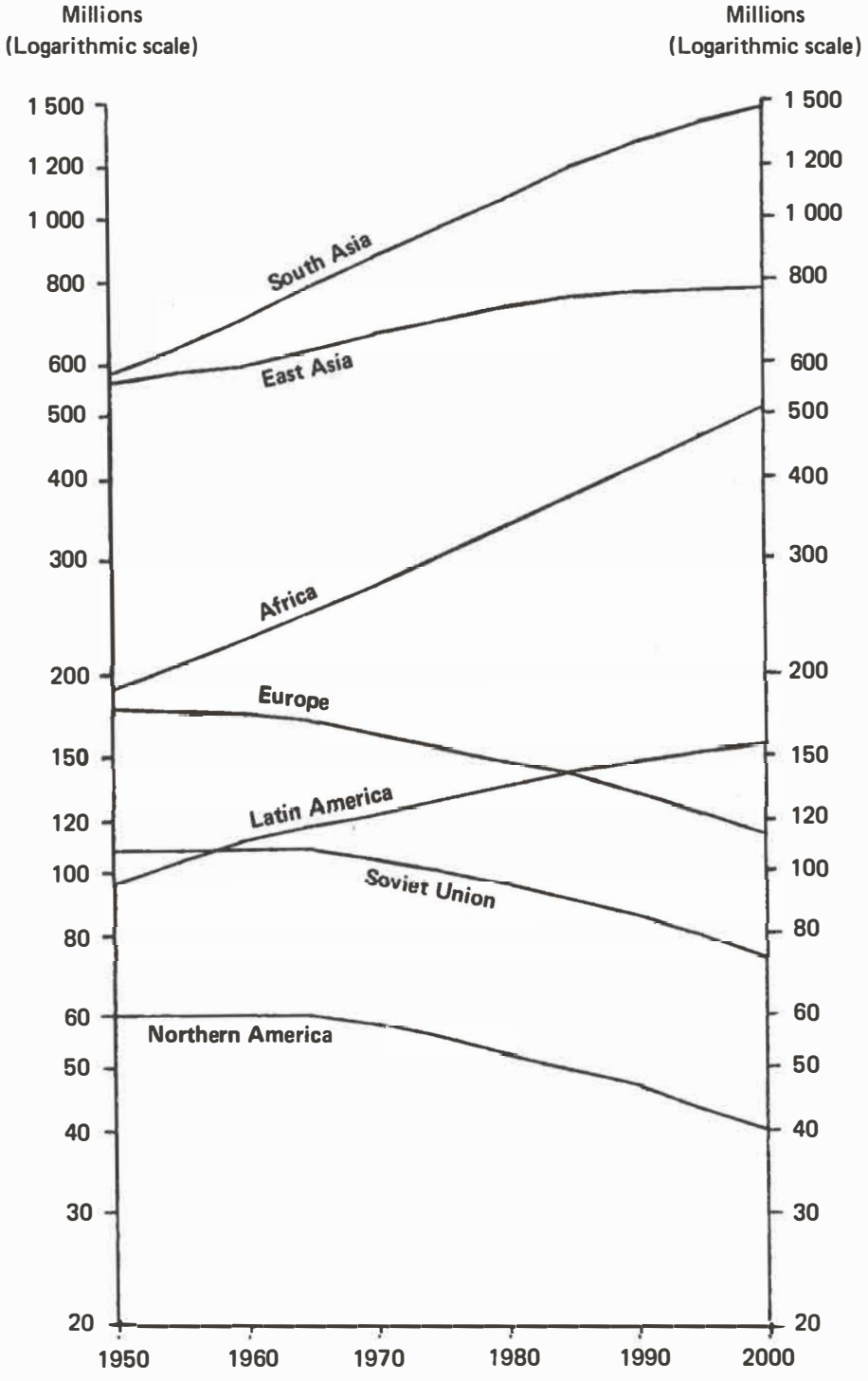
53. Considering the entire half century, from 1950 to 2000, one cannot help but envision that a vast transformation is in progress in the sizes and concentration of human settlements.

Figure 1.VII.
Population of agglomerations exceeding one million inhabitants, 1950-2000, in seven major areas



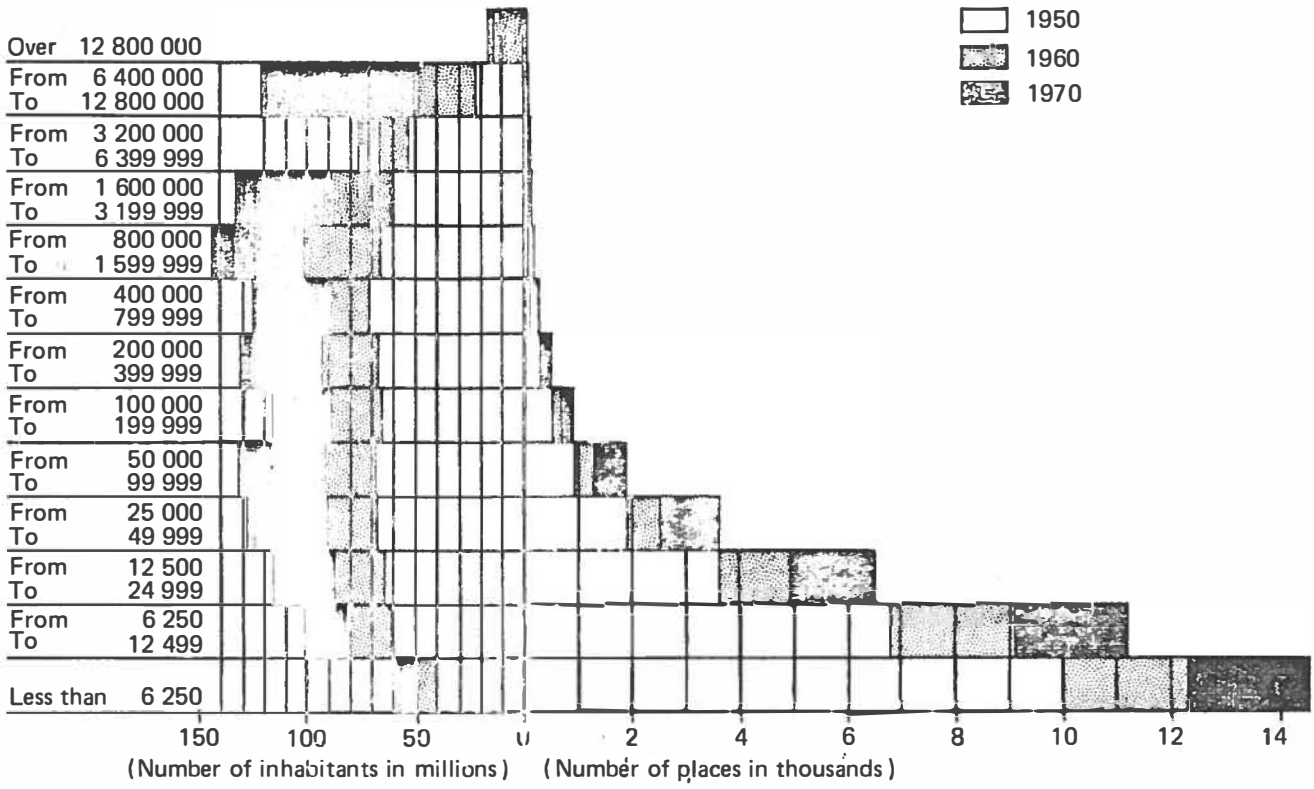
Source: United Nations Population Division.

Figure 1.VIII.
Rural population, 1950-2000, in seven major areas



Source: Statistical annex (A/CONF. 70/A/1/Annex), table 1.

Figure I.IX.
World's urban places classified by population and size



Source: Kingsley Davis, *World Urbanization, 1950-1970,* vol. II, *Analysis of Trends, Relationships and Development* (University of California, 1972).

2. Economic aspects

54. This section attempts to present available information on the interplay of economic activity and urbanization; especially in less developed countries. The relationship is considered in so far as it contributes to wealth and its distribution, employment and its location, and productivity and its consequence for human settlements. Existing patterns and future trends in labour force absorption, according to each of the main economic sectors, are discussed, with special emphasis on the "informal sector" of urban economies. The economic realities of both rural and urban poverty are described, the latter in terms of household income, its sources and the patterns of expenditure on food and shelter.

2.1 Degrees of urbanization and level of gross national product per capita

55. In the developed countries, both high levels of urbanization and high rates of urban population growth have historically been associated with a high and rising ratio of gross national product (GNP) to population. The force binding these trends together, it is generally assumed, has been rapid industrialization, replaced increasingly in later years by the increases in total productivity made possible by the availability of up-to-date information, information processing and communications, technologies and advanced techniques of decision-making.

56. With regard to the present situation in developing countries, however, the data reveal that high levels of urbanization and high rates of urban population growth must be clearly distinguished. There is a clear indication that the more a developing country is urbanized, the higher the per capita gross national product. This relationship is shown for both developed and developing countries in figure 2.I.

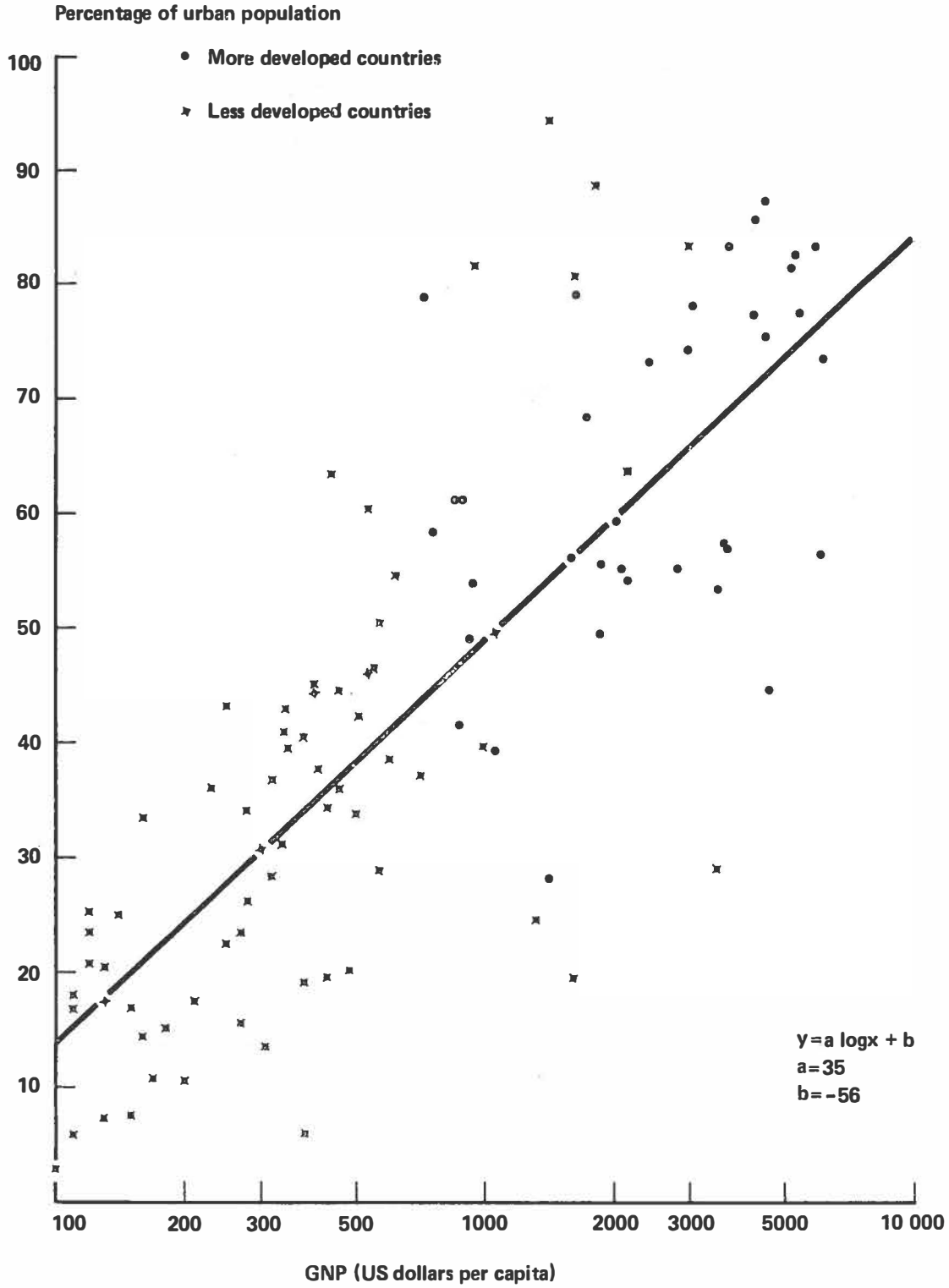
2.2 Growth rate of urban population and rate of increase in GNP per capita

57. However, it is important to note that there is not a similar clear relationship between the rate of increase in urban population in developing countries and the rate of increase of GNP per capita. Some of the most rapidly urbanizing countries are not only some of the poorest, but also ones in which the ratio of GNP to population is increasing very slowly if at all. This is shown in figure 2.II for the same countries included in the previous figure.

58. Figure 2.II illustrates that a rapid increase in urban population will not necessarily lead to a corresponding rate of growth in GNP. Although high concentrations of population in urban areas are associated positively with high per capita GNP, it does not follow that fast-growing urban concentration means fast increases in a nation's wealth or productivity.

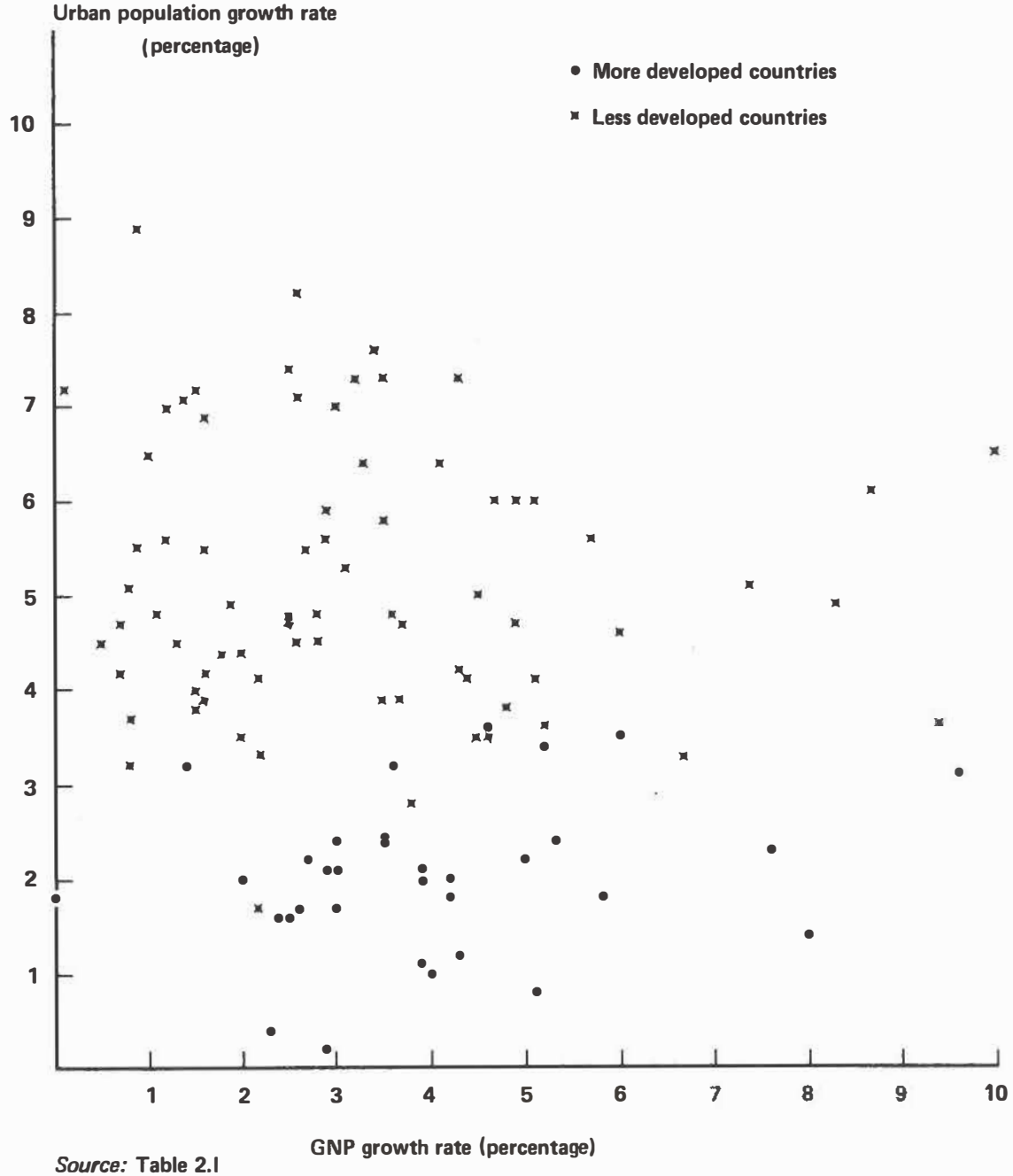
59. The data on which figures 2.I and 2.II are based can be found in table 2.1. Examination of this table shows that most of the less developed countries are considerably less urbanized that the industrialized ones, but are urbanizing more rapidly. Their growth rate of GNP per capita (with some notable exceptions especially among oil-exporting countries) continues to be extremely low.

Figure 2.I.
Degree of urbanisation compared with gross national product per capita, 1973



Source: Table 2.I

Figure 2.II.
Comparison of annual average percentage rates of growth of urban population and annual average percentage rates of growth in gross national product per capita, 1965–1973



Source: Table 2.I

Consequently, the relationship between urbanization and economic development, or the lack of it, is clearly more complex than any simple correlation of the type provided in figure 2.I might suggest at first glance. A better understanding of the relationship in question may be provided by examining economic activities according to their principal sectors.

Table 2.1. Gross national product and urban population

Country or area	Gross national product at market prices		Urban population	
	US dollars per capita in 1973	Average annual growth rate 1965-1973	As percentage total population 1973	Average annual growth rate 1965-1973
1	2	3	4	5
United States	6,200	2.5	73.4	1.6
Switzerland	6,100	3.0	56.3	1.7
Sweden	5,910	2.4	82.7	1.6
Canada	5,450	3.5	77.3	2.4
Germany, Fed. Rep. of	5,320	4.0	82.4	1.0
Denmark	5,210	3.8	81.1	1.1
Norway	4,660	3.8	44.3	2.1
Belgium	4,560	4.6	87.1	3.6
France	4,540	5.0	74.8	2.2
Australia	4,350	3.0	85.5	2.4
Netherlands	4,330	4.3	77.4	1.2
New Zealand	3,680	2.0	82.6	2.0
Japan	3,630	9.6	57.2	3.1
Finland	3,600	5.2	57.1	3.4
Libyan Arab Republic	3,530	5.7	29.3	5.6
Austria	3,510	5.1	52.8	0.8
United Kingdom	3,060	2.3	78.0	0.4
Israel	3,010	6.7	82.9	3.3
German Dem. Republic	3,000	2.9	74.3	0.2
Czechoslovakia	2,870	2.6	55.0	1.7
Italy	2,450	4.2	73.0	1.8
Puerto Rico	2,180	5.2	63.7	3.6
Ireland	2,150	3.9	54.1	2.0
Poland	2,090	4.2	55.0	2.0
USSR	2,030	3.5	59.2	2.4
Greece	1,870	7.6	55.4	2.3
Hungary	1,850	2.7	49.3	2.2
Singapore	1,830	9.4	88.6	3.6
Spain	1,710	5.3	68.3	2.4
Argentina	1,640	2.9	78.9	2.1

Table 2.1 (continued)

1	2	3	4	5
Venezuela	1,630	1.3	81.1	4.5
Saudi Arabia	1,610	10.1	19.6	6.5
Bulgaria	1,590	3.6	56.2	3.2
Hong Kong	1,430	5.8	94.3	1.8
Portugal	1,410	8.0	28.0	1.4
Trinidad and Tobago	1,310	2.2	24.7	1.7
Yugoslavia	1,060	6.0	38.3	3.5
South Africa	1,050	2.0	49.1	3.5
Jamaica	990	4.8	39.4	3.8
Uruguay	950	0.0	81.5	1.8
Lebanon	940	3.5	53.7	7.3
Panama	920	4.3	49.0	4.2
Mexico	890	2.8	61.2	4.5
Iran	870	7.4	42.6	5.1
Iraq	850	2.9	61.4	5.9
Brazil	760	6.0	58.3	4.6
Chile	720	1.4	78.7	3.2
Costa Rica	710	3.5	37.2	3.9
Peru	620	1.8	54.6	4.4
Turkey	600	4.4	38.6	4.1
Malaysia	570	3.7	28.7	3.9
Algeria	570	4.3	50.4	7.3
Mongolia	550	1.6	46.4	3.9
Cuba	540	-0.7	60.3	3.4
Nicaragua	540	1.6	46.9	4.2
Dominican Republic	520	5.1	42.3	6.0
Guatemala	500	3.8	33.8	2.8
Angola	490	3.2	20.2	7.3
Albania	460	5.1	36.0	4.1
Tunisia	460	4.9	44.5	4.7
Colombia	440	3.1	63.4	5.3
Zambia	430	-0.2	34.3	8.0
Rhodesia	430	3.5	19.1	5.8
Paraguay	410	2.2	37.7	3.3
Syrian Arab Rep.	400	3.6	44.4	4.8
Republic of Korea	400	8.7	45.0	6.1
Ivory Coast	380	3.0	18.9	7.0
Ecuador	380	2.8	40.5	4.8
Mozambique	380	4.1	5.9	6.4
El Salvador	350	0.8	39.5	3.7
Jordan	344	-2.6	43.0	2.0
Democratic People's Rep. of Korea	340	2.7	40.9	5.5
Congo	340	1.9	31.2	4.9
Morocco	320	2.5	36.8	4.7

Table 2.1 (continued)

1	2	3	4	5
Honduras	320	1.1	28.3	4.8
Liberia	310	4.7	13.5	6.0
Ghana	300	0.8	30.8	5.1
Senegal	280	-2.8	26.2	4.1
Philippines	280	2.6	34.1	4.5
China	270	4.6	23.5	3.5
Thailand	270	4.5	15.7	5.0
Egypt	250	0.8	43.2	3.2
United Republic of Cameroon	250	4.9	22.4	6.0
Bolivia	230	2.2	36.1	4.1
Nigeria	210	8.3	17.4	4.9
Mauritania	200	1.2	10.4	5.6
Togo	180	2.5	15.2	7.4
Kenya	170	3.3	10.7	6.4
Sierra Leone	160	1.5	14.5	4.0
Central African Rep.	160	1.0	33.4	6.5
Madagascar	150	0.9	16.8	5.5
Uganda	150	1.2	7.7	7.0
Zaire	140	2.9	25.1	5.6
Indonesia	130	4.5	17.5	3.5
United Rep. of Tanzania	130	2.6	7.3	7.1
Haiti	130	0.7	20.4	4.7
India	120	1.5	20.8	3.8
Sri Lanka	120	2.0	23.4	4.4
Pakistan	120	2.5	25.2	4.8
Benin	110	1.5	16.8	7.2
Malawi	110	3.7	6.0	4.7
Guinea	110	0.1	18.0	7.2
Lesotho	100	2.6	2.9	8.2
Ethiopia	90	1.6	11.0	6.9
Afghanistan	90	0.9	15.0	8.9
Somalia	80	1.6	27.1	5.5
Burma	80	0.7	21.3	4.2
Burundi	80	1.4	3.5	7.1
Rwanda	70	3.2	3.4	7.6
Mali	70	0.5	12.9	4.5

Source: World Bank Atlas, 1975 (advance copy of the 10th edition). Statistical annex (A/CONF.70/A/1/Annex), table 1.

2.3 Urbanization and the economic sectors

60. This section presents available data on the agricultural, industrial, service and construction sectors of economic activities in so far as they relate to the generation of employment and income and thus to the chief economic factors influencing human settlements.

2.3.1 Agricultural sector

2.3.1.1 Rural poverty

61. Rural poverty is acknowledged by everyone to be a major factor in the migration of people to urban areas. But measurements of rural poverty are, for the most part, indirect.

62. A policy studies group within FAO recently compared the per capita gross domestic product (GDP) in agriculture with the per capita GDP in the rest of the economy over time for a large number of countries, developed and less developed. The results of their work 1/ show that the per capita GDP in agriculture in 1970-1971 was 27 per cent of the per capita GDP in the rest of the economy for some 53 less developed countries. In the 12 least developed nations in this group the percentage was only 21 per cent while for the developed market economies the percentage was 55.

63. These figures take on added significance when we consider the population trends discussed in section 1.4 above. Rural populations in more developed regions are declining, whereas in less developed regions they are growing. While the growth rate of GDP in agriculture lags behind that of other sectors in both developed and developing areas of the world (see figures 2.III and 2.IV), the declining rural population in more developed regions more than offsets the lower productivity of agriculture.

64. While the majority of rural populations in less developed countries are probably not wage earners, a comparison of wages paid in agriculture with those paid in non-agricultural sectors for those less developed countries reporting such figures shows agricultural workers to be generally the lowest paid of all wage earners. 2/

65. Another factor in rural poverty is income distribution. The few data available indicate that incomes in the agricultural sector of less developed countries may be even less equally distributed than in other economic sectors. Table 2.2 reproduces data from three countries. It can be seen that the vast majority of the poverty group in these countries earn their livelihood from agriculture.

1/ IMIMCO Corp. S.A., "Rural settlements in developing countries: Trends and issues from selected experiences in improving their habitat" (unpublished draft) (Rome, FAO, Agrarian Reform Division, May 1975), table 5, pp. V and VI.

2/ See International Labour Office, Yearbook of Labour Statistics 1974, Geneva, 1974, pp. 544-546 and 551-555.

Figure 2.III.
Index numbers of gross domestic product by kind of economic activity, 1960–1973; developing market economies

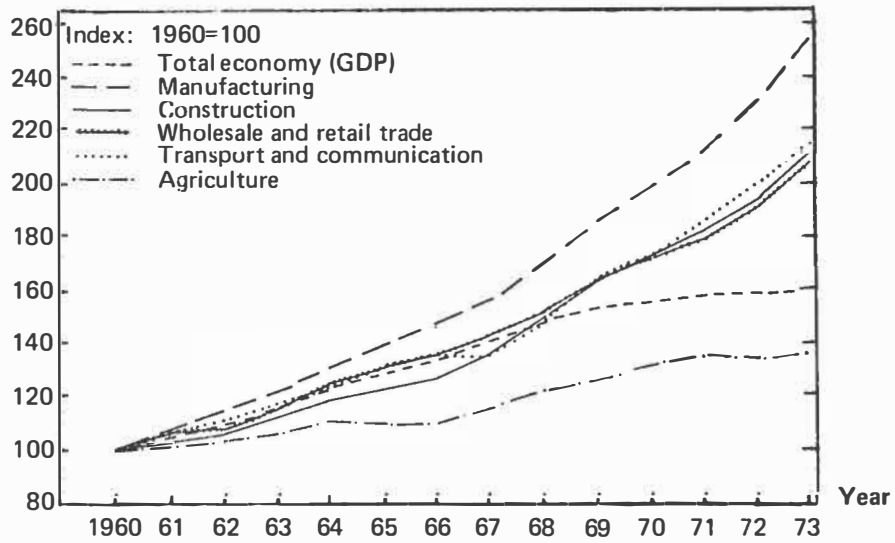
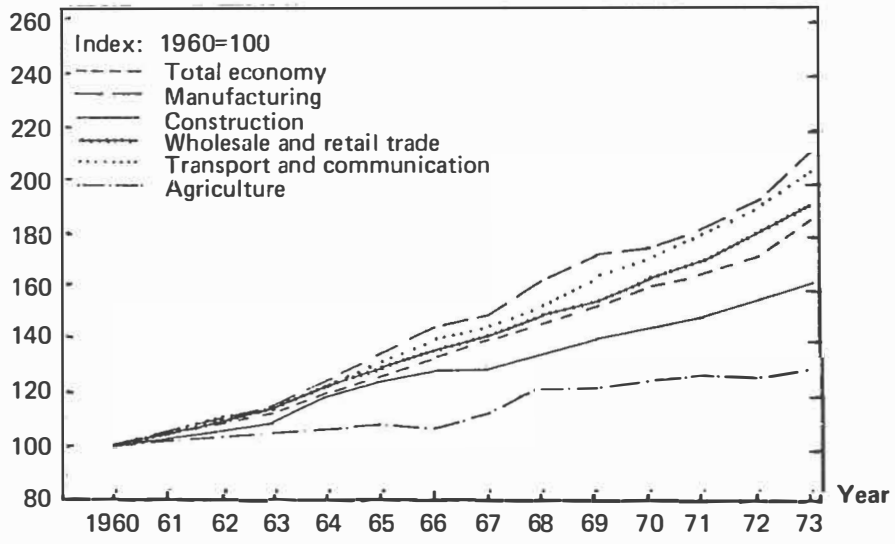


Figure 2.IV.
Index numbers of gross domestic product by kind of economic activity, 1960–1973; developed market economies



Source: *Yearbook of National Accounts Statistics 1974* (United Nations publication Sales No. E.75.XVII.5).

Table 2.2. Income distribution by economic sector in three less developed countries

(Figures in each row are percentage distribution across sectors)

	Percentile groups		Agriculture	Mining and industry	Construction	Transport and commerce	Services	Other	Total
I. Mexico (1963)	Richest	6	19.0	23.0	2.0	19	37.0	-	100.0
		17	30.0	19.0	2.0	18	30.0	1.0	100.0
		30	29.0	24.0	5.0	16	25.0	1.0	100.0
	Poorest	47	63.0	9.0	6.0	8	14.0	-	100.0
	Total	100	45.0	16.0	5.0	13	21.0	-	100.0
II. Malaysia (1970)	Richest	5	9.0	14.0	3.0	25	47.0	2.0	100.0
		46	33.0	13.0	4.1	24	24.0	2.0	100.0
	Poorest	49	71.0	7.0	2.0	12	7.0	1.0	100.0
	Total	100	50.0	10.0	3.0	18	17.0	2.0	100.0
III. Chile (1968)	Richest	5	33.0	16.0	9.0	18	19.0	5.0	100.0
		19	51.0	13.0	5.0	13	14.0	4.0	100.0
		37	57.0	14.0	8.0	8	6.0	7.0	100.0
	Poorest	39	70.0	7.0	5.0	5	2.0	11.0	100.0
	Total	100	56.0	10.0	6.0	10	8.0	10.0	100.0

Source: Hollis Chenery et al., Redistribution with Growth (London, Oxford University Press, 1974), p. 20.

/...

66. Unequal distribution of agricultural incomes is related to inequalities in the distribution of population relative to cropland and to the unequal concentration of land holdings. Tables reproduced here and in the statistical annex summarize the available global data on these subjects.

Table 2.3. Productivity, employment and the distribution of land in different countries

Country	Data year	Farm GDP per hectare ($US)	Farm GDP per worker ($US)	Employment per hectare	Average holding size (hectare)	Gini's Index of Land Concentration [a/]
Europe						
Greece	1961	424	848	0.50	3.18	.597
Spain	1962	90	980	0.09	14.85	.832
Central America						
Costa Rica	1963	83	951	0.09	40.74	
Dominican Rep.	1971	129	463	0.28	8.64	
El Salvador	1961	186	489	0.38	6.95	
Guatemala	1964	144	492	0.29	8.17	
Mexico	1960	22	569	0.04	123.90	
Nicaragua	1963	55	580	0.09	37.34	
South America						
Argentina	1970	18	1,903	0.01	270.10	.873
Brazil	1960	14	285	0.05	79.25	.845
Chile	1965	18	692	0.03	118.50	
Colombia	1960	67	663	0.10	22.60	.865
Paraguay	1961	11	479	0.02	108.70	
Peru	1961	50	477	0.10	20.37	.947
Uruguay	1966	14	1,333	0.01	208.80	.833
Venezuela	1961	31	925	0.03	81.24	.936
Asia						
India	1960	172	141	1.22	6.52	.607
Indonesia	1963	323	149	2.17	1.05	
Iran	1960	187	581	0.32	6.05	.624
Rep. of Korea	1970	1,085	377	2.88	0.85	
Japan	1960	1,720	1,188	1.45	1.18	.473
Nepal	1961/62	352	138	2.54	1.23	
Pakistan	1960	240	249	0.96	2.35	.607
Philippines	1960	250	200	1.25	3.59	.580
Sri Lanka	1962	376	337	1.12	1.61	
Thailand	1963	166	137	1.21	3.47	
Turkey	1963	155	243	0.64	5.03	.611
Rep. of South Viet-Nam	1960	355	127	2.79	1.33	

Table 2.3 (continued)

Country	Data year	Farm GDP per hectare ($US)	Farm GDP per worker ($US)	Employment per hectare	Average holding size (hectare)	Gini's Index of Land Concentration
Africa						
Botswana	1969/70	168	142	1.18	4.75	
Egypt	1960/61	681	360	1.89	1.59	
Kenya	1969	183	140	1.31	4.20	
Madagascar	1961/62	293	88	3.32	1.04	
Mali	1960	98	48	2.06	4.35	
Morocco	1961	144	295	0.49	4.62	
Senegal	1960	209	174	1.20	3.62	
Togo	1961/62	189	180	1.05	2.62	
Tunisia	1961/62	42	341	0.12	15.41	
Uganda	1963/64	167	198	0.84	3.29	
Zambia	1960	68	101	0.67		

Source: Land Reform, World Bank Paper - Rural Development Series, July 1974, p. 31.

a/ Gini's Index of Land Concentration - an index of concentration based on the departure of an existing pattern of holdings from an even distribution as revealed by a Lorenz curve. Higher index value indicates a greater degree of concentration.

67. Table 14 of the statistical annex shows the wide range of differences among countries in rural population density. It also indicates that the countries with a high proportion of population in agriculture tend to have the less favourable ratios of population to land.

68. Table 2.3 indicates an association between high concentration of land ownership and lower GDP per hectare.

69. Table 2.4 shows the distribution of agricultural holdings by size for 83 countries included in the 1960 World Census of Agriculture. According to the table, 58.0 per cent of all farmers had holdings under two hectares and these holdings represented only 2.8 per cent of total land in holdings and 8.7 per cent of cropland in holdings. The larger holdings (over 100 hectares), held by 1.8 per cent of farmers, comprised 73.0 per cent of all land and 35.5 per cent of cropland.

Table 2.4. Distribution of holdings by size and percentage of total holdings; distribution of holdings by percentage of land and cropland

Size distribution	Number of holdings (millions)	Number of holdings Percentage distribution	All land in holding %	Cropland in holding %
Under 1 ha	53.90	38.9	1.1	3.4
1 ha and under 2	26.55	19.2	1.7	5.3
2 ha and under 5	28.73	20.7	4.0	12.0
5 ha and under 10	18.24	9.5	4.2	11.5
10 ha and under 20	7.27	5.2	4.4	10.7
20 ha and under 50	4.40	3.2	5.8	11.8
50 ha and under 100	1.97	1.4	5.8	9.8
100 ha and under 200	1.40	1.0	6.6	11.0
200 ha and under 500	0.67	0.48	8.6	11.5
500 ha and under 1000	0.23	0.16	6.5	5.9
1000 ha and over	0.23	0.16	51.3	7.1
Total	1[illegible].59	100.00	100.00	100.00

Source: Report on the 1960 World Census of Agriculture (Rome, Food and Agriculture Organization, 1971), pp. 34-36.

70. Agricultural employment has been declining relative to employment in other economic sectors and projections for the future anticipate its further decline (see sect. 2.10 below).

71. All these factors combined provide a strong economic explanation for the movement of population from agricultural to non-agricultural settlements in less developed regions.

2.3.1.2 Non-agricultural work force in rural areas and agricultural work force in urban areas

72. The United Nations Population Division has recently analysed labour force statistics in the context of urban and rural residence. 3/ The rural and agricultural labour forces do not always coincide. On the one hand there is often a significant minority of urban residents employed in agriculture whereas on the other, there are certain countries where a large percentage of rural residents are engaged in non-agricultural activities.

3/ United Nations, Department of Economic and Social Affairs, Population Division, "Agriculture, industry and services in the urban and rural labour force", 30 September 1975 (ESA/P/WP.57).

73. Tables 2.5 and 2.6 show how these distinctions appear in the labour force composition of 25 countries divided into three groups. In the first group of countries (all with a strongly agrarian economic base at the time these statistics were recorded), there is a fair coincidence of agricultural and rural labour force. In the third group (highly industrialized for the most part) just the opposite is true: typically half the rural labour force, and sometimes much more, is engaged in non-agricultural employment, though in certain cases, such as the United States and the Federal Republic of Germany, a significant portion of the agricultural labour force resides in urban areas. The second group represents a wide diversity of conditions.

74. The analysis by the Population Division of time trends in seven countries led to the following observation: "Despite the fact that the percentage of urban residents engaged in agriculture is declining in all countries considered here, the percentage of urban residents among all persons engaged in agriculture has actually risen in all the countries except Bangladesh and Pakistan. In other words, even though urban labour force is becoming less agricultural, agricultural labour force is becoming more urban." 4/

2.3.2 The industrial sector

75. The economic sector classically associated with urbanization is the industrial sector or, at least, the manufacturing portion of the industrial sector. It is frequently assumed that transfers from agricultural to industrial employment mean geographical displacement from rural to urban areas. Although this may not always be the case, it appears to hold true in the vast majority of cases. Most modern industry, especially in less developed regions, is located in urban areas. The great hope of less developed countries for absorbing the labour force displaced from agriculture has been industrial growth and consequent expansion of industrial employment.

76. Industrial growth in less developed countries has, in fact, been quite rapid. During the 1960s, the average growth in manufacturing production was higher in the developing countries (about 7 per cent a year) than in the more developed countries (about 6 per cent). 5/ Between 1971 and 1973 the annual rate of industrial output for the developing countries as a whole accelerated to about 10 per cent in 1973 and early 1974. 6/ This growth has not been evenly divided, of course.

4/ Ibid., p. 70.

5/ World Economic Survey, 1969-1970 (United Nations publication, Sales No. E.71.II.C.1), p. 24.

6/ World Economic Survey 1974, Part One: Mid-Term Review and Appraisal of Progress in the Implementation of the International Development Strategy, New York, 1975 (United Nations publication, Sales No. E.75.II.C.1), p. 16.

Table 2.5. Percentage composition of urban and rural labour force, classified by agricultural and non-agricultural employments

Country	Year	Urban labour force			Rural labour force		
		Total	Agricultural	Non-agricultural	Total	Agricultural	Non-agricultural
Group I		100.0	15.7	84.3	100.0	83.5	16.6
Mali	1960-61	100.0	32.6	67.4	100.0	93.7	6.3
Bangladesh	1961	100.0	8.6	91.4	100.0	87.7	12.3
Turkey	1960	100.0	10.7	89.3	100.0	90.5	9.5
India	1961	100.0	12.5	87.4	100.0	82.0	18.0
Indonesia	1971	100.0	10.3	89.6	100.0	72.3	27.7
Ghana	1960	100.0	19.3	80.7	100.0	74.6	25.4
Group II		100.0	11.8	88.2	100.0	73.5	26.6
Nicaragua	1963	100.0	16.4	83.6	100.0	88.2	11.8
Pakistan	1961	100.0	4.3	95.7	100.0	69.0	31.0
Brazil: Santa Catarina	1960	100.0	10.1	89.9	100.0	78.5	21.5
Romania	1966	100.0	15.8	84.2	100.0	79.4	20.6
Iran	1956	100.0	12.1	87.9	100.0	75.8	24.2
Greece	1961	100.0	9.0	90.9	100.0	80.3	19.7
Sri Lanka	1953	100.0	6.2	93.8	100.0	61.4	38.6
Algeria	1966	100.0	26.8	73.2	100.0	67.3	32.7
Peru	1961	100.0	18.5	81.5	100.0	80.8	19.2
Poland	1960	100.0	7.0	93.0	100.0	77.0	23.1
Brazil: Pará	1960	100.0	11.0	89.0	100.0	67.0	33.0
Portugal	1960	100.0	4.5	95.5	100.0	56.7	43.3
Group III		100.0	3.8	96.2	100.0	50.1	50.0
Spain	1960	100.0	9.7	90.4	100.0	61.5	38.5
Finland	1960	100.0	2.2	97.8	100.0	57.6	42.4
South Africa	1960	100.0	2.8	97.1	100.0	73.0	27.0
Chile	1960	100.0	5.7	94.3	100.0	76.5	23.5
Japan a/	1970	100.0	1.9	98.1	100.0	38.1	62.0
Germany, Federal Republic of	1961	100.0	3.6	96.4	100.0	31.7	68.3
United States	1970	100.0	1.0	99.0	100.0	12.0	88.0

Source: Department of Economic and Social Affairs, Population Division, "Agriculture, industry and services in the urban and rural labour force", 30 September 1975 (ESA/P/WP.57).

a/ Definition of urban areas: densely inhabited districts.

Table 2.6. Urban and rural residence composition of labour force in agricultural and non-agricultural labour force

Country	Year	Total			Agricultural labour force			Non-agricultural labour force		
		Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
Group I		100.0	13.9	86.1	100.0	3.1	97.0	100.0	44.9	55.1
Mali	1960-61	100.0	8.5	91.5	100.0	3.1	96.9	100.0	50.1	49.9
Bangladesh	1961	100.0	3.4	96.6	100.0	0.3	99.7	100.0	20.7	79.3
Turkey	1960	100.0	19.5	80.5	100.0	2.8	97.2	100.0	69.3	30.7
India	1961	100.0	14.0	86.0	100.0	2.4	97.6	100.0	44.2	55.8
Indonesia	1971	100.0	14.8	85.2	100.0	2.4	97.6	100.0	36.0	64.0
Ghana	1960	100.0	23.4	76.6	100.0	7.3	92.7	100.0	49.2	50.8
Group II		100.0	33.2	66.8	100.0	8.2	91.8	100.0	61.4	38.6
Nicaragua	1963	100.0	39.9	60.1	100.0	11.0	89.0	100.0	82.5	17.5
Pakistan	1961	100.0	15.5	84.5	100.0	1.1	98.9	100.0	36.1	63.9
Brazil: Santa Catarina	1960	100.0	30.3	69.7	100.0	5.3	94.7	100.0	64.6	35.4
Romania	1966	100.0	35.0	65.0	100.0	9.7	90.3	100.0	68.7	31.3
Iran	1956	100.0	30.6	69.4	100.0	6.6	93.4	100.0	61.6	38.4
Greece	1961	100.0	37.1	62.9	100.0	6.2	93.8	100.0	73.1	26.9
Sri Lanka	1953	100.0	15.3	84.7	100.0	1.8	98.2	100.0	30.6	69.4
Algeria	1966	100.0	38.3	61.7	100.0	19.8	80.2	100.0	58.1	41.9
Peru	1961	100.0	49.8	50.2	100.0	18.5	81.5	100.0	80.8	19.2
Poland	1960	100.0	42.7	57.3	100.0	6.4	93.6	100.0	75.1	24.9
Brazil: Pará	1960	100.0	38.3	61.7	100.0	9.3	90.7	100.0	62.6	37.4
Portugal	1960	100.0	25.1	74.9	100.0	2.6	97.4	100.0	42.5	57.5
Group III		100.0	59.1	40.9	100.0	12.3	87.7	100.0	74.3	25.7
Spain	1960	100.0	42.0	58.0	100.0	10.2	89.8	100.0	62.8	37.1
Finland	1960	100.0	40.0	60.0	100.0	2.5	97.5	100.0	60.6	39.4
South Africa	1960	100.0	58.1	41.9	100.0	5.1	94.9	100.0	83.3	16.8
Chile	1960	100.0	68.9	31.1	100.0	14.2	85.8	100.0	89.9	10.1
Japan a/	1970	100.0	52.0	48.0	100.0	5.2	94.8	100.0	63.1	36.9
Germany, Fed. Rep. of	1961	100.0	77.2	22.8	100.0	27.8	72.2	100.0	82.7	17.3
United States	1970	100.0	75.6	24.4	100.0	20.8	79.2	100.0	77.7	22.3

Source: Department of Economic and Social Affairs, Population Division, "Agriculture, industry and services in the urban and rural labour force", 30 September 1975 (ESA/P/WP.57).

a/ Definition of urban areas: densely inhabited districts.

77. However, the general dynamism of manufacturing output in the third world has not been accompanied by corresponding growth in employment. Table 2.7 compares growth trends in output and employment in the manufacturing sector for 12 less developed countries. It is clear that manufacturing employment has failed to grow as fast as manufacturing output. However, some caution is required in interpreting this table. Where data on manufacturing output were available only at current prices, the true difference is smaller, due to inflation. But the size of the differential is usually so big that inflation can account for only a portion of it.

Table 2.7. Comparison of percentage growth trends in output and employment in manufacturing sector (selected representative less developed countries available data)

		Per cent change in manufacturing output	Per cent change in No. of employees in manufacturing
Argentina	1963-1969	64.0[a/]	-0.09
Brazil	1959-1969	94.7[a/]	11.6
Colombia	1963-1969	149.0[b/]	18.3
Egypt	1957-1967		38.9
	1958-1968	244.4[a/]	
India	1963-1967	15.0[b/]	9.0
Indonesia	1951-1959	57.8[c/]	0.98
Iran[d/]	1963-1969	169.0[b/]	83.0
Iraq	1963-1971	134.3[b/]	80.1
Nigeria	1963-1971	249.3[b/]	121.1
Pakistan	1963-1968	87.8[b/]	18.0
	1968-1970	-6.0[b/]	-33.8
Philippines	1961-1971	75.0[a/]	53.0
Zambia	1963-1970	445.0[b/]	148.0

Source: Growth of World Industry, vol. I, 1963-1975 (United Nations publications, Sales Nos. 63.XVII.5, 64.XVII.8, 67.XVII.10, 69.XVII.13, 70.XVII.18, 71.XVII.6, 72.XVII.4, 73.XVII.6, 74.XVII.4, 75.XVII.5).

a/ Based on index numbers, 1963 100.

b/ At current prices.

c/ Constant prices, 1955 = 100.

d/ Includes that part of the petroleum industry not classified under mining.

78. The existence of a substantial differential between the two rates of growth is confirmed in instances where data are available for manufacturing output at constant prices or in index number form based on constant price data. One source 7/ has concluded that even when manufacturing employment growth rates are high, this sector is such a small part of the total developing countries' urban economy that the total labour absorption capacity of manufacturing remains low. This situation in manufacturing has serious implications with regard to urban unemployment, income, the creation of urban markets for national commodities and the capacity of the mass of the urban population to pay its share of any settlement improvements. This subject is discussed further, in terms of future trends, in section 2.10 below.

79. One would expect the high growth rates of manufacturing output to be reflected in higher wages paid by the manufacturing sector as compared to other sectors. But this is not reflected in the limited data available. Though generally much higher than agricultural wages, reported manufacturing wages in 15 out of the 19 less developed countries for which corresponding figures are available are lower than the average for all non-agricultural sectors. 8/ Though there are a number of possible explanations for this, the subject deserves further investigation.

2.3.3 Services

80. There are many problems involved in defining the "service sector" of a national economy. In much of the discussion about urban economies, "services" often constitute a residual category comprising most of the activities which are not classified under industrial or agricultural production, leaving the real definition of services quite imprecise. A further complexity is introduced by those commentators who argue that services in highly industrialized countries are likely to be much more connected with industrial activity than in less developed countries and more intimately associated with the productivity of the industrial sector.

81. For less developed countries, on the other hand, it is argued that this ancillary function is true for only a small part of service activities, the one related to the modern sector of the economy. Therefore many observers see a large part of service employment in less developed countries as economically "superfluous" or at least very low in productivity. Activities in this sector are often described as "undisguised unemployment" heavily dominated by self-employed "informal" workers, unpaid family workers, etc.

82. Another opinion argues that service activities in less developed countries have important economic functions. It is held that persons in this sector of the economy play an essential part in the process of capital accumulation in the modern

---

7/ Harold Lubell, Urbanization and Employment: Insights from a Series of Case Studies of Third World Metropolitan Cities, Urbanization and Employment Research Programme (Geneva, ILO, 1974), p. 2.

8/ International Labour Office, op. cit., pp. 544-546 and 551-555.

sector. One group of "service workers" serves to distribute, very cheaply, goods produced in the modern sector. The employment thus generated contributes to the accumulation of savings to produce housing and other infrastructure for the poor in human settlements. (See sect. 2.4.)

83. Unfortunately, comprehensive data to support these different arguments are lacking because of the disparities in service activities, the lack of official recognition for many services and the general problems of definition.

84. The United Nations Population Division, in its recent working paper on "Agriculture, Industry and Services in the Urban and Rural Labour Force", understands services to include all economic activities classified under commerce, transport, storage, communications and those public and private services which include financing, insurance, real estate and business services, community, social and personal services, and public administration.

85. Some of the main findings of that paper are listed below. They are based on a study of 25 countries. It should be kept in mind that they cover, for the most part, only formal sector 9/ employment. (The relevant figures are presented in tables 2.8 and 2.9.)

(1) Most urban areas studied contain more service workers than industrial workers (as indicated by service to industry ratios in excess of 100 in table 2.8);

(2) The second largest component of total non-agricultural labour force in the more agrarian countries, next to urban service labour force, is rural service labour force. The rural services of these countries are relatively abundant where the level of industrialization is particularly small. In less agrarian countries, the rural service labour force roughly equals the rural industrial labour force;

(3) The richer the country the more urban is its service labour force (table 2.9); and

(4) Services are urbanized to a higher degree than industry (table 2.9).

2.3.4 The construction sector

86. The fact that more than 80 per cent of the world's gross domestic product in the construction sector derives from the developed countries reveals that the human and material resources for building activities are very unequally distributed among regions and countries and that construction does not fulfil its potential as a generator of employment for the abundant labour force in less developed regions.

87. A recent general study of the construction industry shows that "countries with a per capita gross national product (GNP) of $700 or more accounted for nearly

---

9/ For an explanation of the relationship between formal and informal sectors see sect. 2.5 below.

Table 2.8. Percentage composition of non-agricultural labour force, and comparison of percentage ratios, cross-classified by urban and rural residence and employment in industry and services

Country	Year	Total non-agricultural labour force	Urban		Rural		Service-to-industry ratios		
			Industry	Services	Industry	Services	Total	Urban	Rural
Group I		100.0	14.3	35.5	19.1	31.2	227	338	172
Mali	1960-61	100.0	6.0	44.1	13.7	36.2	409	741	265
Bangladesh	1961	100.0	-	-	-	-	-	-	-
Turkey	1960	100.0	25.1	44.2	13.8	16.8	157	176	122
India	1961	100.0	16.4	27.8	25.8	30.1	137	169	117
Indonesia	1971	100.0	7.1	28.9	19.2	44.8	280	409	233
Ghana	1960	100.0	16.7	32.5	22.7	28.1	154	194	124
Group II		100.0	24.7	39.0	18.3	18.0	142	198	103
Nicaragua	1963	100.0	32.5	50.1	7.6	9.9	150	154	131
Pakistan	1961	100.0	-	-	-	-	-	-	-
Brazil: Santa Catarina	1960	100.0	20.4	44.2	19.5	15.9	150	216	82
Romania	1966	100.0	38.6	30.1	18.8	12.5	74	78	67
Iran	1956	100.0	26.0	35.6	20.0	18.4	117	137	92
Greece	1961	100.0	30.0	43.2	11.6	15.3	141	144	132
Sri Lanka	1953	100.0	5.2	25.4	21.7	47.7	272	490	220
Algeria	1966	100.0	18.2	40.0	17.9	24.0	177	220	134
Peru	1961	100.0	27.3	53.5	10.4	8.8	166	196	85
Poland	1960	100.0	41.3	33.8	13.4	11.5	83	82	86
Brazil: Pará	1960	100.0	15.8	46.8	26.1	11.3	139	297	44
Portugal	1960	100.0	16.4	26.1	34.8	22.6	95	159	65
Group III		100.0	32.3	42.0	13.0	12.7	126	136	104
Spain	1960	100.0	27.2	35.7	20.4	16.7	110	131	82
Finland	1960	100.0	29.1	31.5	19.6	19.8	105	108	101
South Africa	1960	100.0	37.7	45.5	6.6	10.1	125	121	152
Chile	1960	100.0	34.4	55.5	4.7	5.4	156	161	116
Japan a/	1970	100.0	25.3	37.8	17.7	19.2	133	149	109
Germany, Fed. Rep. of b/	1961	100.0	46.5	36.2	11.9	5.4	71	78	45
United States	1970	100.0	25.8	51.9	9.9	12.4	180	201	126

Source: United Nations, Department of Economic and Social Affairs, Population Division, "Agriculture, Industry and Services in the Urban and Rural Labour Force", 30 September 1975 (ESA/P/WP.57), pp. 59 and 61.

a/ Definition of urban areas: densely inhabited districts.

b/ Definition of urban areas: communes with 2,000 or more inhabitants.

/...

Table 2.9. Urban and rural residence composition of labour force in industry and services

Country	Year	Workers in industry			Workers in services		
		Total	Urban	Rural	Total	Urban	Rural
Group I		100.0	40.6	59.4	100.0	53.6	46.4
Mali	1960-61	100.0	30.3	69.7	100.0	54.9	45.1
Bangladesh	1961	100.0	-	-	100.0	-	-
Turkey	1960	100.0	64.5	35.5	100.0	72.4	27.6
India	1961	100.0	38.9	61.1	100.0	48.0	52.0
Indonesia	1971	100.0	26.9	73.1	100.0	39.2	60.8
Ghana	1960	100.0	42.4	57.6	100.0	53.6	46.4
Group II		100.0	56.0	44.0	100.0	69.0	31.0
Nicaragua	1963	100.0	81.1	18.9	100.0	83.5	16.5
Pakistan	1961	100.0	-	-	100.0	-	-
Brazil: Santa Catarina	1960	100.0	51.2	48.8	100.0	73.4	26.5
Romania	1966	100.0	67.3	32.7	100.0	70.7	29.3
Iran	1956	100.0	56.4	43.6	100.0	65.9	34.1
Greece	1961	100.0	72.2	27.8	100.0	73.8	26.2
Sri Lanka	1953	100.0	19.3	80.7	100.0	34.7	65.3
Algeria	1966	100.0	50.4	49.6	100.0	62.5	37.5
Peru	1961	100.0	72.4	27.6	100.0	85.8	14.2
Poland	1960	100.0	75.5	24.5	100.0	74.6	25.4
Brazil: Pará	1960	100.0	37.7	62.3	100.0	80.5	19.5
Portugal	1960	100.0	32.0	68.0	100.0	53.6	46.4
Group III		100.0	71.6	28.4	100.0	76.7	23.3
Spain	1960	100.0	57.2	42.8	100.0	68.1	31.9
Finland	1960	100.0	59.7	40.3	100.0	61.5	33.5
South Africa	1960	100.0	85.0	15.0	100.0	81.9	18.1
Chile	1960	100.0	88.0	12.0	100.0	91.1	8.9
Japan a/	1970	100.0	58.9	41.1	100.0	66.3	33.7
Germany, Fed. Rep. of	1961	100.0	79.7	20.3	100.0	87.1	12.9
United States	1970	100.0	72.4	27.6	100.0	80.7	19.3

Source: Ibid., p. 65.

a/ Definition of urban areas: densely inhabited districts.

88 per cent of construction in the world in 1965. In that year, nearly 40 per cent of the world's gross domestic capital formation (GDCF) in construction was in North America alone. The data also show a strong positive correlation between the per capita value added in construction and per capita gross domestic product (GDP)." 10/

88. Data for the world as a whole show that, in all countries, construction is a fairly sizable sector of economic activity. Its contribution to the gross domestic product varies from 2 to 10 per cent in developing countries. 11/ In most countries, construction contributes more than half of gross domestic fixed capital formation. Housing construction alone represents between 15 and 30 per cent of fixed capital formation in the majority of countries for which figures are available. 12/ On the other hand, annual fluctuation in construction investment is considerable and is much greater in developing than in industrialized countries. 13/ This makes it difficult to maintain stable employment and promote efficiency and better technology in building.

2.3.4.1 Structural aspects of the construction industry

89. An important factor in the building industry is the size and stability of construction firms. In the majority of developed countries with market economies, small and medium-sized companies usually prevail, the typical registered building firm having anywhere from 5 to 200 employees. In countries with centrally planned economies, where large building enterprises are the rule, the average number of employees may vary from 600 to 4,000. However, in several of the market economies of Europe, the influence of concentration can be felt, reflected in the fact that a relatively small number of large firms carry out a considerable and ever-increasing proportion of building activities.

90. In many less developed countries building is characterized by the existence of two sectors: (a) a multitude of very small enterprises of an artisan character, which operate in the rural and peri-urban areas, belonging almost entirely to the informal sector of the economy; (b) a small number of large firms using modern techniques and organization, undertaking a major share of the work in urban centres and all of the large infrastructural projects. This sector has the same or similar features as in developed countries and is sometimes owned and operated by expatriates, particularly in Africa. Besides the above-mentioned traditional and modern sectors, a third sector of an intermediate character is rapidly emerging which is entirely in the hands of nationals and is represented by small to medium-sized firms capable of carrying out less complicated projects using mostly local skills and materials.

10/ Fred Moavenzadeh et al., "The construction industry in developing countries", Technology Adaptation Programme, Cambridge, MIT, Spring 1975, p. 9.

11/ Yearbook of National Accounts Statistics 1974 (United Nations publication, Sales No. 75.XVII.5), pp. 60-86.

12/ Compendium of Housing Statistics, 1972-1974, New York (advance copy).

13/ Demographic Yearbook 1973 (United Nations publication, Sales No. E/F.74.XIII.1).

91. These organizational features of the construction sector in less developed countries are related to the household expenditure patterns for housing in these countries. Examination of the International Labour Organisation's Household Income and Expenditure Statistics shows that the total volume of household income expended on housing tends to be highly concentrated in the small upper income groups. There is often greater financial incentive for industry to build a few houses for the well-to-do minority rather than many houses for the majority. (See sect. 2.10.)

2.3.4.2 Employment and wages in construction

92. Construction provides a substantial source of employment in all countries, whether labour-intensive or labour saving techniques predominate. Figures covering the formal sector alone show that physical construction activities employ some 2 to 6 per cent of the total labour force while ancillary operations provide an additional 2 to 4 per cent. The corresponding figures for developed countries are 6 to 10 per cent and 4 to 6 per cent. 14/ If the informal sector is added, these percentages are probably higher. Construction's share in employment has tended to increase over the years in less developed countries while remaining fairly stable in countries such as the United States. 15/

93. An ILO study shows that, in less developed countries, the construction share of industrial workers ranges from 10 to 77 per cent (median of 25 per cent). The corresponding figures for developed countries are 13 to 29 per cent (median of 21 per cent). 16/ Share of construction in the economically active population is generally larger than its share in the GDP in both developing and developed countries, suggesting that its labour productivity is less than that of the economy as a whole. Moreover, comparing the ratio of construction's share in GDP to its share in employment with the same ratios for manufacturing and agriculture, indicates that labour productivity in construction is much less than that in manufacturing but somewhat more than that in agriculture. Thus, construction in both developing and developed countries is generally a quite highly labour-intensive industry; the data suggest that construction is relatively more labour-intensive in developing than in developed countries. 17/

94. The unsteady nature of construction employment in many countries is revealed by the high incidence of unemployment, which is between two and three times higher than the average rate of unemployment for the economy as a whole.

95. Another important feature of employment conditions is wages in construction. In industrialized countries, wages tend to be higher than those in manufacturing,

---

14/ United Nations Industrial Development Organization, "Construction industry", Monograph No. 2, 1969 (ID/40/2).

15/ Moavenzadeh, op. cit., p. 15, and table 2.3b, p. 17.

16/ International Labour Organisation, Construction Skills, CIRF Monograph No. 4, Geneva, 1969, CIRF Publications, as cited in Moavenzadeh, ibid., p. 18.

17/ Moavenzadeh, op. cit., pp. 18-19, and table 2.4, p. 20.

whereas in most developing countries wages paid to construction workers are lower than manufacturing wages. 18/ It is reported, however, that during the past 10 years, wages in the building industry in several developing countries have also increased, in some cases considerably.

2.4 The informal sector 19/

96. Recent studies are beginning to confirm the view that it is the "informal sector" 19/ which absorbs much of the labour surplus in the third world. Although employment in this sector is usually badly paid, it is the way in which millions of households survive. The informal sector has its own special structures closely linked with community organization, which vary a great deal from one culture to another. For this reason, it can be best described by case studies rather than by global statistics. The following case study material is taken from preliminary working papers prepared by consultants for the ILO's Urbanization and Employment Research Programme.

97. Howrah - Calcutta, India 20/ In 1974, 649 industrial units were recorded in slum areas of Howrah, Calcutta, including 56 types of industries which employed 4,433 people. These were grouped under 12 broad industrial groups (see table 2.10). Of the industrial units surveyed, nearly 70 per cent were registered neither under the Indian Factory Act nor with the Directorates of Cottage and Small-Scale

---

18/ See International Labour Office, Yearbook of Labour Statistics 1974 op. cit., pp. 544-546 and 551-555.

19/ The characteristics of the informal sector are described by the ILO report on Kenya as follows: "ease of entry; reliance on indigenous resources; family ownership of enterprises; small scale of operation; labour intensive and adapted technology; skills acquired outside the formal school system; and unregulated and competitive markets. The formal sector activities are characterised by the obverse of the above". (Cf. ILO, Employment, incomes and equality: A Strategy for Increasing Productive Employment in Kenya, Geneva, 1973, p. 6. See also V. S. Sethuraman, "Towards a definition of the informal sector", ILO World Employment Research Programme Working Papers, unpublished mimeo, Geneva, 1974.) The informal sector is also characterized by the condition in which the activity is carried out and the origin and importance of capital invested. The term "informal" is used here in the same sense as it is used in literature referred to. However, while the informal and the formal economic sectors may sometimes appear to operate in two different markets, these two sectors are often interdependent. Indeed, some observers maintain that the under-development of the informal sector is a necessary condition for the development and advancement of the organized, formal sector, and vice versa. Thus, changes in either one would have a corresponding effect on the other.

20/ N. A. Bose, "The informal sector in the Calcutta metropolitan economy", Working Paper of the World Employment Research Programme, Geneva, ILO, 1974 (WEP, 2-19, WP5).

Table 2.10. Distribution of units and their employment by industry group and employment size classes, Calcutta area slums, 1974

Industry group	Number of employment size class									
	1-4 employees		5-9 employees		10-19 employees		20+ employees		Total	
	Empl.	Units	Empl.	Units	Empl.	Units	Empl.	Units	Empl.	Units
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1. Food + tobacco . . .	77	27	164	25	42	3	-	-	283	55
2. Textiles	64	23	107	16	174	13	95	2	440	54
3. Wood	129	49	80	14	22	2	69	2	300	67
4. Paper	12	4	38	6	-	-	-	-	50	10
5. Printing	19	8	33	5	14	1	-	-	66	14
6. Leather	30	10	73	12	43	3	47	2	193	27
7. Rubber	6	3	20	3	10	1	-	-	36	7
8. Chemicals	81	27	264	37	262	21	41	2	648	87
9. Non-metallic products	29	8	95	15	128	11	221	4	473	38
10. Metal products (excluding machinery)	170	57	565	85	282	23	168	5	1 185	170
11. Machinery	87	29	229	34	171	12	71	2	558	77
12. Miscellaneous	59	22	96	14	46	3	-	-	201	39
TOTAL	763	267	1 764	266	1 194	93	712	19	4 433	645

Source: N. A. Bose, "The informal sector in the Calcutta metropolitan economy", World Employment Research Programme Working Papers, Geneva, ILO, 1974, p. 4.6, table 47 (WEP 2-19, WP5).

Industries. Although voluntary, the latter registration is a necessary prerequisite for Government assistance. Only 28 per cent of the units were registered with the Directorate of Cottage and Small-Scale Industries.

98. In 1974, most of the units in the slum areas were small and slightly over 80 per cent of them were made up of less than 10 persons. There were also 19 relatively large units employing an average of about 40 persons. Some 63 per cent of the units were located in quarters which were also used for residence. It is also noteworthy that, in 1973, 70 per cent of total units operated 250 or more days while only 4 per cent operated less than 100 days during the year.

99. The existence of these industries is based upon the use of highly divisible industrial processes. In 1974, 43 per cent of the units spent less than $200/unit for machinery, and only 23 per cent of the units spent more than $1,300. It is also significant that only 2.2 per cent of the total value of the machinery was foreign. Calcutta's slum industries require only $196 worthy of machinery to employ one worker - a very low figure compared to the modern sector. In 1974, only $587 of productive capital (machinery, buildings, land and working capital) was used to employ one person in the slum industry. About $2,000 in fixed capital alone (machinery, buildings and land) was required by the national registered factory sector in 1968, i.e. more than six times the amount ($310) which prevailed in slum units in 1974.

100. Jakarta, Indonesia 21/ The unemployment situation in Jakarta worsened during the 1960s, increasing from 7.4 to 12.8 per cent of the labour force. Had it not been for the growth of the informal sector, unemployment levels in Jakarta would have been much higher.

101. The informal sector accounted for almost half (45 per cent) of total employment in Jakarta in 1967. It accounted for about 40 per cent of employment in the service and trade sectors and about 70 and 85 per cent of the transport and construction sectors respectively (see table 2.11). Among the informal trade activities, retail trade, particularly the sale of goods and services by hawkers and other street vendors, appears to be the most important. The estimated number of hawkers in Jakarta is about 30,000. About two thirds of them have a modest daily sales turnover of between Rps. 250 ($.60) and Rps. 2,500 ($6.00) per day and a third of the units reported a turnover above Rps. 2,500 per day. A large majority of the hawker businesses are owner-operated, and about 40 per cent of them employ additional hands, mostly male relatives, with or without wage payment. There are also some 130 registered and unregistered markets with an average number of 540 individual stalls in each. Only 40 per cent of the units employed a single person and the rest more than one.

102. The informal transportation sector employs about 84,000 people and accounts for about 18 per cent of all informal sector employment (see table 2.11). As in many other Asian cities, transport by rickshaw (betjak) is common. The rate of

---

21/ V. S. Sethuraman, "Urbanization and employment in Jakarta", World Employment Research Programme Working Papers (unpublished mimeo), Geneva, ILO, 1974.

Table 2.11. Employment in registered and unregistered enterprises by industry, 1967, in Jakarta

Industry	Total	Registered commercial enterprises	Unregistered enterprises	Government + formal non-commercial enterprises	Informal sector	Informal sector as % of total (5) + (1)	Distribution within informal sector (%)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Agriculture, and related industries	42 940	5 814	37 126	-	37 126	86	7.8
Manufacturing . . .	124 132	92 324	31 808	-	31 808	26	6.7
Electricity, gas and water	6 053	2 150	3 903	-	3 903	64	0.8
Construction	83 247	12 427	70 820	-	70 820	85	14.8
Trade, restaurants and hotel	254 560	153 929	100 631	-	100 631	40	21.0
Transport, storage and communication	121 910	37 800	84 110	-	84 110	69	17.6
Banking, etc. . . .	29 039	23 316	5 723	-	5 723	20	1.2
Services	369 670	5 700	363 970	220 000	143 970	39	30.1
Others (including mining, quarrying and unknown) . . .	25 931	-	-	-	-	-	-
TOTAL	1 057 482	333 460	698 091	220 000	478 091	45	100.0

Source: V. S. Sethuraman, "Urbanisation and employment in Jakarta", World Employment Research Programme Working Papers (unpublished mimeo), Geneva, ILO, 1974, p. 7.4.

increase in the number of betjaks during 1966-1971 was 10.5 per cent per year. In 1971, the contribution of betjaks to the gross domestic product of the Jakarta region was estimated to be Rps. 3.15 billion (equivalent to $7.63 million in constant 1969 prices), 22/ or a gross annual income of $100 per betjak. In spite of this, the Master Plan of Jakarta states: "It is expected that, at the beginning of 1980, the function of the betjak as a means of transport would become non-existent." 23/

103. The informal construction sector was reported as employing some 70,000 people (see table 2.11).

104. The informal manufacturing sector is comprised of many of Jakarta's "small manufacturing industries" plus the "home" industries. These two groups together contributed more than Rps. 6 billion in 1969 prices (about $15 million) to Jakarta's gross domestic product in 1971. This represents about one third of the total gross domestic product of the manufacturing sector in the Jakarta region; it provided an estimated average annual income per worker well below Rps. 94,000 ($228).

105. Abidjan and Bouaké, Ivory Coast 24/ Total employment in Abidjan, one of the most dynamic cities in Western Africa, increased by 50,000 between 1965 and 1970. The formal sector absorbed 64 per cent of this increase, while the informal sector absorbed 36 per cent. Informal sector employment grew faster than formal sector employment during this period.

106. Handicrafts and trade appear to be the most prominent activities in the informal sector, but there is also a good deal of employment related to housing and vehicle repair. Productivity in the informal sector, expressed in terms of value added per worker, is estimated to be only 23 per cent that of the formal sector in secondary activities and 54 per cent in tertiary ones.

107. Further details on the character of informal sector retail enterprises in the Ivory Coast are provided by a 1969 study from the city of Bouaké. 25/ It showed that most of the entrepreneurs were young (77 per cent under 40), most of the businesses recently established (64 per cent less than 5 years old), and 94 per cent of initial capital from family sources. The amounts of initial capital were equally modest:

22/ Government of Jakarta, Census and Statistical Office, Pendapatan Regional DKI Jakarta 1966-1971, DCI Jakarta, 1973, table 6.10, p. 92, as cited in Sethuraman, op. cit., p. 7.9.

23/ Government of Jakarta, Dinas Kata Kota, Rentjana Induk Jakarta 1965-1985, DCI Jakarta, 1966, p. 39, as cited in Sethuraman, op. cit., p. 7.10.

24/ Heather Joshi, Harold Lubell and Jean Mouly, Urban Development and Employment in Abidjan, World Employment Programme Research Working Paper, Geneva, ILO, October 1974.

25/ Castella, P., "Ville de Bouaké, 1969: Résultats d'enquête: Comptes économiques de la ville", as cited in Joshi et al., op. cit.

Under 10,000 CFA ($45)	37 per cent
10,000 to 50,000 CFA ($45 $227)	43 " "
50,000 to 100,000 CFA ($227-$454)	16 " "
Over 100,000	4 " "
	100 per cent

108. Belo Horizonte and Sao Paulo (Brazil) 26/ The informal sector of Greater Sao Paulo in 1970 was estimated to consist of 168,526 establishments (including self-employed persons) employing nearly 25 per cent of the active labour force. In addition to these "informal sector workers", the ILO's Sao Paulo study adds a significant category of "informal workers employed in the formal sector". When these are added to the informal sector workers, the total informal labour market ranges between 35 and 40 per cent of Sao Paulo's total 1970 labour market. These estimates are similar to the ones for Belo Horizonte, where about 20 per cent of employed males and 50 per cent of employed females work in the informal sector. 27/

109. The informal sector labour force of Greater Sao Paulo and Belo Horizonte consists mainly of low income earners who are frequently young (ages 15-24) and female. Females are primarily employed in commerce and services where wages are generally low. The study concludes that the informal sector in Sao Paulo and Belo Horizonte provides the primary source of employment to the lowest socio-economic groups and credentials to unskilled workers waiting to enter the formal sector.

110. Greater Sao Paulo's informal sector has a relatively greater participation rate of migrants as compared to those of non-migrants. Young workers of 16 to 24 years of age and migrants residing in the city for less than two years show the highest percentage of employment in the informal sector.

111. Lagos, Nigeria 28/ The ILO's study of this city estimates that well over a third of the labour force in Lagos is employed in the informal sector. Special attention is given in this study to the linkages between the formal and informal sectors. Several important linkages are described as follows:

26/ Kalmann Schaefer, "Urban development and employment in Sao Paulo", Working Paper of the World Employment Programme Research, Geneva, ILO, 1975 (WEP 2-19/WP12).

27/ Thomas Merrick, Informal sector employment in Brazil: A case study for Belo Horizonte (CEDEPLAR, Belo Horizonte, 1974, mimeo), p. 45, as cited by K. Schaefer, ibid. There is no great difference between Belo Horizonte and Sao Paulo estimates of informal employment and the ones derived by the ILO for urban Kenya when it accounted for 28 to 33 per cent of the urban employment; International Labour Office, Employment income and equality: A strategy for increasing productive employment in Kenya, op. cit., p. 225.

28/ O. J. Fapohunda et al., "Lagos: Urbanisation, income distribution and employment", Geneva, ILO, 1975, unpublished draft.

"Substantial proportions of the ready-made children's clothes that are sold by big commercial firms ... are sewn by seamstresses who have one sewing machine or two and engage one or two girls besides themselves to make the dresses. Many motor mechanics who have worked for the big motor firms leave after a few years to establish their own business. This has succeeded so well that it is cheaper and faster to take some types of cars to these so-called roadside mechanics instead of the dealers. In many cases, the quality of work is almost as good as that done in the firms' repair workshops. Another industry in which the informal sector has made inroads into the formal sector is the manufacture of furniture. High quality chairs and tables are being produced by carpenters in Lagos. Except for very high class cushioned living room sets, it is cheaper to buy intermediate and low quality furniture in Lagos from the carpenters. The main problem of the informal sector is standardization of quality and mass production. Even in the construction industry, much of the output is done by people in the informal sector. In many cases, the contractor employs these artisans and supervises them. With good supervision, the quality and finish of the house compare favourably with those constructed by professional firms of builders. Many of the firms of builders and engineers rely on these daily-paid occasional workers for the fulfilment of their contracts. They depend on them and usually subcontract to them for sand, gravel and at times for water.

"Perhaps the classical example of an activity in which the informal sector has superseded and is better and more efficient than the formal sector, whether in terms of availability of goods or in terms of prices, is the distributive trade - specifically in the native markets. You can get the foodstuffs you want much more easily and more cheaply in the Tejuoso, Oyingbo, Jankara or in any of the native markets than in any supermarket. There is hardly a Nigerian family in Lagos which does not purchase one thing or the other from the native market in the informal sector each week. Most families buy foodstuffs all the time from the informal sector. Whether in the native markets, at the roadside mechanics' workshops or at the street corner seamstresses' shops, there is a lot of economic activity going on in the informal sector of Lagos. The sector does produce essential goods and services, which are sometimes not available elsewhere, both for itself and for the formal sector of the economy.

"The importance of the informal sector in the economy of Lagos does not rest solely on the part of its output which it sells to the formal sector. The informal sector also contributes to the economy by buying some of its raw materials from the modern sector. Thus the informal sector can be seen as a production sector that buys inputs from the modern sector, uses its cheap labour to produce goods and services, and thus sells these cheaply to the modern sector. There is therefore a sort of exploitation of the informal sector by the modern sector. The exploitation of the surplus value of the informal sector is possible because of the economic setup of the country.

"When people migrate from the urban areas they usually stay with their relatives or friends. If they do not have any skills, as they often do not, they start looking for employment in the informal sector. They start first as an apprentice. Thus the informal sector becomes a training ground for people to learn some skills or trade. After the mastery of the skills many of these immigrants then look for employment in the modern sector. Thus as the economy grows, much economic development occurs in the urban areas. This induces people to migrate to the urban areas. The informal sector in the urban areas then grows and it is able to contribute more to the growth of the economy through purchases of raw materials, from the sale of finished products to the modern sector and through the training of skills that are later used in the modern sector."

2.5 Underemployment

112. To the extent that informal sector employment is unsteady, poorly paid and low in productivity it can be called underemployment. But not all informal economic activity is of this nature, and, furthermore, there is much work in the formal sector which pays too little for a person to live from it decently. In this section, the term underemployment is used to designate work in either the formal or informal sectors which does not yield enough income for a minimum standard of living, either because it is not steady enough or simply because the income it produces, even at full time, is insufficient.

2.5.1 Developing countries

113. The heaviest concentration of underemployment in less developed countries is considered to be in the agricultural sector, particularly in peasant farming, and urban areas in the tertiary sector of commerce and services. It is also obviously high in industries characterized by low wages and conventional manning practices, particularly among household enterprises which cover the self-employed and family workers, since the latter are run on the principle of assuring minimum subsistence to household members rather than maximizing profits over time. Excess of labour supply is generally translated in terms of partial employment of all household members rather than open unemployment of some of its members. 29/

114. The United Nations Economic Commission for Latin America stated that it can be estimated without exaggeration that 30 per cent or even 40 per cent of many Latin American countries' active population are underemployed. 30/ Latin America's available estimates of urban underemployment reveal very high rates, ranging from 20 per cent in Panama to 28 per cent in Chile, with Argentina, for which the rate was estimated at only 7 per cent, as the sole exception. 31/ (Table 2.12.)

29/ International Labour Office, Eleventh International Conference of Labour Statisticians, Measurement of Underemployment: Concepts and Methods, Geneva, 1966, pp. 6-7.

30/ United Nations Economic Commission for Latin America, Economic Survey of Latin America, 1964, New York, 1966, p. 46.

31/ G. W. Jones, "Underutilisation of manpower and demographic trends in Latin America", International Labour Review, vol. 98, No. 5, November 1968, pp. 451-469.

Table 2.12. Latin America: percentage of unemployed in the active population and estimated percentage of underemployed urban workers, 1960-1964

Country and year	Unemployment			Estimated urban underemployed
	Men + women	Men	Women	
Argentina, 1960 a/	2.7	2.1	4.7	7.0 k/
Chile, 1960 b/	6.7	7.2	4.9	28.0 l/
Colombia, 1964	4.9	5.1	4.1	-
Costa Rica, 1963 c/	7.9	7.8	4.5	-
Ecuador, 1962 d/	4.3	4.7	2.4	-
El Salvador, 1961 e/	5.4	5.6	4.1	21.0 m/
Guatemala, 1964 f/	1.5	1.4	1.5	-
Honduras, 1961 g/	7.8	7.0	12.5	-
Mexico, 1960 h/	1.6	1.7	1.1	-
Panama, 1960	11.2	9.4	18.1	20.0 n/
Peru, 1961	2.7	2.8	2.5	25.0 o/
Uruguay, 1963 i/	12.0	12.6	10.2	-
Venezuela, 1961 j/	13.7	14.7	9.4	-

Sources: International Labour Office, Planification de la main d'oeuvre et politique de l'emploi dans le développement économique, ILO, rapport II, Geneve, 1966, pp. 56-60; Instituto Interamerico de Estadistica: América en Cifras, 1963, vol. II, Situación Demográfica. Estado y movimiento de la población, Washington, D.C., Pan American Union, 1964, tables 201-11; non-published data furnished by the Pan American Union and by the United Nations Statistical Office.

Note: Persons currently looking for their first job are considered as unemployed.

a/ 14 years of age and older.

b/ 12 years of age and older.

c/ 12 years of age and older; data based on a sample of 5 per cent of families counted in census and on the entire group of other people.

d/ 12 years of age and older; data based on a sample of 3 per cent of the population.

e/ Data based on a sample of 5 per cent of the families counted in census and on a sample of 10 per cent of the people.

f/ 7 years of age and older; data based on a sample of 5 per cent of the population.

g/ Data based on a sample of 5 per cent of the population.

h/ 8 years of age and older.

i/ 10 years of age and older; data based on a sample of 5 per cent of the results of the census.

(Foot-notes continued on following page)

Foot-notes to table 2.12 (continued)

j/ Data based on a sample of 4 per cent of census questionnaires for the Caracas metropolitan region and on a sample of 1 per cent for the rest of the country.

k/ 1963-1964, Buenos Aires only; survey of the National Development Council; people working only a few hours.

l/ Metropolitan region only; poll by the Economic Institute of the University of Chile; working people wanting to work more hours.

m/ Metropolitan region only; sample of households; working people receiving a salary judged below the absolute minimum.

n/ Approximation. Preliminary results of experimental survey on the labour force undertaken in 1963. The level was higher among uneducated workers. For more details see ILO, 11th International Conference of Labour Statisticians, "Measurement of Underemployment: Concepts and Methods", Report IV, Geneva, 1966, pp. 67-69.

o/ Approximation; data based on an estimate according to which the underemployment in 1961 was 20.9 per cent in commerce and 29.5 per cent in the services.

115. Rural underemployment is the most difficult to measure. However, if we assume that an agricultural holding of less than 2 hectares does not provide full employment for the average rural family, it is possible to say that underemployment is pronounced in many regions. Thus, in a 1960 agricultural census, 47 per cent of El Salvador's holding had less than 1.62 hectares and 28 per cent and 20 per cent respectively of the Brazilian and Panamian holdings had less than 2 hectares. 32/ A study in Bolivia has estimated an excess of agricultural labour equal to 700,000 workers, i.e., more than one half the active population of the agricultural sector. 33/

116. Table 2.13 presents survey data from eight developing countries indicating differences in hours worked between urban and rural areas. There is a greater incidence of low working hours in the rural sector. The differences are considerably bigger for women than for men and greater in Asian countries surveyed than in Latin America.

2.5.2 Industrialized countries

117. The ILO's Eleventh International Conference of Labour Statisticians stated that underemployment in industrialized countries was on a limited scale in time and space and only covered a small segment of unused labour. It was commonly located in the economically lagging regions or depressed or backward branches of an economy of these countries, for example, certain coal mining districts or undeveloped farming areas. Underemployment might be due to discrimination on the grounds of sex, age, race, or nationality. Finally, underemployment may take the form of involuntary short-time working in industry due to a deficiency in demand which may accompany a recession in the economy as a whole or in a particular industry. 34/

2.6 Open unemployment

118. Open unemployment, in contrast to "hidden" unemployment, covers officially registered workers in full time unemployment. Therefore, this section covers only a portion of the unemployed. Many workers in the informal sector, perhaps the vast majority of them, are not covered by unemployment figures.

119. Urban-rural comparisons of unemployment rates are very often unreliable and distort the reality because of technical difficulties, due to differences of definitions and standardization in gathering data. It is particularly difficult

---

32/ Juan C. Elizaga, The demographic aspects of unemployment and underemployment in Latin America, a paper presented to the World Population Conference, Belgrade, 1965, as cited in ILO Labour Review, vol. 98, No. 5, November 1968, p. 507.

33/ International Labour Office, Planification de la main d'oeuvre et politique de l'emploi dans le developpement économique, rapport II, Geneva, 1966, p. 56.

34/ International Labour Office, Measurement of under-employment, op. cit., pp. 5-6.

Table 2.13. Hours worked in rural and urban areas - survey data

	Percentages of employed persons working less than x hours		
	Rural	Urban	Notes
Ceylon, 1968			
Less than 20 hours:			
Male	10.7	5.0	
Female	17.5	5.6	
Chile, 1968			
Less than 41 hours:			
Male	18.2	24.3	
Female	31.5	29.3	
Republic of Korea, 1963/67 average			
Average less than 40 hours:			Farm and non-farm
Both sexes	46.0	17.0	households
India			
Less than 43 hours:			
1958/1959 both sexes	41.2		
1961/1962 both sexes		24.3	
Philippines, 1962			
Less than 40 hours:			Agricultural and
Male	30.4	14.8	non-agricultural
Female	71.2	36.7	industries
United Republic of Tanzania, 1965			
Less than 40 hours:			
Both sexes	40.0	18.0	
Venezuela, 1969			
Less than 41 hours:			
Both sexes	39.3	40.4	

Source: David Turnham, The Employment Problem in Less Developed Countries, A Review of Evidence. Development Centre Studies, Employment Series No. 1, Paris, OECD, 1971, p. 61.

to describe the unemployment situation in rural areas because there is a pronounced lack of well-conducted inquiries at the macro-economic level and also partly because the conventional approach through sample survey inquiry is much less satisfactory. 35/

120. Table 2.14 gives some comparisons for urban and rural rates of unemployment for survey inquiries and for censuses with an attempt to use common definitions providing that unemployment was properly identified. However, these estimates should be used with considerable reserve since in most of these censuses and surveys, rural unemployment turn out to be very low (urban unemployment rates were, on an average, 16 per cent higher than those of rural unemployment).

121. Data on open unemployment in urban areas (percentage of the economically active population) of 38 countries showed very high open unemployment rates (table 2.14). Thirteen countries out of the 38 presented an urban open unemployment rate exceeding 15 per cent; the corresponding percentages for more than two thirds of the countries were higher than 8 per cent. Most of urban open unemployment rates involving the capital city only showed relatively lower rates than the rest of urban centres (table 2.15). The number of openly unemployed in less developed countries' urban agglomerations of 20,000 or more inhabitants has grown as follows: 1950: 6 to 8 million, 1960: 11 to 13 million; 1970: 20 to 24 million. 36/

122. Despite high open unemployment rates in urban areas, immigrants are still attracted by cities for the prospect of employment. Contrary to the general impression that the urban open unemployed are recent migrants in search of work, several case studies from Latin America show that open unemployment rates are lower among recent migrants than among persons who have been residents of urban areas for 10 years or more. 37/ While these case studies do not justify any global or regional conclusions they nevertheless suggest that the status of migrant or non-migrant may be less important as a factor in unemployment than other variables such as sex, age group compositions and level of education. The open unemployment rate is higher among women whether in urban or in rural areas, both in developed and developing countries.

35/ For more details see David Turnham, The Employment Problem in Less Developed Countries, Development Centre Studies, Employment series No. 1, Paris, OECD, 1971, pp. 47-56.

36/ Paul Bairoch, Urban Unemployment in Developing Countries, Geneva, ILO, 1973, p. 52.

37/ See the following case studies:

(a) Kalman Schaeffer, et al., "Urban Development and Employment in Sao Paulo", Urbanization and Employment Research Programme, Geneva, ILO, June 1975, pp. 56-60.

(b) P. Herrick, Urban Migration and Economic Development in Chile, MIT Press, Cambridge, Mass., 1965; and Centro de Estudios sobre Desarrollo Económico, Encuestas Urbanas de Empleo y Desempleo, Analysis y Resultados, Universidad de los Andes, Facultad de Económica, Bogotá, D.C., January 1969, as cited by Turnham, op. cit., p. 55.

(c) Juan C. Elizaga, "A study of migration to Greater Santiago (Chile)", Demography, vol. 3, 1966, No. 2, pp. 353-377, as cited by Bairoch, op. cit., p. 58.

Table 2.14. Rates of urban and rural unemployment (percentages of the active population)

Country	Year	Urban unemployment	Rural unemployment	Notes
Africa				
Algeria	1966	26.6	-	
Burundi	1963 a/	18.7 b/	-	
Cameroon	1964 a/	4.6	3.4	Survey
"	1966	15.0 c/	-	
Ghana	1960	11.6	-	
Ivory Coast	1963	20.0	-	
Morocco	1960	20.5	5.4	Census
Nigeria	1963	12.6	-	
United Rep. of Tanzania	1965	7.0	3.9	Survey
Zaire	1967	12.9 b/	-	
America				
Argentina	1968	5.4 b/	-	
Bolivia	1966	13.2 c/	-	
Chile	1968	6.1	2.0	Survey
Colombia	1967	15.5	-	
Costa Rica	1966-67	5.6 b/	-	
El Salvador	1961	6.6 b/	-	
Guatemala	1964	5.4 b/	-	
Guyana	1965	20.5 b/	-	
Honduras	1961	13.9	3.4	Census
Jamaica	1960	19.0 b/	12.4 d/	Census
Netherlands Antilles	1966	16.0 c/	-	
Panama	1960	15.5	3.6	Census
"	1967	9.3	2.8	Survey
Peru	1964	4.2 b/	-	
"	1969	5.2 b/	-	
Uruguay	1963	10.9	2.3	Census
Venezuela	1961	17.5	4.3	Census
"	1964	16.4 c/	-	
"	1968	6.5	3.1	Survey
Asia				
India	1961-62	3.2	3.9	Survey
Indonesia	1961	8.5	-	
Iran	1956	4.5	1.8	Census
"	1966	5.5	11.3	Census
Republic of Korea	1965	12.7	3.1	Survey
Malaysia (West)	1967	11.6	7.4	Survey
Philippines	1967	13.1	6.9	Survey
Singapore	1966	9.1	-	
Sri Lanka	1959-60	14.3	10.0	
Syrian Arab Republic	1967	7.3	-	
Thailand	1966	2.8 c/	-	

Source: Paul Bairoch, Urban Unemployment in Developing Countries, Geneva, ILO, 1973, table 15, p. 49; and Turnham, The Employment Problem in Less Developed Countries, Development Centre Studies, Employment series No. 1, Paris, OECD, 1971, p. 57, table III.7.

a/ Men only.

b/ Capital city only.

c/ Average (weighted by size of population) for a certain number of main towns.

d/ Excluding capital city.

Table 2.15. Rates of urban unemployment a/ by sex and age

	15-24	15 and over total	Notes
AFRICA:			
Algeria, Dept. of Alger, 1966:			
Total	39.3	24.7	Census tabulation
Males	41.1	25.9	
Females	13.4	6.6	
Ghana, 1960:			
Large towns:			
Total	21.9	11.6	Census tabulation
Males	22.1	11.5	
Females	21.5	11.8	
AMERICA:			
Bogota, Colombia, 1968:			
Total	23.1	13.6	Survey:
Males	21.8	10.3	March 1968
Females	24.3	18.5	
Buenos Aires, Argentina, 1965:	a	b	
Total	6.3	4.2	Age group:
Males	4.3	2.9	(a) 14-29
Females	9.0	7.0	(b) 14 plus
			1965 survey
Chile, 1968:			
Urban areas:		a	
Total	12	6	Age group:
			(a) 12 plus
			Survey
			December 1968
Curaçao, 1966:			
Total	37.7	18.8	Survey data
Guyana, 1965:			
Mainly urban areas:		a	
Total	40.4	21.0	Age group:
Males	36.5	18.4	(a) Over 14
Females	49.0	27.7	Survey data, 1965
Panama, 1963/64:			
Urban areas:	a		
Total	17.9	10.4	Age group:
Males	17.5	8.9	(a) 15-29
Females	18.5	13.3	Survey data, 1963/64
Puerto Rico, 1969:			
All areas:	a	b	
Total	15.3	10.2	Age group:
Males	16.1	11.2	(a) 14-24
Females	13.4	7.8	(b) 14 plus
			Survey
			July 1969

/...

Table 2.15 (continued)

	15-24	15 and over total	Notes
AMERICA (continued):			
Trinidad and Tobago, 1968:			
All areas:			
Total	26	14	Survey data
Males	26	14	January-June 1968
Females	26	16	
Uruguay, 1963:			
Mainly urban:			
Total	18.5	11.8	Census tabulation
Venezuela, 1969:			
Urban areas:			
Total	14.8	7.9	Survey data March 1969
ASIA:			
Bangkok, Thailand, 1966:			
Total	7.7	3.4	Survey data
Males	8.0	3.2	August-November 1966
Females	7.3	3.4	Bangkok-Thonburi Municipal areas
Ceylon, 1968:			
Urban areas:			
Total	39.0	15.0	Survey data
Males	36.1	12.9	January 1968
Females	48.4	25.9	
India, 1961/62:			
Urban areas:		a	
Total	8.0	3.2	Age group:
Males	8.1	3.4	(a) 15-60
Females	7.7	3.2	Survey data 17th Round, 1961/62
Rep. of Korea, 1966:			
Non-farm households:			
Total	16.3	8.9	Survey data:
Males	16.4	9.3	average of four
Females	15.3	7.9	quarters, 1968
Malaya, 1965:			
Urban areas:			
Total	21.0	9.8	Survey data:
Males	17.7	7.4	Metropolitan towns,
Females	26.8	16.7	1965

Table 2.15 (continued)

	15-24	15 and over total	Notes
ASIA (continued):			
Philippines, 1965:			
Urban areas:	a	b	
Total	20.6	11.6	Age group:
Males	23.8	10.8	(a) 10-24
Females	16.9	12.9	(b) 10 plus
			Survey data: May 1965
Singapore, 1966:	a		
Total	15.7	9.2	Age group:
			(a) 15-29
			Survey data
Syrian Arab Republic, 1967:			
Whole area:			
Total	8.6	6.0	Survey data:
Males	10.9	6.2	November 1967
Females	3.7	5.1	
Iran, 1966:			
Tehran City:			
Total	9.4	4.6	Census tabulation
Males	9.3	4.6	
Females	10.3	4.0	

Source: David Turnham et al., The Employment Problem in Less Developed Countries, A Review of Evidence, Development Centre Studies, Employment Series No. 1, Paris, OECD, 1971.

a/ Some well conducted survey estimates which do not distinguish rural and urban areas are included.

Note: Where possible, the labour force under 15 has been excluded.

123. Urban open unemployment rates for the 15-24 age group are very often equal to, or more than, double the ones for the urban populations of the less developed countries as a whole. Therefore, youth unemployment is already considered a major influence in the increase of urban unemployment rates. Between the 15-24 age group and all age groups of urban less developed countries, there is an average difference of 92 per cent in unemployment rates. 38/

124. Relative to the whole population the unemployed as a group tend to be better educated, especially where young and inexperienced unemployed are numerous. Thus, there are often considerable differences in rates of unemployment among labour force groups of different educational levels, with particularly low rates among the illiterate urban population. Generally, the highest unemployment rates are among the population having 6 to 11 years of education (table 2.16).

2.7 Employment, unemployment and poverty

125. The analyses of the economically active population presented in other parts of this report and based on sectors, status or occupational classifications, do not provide a very clear profile of the urban poor. The condition of the poor is closely interwoven with that of the not-so-poor in the same sectors or activities. Among the reasons for the lack of clear global understanding of urban poverty are the following:

(a) Existing data seldom correlate income with the sources of income in sufficient detail;

(b) Definitions of poverty differ from country to country, following their levels of income, urbanization and industrialization; and

(c) Most income distribution data refer to individual incomes, whereas poverty is now recognized as more of a household phenomenon than an individual one.

126. Surveys relating employment status to income levels are extremely rare. Case studies such as one involving eight cities of Colombia or another analysing a socio-economic sample survey of households in West Malaysia cited by D. C. Rao 39/ suggest "that there is only a weak relationship between unemployment and poverty ... one who is employed (especially one who is self-employed) can still be poor because he cannot find remunerative employment for as long as he would like or because even full time work does not pay well enough". 40/

38/ Bairoch, op. cit., p. 56.

39/ A. Berry, Unemployment as a Social Problem in Urban Colombia, Economic Growth Centre Discussion Paper No. 145 (New Haven, Conn., Yale University, 1972); and D. Mazumdar, "The problem of unemployment in peninsular Malaysia", draft report prepared for the World Bank, Washington, D.C., 1974, as cited by D. C. Rao, "Urban target groups" in Hollis Chenery et al., Redistribution with Growth, Great Britain, Oxford University Press, 1974, pp. 136-137.

40/ Rao, ibid.

Table 2.16. Education and unemployment, selected countries

	Rates of unemployment			
	Illiterate	1 to 5 years education	6 to 11 years education	12 or more years education
Colombia, Bogota, April 1967				
Total labour force:				
Males	11.5	15.3	14.9	13.2
Females	4.1	22.0	16.3	11.3

	Illiterate	Primary	Secondary	Post secondary
Argentina, Buenos Aires, 1965				
Total labour force	3.8	4.3	5.7	3.3
Venezuela, 1969				
Urban areas:	(a)			
Total labour force	4.3	7.0	10.2	2.3

(a) includes others not classified

	Illiterate	Below matriculation	Matriculation	Graduates
India, 1960/61				
Urban areas:				
Total labour force	1.2	2.7	7.0	2.8

	Illiterate and primary grades 1-4	Secondary grades 5 to 8	Ordinary certificate	Higher certificate and above
Sri Lanka, 1963				
Urban areas:				
Total labour force	7.1	7.3	11.8	2.3

	Illiterate	Primary	Secondary grades I to IV	Higher certificate and above
Malaysia, 1965				
Urban areas:				
Total labour force 15-24:				
Male	10.4	19.5	30.9	15.5
Female	17.2	32.4	69.7	27.5

	Illiterate	Literate	Elementary to secondary	Graduate
Syrian Arab Republic, 1967				
All areas:				
Total labour force	4.3	5.2	11.7	4.4

	Illiterate	Primary	Secondary	Post secondary
Lagos, Nigeria, 1965				
Total labour force	3.4	33.8	61.7	1.1

Source: Turnham, op. cit., p. 51; for Nigeria: Fapohunda, Characteristics of the Unemployed People in Lagos, Human Resources Unit, University of Lagos, research paper No. 4, Lagos, 1975.

127. Despite its tentative nature, the best available profile of the urban poor is that given by D. C. Rao: "The urban poor usually include: (i) self-employed persons in the services sector (the oft-cited hawker, shoeshine boy, repair and maintenance workers, barbers); (ii) unskilled workers who are employed in the manufacturing, construction, or services sectors - some of them in the modern sector, perhaps irregularly; (iii) recent migrants who have taken on casual work while looking for better jobs; (iv) skilled workers, usually self-employed, some of whom have relatively obsolete skills (pottery, hand-spinning) and do not enjoy much demand for their product; others, such as tailors and carpenters, who operate on a very small scale; and (v) aged and disabled persons who are not in the labour force - in developing countries they are usually dependants rather than independent households. Conversely, the urban poor usually exclude skilled operatives in modern industry, government employees, working proprietors even of small firms with employees, educated unemployed, and those in technical and professional occupations. In general, unionized employees are not among the poor. This is by no means an exhaustive list and does not allow sufficiently for regional differences. It is sufficient, however, to illustrate the diverse occupation and skill backgrounds of the urban poor, which is why it has been so difficult to encapsule them into a single label." 41/

128. Some information concerning the varied sources of urban household income in less developed regions is presented in the following section. Subsequently, household expenditure is considered with emphasis on its two principal items, food and shelter.

2.8 Urban household income and its sources

129. Household 42/ income statistics are sparse and incomplete. For developing countries, the best compendium is the ILO's Household Income and Expenditure Statistics. 43/ Unfortunately, the possibility of comparing the sample data from different countries is severely hampered because the variables used (or reported) are seldom uniform. The most salient feature of household income in both urban and rural areas of the developing world is the severe inequality in its distribution. Figure 2.V illustrates the income distribution patterns in urban areas of developing countries. Income figures from different countries at different times are not really comparable, but they convey some idea of how low incomes really are for the majority of urban households in the developing world, and how stark the contrast between rich minorities and poor majorities in many places.

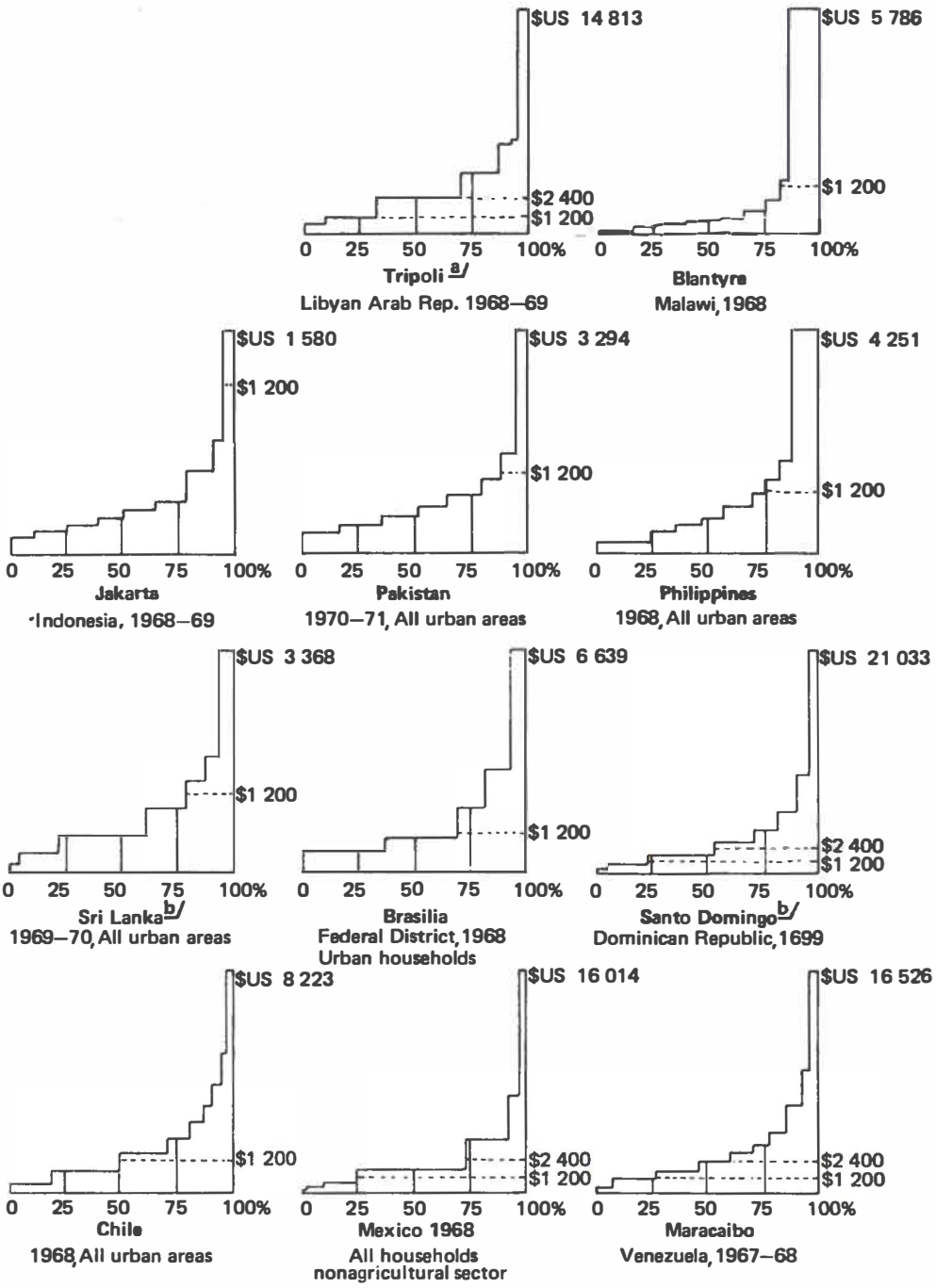
130. Of fundamental importance to human settlements is an understanding of the sources from which urban households derive their income. Planning decisions based on the assumption that most households subsist on income from wages earned by one "head of household" in a single place of work distinct from the place of residence can increase the hardship of life among the poorest sectors of the urban population.

41/ Rao, ibid.

42/ For definition of "household" see "Relevant Definitions" in the statistical annex.

43/ International Labour Office, Household Income and Expenditure Statistics, No. 2, 1960-1972: Africa, Asia, Latin America, Geneva, ILO, 1974.

Figure 2.V.
Annual household income distribution in selected urban areas of developing countries



a/ All types of Libyan households.
b/ Households of two or more persons.

Source: International Labour Office, *Household Income and Expenditure Statistics*, No. 2, 1960–1972.

2.8.1 Self employment and unpaid family labour as sources of household income

131. Table 2.17 indicates the importance of self-employment (as distinct from wages) 44/ as a source of household income for the poorest households in urban areas of nine developing countries.

Table 2.17. Percentage of household income derived from self-employment for the lowest income class of selected urban areas of developing countries

Country	Urban area	Date	Annual income a/ less than: (in $US)	% of total households in class	% of income derived from self-employment
Africa					
Kenya	Nairobi b/	1968-69	336	5.4	34.1
"	Mombasa b/	"	"	14.4	28.1
"	Kisumu b/	"	"	4.5	21.4
Malawi	Blantyre	1968	120	15.8	44.5
"	Zomba	"	"	14.2	25.1
"	Lilongwe	"	"	10.0	42.6
"	Mzuzu	"	"	6.9	31.6
Asia					
Indonesia	Jakarta	1968-69	108	10.4	41.0
"	Bandung	"	"	20.3	53.0
Iran	All urban households	1971	393	n.a.	40.4
Pakistan	"	1970-71	372	16.8	48.0
Philippines	"	1968	383	23.9	47.0
Latin America					
Chile	All urban households	1968	600	19.3	25.2
Honduras	"	1967-68	1,000	52.2	35.9
Mexico	Non-agricultural sector	1968	576	9.6	30.0

Source: International Labour Office, Household Income and Expenditure Statistics, No. 2, 1960-1972: Africa, Asia, Latin America, Geneva, 1974.

a/ Equivalents in $US from United Nations Monthly Bulletin of Statistics, vol. XXVII, No. 3, March 1973.

b/ African and Arab households only.

44/ See "Revelant Definitions" in the statistical annex (A/CONF.70/A/1/Annex).

132. The most complete coverage in this table is for Asia, where self-employment accounts for more than 40 per cent of urban household income among the lowest income groups of four fairly large market economy countries, but the importance of self-employment among the poorest urban households of Africa and Latin America, judging from the available data, is still considerable. In the income categories above the lowest 15-20 per cent, the significance of self-employment is more varied.

133. Another view of the sources from which urban household income is derived may be obtained from table 2.18, where available data on the status of the economically active population in urban areas of selected developing countries are assembled.

134. These data, though unfortunately not broken down according to income category, do show some differentiation according to sex. They illustrate, at least, that own-account workers and unpaid family workers represent fairly large percentages of the urban labour force in developing countries as compared to the two European countries for which similar data are available. 45/

135. Despite the incompleteness and lack of comparability of the data, it is possible to affirm that very many urban households in developing countries - probably a majority in Asia and perhaps elsewhere as well - find it necessary to supplement whatever income they derive from wages by additional work outside the wage system. This extra work may be found in operating small neighbourhood shops, street vending, doing piecework, cultivating cash crops in a small garden, operating a conveyance for hire, or a multitude of other jobs. The worker may be the salaried household head working after hours, the unsalaried housewife, children, the elderly, or all of these together.

2.8.2 Secondary earnings 46/ as a source of household income

136. Data on secondary earnings as a supplement to household income is very scarce. But to complete the picture on sources of household income we include here some

---

45/ The case of Japan is peculiar in that it has the highest percentage of unpaid family workers among the economically active population, especially female. This may be due to differences in definition. In principle, the category of "economically active" does not include women occupied solely in domestic duties (ILO, Yearbook of Labour Statistics 1971, p. 3), but the contribution of females to productive work outside the strict confines of the household may, in many cases, be underestimated so that the Japanese figure could be closer to reality than those of other countries.

46/ Secondary earnings here signify household earnings derived from sources other than the main employment of a household's primary earner. They include earnings from both wages and self-employment but exclude pensions, dividends, rents and transfers accruing to household members.

Table 2.18. Percentage of economically active urban population who are own-account workers a/ and unpaid family workers b/ in selected countries

Country	Year	Economically active population (000)	Own-account males (000)	Per cent	Own-account females (000)	Per cent	Male unpaid family workers (000)	Per cent	Female unpaid family workers (000)	Per cent	Own-account and unpaid family workers, both sexes, % total econ. active pop.
El Salvador	1971	532									32%
Chile	1970	1 996	247	12.0	93	5.0	7	0.4	4	0.2	18%
Indonesia	1971	5 796	1 015	17.5	451	7.8	265	4.6	179	3.0	33%
Japan	1970	37 060	3 227	8.7	1 595	4.3	947	2.6	3 477	9.4	25%
Republic of Korea . . .	1970	3 742	639	17.1	188	5.0	82	2.2	145	3.9	28%
Malaysia:	1970										
E. Malaysia - Sabah .		34	2	7.1	.4	1.2	.6	1.7	1	3.1	13%
E. Malaysia - Sarawak		43	5	10.9	.6	1.5	2	4.2	2	4.8	21%
W. Malaysia		804	106	13.1	23	2.9	27	3.3	24	2.9	22%
Singapore c/	1970	651	96	14.8	15	2.3	14	2.2	10	1.5	21%
India	1971	31 999									27%
Hungary	1970	2 420	37 d/	1.5 d/	16 d/	0.7 d/	2	0.08	8	0.3	3%
Sweden	1970	2 837	130 d/	4.6 d/	25 d/	0.9 d/	5	0.2	17	0.6	6%

Source: Demographic Yearbook 1973, United Nations publication, Sales No. E/F.74.XIII.1, tables 42 and 43.

a/ "Own-account worker" means a person who operates his or her own economic enterprise or engages independently in a profession or trade, and hires no employees.

b/ "Unpaid family worker" means a person who works a specified minimum amount of time (at least one third of normal working hours), without pay, in an economic enterprise operated by a relative living in the same household.

c/ Includes rural population.

d/ Includes employers.

/...

generalizations, made in a recent World Bank Staff Working Paper 47/ which are based on case studies:

"(a) The income from secondary earnings is a significant supplement to primary earner income and changes the over-all household income distribution within a city.

"(b) Secondary earners are both men and women in more equal proportions than in primary employment. They are usually young, and work in both the formal and informal sectors. Assertions that secondary employment is confined to informal sector activity are disproven by studies which show high formal sector participation;

"(c) Depending on the industrial structure of the city, there may be sharp differentials in secondary earnings in the formal and informal sectors, 48/

"(d) The high participation of women confirms the importance of location for secondary earnings. Studies which indicate low female participation attribute this to the high cost of access to employment, as reflected in transport costs."

2.8.3 Other sources of urban household income

137. Other sources of income include rents, pensions, social security, interest, dividends and gifts. Generally speaking, they are much less important than wages or self employment, but in certain instances they may take on greater significance as, for example, rents and social security for elderly households. Most surveys, unfortunately, fail to disaggregate these "other" sources, making international comparison difficult. One potentially important source of income is rent collected from tenants in owner-occupied dwellings. 49/ If such rents, along with rents from subletting, were disaggregated more frequently in household income surveys, it would be easier to determine how important the renting of rooms may be as a supplementary source of household income. Such information is very important for decisions and planning in the field of housing.

138. It should also be noted that the income data discussed here include, in principle, both monetary and non-monetary sources, but there may be considerable doubt as to how completely non-monetary income has been included in individual sample surveys.

47/ International Bank for Reconstruction and Development (World Bank), The Task Ahead for the Cities of the Developing Countries, World Bank Staff Working Paper No. 209, July 1975, p. 43.

48/ Workers in informal activities in Belo Horizonte (Brazil), for example, earned 58 per cent less than their counterparts in formal employment.

49/ As distinguished from imputed rent.

2.9 Urban household expenditure

139. The same ILO collection from which many of the household income statistics discussed in the previous section were derived, also contains data on household expenditure. These data are first broken down according to consumption expenditure and non-consumption expenditure, the latter covering taxes, pensions and social security, gifts, etc. Household consumption expenditure is then divided into such categories as food, clothing, housing, household equipment and operation, medical care, transport, recreation and transportation. The two categories of household expenditure which take up the largest portion of the family budget for all but the richest households in urban areas of the developing world are food (including drink) and housing. Figure 2.VI illustrates how the percentages of household consumption expenditure devoted to food and housing vary according to income. (In three of the eight cases, it is according to total household expenditure rather than income.)

2.9.1 Household expenditure on food

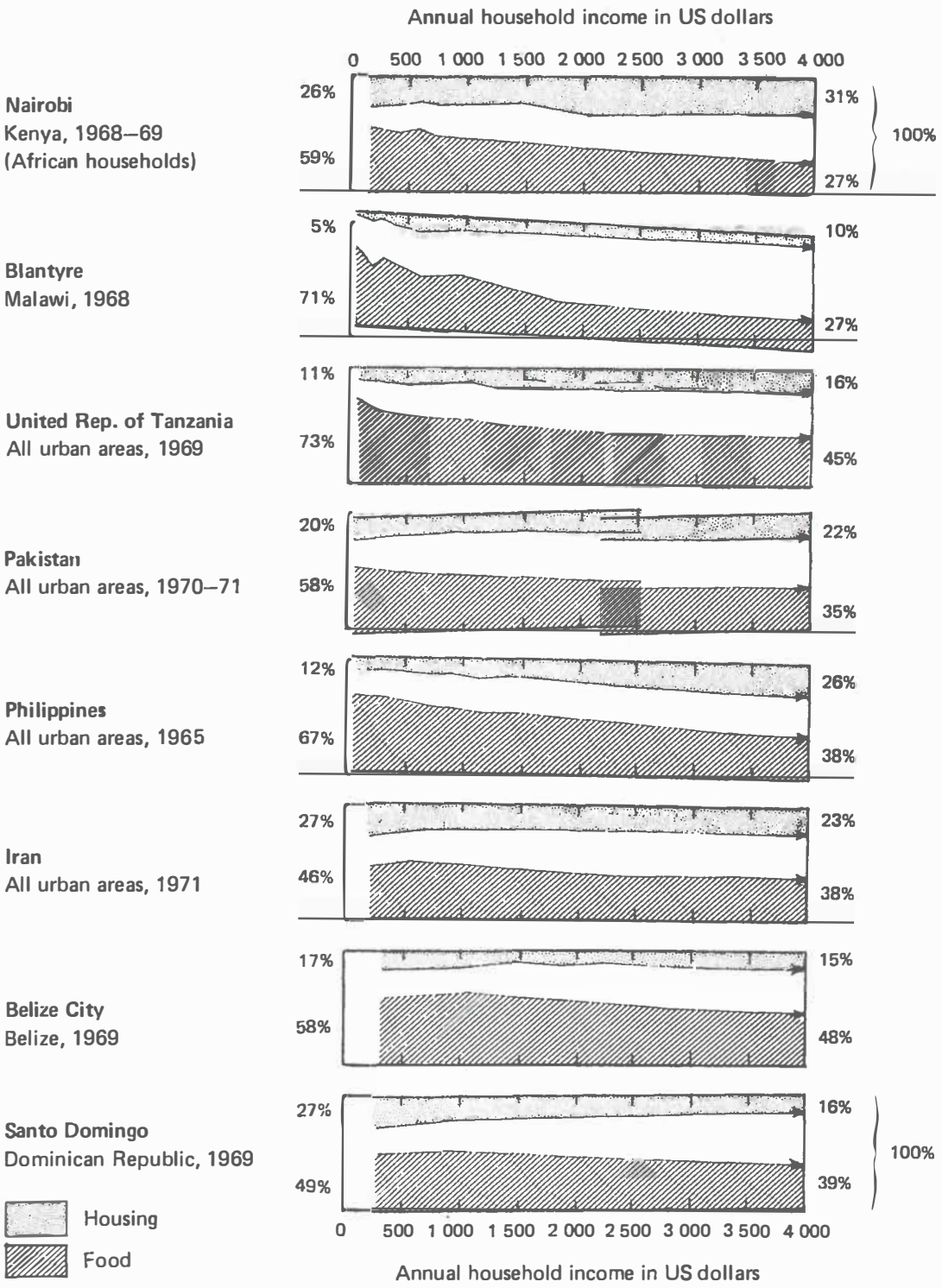
140. The classical "Engel's Law" - according to which household expenditure on food as a percentage of total expenditure tends to decline with rising income - is clearly illustrated in figure 2.VI But of far greater significance is the absolute size of the household food budget for families at the low-income end of the spectrum. These data are all from the years between 1965 and 1971. During the years subsequent to the sample surveys from which the data have been taken, world-wide inflation has been particularly severe in the area of food. As is evident from figure 2.VI, the impact of inflation on food cost must be especially severe among those low-income households which already spend more than half their total income on food. If comparable nutrition data were available, it would probably show that the percentage of household income expended at the lower end of the spectrum was, in many cases, inadequate to meet minimum nutritional requirements. Thus, improvements in the income of urban households at the lower end of the spectrum would more likely be absorbed by further expenditure on food rather than housing.

2.9.2 Household expenditure on housing

141. Contrary to the situation with food, there is no clear tendency for housing expenditure, as a percentage of total household consumption expenditure, to decline with rising income (figure 2.VI). In fact, there are a number of urban areas in which it tends to rise. For the most part, however, the urban households represented in these data spend a very consistent percentage of total household income on housing in nearly all income groups. 50/

50/ The percentage itself varies from one locality to another, but this is probably due to different classifications of data from one survey to another. In Blantyre (Malawi), for example, expenditures on household furnishings (a separate category from housing) are inordinately high and probably cover expenditure which in other places would be listed under housing.

Figure 2.VI.
Percentage of household consumption expenditures on food and housing according to income for selected urban areas



Source: International Labour Office, *Household Income and Expenditure Statistics,* No. 2, 1960–1972.

142. It is clear from these data that housing is not perceived as a necessity in the same sense as food. A minimum of shelter may be considered indispensable by all income categories, but the data suggest that low income urban households are inclined to spend little more than a fifth of their incomes on housing, no matter how minimal that may be in actual amounts of money. In general, it may be inferred that they prefer less housing to more hunger.

143. When a large majority of the population in an urban area have extremely low incomes, the total amount of money available for housing is thus clearly very modest. Data derived from the ILO Household Income and Expenditure Statistics illustrates this situation. If we assume the over-all reliability of the sample surveys on which these figures are based, while making allowances for local differences in the definition of housing expenditure, it can be seen how an urban housing market is distorted by severe inequalities in income distribution. Where income is highly concentrated, it would appear that the strongest commercial incentive is to produce housing for a very small segment of the population. In Manila, for example, where the richest 20 per cent of households are accustomed to paying an average of $US 1,017 a year on housing, contractors can earn more by building houses for this group than for the 80 per cent who spend an average of only $US 213 a year.

144. The conventional housing market is one which serves a privileged minority in many cities of the developing world. Data compiled by the World Bank and reproduced in table 2.19 show the percentage of households in six cities which cannot afford to purchase the cheapest complete housing unit available on the conventional market.

2.10 The employment outlook in less developed regions: projected absorption of the economically active population by sector in 1980 and 1990

145. What will be the situation of employment and unemployment in less developed regions in the next 15 years if present trends continue? A recent ILO attempt to answer this question 51/ sheds a great deal of light on the future of human settlements in less developed regions, but in order to employ the results of this study properly, care must be taken with the classification used 52/ and particular attention must be paid to the assumptions on which it is based. 53/

51/ Y. Sabolo, "Employment and Unemployment, 1960-1990", International Labour Review, vol. 112, No. 6, December 1975, pp. 401-417.

52/ A classification in 4 sectors is used here: S1 = Agriculture; S2 = Manufacturing, mining, quarrying and energy; S3 = Services, banks and finance institutions; S4 = Construction, trade, transport and undefined activities.

53/ Three interrelated assumptions underlie the projections made in this study: (a) There will be no major changes in the employment policies pursued in less developed regions as a whole; (b) activity rates for 1970-1990 will be similar to the ones registered during the 1960-1970 period; and (c) the growth rate of labour productivity in each sector is identical for the whole 1960-1990 period.

Table 2.19. Estimates of monthly household income required to purchase the existing cheapest complete housing unit a/ and percentage of households unable to afford it in selected cities

City	Cost of unit ($US 1970 prices)	Interest rate - 10%			Interest rate - 15%		
		Monthly payment ($US) 2/	Income required ($US) 3/	% of households unable to afford	Monthly payment ($US) 2/	Income required ($US) 3/	% of households unable to afford
Mexico City	3 005	27.6	184	55	38.8	259	66
Hong Kong	1 670	15.4	103	35	21.5	143	57
Nairobi	2 076	19.1	127	68	26.8	178	77
Bogota	1 474	13.6	91	47	19.0	127	61
Ahmedabad	616	5.6	38	64	8.7	58	79
Madras	570	5.3	36	63	7.3	49	79

Source: World Bank, Housing - Sector Policy Paper, annex 5, May 1975.

a/ With individual toilet and services.

b/ Assuming a repayment period of 25 years.

c/ Assuming no downpayment and 15 per cent of household income devoted to housing.

146. The study examines sectoral employment trends from 1960 to the present and comes to the conclusion that the absorption of the economically active population 54/ in less developed countries is undergoing considerable modification:

(a) One sign of this evolution is the acceleration of employment transfers from the agricultural sector to non-agricultural activities. In 1990, employment in agriculture might only represent 45 per cent of total employment in less developed countries against 65.5 per cent in 1960. The agricultural sector absorbed one third of the additional employment from 1960 to 1973; however, the projections showed that this sector would not absorb more than one sixth of the growth of the economically active population during the 1973-1990 period.

This employment transfer already experienced a strong acceleration during the 1960s. It might be explained by the failure of rural development policies or simply by their non-existence in many countries. Data on income levels in agriculture from 1960 to 1970 would support the above statement.

Latin America experienced the third world's fastest diminution of agricultural employment during the decade 1960-1970, especially in Central America. Africa also experienced very rapid transfers more accentuated than those in Asia, while their average levels of development are similar.

(b) A second important point is the weak industrial employment growth (sector 52) between 1960 and 1973. The third world's industrial sector, which absorbed 10 per cent of the labour force in 1960, absorbed only 12 per cent in 1973. It provided only 28 million out of 150 million new jobs. Although the third world's industrial production increased by an average of 7 per cent per annum during the 1960-1972 period, it contributed very little to employment growth, especially in Africa. Growth rate differences between production and employment correspond mainly to structural changes in the respective parts of

---

54/ "Economically active population" is defined by the International Labour Office in its 1974 Yearbook of Labour Statistics, p. 3, as follows: "The economically active population refers to the total of employed persons (including employers, persons working on their own account, salaried employees and wage earners, and, so far as data are available, unpaid family workers) and of unemployed persons at the time of the census or survey. The economically active population does not include students, women occupied solely in domestic duties, retired persons, persons living entirely on their own means, and persons wholly dependent upon others. The practice varies between countries as regards the treatment of such groups as armed forces, inmates of institutions, persons living on reservations, persons seeking work for the first time, seasonal workers and persons engaged in part-time economic activities. In some countries, all or part of these groups are included among the economically active while in other countries they are treated as inactive. For a review of the problems concerning definitions, methods of collection and classification of data on total and economically active population, see Handbook of Population Census Methods, vol. II: Economic Characteristics of the Population (United Nations publication, Sales No. 53.XVII.5).

the modern and traditional industrial sectors. These differences reflect equally the capital intensive character of the production techniques used. Thus, the fact that, for similar average development levels in Asia and Africa, the latter did not benefit significantly from industrial growth in terms of employment means that structural changes have been deeper in Africa and that industrial growth has been accomplished mainly with an intensification of capital formation.

If the 1960-1970 trends were to continue, and taking into account a normal increase in labour productivity, the industrial sector would not absorb more than 90 million people between 1973 and 1990 while the active population would increase by 370 million, which is one fourth of the additional active population. Thus, the employment in the industrial sector would only represent 17 per cent of total employment in 1990 in the third world. It would not exceed 15 per cent in Africa and in Asia.

Therefore, the only sectors left to absorb one half of the increase in active population between 1973 and 1990 are the two sectors S3 (services, banks and finance institutions) and S4 (construction, commerce, transport) (see table 2.20).

(c) The third point underlining considerable modifications in the absorption of the active population is the increase in open unemployment between 1960-1973 and its projections until 1990, both in absolute numbers and in relative value.

In 1970, the third world population was 1.8 billion people against 1.4 billion in 1960; that is to say, a growth rate of 2.7 per cent per year. The active population was 666 million, and the employed 617 million. Consequently, the number of unemployed in less developed countries was about 50 million people in 1970; that is to say, an unemployment rate of more than 7 per cent.

Fifty million unemployed is equivalent to the active population of the Federal Republic of Germany and France combined. Furthermore, to this number should be added the number of underemployed, which is between 200 and 300 million people. It is evident that such an evolution constitutes a failure of any social policy of distribution of income.

Open unemployment does not affect all third world regions in the same manner. It is Africa where it is the most important in relative value: 10 per cent in 1970 against 8 per cent in 1960. Of 20 million people added to the active population during the 1960-1970 period, 4 million have become unemployed; that is to say, one person out of five. Central, East and West Africa are the subregions most touched by unemployment.

Asia had 7 per cent of open unemployment during the 1960-1970 period, but here it is in terms of numbers that the situation appears alarming: 32 million out of the third world total open unemployment of 50 million.

Table 2.20. Numbers, percentages and annual growth rates of economically active population/total population; employment, unemployment, employment by sector, GDP per capita in the third world, 1960-1970

Region	Year	Population		Economically active population			Employment			Unemployment			Employment by sector* (%)				GDP		Per capita GDP	
		Total (millions)	% annual growth rate	Total (millions)	% annual growth rate	As % of tot. pop.	Total (millions)	% annual growth rate	As % of economically active pop.	Total (millions)	% annual growth rate	As % of economically active pop.	S1	S2	S3	S4	Total (millions $US 1960)	% annual growth rate	Total (in $US 1960)	% annual growth rate
Total major developing regions a/	1960	1 384		544		39.3	507		93.3	36		6.7	65.5	10.0	12.1	12.4	207 790		150	
	1970	1 801	2.7	666	2.1	37.0	617	2.0	92.6	49	3.0	7.4	60.1	11.6	13.7	14.6	337 400	5.0	185	2.3
	1973	1 956	2.8	712	2.3	36.4	658	2.2	92.4	54	3.5	7.6	58.0	12.0	15.0	15.0	394 970	5.4	200	2.6
	1980	2 380	2.8	839	2.4	35.2	773	2.3	92.2	66	2.9	7.8	53.0	14.0	16.0	17.0	596 000	6.0	250	3.1
	1990	3 103	2.7	1 080	2.6	34.8	992	2.5	91.8	89	3.0	8.2	45.0	17.0	18.0	20.0	1 124 200	6.5	360	3.8
Africa	1960	270		109		40.4	100		92.3	8		7.7	67.1	9.5	11.4	11.9	34 420		130	
	1970	344	2.5	132	2.0	38.5	120	1.8	90.4	13	4.3	9.6	62.3	10.5	13.5	13.7	57 370	5.2	165	2.6
	1973	373	2.7	141	2.2	37.9	127	2.1	90.2	14	2.7	9.8	60.0	11.0	14.0	15.0	67 840	5.7	180	3.0
	1980	457	2.9	165	2.3	36.2	149	2.2	90.2	16	2.0	9.8	54.0	13.0	16.0	17.0	104 400	6.3	230	3.4
	1990	616	3.0	212	2.5	34.5	191	2.4	90.1	21	2.8	9.9	44.0	16.0	19.0	21.0	201 900	6.8	330	3.7
Asia b/	1960	901		365		40.5	340		93.2	25		6.8	70.0	8.6	10.6	10.8	88 950		100	
	1970	1 173	2.7	445	2.0	38.0	414	1.9	92.9	31	2.4	7.1	64.8	10.4	12.1	12.7	145 500	5.1	125	2.3
	1973	1 274	2.8	476	2.2	37.3	441	2.1	92.8	34	3.1	7.2	63.0	11.0	13.0	13.0	170 500	5.4	135	2.6
	1980	1 546	2.7	560	2.4	36.2	517	2.3	92.3	43	3.3	7.7	59.0	13.0	14.0	14.0	254 800	5.9	165	3.1
	1990	1 988	2.6	720	2.5	36.2	660	2.5	91.7	59	3.3	8.3	52.0	15.0	16.0	17.0	465 100	6.2	235	3.5
Latin America	1960	213		70		32.8	67		95.3	3		4.7	40.0	17.7	21.1	21.2	84 420		400	
	1970	283	2.9	88	2.3	31.1	84	2.2	94.9	5	3.3	5.1	33.8	19.0	22.3	24.9	134 430	4.8	475	1.8
	1973	309	2.9	95	2.5	30.8	89	2.2	93.9	6	8.7	6.1	31.0	20.0	23.0	26.0	156 630	5.2	510	2.3
	1980	377	2.9	114	2.6	30.1	107	2.7	94.2	7	2.0	5.8	23.0	22.0	25.0	30.0	236 800	6.1	630	3.1
	1990	500	2.8	148	2.7	29.7	140	2.7	94.5	8	2.0	5.5	13.0	26.0	28.0	33.0	457 200	6.8	915	3.9

Source: Y. Sabolo, "Employment and Unemployment, 1960-90", International Labour Review, vol. 112, No. 6, December 1975, pp. 412-417.

a/ Excluding countries with centrally planned economies.

b/ Excluding China.

* S1 = Agriculture.

S2 = Capital-intensive industries such as manufacturing, energy and extractive industries.

S3 = Services, banks and financial institutions which use little capital but a large portion of the skilled labour force.

S4 = Construction, trade, transport and undefined activities which absorb most of the unskilled and semi-skilled labour force.

Latin America was in a better position with "only" 4.5 million unemployed in 1970; that is to say, 5 per cent. This percentage is uniform in all the subregions except in the Caribbean, where it is much higher. In 1973, the situation became worse with 6 per cent unemployment.

If the open unemployment trend does not change the number of unemployed, it could reach 65 million people in 1980 and some 90 million in 1990. Those are approximate gross figures, but nevertheless they do provide an idea on the magnitude of the problem.

147. The ILO study concludes that unemployment in developing countries can no longer be considered a temporary imbalance; it is a truly structural problem. Regarding the causes of the problem it is asserted that population growth is not the single root cause of the problem because there are cases in which rapid population growth is associated with slow unemployment growth and vice versa. While listing other causes, the author gives special emphasis to the following: "The ranks of the unemployed swell because rural development is insufficient and the other sectors cannot provide productive employment for all those who flee the poverty associated with life in the countryside."

B. THE ELEMENTS OF HUMAN SETTLEMENTS

3. Land 1/

148. The only global statistics on land use are agricultural statistics. 2/ In order to say something about the use of land for human settlements it has been necessary to start from the available data on agricultural land use and try to estimate how much of the world's total land not covered by crops, meadows or forests is used for human settlements. This procedure has one major disadvantage. It is practically impossible, at the global scale, to separate the land used for settlements from the total of agricultural land. Consequently, the focus of this section is restricted to urban land. 3/

149. After initial estimates of the total land surface used for urban settlement, this section presents the available data related to the supply of, and requirements for, urban land with emphasis on the trends discernible in both the industrialized and the less developed regions of the world. Consideration is given to the great variations which exist in population densities among cities and, even more striking, within cities. In addition, available figures on industrial and transportation land uses are given. In the absence of any hard data on urban land ownership, a schematic outline of ownership patterns in different cultures is provided. Finally, as an aid to discussion and decision-making, a list of instruments for the control of land use in market economies is included.

1/ All references are listed at the end of this section.

2/ The only global land use statistics which have been consistently collected are FAO statistics related to agricultural land uses. These are found in the FAO Production Yearbook. A time series of such statistics may be found in table 11 (Parts I and II) of the statistical annex. Although there are no global statistics on urban land use, there are two compendia of information on the land area of selected cities: The International Statistical Yearbook of Large Towns and Statistics of World Large Cities (the latter published by the Tokyo Metropolitan Government). As a basis for this section of the Global Review, a table of gross urban densities based on the two aforementioned publications and some 35 additional sources was prepared. The table is reproduced as table 13 of the statistical annex.

Because of its dependence on FAO statistics this section employs the regional classifications found in FAO sources with one modification: in place of the FAO "Near East" region, countries from this region which are on the African continent are grouped with the African countries, and those on the continent of Asia are grouped with other Asian countries.

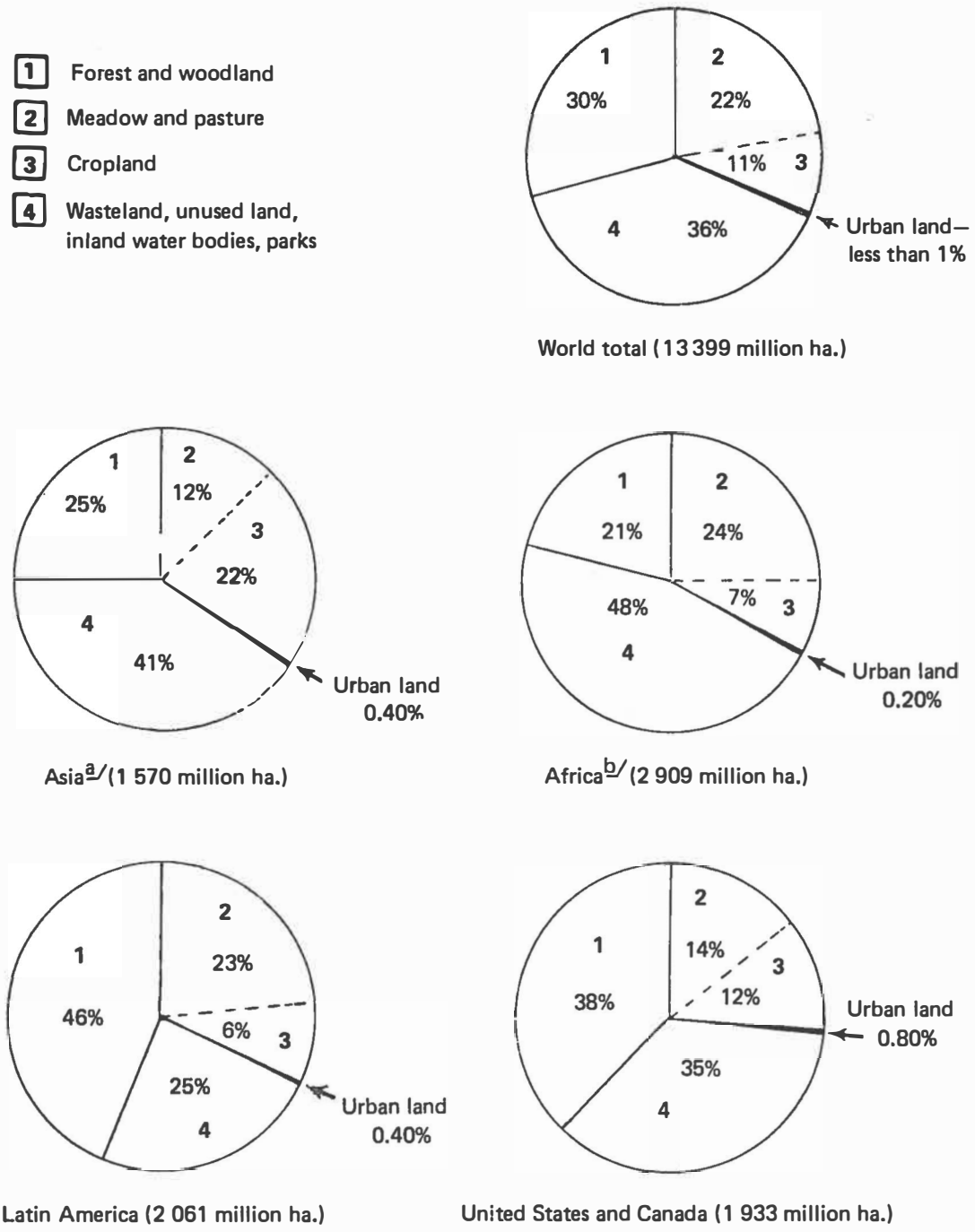
3/ In section 2.3.1 above, some information is given on agricultural land as it relates to the phenomenon of urbanization.

3.1 The supply of raw land for urban settlements

3.1.1 The world's land surface

150. Even if the world's urban population (roughly 4 billion people) lived at the low densities typical of urbanized areas in North America (10-15 persons per hectare), it would be consuming little more than 1 per cent of all the land on this planet. As it is, the majority of the world's urban population lives at much higher densities. Under present conditions the land occupied by urban areas is probably less than one half of 1 per cent of the world's land surface. Of course, not all the land on the surface of the earth is habitable, but in every major region of the world, as figures 3.I (a)-(j) illustrate, the land used for urban settlements is only a small percentage of the raw land conceivably habitable.

Figure 3.I.
The world's land surface



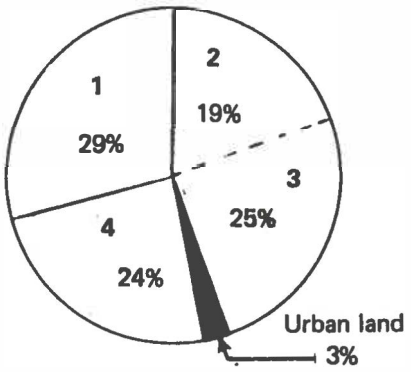
World total (13 399 million ha.)

Asia[a/] (1 570 million ha.)

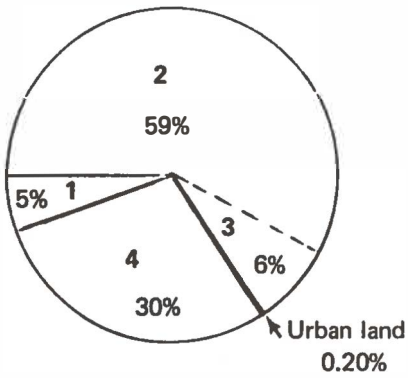
Africa[b/] (2 909 million ha.)

Latin America (2 061 million ha.)

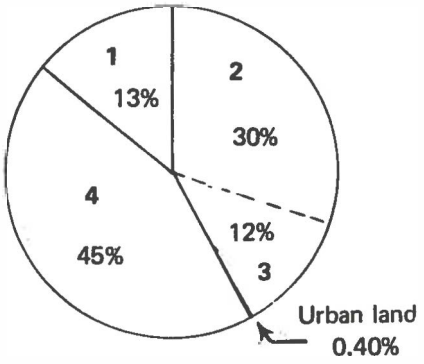
United States and Canada (1 933 million ha.)



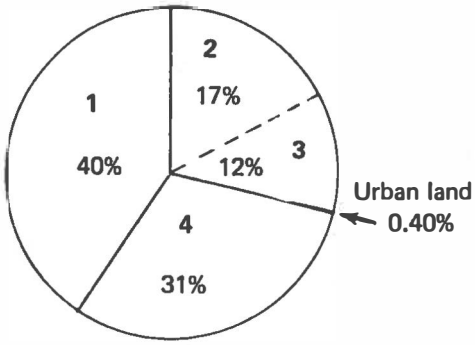
European countries with market economies
(391 million ha.)



Australia and New Zealand
(795 million ha.)



China, Mongolia, Democratic People's Republic of Korea and Democratic Republic of Viet-Nam



European countries with centrally-planned economies and USSR

[a]/Excluding countries with centrally-planned economies, Japan and Israel.
[b]/Excluding South Africa.

(Continued)

Note to figure 3.1: For all but urban land, the source is *FAO Production Yearbook 1973.* The main figures can be found in table 11 of the statistical annex (A/CONF.70/A/1/Annex). Estimates of urban land consumption are based on the assumed densities given in the following table:

Region	Assumed densities (persons/hectare)	1975 Urban population (millions)	Est. urban land use (million ha.)
Developing market economies			
Africa	15	86	6
Asia	50	301	6
Latin America	25	196	8
Other developing market economies	20	1	-
Developed market economies			
Northern America	12	181	15
Europe	20	257	13
Australia and New Zealand	10	14	1
Other developed market economies	25	98	4
Centrally planned economies			
China and other Asian countries	50	208	4
Eastern Europe and USSR	25	215	9
Total		1 557	65

The bases for the density assumptions is table 13 of the statistical annex, which lists gross urban densities for selected localities. Densities chosen approach the lowest recorded in the region and no allowance is made for agricultural or other land uses within urban areas.

151. Within individual countries, however, the percentage of land occupied by urban areas can be much higher. In parts of Western Europe, for example, it can be as high as 10 per cent. Table 3.1, though compiled on the basis of data which are not entirely comparable, illustrates some of the differences among nations in the percentage of land occupied by urban areas. The relatively small amounts of land taken for urban use in countries like Iran and Indonesia is due not only to the fact that their populations are less urbanized than elsewhere, but also, as table 13 in the statistical annex shows, their urban populations live at higher densities than those of Western Europe or the United States.

3.1.2 Encroachment of urban land on cropland and other land uses

152. Table 3.2 illustrates recent trends in the expansion of urban land relative to other land uses in three developed market economy countries. It is obvious that nations such as the United States, the Federal Republic of Germany and the United Kingdom are not in immediate danger of running out of agricultural land. In all three cases the loss of land devoted to agriculture has been made up for by increases in over-all agricultural productivity. 4/

153. In Japan some experts even talk of a surplus of agricultural land due to increased industrialization of farming and a decreasing per capita demand for rice. (43) If, however, Japan's urban population lived at the same density as that of Northern America, it would have swallowed up perhaps half of all the available agricultural land in the country (see table 3.4).

154. In those parts of the world where increased agricultural productivity has not been able to compensate for loss of cropland, the story is a different one. Thus a recent report from Afghanistan states:

> "Unplanned, unchecked expansion of Kabul and other fast-growing cities is swallowing up surrounding farmland, thus depleting scarce resources of well-watered, fertile land and undermining Government attempts to increase agricultural production and achieve self-sufficiency in food. Almost all available fertile land is now under cultivation, and economic and ecological consideration - such as new and costly irrigation systems - make it difficult or inadvisable to bring marginal land into production." (40)

155. Problems of encroachment are more frequently acute at the level of specific metropolitan areas. One former source of food supply for the New York metropolitan area, the farms of Long Island, for instance, have been disappearing rapidly. Their total area dwindled from 123,000 acres in 1950 to 68,000 acres in 1972. (34) This kind of encroachment threatens urban residents with higher food costs because agricultural products must now be shipped in from more distant areas. An extreme example of metropolitan encroachment is Hong Kong, where, in a period of only four years (from 1970 to 1974), the built-up area grew by 2,219 hectares, while arable land and woodland decreased by 2,641 hectares. If such a trend were to continue, the urban area would absorb all arable land and woodland in the colony before the end of the century. (37) There are few countries likely to experience

---

4/ FAO Production Yearbook 1973, table 9, "Index numbers of per capita total agricultural production".

Table 3.1. Land use - selected countries

Country	Year	Urban Area	Agricultural Cropland	Agricultural Meadow + Pasture	Forest + Woodland	Other	Remarks
(a) Rep. of Korea	1971	(6.9%)	23.6		67.9	8.4	Urban land is duplicated in other categories
(b) Poland	1965	1.1%	63.9		25.9	9.1	"Other" includes rural settlements - (13%) + Railways + roads outside settlements (1.6%)
(c) United Kingdom	1971	7.4%	29.5	47.1	8.2	7.8	
(d) Fed. Rep. of Germany	1968	9.7%	56.1		29.0	5.2	
(e) United States	1969	1.0%	20.4	26.1	31.2	21.3	
(f) Japan	1965	1.2%	16	2.9	68	11.9	
(g) Indonesia	1961	0.2%	6.7		79.9	13.2	Urban area = all cities of 20 000 or more inhabitants
(h) Iran	1966	0.2%	8	5.5	9	77.3	Urban area = all areas designated as cities in 1966 census (274 cities of which 200 have population less than 20 000)

Sources: For all but urban land the source is calculated from FAO Production Yearbook, nearest available year. The urban area is taken from the sources indicated in the foot-notes.

a/ Government of the Republic of Korea, National Land Development Plan 1972-1981, p. 13.

b/ Julius Gorynski and Zygmunt Rybicki, Urban Land Policy and Land Control Measures in Poland, prepared for Expert Group Meeting, 30 November 1970, unpublished mimeo, p. 5.

c/ R. C. Fordham, "Urban Land Use Change in the United Kingdom during the Second Half of the Twentieth Century", Urban Studies 12, 1975, pp. 71-84.

d/ United Nations, Urban Land Policies and Land Use Control Measures, vol. III, Western Europe (ST/SCA/167/Add.2), p. 49.

e/ United States Census of Population 1970 (PCI, A1, Table 20).

f/ Masahisa Okochi, "The Land Problem and Land Measures" in A. M. Woodruff and J. R. Brown, editors, Land for the Cities of Asia, Hartford, Conn., The John C. Lincoln Institute, University of Hartford, 1971, p. 209.

g/ Pauline Dublin Milone, Urban Areas in Indonesia: Administrative and Census Concepts, University of California, Berkeley, Institute of International Studies, 1966, pp. 137-146.

h/ Imperial Government of Iran, Ministry of Development and Housing, Secretariat of the High Council for Urban Planning, Urban and Regional Development Planning in Iran, vol. VIII, Statistical tables, tables 4 and 10.

/...

Table 3.2. Changes in land use - selected countries

	1950	1960	1965	1970	1973
United States of America					
Urbanized area	-	65	-	91	-
Cropland		185	180	191	191
Meadows + Pasture		256	259	244	244
Forest + Woodland		302	296	292	292
Other		128	-	118	-
United Kingdom					(1972)
Urbanized area	1.5	1.65	-	-	1.8
Cropland	7.4	7.3	-	-	7.2
Meadow + Pasture	12.1	12.5	-	-	11.5
Forest + Woodland	1.5	1.7	-	-	1.9
Other	1.9	1.25	-	-	1.9
Federal Republic of Germany	(1952)				(1972)
Urbanized area	1.8	2.4	-	-	n.a.
Cropland	8.6	8.2	-	-	8.1
Meadow + Pasture	5.8	5.7	-	-	5.4
Forest + Woodland	7.0	7.2	-	-	7.2
Wasteland, Rivers + Lakes	1.6	1.3	-	-	n.a.

Source: For urbanized areas: United States Census of Population (PCI, A1, table 20); R. C. Fordham, "Urban Land Use Change in the United Kingdom during the Second Half of the Twentieth Century", Urban Studies 12 (1975), pp. 71-84; United Nations, Urban Land Policies and Land Use Control Measures, vol. III, Western Europe (ST/ECA/167/Add.2), p. 49. All other figures from FAO Production Yearbook, various years.

such immediate and extreme space constraints as those of Hong Kong, but there are metropolitan areas, such as that of Mexico City, where urban growth threatens to destroy not only all local sources of food but also the tree cover which is needed to prevent disastrous erosion and flooding. Problems such as these are difficult to quantify in any way making comparisons possible.

3.2 The supply of developed land for urban settlements

156. It is frequently assumed that the land required for urban settlements is qualitatively different from land required for rural settlements in that the former needs to be "serviced", i.e. it requires piped water, electric wiring, sewers, drainage and roads. The data compiled in section 4.1.3 below show that a substantial portion of the world's urban population live with few or none of these facilities. Obviously, then, there is a good deal of urban land, in developing countries at least, which is inhabited but not serviced in any conventional sense. On the other hand, there are some sketchy data from large cities in various parts of the world which suggest that there is also a considerable supply of serviced land (or at least land inside the orbit of existing service networks) in urban areas which is uninhabited. These data are assembled in table 3.3.

Table 3.3. Percentage of land unused or in non-urban use within urban areas of selected localities

Country	City	Boundaries	Year	Total land area (ha.)	Vacant + non-urban land area	% Non-urban	Use
India	Bombay (34)	Island	1960	17 044	4 636	27.2	Recreation (20%); open land, stables, cemeteries, sewage purif.; salt pans; marshes
United Kingdom	All Urban land (24)		1961	24 400	7 564	31.0	Gardens; playing fields; car parks
Poland	Warsaw (27)			44 535	15 825	35.5	Agriculture and market gardening
Pakistan	Karachi (13)	Metrcpolitan area (exc. lands devoted to national defense)	1970	24 820	4 980	20	Vacant developed
Brazil	Sao Paulo (33)	Urbanized area within municipality	1968	85 675	35 423	41.4	Vacant 38.6% non-urban (agriculture or subculture 2.8%)
Iraq	Baghdad (34)	Total developed land	1967	23 840	5 313	22	Undeveloped land within residential zone
United States of America(5)	Chicago		1966	57 628	3 626	6	Vacant
	Dallas		1966	75 333	30 561	41	Vacant
	Kansas City		1968	14 763	1 813	12	Vacant
	Minneapolis		1967	14 274	692	5	Vacant
	New Orleans		1965	40 845	23 628	58	Vacant
	Sacramento		1966	24 055	8 567	36	Vacant
	San Diego		1966	79 915	42 795	54	Vacant

Sources: As in foot-notes at end of this chapter.

157. A useful measurement of the supply of urban land, therefore, would have to distinguish among various degrees and modes of urban land development. This raises the whole question of standards as applied to the concept of land development. There may indeed be a large effective demand for urban land which is serviced at less than conventional standards. Unfortunately, there are few or no data for measuring this.

3.3 Requirements for residential urban land

3.3.1 Need and density

158. Looked at in global terms, the need for residential urban land is very much a function of how much crowding human beings are able to stand and willing to bear or, from the viewpoints of social and environmental planning, how much and how little they should be expected to put up with. From a planner's viewpoint it would be very convenient if one could establish certain maximum densities beyond which there is clear detriment to human health, happiness and productivity as well as certain minimum densities below which it is economically and environmentally unsound for society to permit people to live without sharing the space they occupy, whether with other human beings or for other than urban land uses.

159. But the world is far from any consensus on such matters. Efforts to correlate the incidence of disease with overcrowding (independently of other variables) have so far been inconclusive. (44) There are certainly cultural differences in the densities at which people live, but the degree to which culture is conditioned by economic necessity in this matter is impossible to determine.

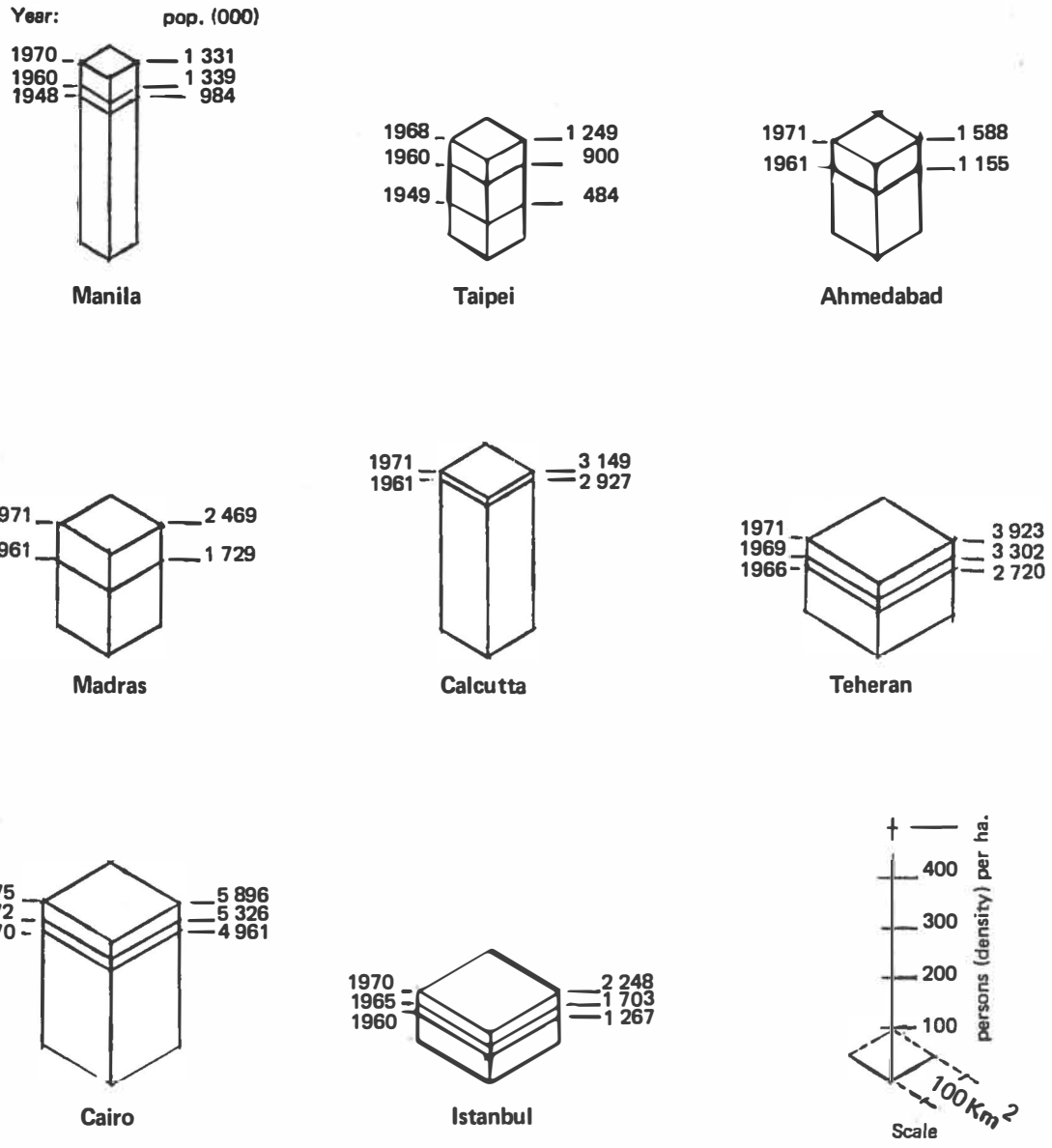
160. What we do know is that densities of occupation of urban land vary widely around the globe. Table 13 of the statistical annex gives gross densities for many cities of the world. For individual cities these figures must be approached with extreme caution because (a) municipal boundaries vary widely; and (b) the amount of usable land, agricultural or park land, etc. within municipal boundaries varies widely; and (c) the distribution of land among high and low density neighbourhoods may distort the average density.

161. Nevertheless, when one compares the gross average densities of the cities of Asia, for example, with those of the United States of America or Australia, the differences are significant. The average gross density of 21 Asian cities with a million or more population is 100 persons per hectare. The average of 17 such cities in Western Europe is 45, of 14 in Eastern Europe and the USSR 43, and of 25 cities over a million in the United States of America 17.

162. Even more significant, perhaps, are the trends toward greater or lesser density in the world's urban areas over the last three decades. Figure 3.II illustrates the trends toward higher density in most cities of the developing world. With the exception of two cities on the west coast of Latin America, Lima and Guayaquil, all third world cities for which we were able to acquire a comparable time series are becoming more densely populated. Even in cases where municipal boundaries have expanded over time, over-all densities have increased.

Figure 3.11.
Gross density trends

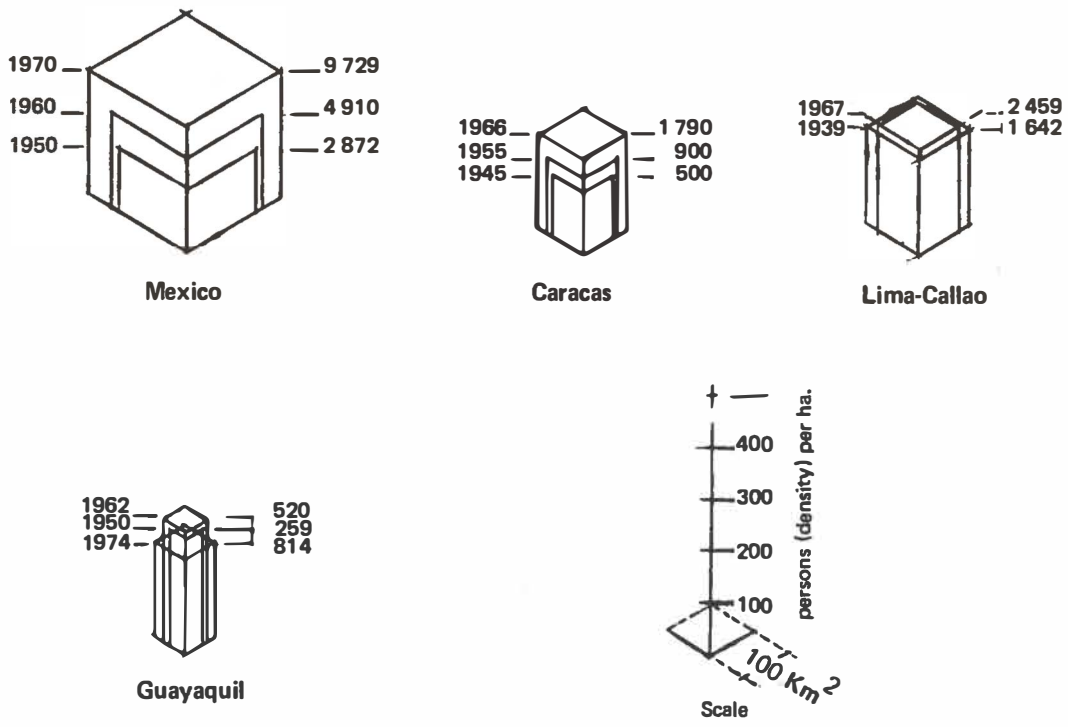
A. Density growth within constant municipal boundaries



(continued)

Figure 3.II. (continued)

B. Density growth within expanding municipal boundaries



Source: Statistical annex (A/CONF.70/A/1/Annex).

163. In certain industrialized countries, on the other hand, the trend appears to be just the opposite. In the United States and the United Kingdom, for example, the trend is decidedly in favour of lower densities. In these countries, land is being absorbed for urban use faster than the urban populations are growing. 5/

164. Thus the effective demand for urban land does not simply depend on the growth of urban population. Other factors, economic ones certainly and cultural ones to some extent, influence demand.

165. Figure 3.III illustrates the contrasting trends between India on the one hand and the United States and United Kingdom on the other. Note that the precise definition of urban area differs in each case, so the direction of the trend is much more significant than the relative starting position of each country on the density scale.

3.3.2 Estimates of future requirements

166. If the urban population of the world reaches its projected size of some 3.2 billion in the year 2000, and if the urban areas of the world maintain their present levels of population density, there will be a need for roughly 60 million hectares of new urban land. In such a case the total urban land area would still be less than 1 per cent of the world's land surface. Such figures, however, are purely hypothetical. Somewhat closer to practical usefulness are the figures in table 3.4 where, for the same countries as shown in table 3.1, alternate projections of urban land requirements are given according to a choice of densities. Here we see that a demand for urban land at current density levels could create serious problems in the Republic of Korea by the year 2000, assuming that agricultural land would be the chief source of supply. Other countries could experience similar difficulties were they to permit an excessive amount of "urban sprawl" and allow present urban density levels to decline significantly. Such would be the case in the Federal Republic of Germany, Japan and the United Kingdom.

167. It is impossible to forecast what the real, effective demand will be in the year 2000 because the density of urban settlement is influenced by very complex

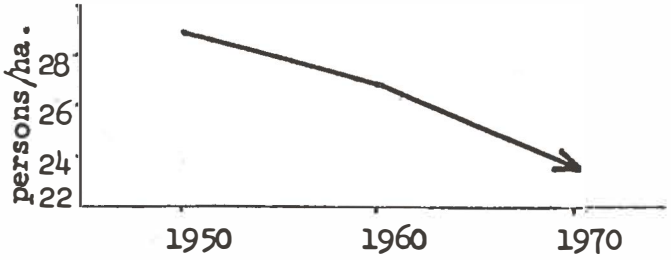
---

5/ An interesting phenomenon has occurred in the Soviet Union where, according to a 1969 report (Review of Urban Land Use Policy and Land Use Control Measures in the Union of Soviet Republics (USSR), United Nations Centre for Housing, Building and Planning, January 1969 (unpublished)), densities had been steadily decreasing in cities of less than 500,000 inhabitants but rising in the larger cities. We do not have sufficient data to compare this with density trends of smaller cities in developing countries. The data on smaller cities in table 13 of the statistical annex are reasonably complete only for parts of Asia. There, densities are generally somewhat lower in smaller cities, though still high in comparison with even larger cities in other parts of the world. We were able to gather very little data on density trends in smaller cities.

Fig. 3.III. Gross urban density trends in three countries
(Population of urban areas in persons/hectare)

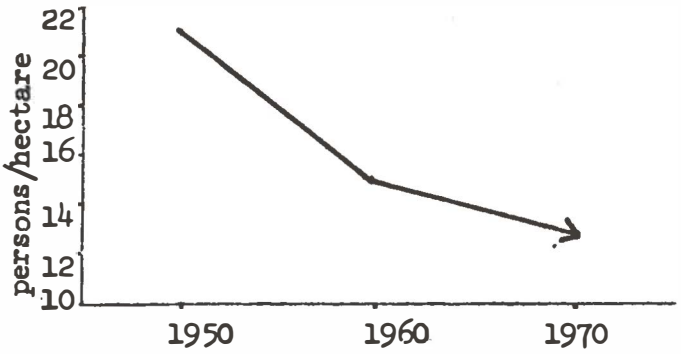
United Kingdom a/

1950 - 26.8
1960 - 25.0
1970 - 23.6



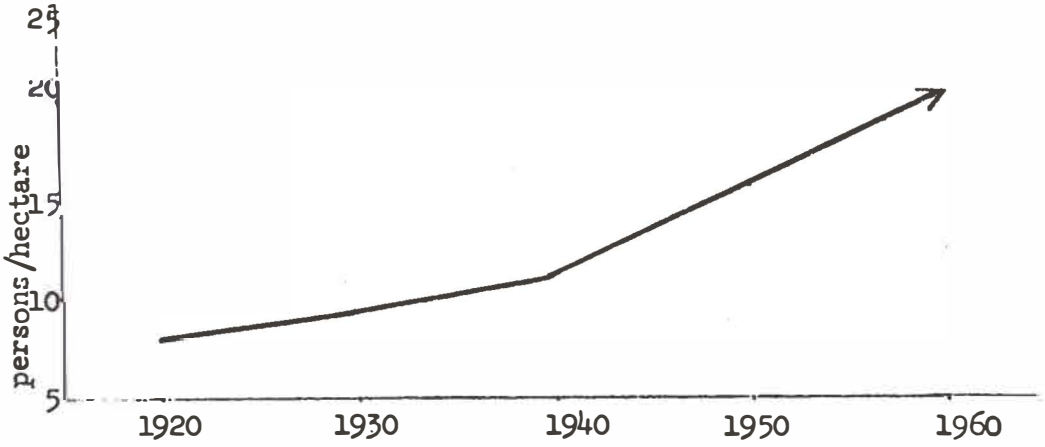
United States b/

1950 - 21.0
1960 - 14.8
1970 - 13.0



India c/

1920 - 7.3
1930 - 8.7
1940 - 11.5
1950 - 16.2
1960 - 20.5



a/ R.C. Fordham, "Urban Land Use Change in the United Kingdom during the Second Half of the Twentieth Century", Urban Studies 12, 1975.
b/ United States Census of Population 1970.
c/ Ashish Bose, Studies in India's Urbanization 1901-1971, Bombay-New Delhi, Tata McGraw Hill Publishing Company Ltd., 1973.

Table 3.4. Current urban land areas and future demand for urban land at various hypothetical densities, selected countries (in thousands of hectares)

Country	Year	CURRENT				YEAR 2000					
							Urban land area				
		Est. urban density p/ha	Est. urban land area 000 ha	Agricultural land area 000 ha	Est. total land area 000 ha	Est. urban population	At current density	At 100 p/ha	At 50 p/ha	At 25 p/ha	At 10 p/ha
Republic of Korea[b]	1971	18.7	680	2 330	9 845	36 019	1 926	360	720	1 441	3 602
Poland[c]	1965	46	340	19 946	31 173	28 887	628	289	578	1 155	2 889
United Kingdom[d]	1971	23.6	1 827	7 222[a]	24 404[a]	53 258	2 257	533	1 065	2 130	5 326
Fed. Rep. of Germany[e]	1968	20.5	2 403	8 093[a]	24 772[a]	60 295	2 941	603	1 206	2 412	6 029
United States of America[f]	1970	13	9 086	191 053[a]	936 312[a]	227 820	17 525	2 278	4 556	9 113	22 782
Japan[g]	1965	61	780	6 000	36 980	116 149	1 904	1 161	2 323	4 646	9 852
Indonesia[h]	1961	54	1 955	12 753	190 435	74 680	1 383	747	1 494	2 987	7 468
Iran[i]	1966	36.7	250	13 000	164 800	40 776	1 111	408	816	1 631	4 078

a/ FAO Production Yearbook, nearest available year.

b/ Government of the Republic of Korea, National Land Development Plan 1972-1981.

c/ J. Gorynski and Z. Rybicki, Urban Land Policy and Land Control Measures in Poland, prepared for Expert Group Meeting, 30 November 1970, unpublished mimeo.

d/ R. C. Fordham, "Urban Land Use Change in the United Kingdom during the Second Half of the Twentieth Century" Urban Studies 12, 1975.

e/ United Nations, Urban Land Policies and Land Use Control Measures, vol. III, Western Europe (ST/ECA/167/Add.2), p. 49.

f/ United States Census of Population 1970.

g/ M. Okochi, "The Land Problem and Land Measures" in A. M. Woodruff and J. R. Brown, editors, Land for the Cities of Asia, Hartford, Conn., The John C. Lincoln Institute, University of Hartford, 1971.

h/ P. Dublin Milone, Urban Areas in Indonesia: Administrative and Census Concepts, University of California, Berkeley, Institute of International Studies, 1966.

i/ Imperial Government of Iran, Ministry of Development and Housing, Secretariat of the High Council for Urban Planning, Urban and Regional Development Planning in Iran, vol. VIII.

factors. Some understanding of these factors may be achieved by looking at density differences not only among cities but also within cities.

3.3.3 Density distribution

168. In the last column of table 13 (Gross urban densities) of the statistical annex, a certain number of "spot densities" are listed. These represent the areas within cities which have the highest concentration of persons per hectare. In 20 cities of developing countries there are areas of 700 or more persons per hectare. These figures show that the density variations within cities are much greater than the variations among cities. Density variations within cities can usually be interpreted only when they are correlated with other variables such as income or access to public transport. In some cities high income central city neighbourhoods may be densely settled with luxury high rise buildings. In other cities the areas of highest density may be very low income areas where households accept very crowded conditions in exchange for cheap access to sources of employment, while there are high income low density neighbourhoods depending mainly on the private automobile for transport. Examples of the latter include Casablanca, where the average density of the Medina is 770 persons per hectare while the upper income "residential zone" has an average density of 70 persons per hectare. (55) In Port-au-Prince, Haiti, the richest 10 per cent of the population occupies 660 hectares of land at a residential density of 100 persons per hectare while the poorest 65 per cent occupies 470 hectares at an average residential density of 880 persons per hectare. (45)

169. In both these cases the importance of cheap access to potential sources of income is clearly a major factor in the location of low-income settlements. A study of the history of density variations since 1881 in the highly crowded wards of Bombay island suggests a tendency of densities to vary with employment opportunity. In some of the central wards the densities have shown a decrease between 1961 and 1971. Similar swings in density have occurred in the past, but this latest downturn corresponds to a general shift of population growth in Bombay from the central city to the suburbs. Between 1961 and 1971, 84 per cent of the total increase in population of Greater Bombay was in the suburbs. (39)

170. In another major industrial metropolis of the developing world, São Paulo, the population of the central city declined by nearly 7 per cent between 1960 and 1970 whereas the "intermediate zone" grew by 63 per cent and the periphery by 145 per cent. (47)

171. Despite the fragmentary nature of such evidence, it is possible that Bombay and São Paulo are harbingers of a trend toward the decline of inner city densities in the developing world similar to that which has become almost commonplace in the cities of North America. In the United States, between 1960 and 1970, over 80 per cent of the total population increase in metropolitan areas occurred in suburban locations. Less than 20 per cent occurred in central cities. In most metropolitan areas of the United States, population density at the centre of the primary city has been declining for many years. In New York City, the population density of the Borough of Manhattan has declined almost continuously since 1910, from 396 persons per hectare in 1910 to 259 persons per hectare in 1970. (46)

172. If the North American experience is indeed being repeated in large third world centres like Bombay and São Paulo, it presages a growing demand for land at the edges of existing large cities. On the other hand this need not happen. Within almost every human settlement now classified as "urban", there are large tracts of land settled at very low density. A more equitable distribution of urban density would be one way of absorbing future population growth without serious encroachment on surrounding rural land.

173. With regard to the many "spontaneous", "uncontrolled", "squatter" or "pirate" settlements which have developed on the fringes of most major cities of the developing world, it has been argued that these settlements occur at densities too low to be adequately and economically serviced by municipal Governments. One's position on the subject depends very much upon one's definition of adequate standards at any given point in the development of such settlements. Nevertheless, it would be helpful to observe precisely what kind of densities these settlements actually do achieve over a period of time. Unfortunately, the data are very weak. Table 3.5 contains the data obtained on this subject. The only time series is for Lima in 1955 and 1966. It should be pointed out that the 1966 figures for Lima encompass many new barriadas (now called pueblos jovenes) whose initial densities are typically very low. The older settlement had clearly undergone an increase in density much higher than the 32 persons per hectare increase indicated in the over-all density figures for the years 1955 and 1966. Figures from other parts of the world indicate generally high densities for this type of settlement but further data are required before any firm conclusions can be drawn.

174. Future requirements for urban land are far from certain. They can be a threat to food supply and ecology - an immediate threat in a few places and a long-term threat in others. But there are many factors, such as the distribution of income, the location of industry and the intensity with which existing urban land is used, over which Governments can exercise considerable influence. Some expansion of urban land is inevitable and, if it represents less crowded conditions for those who are now most crowded, desirable. The world will be seriously threatened by "urban sprawl" only if the watchword is laissez-faire.

3.4 Land use for industry and transportation

175. Table 3.6 shows the proportions of land used for industrial purposes in a group of major cities. The largest cities among them, from both the developed and the developing worlds, appear to use something in the neighbourhood of 10 per cent of their total land areas for industrial purposes (Delhi, the administrative capital of India, being a notable exception). Land use data for smaller cities is more difficult to obtain. Predicting demand for industrial land is easier in the more industrialized countries than in less developed ones where much depends upon the degree of industrialization which will be achieved in the future and the nature of the industry developed.

176. In the 1960s, land absorption coefficients were developed for the United States, by which it was calculated that for each new job in manufacturing,

Table 3.5. Gross densities of selected uncontrolled settlements

Country	City	Year	Settlement	Population	Area (ha.)	Density	Remarks
Peru	Lima (48)	1955	All barriadas	119 140	512.4	234	Squatter areas
		1966	"	437 448	1 644	266	"
Colombia	Bogotá (51)	1967	Barrio Juan XXIII	737	1.4	552	"
		1967	Barrio Las Colinas	6 236	12.2	512	"
	Bogotá (49)	1973	All pirate settlements	c. 1.2 million		85	Pirate settlements a/
Morocco	Casablanca (26)	1973	All squatter areas			230	
Philippines	Manila (50)	1975	Tondo	c. 170 000	184	c. 900	Squatter areas

a/ Pirate settlements are settlements on land which may have been legally purchased but is not serviced prior to occupancy. Dwelling units may or may not comply with building codes.

Table 3.6. Percentage of urban land used for industry, selected cities (sources as in notes at end of chapter)

Country	City	Year	Population a/ (000)	% of land in industrial use	Remarks
Pakistan	Karachi (13)	1970	3 350	8.8	Includes 0.5% "residentiary manufacturing"
Brazil	São Paulo (33)	1968	c. 5 000	7.6	Estimated 1990 need: 11%
Iraq	Baghdad (11)	1967	c. 2 000	6.8	Area employs 54 650 workers
Poland	Warsaw (27)	1969	1 300	13.0	
Ecuador	Guayaquil (35)	1974	814	4.0	
India	Delhi (53)	1959	2 300	1.9	
	Bombay (39)	1959	c. 4 000	12.7	And additional 7.2% is in mixed industrial and other uses
United States	Avg. of 22 cities (5)	c.1960		8.5	
France	Marseilles (2)	c.1965	c. 900	11.3	
Canada	Montreal (5)	1964	c. 2 300	10.0	
	Toronto (5)	1963	c. 2 000	8.2	Plan for year 2000: 19.4%
Syrian Arab Rep.	All cities (1)	c.1970		7.2	
Jordan	Amman (1)	c.1970		5.0	

a/ Population figures are as given in, or derived from, the sources indicated in the foot-notes, not from official United Nations sources.

0.34 acres (.137 hectares) of land would pass into industrial use. (5) But the nature and conditions of industrial employment in the United States in the 1960s make this a rather unreliable guide for other parts of the world. The prevalence of the private automobile as the main form of workers' transportation means that large amounts of industrial land in the United States are in fact used for parking space.

177. If the trend toward informal sector employment in developing countries continues (see section 2.4), it is clear that, despite the preference of planners for clearly segregated land uses, a large amount of "mixed" industrial-commercial-residential land use is to be anticipated and the over-all proportion of land devoted to uniquely industrial use will remain small or even decrease.

178. Table 3.7 illustrates some of the differences which exist between European and Asian cities (sufficient data being available for only these two regions) in the proportion of land devoted to transportation uses relative to the number of inhabitants. "Transportation uses" include streets and squares, railways, ports and airports. Obviously, port cities and cities which encompass major air or rail terminals will tend to score higher in such a comparison. But even when allowances are made for such distorting factors, it seems evident that, if the sample available is at all representative, the larger cities in the developing countries of Asia now have very limited amounts of land (per capita) devoted to transportation uses as compared with the cities of Europe. This tends to support the concerns expressed in the Urban Transport Sectors Policy Paper of the World Bank regarding street congestion and its impact on economic efficiency as discussed below in section 5.2 (Transportation).

3.5 Land prices 6/

3.5.1 The rising cost of urban land

179. There is insufficient published material available on land price development in the developing countries. Generally there is only some information available on land prices in different city areas and for different time periods. The following table illustrates the high rate of land price increase in some of the developing countries.

6/ Most of the data and many other assertions made in this section are taken from a paper prepared for the Habitat secretariat by H. Darin-Drabkin entitled "Impact of the land factor on urban growth in the developing countries".

Table 3.7. Amount of land per inhabitant devoted to transportation uses (streets, squares, railways, ports and airports) in selected cities

Country or area	City	Year	Population a/ (000)	Land area used for transportation (ha.)	Transportation land per inhabitant (m^2)
ASIA					
Hong Kong	Hong Kong	1973	c. 4 000	1 832	4.6
India	Delhi	1959	3 807	4 269	11.2
Jordan	Amman	1972	565	1 100	19.5
Rep. of Korea	Seoul	1972	6 872	4 051	5.9
	Taegu	c. 1970	1 163	839	7.2
Philippines	Quezon City		853	503 b/	5.9 b/
Thailand	Bangkok (Metro. area)	c. 1969	2 309	952 b/	4.1 b/
Republic of South Viet-Nam	Saigon	1972	1 846	989	5.3
EUROPE					
Austria	Linz	1973	302	913	30.2
	Salzburg (urban area)	1973	157	871	55.5
Denmark	Aarhus	1965	244	1 727	70.8
	Copenhagen	1973	1 364	1 897	13.9
Finland	Helsinki (urban area)	1973	744	3 920	52.7
France	Paris (Metro. area)	1970	6 565	11 194	17.1
	22 cities	1970-1974	11 363	31 924	28.1
Germany, Fed. Rep.	Hamburg	1974	1 771	7 443	42.0
	Munich	1972	1 338	4 267	31.9
	43 cities		16 016	76 693	47.9
Netherlands	Amsterdam		799	3 535	44.2
	9 cities	1970-1974	2 021	7 802	38.6
Poland	Warsaw	1972	1 247	3 686	29.6
	20 cities	1972	5 698	25 784	45.3
Spain	Barcelona	1970	1 741	2 317	13.3
	15 cities	1970-1974	5 220	9 504	18.2
United Kingdom	Greater London	1971	7 348	24 753	33.7

Source: International Statistical Yearbook of Large Towns, vol. 6 (manuscript).

a/ Population figures are as derived from the source, not from official United Nations sources.

b/ Streets only.

Table 3.8. Comparison of land price increases in selected developing countries a/

City	Period	Location	% increase per annum			
			Land at current prices	Land at constant prices	Consumer prices	GNP per capita
Teheran	1940-1960	Avg. of 18 districts	23	10	12	6.2
Tel Aviv	1951-1971	Avg. of 4 districts	28	21	6	5.9
Seoul	1953-1966	Avg. of all land in city	41	18.6	19.2	4.6
Japan	1955-1971	Avg. of 5 big cities	21	20	10.9	8.2
Jamaica	1965-1971	Avg. of whole land	22	17	4	3.8
Mexico	1939-1958	Avg. of 2 districts	23	15	7	3.7

a/ The figures used are collected from the study on Land Policies and Land Control Measures published by the United Nations in 1973 (1) (2) (3) (4) and also from material on some Asian countries published by the John Lincoln Institute, Hartford University, 1971. (38) (43) Additional material on land price development trends has been published by the Japan Real Estate Institute and the Israeli Land Research Institute. Although Japan and Israel are not usually classified as "developing", their rapid and recent growth means that the pattern of development of their urban land markets is similar to that of many developing nations.

b/ Most of the data and many other assertions made in this section are taken from a paper prepared for the Habitat secretariat by H. Darin-Drabkin entitled "Impact of the land factor on urban growth in the developing countries".

180. It should be kept in mind that the different time periods over which the price increases have been measured means that comparison cannot be exact. But material from other countries covering a shorter time period shows the same general trend. The rate of increase in land price in the cities and countries shown varies from 21 per cent to 28 per cent yearly (except for Seoul with an increase of 41 per cent). In constant prices the rate of increase is between 10 and 20 per cent yearly. Tel Aviv (21 per cent) and Japan (20 per cent) are the highest. The rate of land price increase shows some correlation with the consumer price increase and GNP per capita, but it has to be underlined that other very important factors influence the formation of land prices, such as the rate of urban growth, amount of foreign investment in land purchase, lack of alternative investments and land policy measures.

181. The very high rate of land price increase in some countries and cities shown in the previous table may be better understood by comparison with land price increase in the industrialized countries.

Table 3.9. Comparison of land price increases in selected industrialized countries

City	Period	% increase per annum		
		Land prices	Consumer prices	GNP per capita
Paris	1950-1966	18	4.6	5.5
Madrid	1950-1969	24	5.3	7.5
Milan	1950-1962	15	3	5.6
Amsterdam	1945-1964	6	3.3	4
Stockholm	1957-1974	7	3	5

Sources: United Nations, Urban Land Policies and Land Use Control Measures, vol. III: Western Europe (ST/SCA/167/Add.2); H. Darin-Drabkin, Land Policy and Urban Growth (forthcoming).

182. This comparison may suggest some conclusions on the effect of land policies on land price formation. Spain, France and Italy show a lower rate of increase than the developing countries but the difference is not so considerable as in the case of the Netherlands and Sweden. The rates of increase in GNP are similar among all the countries with the exception of Japan. The consumer price increase shows a lower rate of increase than that in the developing countries, again with the exception of Japan. The lower rate of land-price increase in the Netherlands and Sweden is not sufficiently explained by the difference of the consumer price increase and the GNP of these two countries with other West European countries. Even a detailed analysis of population growth in metropolitan areas of Amsterdam and Stockholm in comparison with Paris, Madrid and Milan does not show an essential difference (for example the increase of population in the metropolitan area of Stockholm during the years 1960-1965 was 5.8 per cent yearly; in Paris it was 5 per cent yearly).

183. The most influential factor affecting the lower price increase in these metropolitan areas in comparison with others may be the land policies of these municipalities. These are based on (a) advanced land acquisition for future urban development; (b) efficient land use legislation; (c) expropriation procedures; and, especially, (d) efficient implementation of the policy measures.

184. The rate of land price increase is especially high in peripheral areas of cities in the less developed countries. Some examples from different countries illustrate this:

(a) India (Calcutta) - between 1950 and 1965 the price of land in undeveloped areas within the municipal borders increased by 900 per cent while the price of land on the outskirts of the city increased by 1,300 per cent.

(b) The Philippines (Manila) - land in the metropolitan area between 1940 and 1969 showed an increase of 2,000 times or 30 per cent yearly in one area (the Escolta), while only 100 times (12 per cent) in the central area.

(c) Iran (Teheran) - the new Mehrabad area underwent a price increase of 262 per cent annually from 1952 to 1957. Teheran also provides a good example of the close relationship between land prices and the building of new roads. In 1960, before the Amir Kabir Road was extended, land in the outlying area was $\$20/m^2$; after its extension, $\$106/m^2$. The same pattern was seen with Avenue Ekbatan - $\$25/m^2$ before extension and $\$105/m^2$ after.

(d) Israel (Tel Aviv) - in towns 30 km from Tel Aviv the following price increases were shown: Kfar Saba: 1957 - $\$0.7/m^2$; 1971 - $\$35/m^2$. Rananna: 1957 - $\$0.3/m^2$; 1971 - $\$25/m^2$ (a 50-83 times increase during 14 years or 32-37 per cent yearly).

3.5.2 Commercial as opposed to residential land prices

185. In almost all cities of the world, commercial land prices are considerably higher than residential land prices. Table 3.10 comparing commercial and residential land prices in selected cities, illustrates this fact. If land prices are expressed in terms of GNP per capita, relative commercial land prices in Mexico City, Buenos Aires or Beirut are higher than in Manhattan. In 1970 land in Mexico City cost $\$1,800/m^2$ and GNP per capita was $689 (land price/GNP per capita ratio of 2.6); in Buenos Aires the ratio was also 2.6 and in Beirut the ratio of land price (m^2) to GNP per capita was 8.2, while in New York where land costs and GNP per capita are much higher, the ratio is only 1.6.

186. For developing countries it has been suggested that foreign firms play an important role in establishing such high commercial prices: when a branch of a New York or London bank or a large industrial firm locates in a city of a developing country, representatives of these firms are less likely to be concerned with high land values, for, in most cases, the prices paid are considerably lower than in their own countries. The resulting increase in commercial land prices ultimately affects all categories of land. However, the high prices of commercial land relative to GNP in Zurich and Tokyo indicate that other factors must also be involved.

Table 3.10. Comparison of highest land values in selected cities in 1970

City	Commercial values $/m^2$	Residential values $/m^2$	Ratio residential to commercial values	GNP per capita* 1971 in $	Land values in yearly GNP per capita		Increase in % 1953-1970	
					Commercial	Residential	GNP per capita	Consumer price index
Zurich	14 000	350	1:40	4 158	3.4	0.08	97	50
Tokyo	11 000	850	1:13	2 450	4.5	0.35	359	97
New York	9 000	1 000	1:9	5 110	1.6	0.20	75	46
London	8 000	160	1:50	2 653	3.0	0.06	58	80
Paris	7 000	1 200	1:6	3 449	2.0	0.35	143	90
Beirut	4 800	120	1:40	580	8.2	0.20		
Munich	4 500	600	1:75	3 791	1.2	0.16	176	48
Madrid	3 500	700	1:4	1 154	3.0	0.60	230	150
Milan	3 000	600	1:5	2 001	1.5	0.30	147	71
Amsterdam	2 700	170	1:16	2 990	0.9	0.06	131	86
Buenos Aires	2 600	200	1:13	1 111	2.3	0.20	87	4 122
Mexico City	1 800	180	1:10	689	2.6	0.266		146
Tel Aviv	1 700	500	1:34	1 852	0.9	0.27	370	110
Stockholm	1 000	150	1:7	4 690	0.2	0.03	100	85
Helsinki	1 000	170	1:6	2 457	0.4	0.07	115	72
Copenhagen	1 000	100	1:10	3 612	0.3	0.03	103	105
Taipei	1 000	140	1:7	416	2.5	0.35		478
Lima	300	50	1:6	480	0.7	0.10	116	139
La Paz	200	40	1:5	225	1	0.18	74	5 624
Calcutta	160	16	1:10	100	1.6	0.17	84	133

Source: H. Darin-Drabkin, unpublished material supplied to the United Nations, 1975.

* These figures vary slightly from those found in the United Nations Yearbook of National Accounts Statistics.

3.5.3 Land and housing costs

187. The cost of land obviously has an impact on housing. Low income families can only settle where land costs are low or where residential densities are high enough to make up for higher land costs. Where land costs make the central city inaccessible to low income families, transportation costs may add significantly to the burden of poverty. Cost data compiled at the World Bank for selected cities and reproduced in table 3.11 show the cost of raw land ranging from 12 to 46 per cent of total cost for single family public housing units and from 2 to 15 per cent for multifamily units. For the households in those cities which cannot afford to purchase even the cheapest available housing unit (they range from 35 to 68 per cent of all households in those cities according to table 2.9 of section 2.9.2 above), the cost of land undoubtedly represents an even higher percentage of housing expenditures unless, as happens quite often, these families simply occupy the land.

3.6 Land ownership

188. Land ownership systems differ both in theory and in practice. It is possible to delineate four basic types of ownership: private, public, communal and religious-sacred. In general it may be said that public ownership is the rule in countries with centrally planned economies, that private ownership predominates in the Western Hemisphere, Western Europe and parts of Asia, that communal ownership is traditional in many parts of sub-Saharan Africa (but, often as a result of colonial influences, coexists with private ownership) and that many Islamic countries have systems which combine private, communal and religious-sacred forms of land ownership. Beyond these generalities, a description of land ownership systems in each region, subregion or country would require many pages and would be of interest mainly to scholars of comparative law.

189. It may be of more general use, however, to outline some of the ways in which each basic type of ownership can vary in a given context. Such an outline is offered in table 3.12. The principal value of such an outline is to demonstrate succinctly that ownership systems which are diametrically opposite in theory may in practice be quite similar and that it is of little value to know the basic system in a given country without also knowing the practicalities of use, transfer and rent. It must be added that many of the problems associated with land speculation are endemic to the system of private ownership. They are not inevitable under the private system, but under other systems, especially the fully nationalized, they are, if they occur at all, much easier to control.

3.7 Instruments for control of land use

190. There are innumerable ways in which Governments can exercise control over land use. In centrally planned economies where all land, or a large portion of it, is nationalized, government control can obviously be much more direct than in countries where private property is the prevailing system. But even in the latter case Governments can exercise considerable influence over land use.

Table 3.11. Cost of basic construction, land servicing and raw land as percentage of total housing cost for low and moderate income housing, a/ selected cities

(in percentages)

City	Housing type	Low-income housing			Moderate-income housing		
		Basic construction	Land servicing b/	Raw land	Basic construction	Land servicing	Raw land
Mexico City	Single family	44.9	9.3	45.8 d/	58.8	3.8	37.4 d/
	Multi-family	79.9	6.3	13.8 d/	80.1	4.7	15.2 d/
Hong Kong c/	Multi-family		68.1	29.4 d/		N.A.	
Nairobi	Single family	64.5	21.5	14.0 d/		N.A.	
Bogota	Single family	69.5	12.2	18.3 d/	78.5 (D10)	9.1	12.4 d/
	Multi-family	91.5	3.8	4.7 d/	95.6 (D11)	1.9	2.5 d/
Seoul c/	Multi-family		N.A.		71.4 (E3)	15.0	6.9 d/
Ahmedabad	Single family		N.A.		68.7 (F5)	8.4	22.9 e/
	Multi-family	84.1	8.6	7.3 d/	77.5 (F4)	8.0	14.5 e/
Madras	Single family	48.1	23.0	28.9 d/		N.A.	
	Multi-family	76.9	12.4	10.7 d/	80.4	6.1	13.5 e/

Source: Orville F. Gimes, Jr., Housing for Low-Income Urban Families (forthcoming research publication prepared in the World Bank).

a/ With individual toilet and services.

b/ Includes utilities and land development.

c/ Percentages do not add up to 100 because administrative cost not included.

d/ Located at periphery of the city.

e/ Located inside the city.

Table 3.12. How four basic types of land ownership vary according to context

Where basic type of ownership is	The owner may be	Ownership rights may be	Use of the land may be	Administration of the land may be	Transfer of ownership may be	Transfer of use may be	Collection of rent may be	The basis of rent charges may be
PRIVATE	individual, corporation, co-operative	absolute or limited by public good, also permanent or temporary	autonomous or limited by public good	private, public, mixed, co-operative	uncontrolled, controlled, taxed, pre-empted	uncontrolled, controlled, taxed, pre-empted	uncontrolled, controlled, subsidized	free market, controlled market, subsidized market
PUBLIC (STATE)	nation, state, county, municipality	absolute or limited by private, community or religious rights, also permanent or temporary	private, communal, public	public, co-operative, private, mixed	prohibited or permitted	prohibited, permitted by inheritance only, permitted by sale or lease	prohibited or permitted	income, costs of development and maintenance, profit to user from location, social cost of lost agricultural production
COMMUNAL	co-operative, family, clan, tribe, community	absolute or limited by private, public or religious rights, also permanent or temporary	private, communal, public	private, collective, public (state or local authority)	prohibited or permitted	prohibited, permitted by inheritance only, permitted by sale or lease	prohibited or permitted	free market, controlled market, subsidized market
RELIGIOUS-SACRED	deity, community, state, religious person or group	absolute or limited by public good	religious, communal, public, social welfare	religious, communal, public	prohibited or permitted, controlled or uncontrolled, taxed, pre-empted	prohibited or permitted	prohibited or permitted	free market, controlled market, subsidized market

/...

Table 3.13 provides a (necessarily incomplete) list of instruments for land-use control in market-economy countries. This figure may serve as a check list in preliminary stages of planning and policy formulation. Concrete land use control programmes will, of course, make use of various combinations of policy instruments. It should also be pointed out that to list these instruments is not to imply that they are all of equal value or efficacy.

Table 3.13. Instrument for government control of land use in market economies

DIRECT INTERVENTION	LEGAL CONTROLS	FISCAL CONTROLS
Land reserves and land banks	Land registration	Property taxes
Expropriation and pre-emption a/	Limits to amount of land individual or group may own	Tax penalties e/
Government acquisition of development rights	Zoning and zoning modifications	Tax benefits f/
Sale of serviced land to private developers	Change of municipal boundaries	
Public housing, parks and other facilities	Subdivision regulations	GUARANTEES
Use of public works to influence surrounding land use	Easements b/	Government insurance
New cities and towns	Construction and location permits	Mortgage guarantees
Conditioned leasing of public land to private developers	Land readjustment and pooling c/	Guarantees of development bonds
Public and mixed public-private development corporations	Control of investments of private financial institutions d/	SUBSIDIES

a/ Pre-emption here means the first right of public authorities to acquire land on the open market whenever the owner wishes to sell.

b/ Easement here means government acquisition of the right of use without transferring ownership.

c/ Land readjustment and pooling refers to arrangements whereby land owners are jointly required to relinquish land into a common pool, land for community facilities is taken from the common supply and the remainder is subdivided according to desired patterns and redivided among the former owners.

d/ Control of investment of private financial institutions refers, for example, to requirements that savings and loan associations invest only in housing.

e/ Tax penalties include penalties for construction counter to public policy as well as taxes on unused land.

f/ Tax benefits are reductions in tax levies for socially desirable activities.

SOURCES

(1) United Nations, Urban Land Policies and Land Use Control Measures, vol. II, Asia and the Far East, New York, 1973 (ST/ECA/167/Add.1), pp. 32-37.

(2) United Nations, Urban Land Policies and Land Use Control Measures, vol. III, Western Europe (ST/ECA/167/Add.2), p. 49.

(3) United Nations, Urban Land Policies and Land Use Control Measures, vol. IV, Latin America (ST/ECA/167/Add.3).

(4) United Nations, Urban Land Policies and Land Use Control Measures, vol. V, Middle East (ST/ECA/167/Add.4).

(5) United Nations, Urban Land Policies and Land Use Control Measures, vol. VI, Northern America (ST/ECA/167/Add.5).

(6) United Nations, Provisional City Projections 1950-2000, 10 December 1974.

(10) Imperial Government of Iran, Ministry of Development and Housing, Secretariat of the High Council for Urban Planning, Urban and Regional Development Planning in Iran, vol. VIII, Statistical Tables, tables 4 and 10.

(11) Sayed S. Shafi, A Progress Report Submitted to Amanat al Assima on Recent Development of Baghdad (UNDP), 1973, p. 12.

(13) The Karachi Development Plan 1974-1985, Final report August 1973. Prepared by the Master Plan Department, Karachi Development Authority, with the assistance of the United Nations, p. 95.

(14) International Statistical Yearbook of Large Towns, vol. 6 (The Hague: International Statistical Institute) manuscript.

(24) R. C. Fordham, "Urban land use change in the United Kingdom during the second half of the twentieth century", Urban Studies 12 (1975), pp. 71-84.

(26) Royaume du Maroc, Ministère de l'Urbanisme, de l'Habitat, du Tourisme et de l'Environnement, Délégation de Casablanca, Mecanismes d'urbanisation de la ville de Casablanca - Schéma directeur d'aménagement et d'urbanisme, novembre 1974.

(27) Warsaw Town Planning Office, Warsaw 1970-1985, Warsaw, 1971, p. 64.

(28) Julius Gorynski and Zygmunt Rybicki, Urban Land Policy and Land Control Measures in Poland, prepared for Expert Group Meeting, 30 November 1970, unpublished mimeo, p. 5.

(33) Municipality of São Paulo, The Basic Urban Plan of São Paulo, 1969, p. 40.

SOURCES (continued)

(34) A Brief Report/Master Plan for Baghdad: An account of city development to 1990, revised March 1972 (Baghdad: Amanat al Assima, Planning Section), table I, p. 35.

(35) Esquema Urbano de Guayaquil, DPU Documento de Trabajo No 1 (Municipalidad de Guayaquil - Naciones Unidas ECU-72-019) mayo 1975 pp. 23 y 94.

(36) Pauline Dublin Milone, Urban Areas in Indonesia: Administrative and Census Concepts (University of California, Berkeley: Institute of International Studies, 1966), pp. 137-146.

(37) Hong Kong: Report for the year 1970 and Hong Kong 1975: Report for the year 1974 (Hong Kong Government Press, 1971 and 1975), pp. 60-61 and 46 respectively.

(38) Tien Chen Ku, "Problems arising from the rapid development of Taipei City", in A. M. Woodruff and J. R. Brown, editors, Land for the Cities of Asia (Hartford, Conn.: The John C. Lincoln Institute, University of Hartford, 1971), pp. 372-400.

(39) Nigel Harris, Planning the Future of Bombay (Oxford, December 1973) mimeo.

(40) "Urban Planning Problems in Afghanistan Analysed under ICP Work Agreement", Population Dynamics Quarterly, vol. 3, No. 3 (summer 1975), p. 7.

(41) Government of the Republic of Korea, National Land Development Plan 1972-1981, p. 13.

(42) United States Census of Population 1970 (PCI, A1, table 20).

(43) Masahisa Okochi, "The Land Problem and Land Measures" in A. M. Woodruff and J. R. Brown, editors, Land for the Cities of Asia (Hartford, Conn.: The John C. Lincoln Institute, University of Hartford, 1971), p. 209.

(44) John Cassel, "Health Consequences of Population Density and Crowding" National Academy of Sciences, Rapid Population Growth: Consequences and Implications (Baltimore and London: The John Jopkins University Press, 1971) pp. 462-478.

(45) Plan de Développement de Port-au-Prince et de sa Zone Metropolitaine, préparé par le Projet "Planification Physique, Habitation et Construction, HAI/SD 0970, Projet conjoint du Gouvernement haitien (CONADEP, TPTC) et les Nations Unies", Phase II, vol. I, mai 1975.

(46) Executive Office of the President, Domestic Council, Report on National Growth 1972 (Washington, D.C.: U.S. Government Printing Office, 1972), p. 20.

(47) Walter Leser, Crescimento da Populaçao da Cidade de São Paulo, entre 1950 e 1970, e seu Reflexo nas Condiçôes de Saude Pública", Ciência e Cultura vol. 27, No. 3 (March 1975) pp. 244-256.

(48) José Matos Mar, Estudio de las Barriadas Limenas (Lima: Departamento de Antropología, Facultad de Letras y Ciencias Humanas, Universidad Nacional Mayor de San Marcos, 1967) p. 89.

(49) Georges Vernez, Pirate Settlements, Housing Construction by Incremental Development and Low Income Housing Policies in Bogotá, Colombia (New York, New York City Rand Institute, 1973) p. 23.

(50) Aprodicio A. Laquian, Tondo, Manila: Popular Participation for Environment Improvement in a Philippines Shantytown (Ottawa: International Development Research Centre, 12 April 1975) photocopy, p. 2.

(51) Earl Kessler and Edward Stanley Popko, The Growth Pole System: An Alternative Programme for Low Income Housing in Colombia, South America (Cambridge: Massachusetts Institute of Technology, June 1971) thesis, pp. 82 and 100.

(52) Ashish Bose, Studies in India's Urbanization 1901-1971 (Bombay-New Delhi: Tata McGraw Hill Publishing Company Ltd., 1973) p. 281 and passim.

(53) Delhi Development Authority, Work Studies Relating to the Preparation of the Master Plan for Delhi, vol. I, Delhi, 1962, p. 110.

(54) Dennis E. Gale and Harvey Yampolsky, "Agri-Zoning: How they're gonna keep 'em down on the farm", Planning, vol. 41, No. 9 (October 1975), p. 17.

(55) Royaume du Maroc, Ministère de L'urbanisme, de l'Habitat, du Tourisme et de l'Environnement, Délégation de Casablanca, Mécanismes d'urbanisation de la ville de Casablanca - Schéma directeur d'aménagement et d'urbanisme, novembre 1974.

4. Housing

191. Housing censuses have been undertaken during the past 10 years (1965-1974) on 60 per cent of the inhabitants of the world. Very little or nothing is known about the housing conditions of the remaining 40 per cent, who are located entirely in developing countries. Only 44 per cent of the African population and 51 per cent of the Asian population have been covered by a housing census, while almost the total population of Europe (99 per cent) and North America (96 per cent) and a high percentage of South America (93 per cent) and Oceania (81 per cent) have been covered. This means that on this planet, there are 1.6 billion inhabitants whose housing conditions are not reported in housing censuses.

192. Although the principal source for basic housing data is the housing census, other sources of information have been used in this report, e.g. housing institution reports, sample surveys and special surveys. Generally, this additional information concerns certain aspects of housing not covered in a complete housing census or deals with intercensal periods; it always concerns population for which a census has been previously undertaken.

193. In reviewing housing statistics included in this report, customary caution must be used. It should be noted that:

(a) Information refers to 60 per cent or 2.4 billion inhabitants of the world.

(b) In spite of efforts at standardization by the United Nations, definitions employed at the national level for data collection often differ significantly from country to country. (Definitions are included in the statistical annex to this report.)

(c) Data shown according to an urban/rural dichotomy must be interpreted, keeping in mind, first, that there is no internationally recognized definition of urban/rural and that countries establish these divisions on a number of criteria which vary significantly from country to country: and, secondly, the level of urbanization in the country concerned must also be taken into account.

(d) Data on rates of construction only rarely reflect construction undertaken without permit, i.e,, uncontrolled or transitional settlements.

194. The composition of major areas and regions in this chapter is as indicated in the note at the beginning of this report.

4.1 Housing conditions

195. According to an examination of available statistical data, it appears that housing conditions have become significantly worse in most of the developing countries during the course of the past 10 years. This is in direct contrast

with the trends in the developed countries. The most relevant reasons are: the rapid growth of population, the migration of rural households to the cities and the decline of the rate of increase in national output which has begun to slow down in virtually every major economy. Some countries' gross national product in real terms is lower now than it was in 1970. This has resulted in much slower increases in household income while the level of consumer prices has risen more rapidly than wages, especially for low-income groups. The prices of land and housing have increased significantly more rapidly than those of other consumer commodities. Moreover, housing in the developed countries particularly, has suffered from the sudden large increases in the cost of energy.

196. Many countries are experiencing a housing shortage of the kind of dwelling that the majority of the population need and a high percentage of vacancies in housing with prices above what the majority can afford. Table 2.18 of section 2.9.2 above shows the percentage of households unable to afford the cheapest dwellings presently available in selected cities as ranging between 35 and 68 per cent.

4.1.1 Existing stock

197. The total number of existing dwellings on this planet is unknown. What is known is that in 1970 half the world's population was housed in 463 million dwellings at the rate of 257 units per 1,000 inhabitants. The major part of this known stock is located in the developed regions, where it houses their population at the rate of 315 dwellings per 1,000 inhabitants. The highest number of existing dwellings per 1,000 inhabitants is in the European countries with market economy (343) followed by North America (331) and Australia and New Zealand (309).

198. Regarding the less developed regions, information is available on the 31 per cent of their population which is housed in 146 million units at the rate of 183 dwellings per 1,000 inhabitants. It should be noted that among the developing regions, Asia has the best coverage (40 per cent) and this is in spite of the fact that no information is available on its most populous country, China. The known part of the Asian dwelling stock numbers 140 million dwellings, where 760 million inhabitants live at the rate of 184 dwellings per 1,000 inhabitants. These data exclude Japan, where the occupancy rate is 267 dwellings per 1,000 inhabitants. Due to the low coverage (less than 7 per cent) of Africa and Latin America, generalization for those areas would be misleading.

199. In table 4.1, the number of existing dwellings in countries for which data are available have been calculated and grouped by major geographical regions. In reading the table, it should be considered that data do not indicate the total number of existing dwellings in each region, but the number of units occupied by the percentages of inhabitants indicated. Most of the data are census results or national estimates. Where the information was available for a different year than 1970 (within a maximum range of five years), the year 1970 has been estimated.

200. Regarding the urban-rural distribution of the dwelling stock, from the available statistical data, it appears that, in the majority of developed countries,

Table 4.1. Dwelling stock in 1970

Countries for which data are available by major regions

Regions	Coverage (% of inhabitants of each region)	Dwellings	
		Total (1,000)	per 1,000 inhabitants
Total 68 countries a/ of which:	50.0 b/	463 470	257
47 in more developed regions	93.0	317 658	315
21 in less developed regions	31.5	145 812	183
6 in Africa	7.1	3 823	152
2 in North America	99.9	74 924	331
2 in Latin America	6.9	3 855	198
1 Temperate South America	24.5	1 775	200
1 other South America	4.2	2 080	197
12 in Asia	42.6	167 750	194
1 Japan	100	27 885	267
11 other Asia	39.5	139 865	184
21 in Europe	89.5	135 393	329
16 Market Economy	96.5	110 544	343
5 Central Planned Economy	70.9	24 849	279
5 in Oceania	80.7	4 792	307
2 Australia and New Zealand	100	4 748	309
3 other Oceania	5.6	44	199
USSR	100	72 933	300

Sources: Statistical annex tables 1, 24 and 26; United Nations Annual Bulletin of Housing and Building Statistics for Europe, 1974, vol. XVIII (Sales No. E/F/R.75.11.E.11).

a/ The countries for which data are available or estimations have been made are:

Africa: Algeria, Mauritius, Reunion, Seychelles, Tunisia, Zambia.

North America: Canada, USA.

Latin America: Chile, Venezuela.

Asia: Israel, India, Indonesia, Japan, Rep. of Korea, Kuwait, Macao, West Malaysia, Mongolia, Sri Lanka, Thailand.

Europe: Austria, Belgium, Denmark, Finland, France, Fed. Rep. of Germany, Greece, Ireland, Italy, Malta, Netherlands, Norway, Spain, Sweden, Switzerland, United Kingdom, Bulgaria, Dem. Rep. of Germany, Hungary, Poland and Yugoslavia.

Oceania: American Samoa, Australia, Guam, New Caledonia and New Zealand.

b/ Percentage of total world population.

the percentage of the dwelling stock in urban areas varies between 40 and 70 per cent. The following countries have more than 70 per cent of the dwellings in urban areas: Canada, United States, Denmark, Sweden, Japan, Argentina, Uruguay, Australia and New Zealand, while Norway and Romania have less than 40 per cent. In the less developed countries for which data are available, the range is between 16 and 50 with the exception of Columbia, Brazil, Israel and Hong Kong where more than 50 per cent of the dwellings are located in urban areas.

201. The majority of households either own or rent their dwelling. Other forms of tenure are generally found in the rural areas of the developing countries but they affect less than one fourth of the households living in the same area. The number of households who own their dwelling is generally higher than the number of those who rent it. Exceptions are Europe and the urban areas of some African countries where more than half the households rent their dwelling. Data on tenure are given by countries in the United Nations Compendium of Housing Statistics 1972-1974. In table 4.2 of this report, data have been summarized by regions and urban-rural areas.

4.1.2 Occupancy rates

202. In comparing the number of households with the dwelling stock in 1970, their ratio is very close to one household per dwelling in all regions. This is a consequence of the fact that many countries defined the household as a number of people occupying the same dwelling. Another factor which has to be taken into account is the vacancy ratio, i.e. the percentage of dwelling stock which is vacant. These rates are quite high in some regions. They are summarized by region in table 4.3.

203. These vacancy rates illustrate the lack of precision inherent in the concept of "housing deficit". Since most people find some kind of shelter, however precarious, it may be conjectured that there are more dwellings without people than there are people without dwellings. Clearly the world's housing needs cannot be discussed without considering, on the one hand, the quality of available housing and, on the other, the purchasing power of the people to be housed. One measure of this relationship is the statistical information on crowding.

204. The percentage of dwellings with more than a given number of persons per room can serve as a reference point for comparisons of overcrowding among various countries. Although this indicator has many drawbacks, it is widely applicable if only because statistics are available for a considerable number of countries and the calculations involved are simple. It should be noted that, under certain cultures and under certain climatic conditions, a large number of persons per room is quite acceptable. In many countries, porches, verandahs and other outdoor spaces provide useful areas which are not defined as a room and therefore are not reflected in the calculations of this indicator.

205. Areas of excessive overcrowding exist in all regions, excluding Europe and North America, with a number of countries reporting more than 40 per cent of their

Table 4.2. Tenure of households in conventional dwellings (latest available census)

Regions and Areas	Coverage (% of inhabitants of the urban or rural population of each region)	Tenure of households (percentage)		
		owner	renter	other
Africa				
urban areas, 12 countries	43.9	43.3	51.7	5.0
rural areas, 5 countries	4.8	75.4	7.2	17.4
North America				
urban areas, 2 countries	99.9	58.0	42.0	-
rural areas, 2 countries	99.9	76.6	23.4	-
Latin America				
urban areas, 28 countries	57.9	55.9	36.6	7.5
rural areas, 27 countries	77.6	67.9	8.0	24.1
Asia				
urban areas, 17 countries	25.8	50.1	44.2	5.7
rural areas, 13 countries	15.7	73.0	4.7	22.3
Europe				
urban areas, 20 countries	55.2	34.0	63.4	2.6
rural areas, 20 countries	54.5	54.5	39.4	6.1
Oceania				
urban areas, 2 countries	80.7	59.9	28.6	11.5
rural areas, 2 countries	80.7	60.3	16.8	22.9

Sources: United Nations, Compendium of Housing Statistics 1972-74, advance copy.

Table 4.3. Vacancy ratio[a/] in conventional dwellings around 1970

Regions[b/]	Total	Urban	Rural
Africa	1.6	3.1	0.5
North America	7.4	5.1	13.7
Latin America	7.1	4.9	4.7
Asia	6.2	6.8	6.0
Europe	7.8	7.3	10.3
Countries with market economies	7.0	10.5	19.6
Countries with centrally planned economies	2.5	1.8	3.8
Oceania	8.5	6.9	17.4

Source: Statistical annex, table 15.

a/ Percentage of the dwelling stock which is vacant.

b/ Countries for which data are available are: (T = total area; U = urban area; R = rural area).

Africa: Algeria (TUR); Egypt (U); Malawi (U); Mauritius (TUR); Nigeria (U); Reunion (T); Zambia (T).

North America: Canada (TUR); United States (TUR).

Latin America: Guadeloupe (T); Martinique (T); Panama (TUR); Puerto Rico (TUR); Argentina (TUR); Peru (TUR); Uruguay (T); Venezuela (T).

Europe market economy: Austria (T); Belgium (T); Finland (TUR); France (TUR); Germany, Fed. Rep. of (T); Greece (TUR); Iceland (TUR); Italy (T); Luxembourg (T); Malta (T); Netherlands (T); Norway (TUR); Sweden (TUR); Switzerland (TUR); United Kingdom (T).

Centrally planned economy: Bulgaria (TUR); Czechoslovakia (T); Germany, Dem. Rep. (T); Hungary (TUR); Poland (TUR); Romania (TUR); Yugoslavia (TUR).

Oceania: Australia (TUR); New Zealand (T); Papua (T).

Asia: Cyprus (TUR); India (TUR); Japan (TUR); Republic of Korea (TUR); Macao (T); West Malaysia (TUR); Mongolia (TUR); Pakistan (T); Philippines (T); Sri Lanka (TUR).

housing occupied at levels of three or more persons per room. Rural areas almost always have had more overcrowded housing than urban areas. The trend of developed countries and the more developed of the developing countries shows a reduction of overcrowded housing; but in the less developed of the developing countries, the trend is the reverse. Data on the percentages of dwellings with three or more persons per room and of the average number of persons per room are given in table 15 of the statistical annex.

206. Information on the average number of persons per room in major cities of the developed countries and on all cities for which data are available in the developing countries are represented in figure 4.I. In looking at the chart, it should be noted that the data refer to the persons living in the so defined "conventional dwellings" and consequently exclude squatters and marginal housing units where densities are much higher.

207. Unfortunately, the information available on the non-conventional dwelling sector does not permit conclusions to be made on regional or global bases. Sample data show that 60 per cent of rooms in non-conventional dwellings have more than two persons living in them and that 35 per cent of the rooms have more than three persons. The corresponding figures for conventional dwellings are 35 per cent and 20 per cent respectively. These same data show an average of 3.2 persons per room and approximately 6 square metres of living space per person in non-conventional dwellings. 1/

208. In Usmania Mohajir colony, 2/ a Karachi squatter settlement, the situation is the following:

4	per	cent	of	the	households	have	10	or	more	members	in one room
13	"	"	"	"	"	"	8 to 9.9	"	"	"	"
24	"	"	"	"	"	"	6 to 7.9	"	"	"	"
22	"	"	"	"	"	"	4 to 5.9	"	"	"	"
29	"	"	"	"	"	"	2 to 3.9	"	"	"	"
7	"	"	"	"	"	"	1 to 1.9	"	"	"	"
1	"	"	"	"	"	"	more than 1 room per member.				

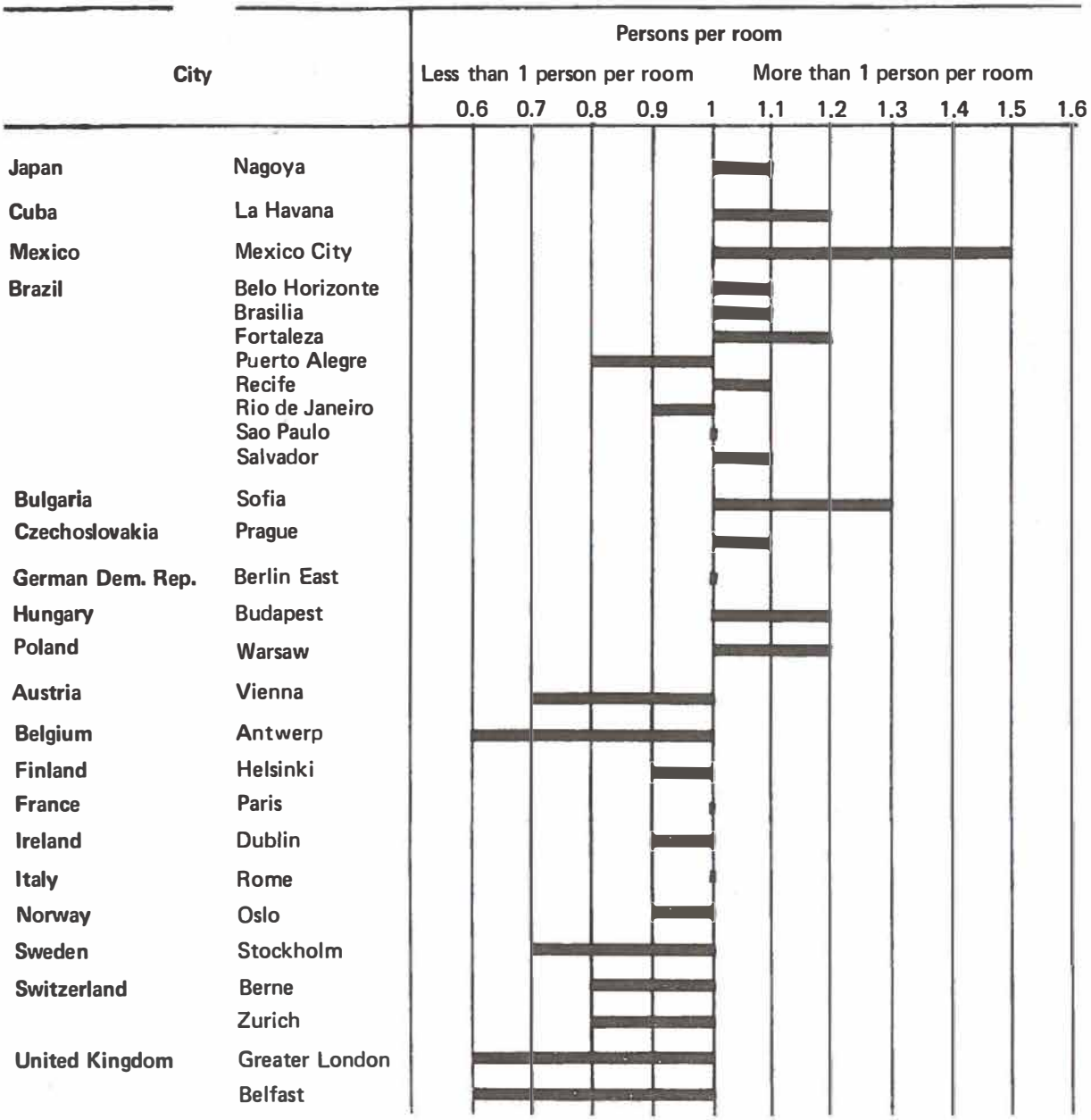
209. In 1972 in Teheran, 92.2 per cent of the squatter population lived in one-room units; 2.4 per cent shared one room between two households and the remainder had two or three rooms per household (average size of household: 4.7). The average living space per person in squatter settlements was 3 square metres. As a

---

1/ United Nations Department of Economic and Social Affairs, Centre for Housing, Building and Planning, data from Framework for Strategic Indicators (unpublished mimeo).

2/ Government of Pakistan and the Netherlands, Usmania Mohajir Colony, a joint research project for urban development and slum improvement (JRP IV) Karachi 1972, p. 62.

Figure 4.I.
Average number of persons per room in selected cities
circa 1970



Source: International Statistical Institute, *International Statistical Yearbook of Large Towns,* vol. 6 (advance copy).

comparison, 42.8 per cent of dwellings had three persons or more per room in all urban areas of Teheran in 1966. 3/

210. In the tugurios of Cali, Colombia, 77 per cent of the population have a living space of less than 10 m^2 per person. In Cartagena's tugurios, 56 per cent of the dwellings house 5 to 10 persons, 10 per cent have 11 to 15 persons and 6 per cent have more than 15 persons. Only 28 per cent house less than 5 persons. Twenty-three per cent of the households have to share a dwelling with one or more families. 4/

4.1.3 Facilities

211. The extent to which dwellings are provided with facilities such as piped water supply, toilets, electricity, kitchens and fixed bath or showers is an indicator of housing conditions. Data on dwelling facilities generally refer to the facilities existing in conventional dwellings which are the better equipped part of the housing stock. There is a lack of information on facilities available in housing units other than conventional dwellings (e.g. mobile, rustic, marginal, etc.) and, where it exists, the information is available from case studies in selected areas, from which generalization could not be made.

Water supply

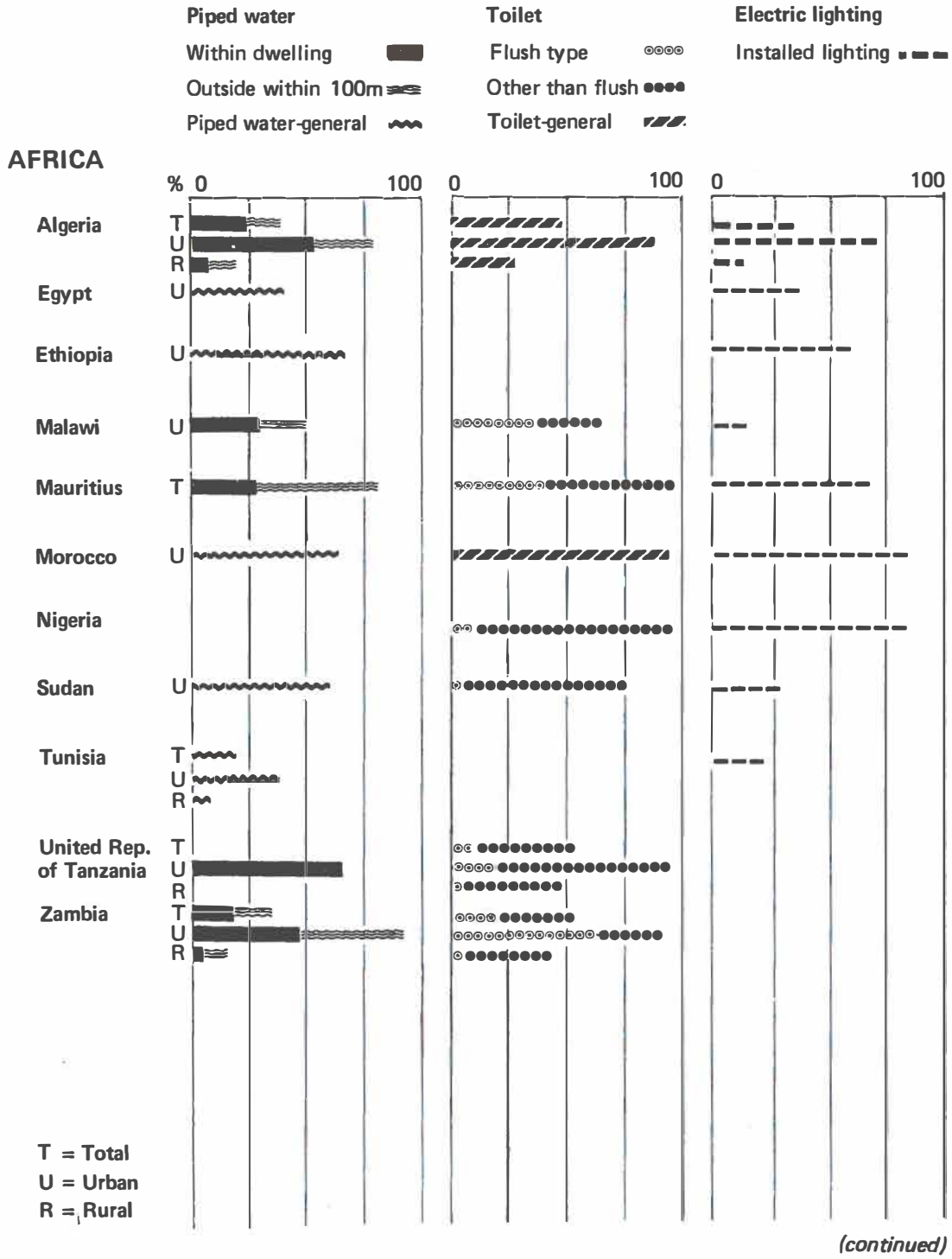
212. The availability of a protected source of water supply for the occupants of each housing unit is essential for the prevention of communicable diseases as well as for the cleanliness and general comfort of the occupants. Furthermore, the availability of a water-supply installation is of particular importance in connexion with the preparation of food. For these reasons, the percentage of housing units with piped water supply inside or outside, but within 100 metres, is an indicator of housing conditions.

213. Data by countries on the percentage of conventional dwellings supplied with piped water are shown in figure 4.II. More detailed information is published in the United Nations Compendium of Housing Statistics, 1972-1974. In reading the data, it should be noted that they are open to wide variations owing to different interpretations given to the question of "water supply". In some cases "running water" is considered "piped water" and open ditches were included in this category; in other cases, all the dwellings located in a region with a communal system were considered to have water installations, although a substantial proportion of them may not have been connected to the system. Therefore, extended comparisons and generalizations related to the servicing of dwellings with piped water are difficult. Nevertheless, the available data indicates the magnitude of the problem.

3/ Institute for Social Studies and Research, University of Teheran, Survey of Squatter Settlements in Iran - Preliminary Results for Teheran, June 1972.

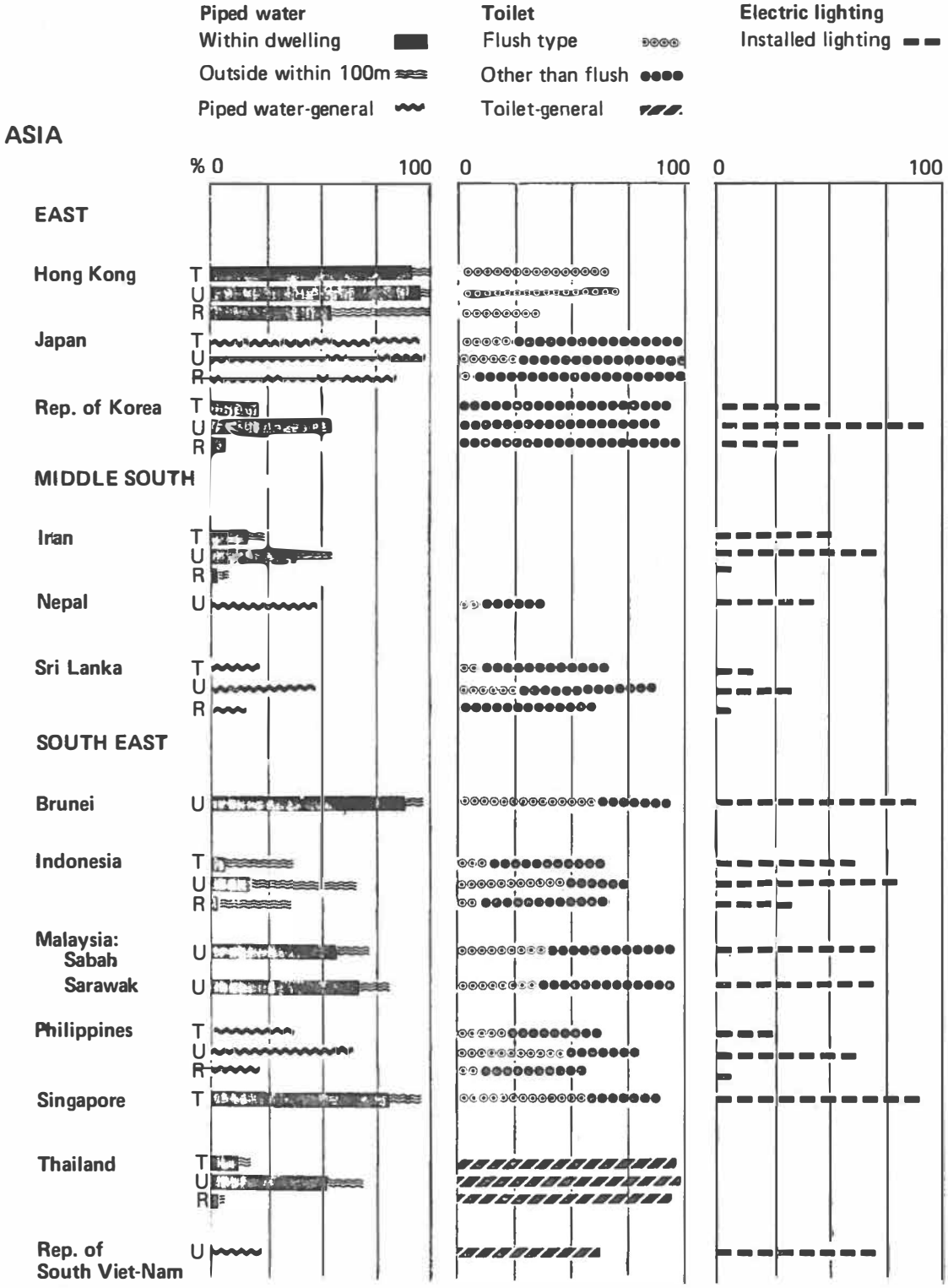
4/ Instituto de Credito Territorial, Programa de erradicación de Tugurios de la Communidades Fatima, Berlin y San Francisco, Cali. Monograph No. 21 prepared for the Interregional Seminar on the Improvement of Slums and Uncontrolled Settlements, United Nations publication, Medellin, Colombia, 15 February-1 March 1970 (United Nations Publication, Sales No. E.71.IV.6); Humberto Triana y Antorveza, Cultura del Tugurio en Cartagena, Italgraf, Bogota, S.A., 1974.

Figure 4.II.
Availability of services and utilities according to the latest available census data
(in percentage of dwellings)



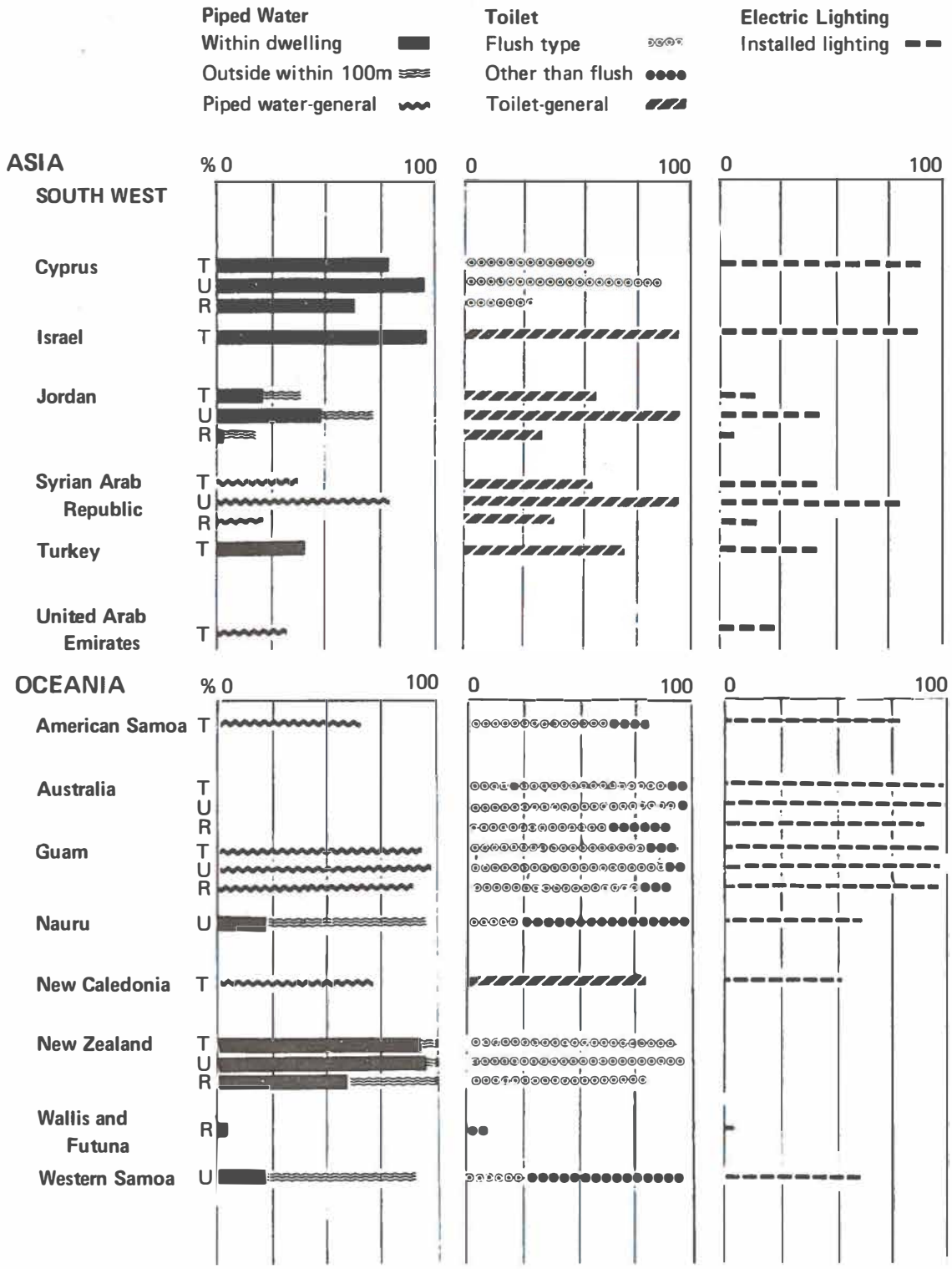
(continued)

Figure 4.11.
Availability of services and utilities according to the latest available census data (in percentage of dwellings)



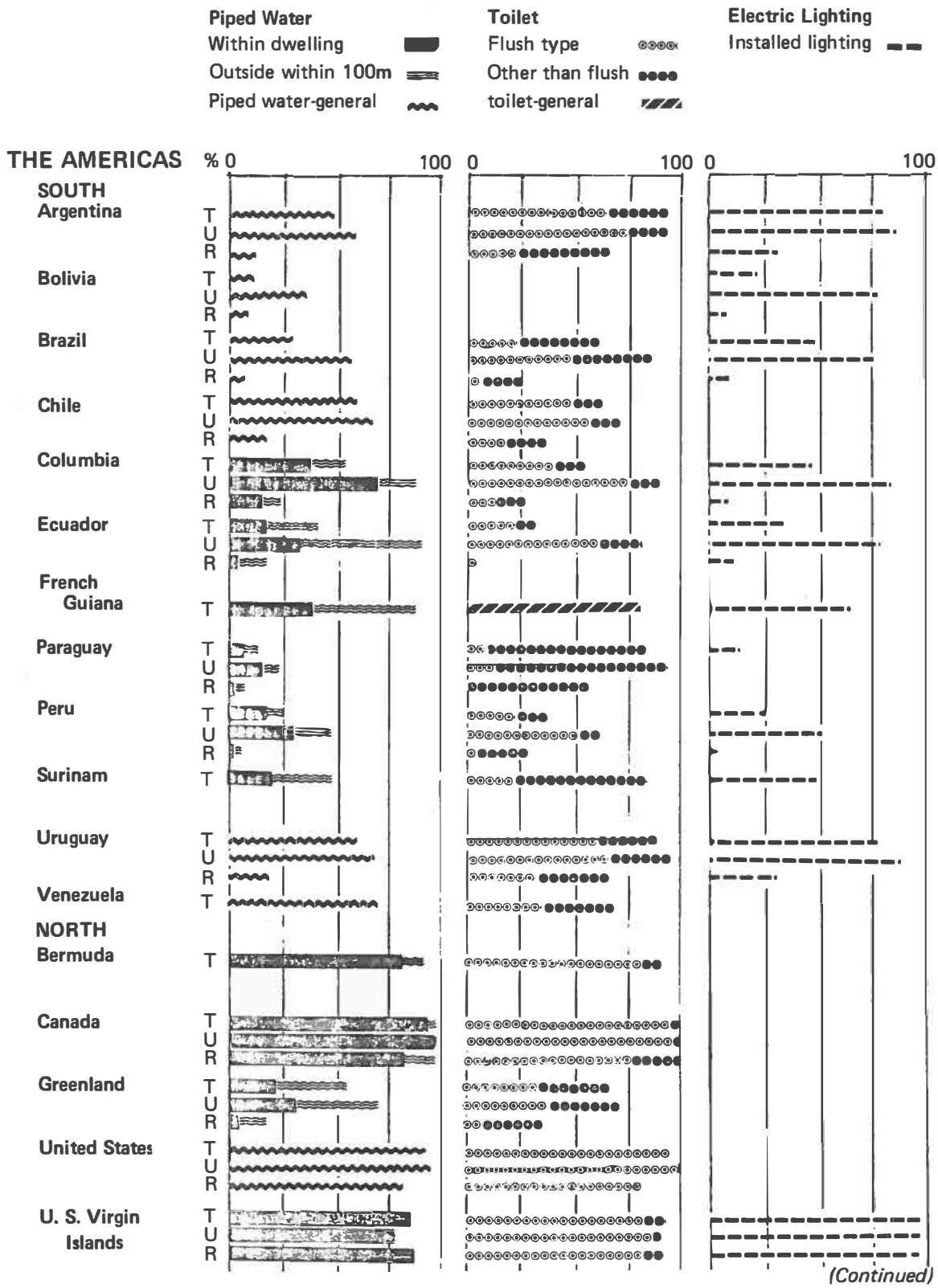
(continued)

Figure 4.11.
Availability of services and utilities according to the latest available census data (in percentage of dwellings)



(continued)

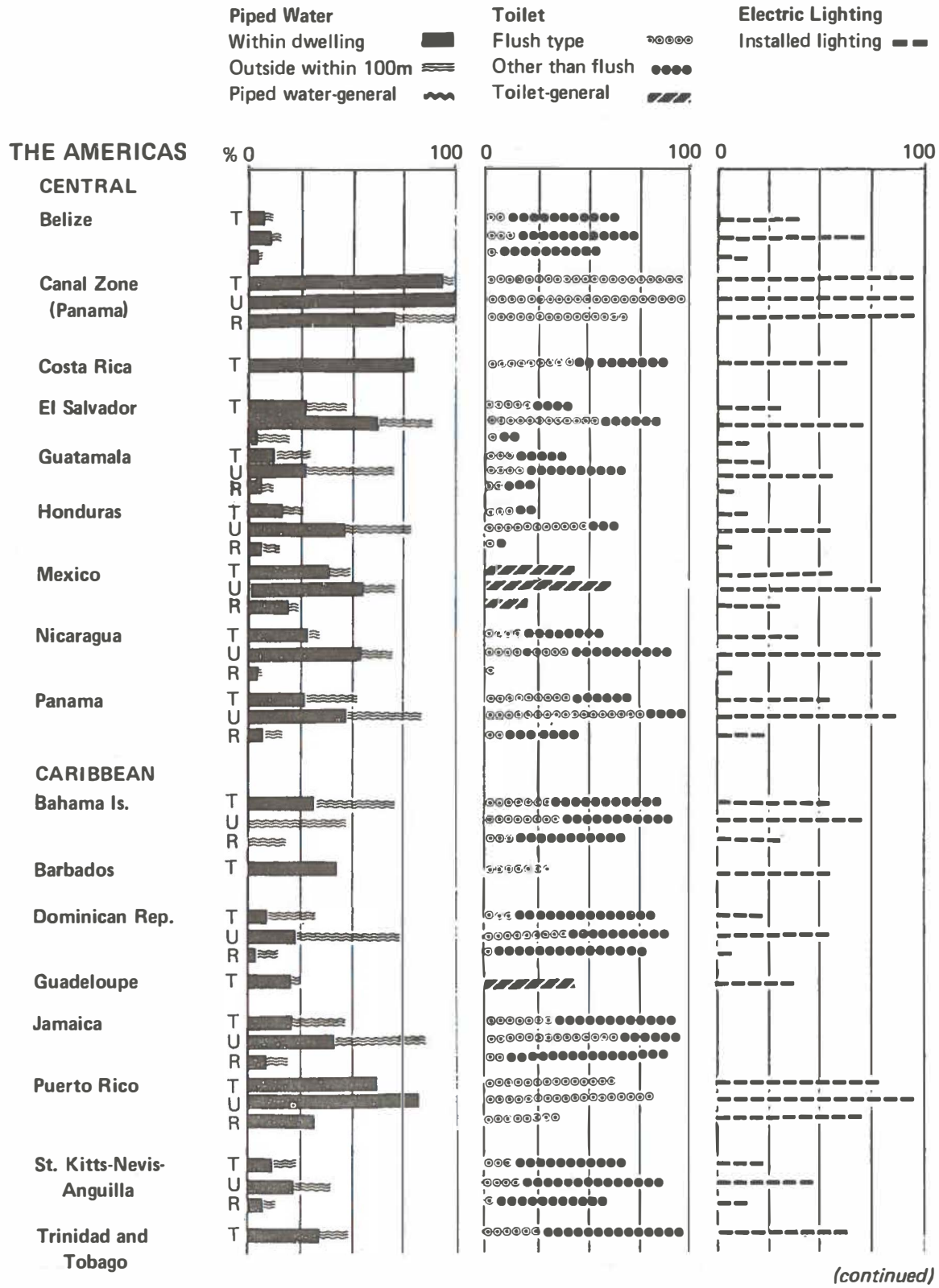
Figure 4.II.
Availability of services and utilities according to the latest available census data (in percentage of dwellings)



(Continued)

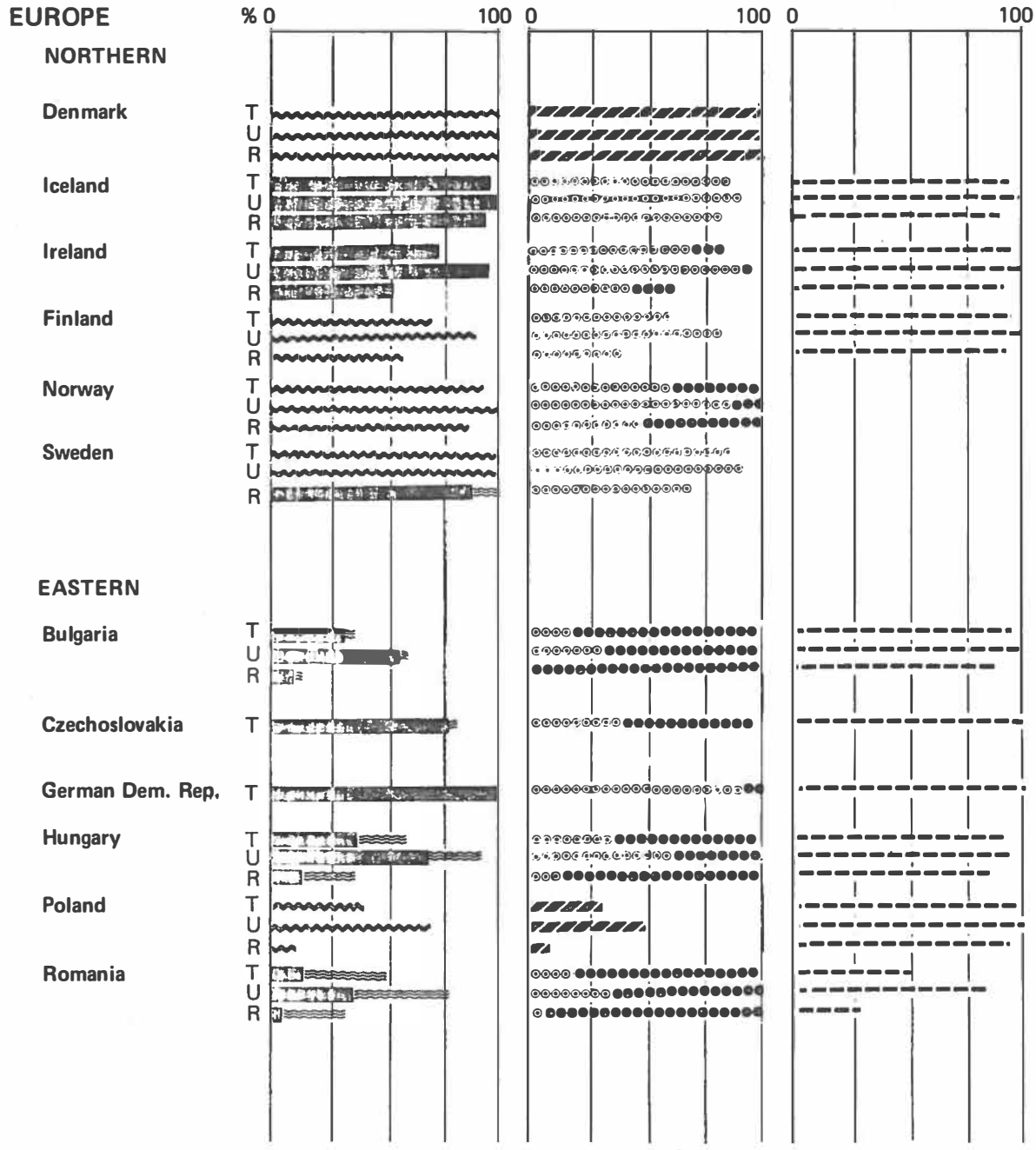
Figure 4.11.

Availability of services and utilities according to the latest available census data
(In percentage of dwellings)



(continued)

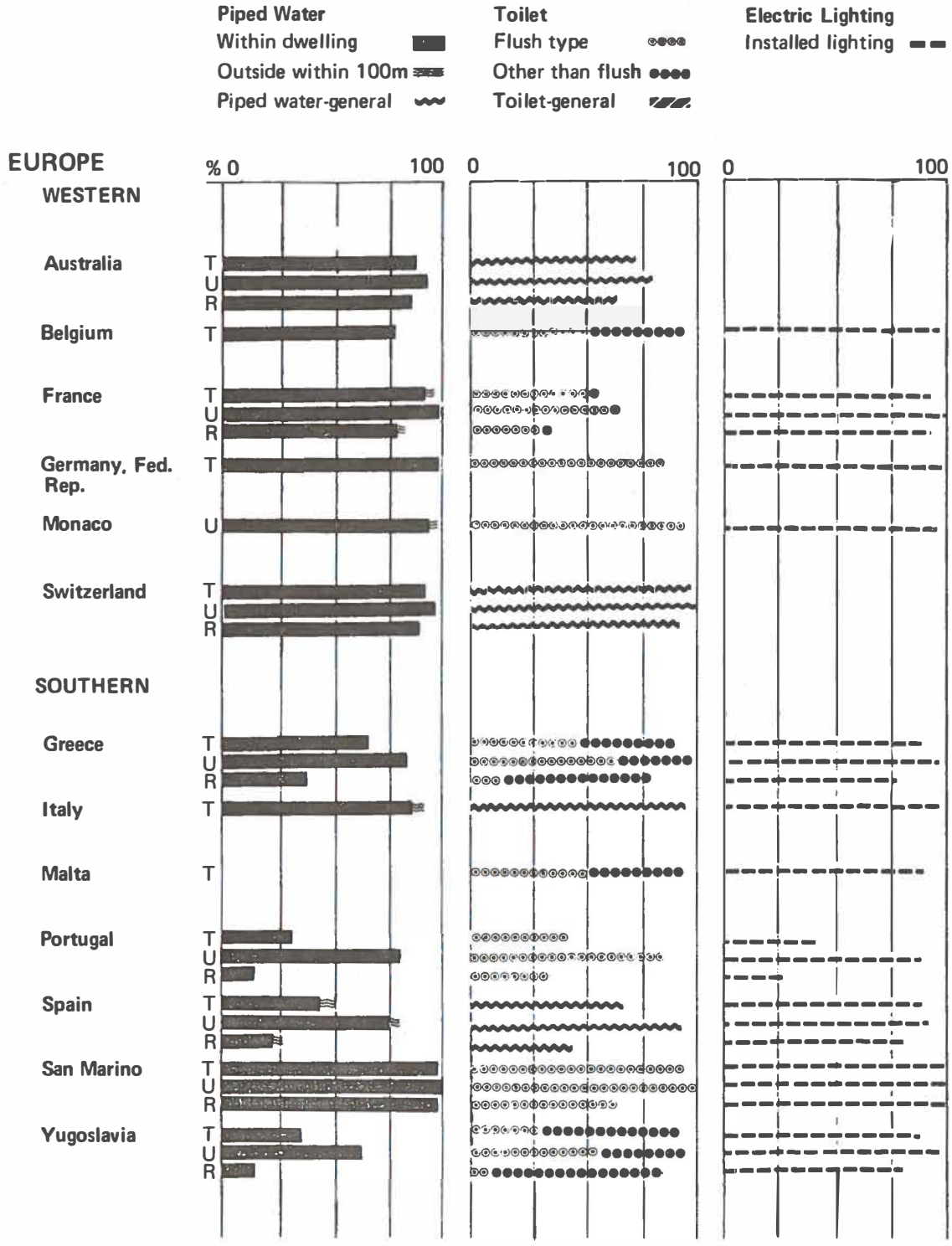
Figure 4.11.
Availability of services and utilities according to the latest census data
(In percentage of dwellings)



(continued)

Figure 4.II.

Availability of services and utilities according to the latest census data (In percentage of dwellings)



Source: Statistical annex (A/CONF. 70/A/1/Annex).

214. The majority of developing countries report that more than half their dwellings have no piped water supply, with some African and Asian countries reporting less than 20 per cent. All developed countries have more than 50 per cent of their dwellings connected with piped water: North America, more than 95 per cent; European countries with market economies, more than 85 per cent; and European countries with centrally planned economies, more than 50 per cent.

215. The disparity between urban and rural areas is very pronounced. Of 34 developing countries with a total population of 585 million inhabitants and reporting data on their rural housing, 16 countries have less than 5 per cent of their rural dwellings serviced with piped water. No developing country on which data is available presents more than 23 per cent of rural dwellings serviced with piped water, with the exception of Indonesia (47.2 per cent). In urban areas, the percentages are higher. Of 45 countries with a total of 743 million inhabitants and reporting data on their urban dwellings, 31 countries have less than 60 per cent of their dwellings with piped water; 14 countries have less than 40 per cent.

216. The same disparity between urban and rural areas exists in developed countries. European countries with market economies report that 98 per cent of its urban dwellings are supplied with water, but only 70 per cent in rural areas have reasonable access to water, which means easy access to a source of water within 100 metres. In European countries with centrally planned economies the difference is even greater as 83 per cent of dwellings in urban areas have water but only 21 per cent in rural areas. Detailed figures on water supply in the majority of developed countries are given in the following table:

Region	Year	Percentage of dwellings supplied with water				
		Urban areas			Rural areas with reasonable access to water c/	Total
		by house connexions	by standposts	total		
European countries with centrally planned economies a/	1962	62.3	18.6	80.9	-	-
	1970	70.2	18.7	82.9	21	52
European countries with market economies b/	1962	88.3	3.9	92.2	-	-
	1970	95	2.8	97.8	70.3	88.8
United States	1962	99.4	0.58	99.98	-	-
	1970	99.7	0.28	99.98	91.3	97.5

(Source and foot-notes on following page)

/...

(Source and foot-notes to table)

Source: United Nations, Compendium of Housing Statistics, 1972-1974 (advance copy).

a/ 1962: Bulgaria, Czechoslovakia, German Democratic Republic, Hungary, Poland, Romania and Yugoslavia. 1970: Yugoslavia, Poland, Bulgaria, Hungary and Romania.

b/ 1962: Denmark, Finland, France, Federal Republic of Germany, Greece, Iceland, Ireland, Norway, Portugal, Spain, Switzerland, United Kingdom; 1970: United Kingdom (Northern Ireland), Sweden, Ireland, Greece, Finland, France, Denmark and Austria.

c/ Within 100 metres.

217. Concerning non-conventional housing units, there are no statistics from which regional conclusions could be made. Only limited case studies indicate how slum and squatter dwellers obtain the water necessary for their survival.

In Klong Toey, squatter settlements in Bangkok, Thailand: 5/

Source of drinking water supply	Per cent of dwelling units
1. Water purchased from vendors	55
2. Running water from city main from neighbour's house	30
3. Running water directly from city main (with meter)	3
4. Running water carried from nearby tap	10
5. Rain water	1
6. Other	1
	100

218. Some families obtain their supply by connecting a rubber hose to a neighbour's water tap, paying him an average of 20 baht ($1) per month, or one baht for each jar of water. Households with metred water mains were said to reduce their monthly water bills by making payments directly to the meter-man. Although 55 per cent of Klong Toey households are supplied in this way by vendors who live in the settlement, the median monthly payment for water is 42 baht ($2.10) and 13 per cent of households pay more than 80 baht ($4), which is more than is paid by people living in more well-to-do areas of Bangkok.

219. In the Mathare Valley squatter settlements of Nairobi, Kenya, "sources of water supply vary from village to village; for example, the installation of two metred taps centrally located in a mud and wattle building. The village committee

5/ Susan and David Morell, Six Slums in Bangkok: Problems of Life and Options for Action, UNICEF, Bangkok, 1972, p. 15, vol. I; p. 21, table I-21, vol. II.

pays water bills to the Nairobi City Council and charges the community 10 cents US per 18 litres of drinking water. Generally, the villagers use water economically. River water is used for personal washing, clothes and cooking utensils, but never drinking water". 6/

220. In Azam Basti, a squatter settlement of Karachi, "there was, in 1968, one water tap available for 916 people ... The settlement was served by a total of 7 water taps: 3 for Christians and 4 for Muslims. The Christians were able, in addition to these 3 taps to make use of 4 wells, which are used only on a limited scale ... This together with low water pressure, especially during the summer months, causes long queues at the taps". 7/

Sanitation facilities

221. Although in urban areas flush toilets are considered to be of greatest significance, in rural or sparsely populated areas toilets of other types may be considered adequate from a sanitary point of view. Figure 4.II shows the availability of toilets by type and by countries. Detailed figures are given in table 15 of the statistical annex and in the United Nations Compendium of Housing Statistics, 1972-1974.

222. There are 42 developing countries with a population of 580 million people reporting data on the availability of any type of toilet in their dwellings. Thirty-five countries reported for both urban and rural dwellings and seven had data for urban areas only. The data show that the toilet is the most available facility in both urban and, to a certain extent, rural dwellings of less developed countries: 31 countries out of 42 surveyed supplied more than 80 per cent of their urban dwellings with some type of toilet and 22 countries out of 35 serviced more than 50 per cent of their rural dwellings. However, there are still some countries having percentages of rural dwellings served as low as 5.4 per cent (Honduras), 9.5 per cent (Guatemala), 11.6 per cent (Nicaragua) or 13.8 per cent (Mexico).

223. Most developed countries service from 98 to 100 per cent of their dwellings with toilets. As a whole, flush toilets are predominant in urban areas. However, some countries show a shortage of toilets. For example, in 1968 France had only 64.2 per cent of its urban and 31.3 per cent of its rural dwellings serviced by any kind of toilet. The corresponding figures for Poland in 1970 were 55.5 per cent and 5.5 per cent for urban and rural areas respectively.

224. Table 4.4 provides data on toilets in the main cities of Europe. There is no disparity between these cities and the rest of the country. For example, the shortage of toilets in France is still reflected in the data on Paris, where only 43.1 per cent of the dwellings were serviced with toilets.

6/ David Etherton et al., Mathare Valley, Nairobi, University of Nairobi, 1971, p. 25.

7/ Social Wetenschappelijk Institut Vrije Universiteit Amsterdam, Azam Basti Karachi. A Social Inquiry and Recommendations for Development Work, Karachi, SWI, June 1969, p. 37.

Table 4.4. Toilets and showers in urban conventional dwellings in Europe

Country and city	Year	Number of conventional dwellings (000)	Toilets (000)	Per cent toilets to conventional dwellings	Showers (000)	Per cent showers to conventional dwellings
Austria						
Vienna	1971	782	473	60.5	340	43.5
Belgium						
Anvers	1970	89	77	86.5	56	62.9
Bulgaria						
Sofia	1965	186	104[a/]	55.9	72	38.7
Czechoslovakia						
Prague	1970	383	319[b/]	83.3	276[c/]	72.1
Finland						
Helsinki	1970	190	177	93.2	141	74.2
France						
Paris	1968	1 139	491	43.1	491	43.1
German Dem. Rep.						
E. Berlin	1971	457	373[d/]	81.6	286	76.7
Ireland						
Dublin	1971	141	141	99.9	119	84.4
Netherlands						
Amsterdam	1971	283	277	97.9	181	64.0
Norway						
Oslo	1970	196	184[e/]	93.9	156	79.6
Poland						
Warsaw	1970	408	338	82.8	307	75.2
Sweden						
Stockholm	1970	334	332	99.4	276	82.6
Switzerland						
Zurich	1970	171	169	98.8	158	92.4
United Kingdom						
London	1971	934	673[f/]	72.1	673[g/]	72.1
Yugoslavia						
Belgrade	1971	257	178	69.3	175	68.1

Source: Data supplied by the International Statistical Institute, Netherlands.

a/ Data refer to inside toilets only.

b/ Data include private WC outside of dwelling.

c/ Data include private bath or shower outside of dwelling.

d/ Data include not only flush toilets but also other inside toilets.

e/ Nine thousand one hundred and eighty-three dwellings with shared WC included.

f/ Data refer to enumerated households (not dwellings) with exclusive use of inside WC.

g/ Data refer to enumerated households (not dwellings) with exclusive use of fixed bath or shower.

225. The availability of sanitation facilities for non-conventional dwellings is expressed here in terms of people served, as data on housing units are not available. Case studies of specific slums and squatter areas will be used to illustrate how their inhabitants provide sanitation facilities for themselves. One characteristic of non-conventional dwelling units is their poor sanitation. The pit privy-septic tank system covers only a low percentage of slum and squatter units because of its relatively high cost.

226. The public sewage system does not exist in most of these urban areas. The result is that some 30 per cent of the 1970 urban population of the less developed countries was not serviced by any kind of sewage facility and 11.5 per cent used buckets as a household sewage system. Sanitation data 8/ on different regions of less developed countries show a widespread use of buckets; in Asia (23.1 per cent of the urban population) and to a certain extent in Africa (4.7 per cent) but an insignificant number in Latin America. Some case studies of squatter and slum areas confirm such a tendency. For example, in Klong Toey, 9/ a Bangkok, Thailand, squatter settlement with a population of around 30,000, more than 94 per cent of the dwelling units were served with water closet-bucket type and 2 per cent with latrine-pit type. In the case of the Mathare Valley squatters of Nairobi, Kenya, 10/ the pit-latrine system is the most in use. They are located on the perimeter of the most densely populated villages and amongst the housing and vegetation of those villages with a more rural character. In densely populated villages, rubbish dumps tend to be located near the pit latrines. Data on three slums - La Candelaria, Republica del Libano, and Fredonia - in Cartagena, Colombia, show that 53 per cent of the dwelling units used pit latrines only and the remaining 48 per cent did not have such facilities. 11/

227. The provision of a fixed bath or shower seems to have a low priority in comparison with other housing utilities, even in developed countries. In European countries with market economies, almost one half of the housing stock (51.6 per cent) was supplied with showers or fixed baths during the 1960s. These countries also experienced urban-rural differences in the provision of such a utility: one urban dwelling out of three and two rural dwellings out of three did not have any showers or fixed baths during that time.

228. Not more than 30 per cent of the urban dwellings of European countries with centrally planned economies had such a utility, compared with less than 7 per cent of the rural dwellings.

8/ World Health Organization, World Health Statistics Report, vol. 26, No. 11 (Geneva: WHO, 1973), table 5.

9/ Susan and David Morell, Six Slums in Bangkok: Problems of Life and Options for Action, Bangkok, UNICEF, 1972, p. 15, vol. I; p. 21, table I.21, vol. II.

10/ Etherton et al., op. cit.

11/ Humberto Triana y Antoveza, Cultura del Tugurio en Cartagena, Bogota, Italgraf S.A., 1974, table 10, p. 101.

229. It is noticeable that the percentages of urban dwellings served by showers and fixed baths in Latin America and Asia are not very different from those for Europe in general. However, urban-rural differences in providing such a utility are more marked in the third world.

230. North America is the only region of the world where 95 per cent of the total housing stock was served with fixed baths or showers, with 98.5 per cent for urban areas and almost 85 per cent for rural.

231. Percentages of conventional dwellings with fixed baths or showers in the main geographical regions are as follows:

Region	Urban	Rural	Total
Asia[a/]	34.7	24.3	27.5
Latin America[b/]	47.4	8.4	29.3
North America[c/]	98.5	84.8	95.0
Western Europe[d/]	63.5	36.3	51.6
Eastern Europe[e/]	29.6	6.6	18.4

Source: Statistical annex, table 15.

a/ Sri Lanka, Cyprus, Jordan, Republic of Korea, Malaysia and Turkey.

b/ Costa Rica, El Salvador, Guadeloupe, Guatemala, Honduras, Mexico, Nicaragua, Panama, Brazil, Chile, Peru and Venezuela.

c/ United States and Canada.

d/ Denmark, Finland, France, Federal Republic of Germany, Greece, Iceland, Norway, Portugal, Sweden, Switzerland and the United Kingdom.

e/ Yugoslavia, Romania, Poland, Hungary, German Democratic Republic, Bulgaria and Czechoslovakia.

Electric lighting

232. A difference in the distribution of electric lighting between urban and rural conventional dwellings exists in both developed and developing countries but it is more marked in the developing countries. This appears from figure 4.II and the following summary of the major geographical regions:

Percentage of conventional dwellings with electricity

Regions	Urban	Rural	Total
Africa a/	54.2	...	...
Asia b/	67.6	7.7	26.4
Latin America c/	78.8	14.3	52.7
North America d/	...	...	96.8
European countries with market economies e/	97.4	89	93.4
European countries with centrally planned economies f/	96.4	74.8	84.8

Source: Statistical annex, table 15.

a/ Algeria, Morocco, Zambia, Sudan, Malawi, Ethiopia and Egypt.

b/ Sri Lanka, Iran, Jordan, Republic of Korea, Malaysia, Syrian Arab Republic, Turkey, Indonesia.

c/ Bahamas, Belize, Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Argentina, Brazil, Chile, Bolivia, Colombia, Ecuador, Peru, Uruguay.

d/ Canada.

e/ Finland, France, Federal Republic of Germany, Iceland, Luxembourg, Malta, Netherlands, Portugal, Spain.

f/ Bulgaria, Czechoslovakia, Hungary, Poland, Romania and Yugoslavia.

233. The availability of electric lighting in non-conventional dwellings is perhaps more difficult to gauge than any other housing facility because of countless illegal connexions, the location of this type of housing within the city or in its outskirts, and the general conditions of the electricity supply which differs from one city to another. Thus, following the nature of a slum or squatter area, it is possible to find no electric lighting at all as well as to encounter some case studies indicating up to 80 per cent of the non-conventional dwellings of a specific area supplied with such a facility.

234. The Klong Toey-Bangkok 12/ case study presented the following findings:

Main source of lighting	Percentage of dwelling units
1. Electricity from the main line, with meter (legal or otherwise)	19
2. Electricity from neighbour's house	64
3. Oil lamp or lantern	17

12/ Morell, op. cit.

"Electricity is cheaper than water for Klong Toey residents. The monthly median expenditure for electricity is 35 baht ($1.75), although 15 per cent pay more than 80 baht ($4) per month. Sixty-four per cent of households share electricity meters." 12/

235. The Mathare Valley-Nairobi 13/ case study shows the non-existence of electric lighting in any one of the non-conventional dwellings but reports the availability of such a facility only in the community centre building in order to use the village's television set.

236. The Miran Naka-Karachi case study 14/ reported that "of the respondents, about 80 per cent have no electricity. Among the higher classified occupations, we find relatively more connexions than among the lower. There were none among the servants and people with related occupations. It is remarkable that half of the skilled labourers have electricity ... There is no reason to say that one ethnic group is more likely than another to have electricity. The distribution was equally divided. Also tenancy of the house has no influence. The household income shows an irregular relation with the presence of an electricity connexion." 14/

4.2 Housing construction

237. In considering the number of dwellings constructed in a given region, it should be noted that there are two types of housing constructions: the authorized constructions, i.e. the dwellings for which a construction permit has been issued; and the so-called unauthorized constructions, which officially do not exist, but very often account for a significant proportion of residential construction. Data are normally confined to authorized constructions and exclude the number of dwellings which are unauthorized or illegally constructed and for which only estimates could be made.

4.2.1 Authorized construction

238. The number of dwellings constructed per 1,000 inhabitants by countries are given in table 15 of the statistical annex. In table 4.5, the rates of construction have been calculated for the major geographical regions. The average rate of dwelling construction in more developed regions is 8.5 dwellings yearly per 1,000 inhabitants. It ranges between 7 (Europe) and 15 (Japan). From information available in the less developed regions it appears that their rates are far below those of the more developed countries. In part 4.3 of this chapter, the rate of construction required to meet the increase of population has been calculated. It is evident that the majority of the developing countries are not able to produce enough authorized dwellings to meet their needs, which are increasing at cumulative rates.

13/ Etherton, op. cit.

14/ Government of Pakistan, Miran Naka, p. 50.

Table 4.5. Annual rate of dwellings constructed per 1,000 inhabitants in 1970, world and major geographical regions

Regions	Dwellings constructed per 1,000 inhabitants	Coverage	
		Percentage of inhabitants	Number of countries
World	(7.8)	31.9	56
More developed regions	8.5	95.8	32
Less developed regions	(1.8)	4.6	24
Africa	(1.3)	15.4	5
North America	7.3	100.0	2
Latin America	(1.8)	11.1	8
Asia excluding Japan	(2.7)	1.0	7
Japan	15.1	100.0	1
Europe	7.0	98.0	26
Oceania	9.3	93.1	6
Oceania excluding Australia and New Zealand	1.3	66.9	4
Australia and New Zealand	10.7	100.0	2
USSR	9.3	100.0	1

Source: Compendium of Housing Statistics 1972-74, advance copy.

Note: Figures in parentheses refer to regions with a low coverage and therefore are not representative of the whole region.

239. In examining the rates of dwelling construction, investments in the construction sector should be considered. For most countries in the world, the increase in gross domestic product ("net material product" for centrally planned economies) over a five-year period was surpassed by the increase in capital formation in residential construction. Some variations of the generalizations stated above are evident on a regional basis. For example, in North America, the increase in capital formation in residential construction was less than the increase in gross domestic product.

240. However, in Europe, at least in market economies, the opposite situation exists. There, the increase in capital formation in residential construction exceeded the increase in gross domestic product.

241. The data show that in most countries, residential construction represents approximately 4 per cent of the gross domestic product, 20 per cent of fixed capital formation and 35 per cent of total construction. Figure 4.III illustrates the relationship between gross domestic product and the percentage of: fixed capital formation; total construction; residential construction. The graphs show that, on a proportional basis, the developing countries as a whole were allocating a significantly lower percentage of gross national product both to total construction and to residential construction. The disparity between the allocation of the more developed and the less developed countries to housing construction appeared to be greater than for total construction, indicating that investments in the housing sector were lagging considerably behind improvements in the economy as a whole.

4.2.2 Unauthorized construction

242. Data regarding the number of unauthorized or illegally constructed housing units are almost non-existent, or, if they do exist, they are limited to a section of an urban area. No data are available on the number of these units built in rural areas.

A case study 15/ in Bogota, Colombia, is reported in the following table:

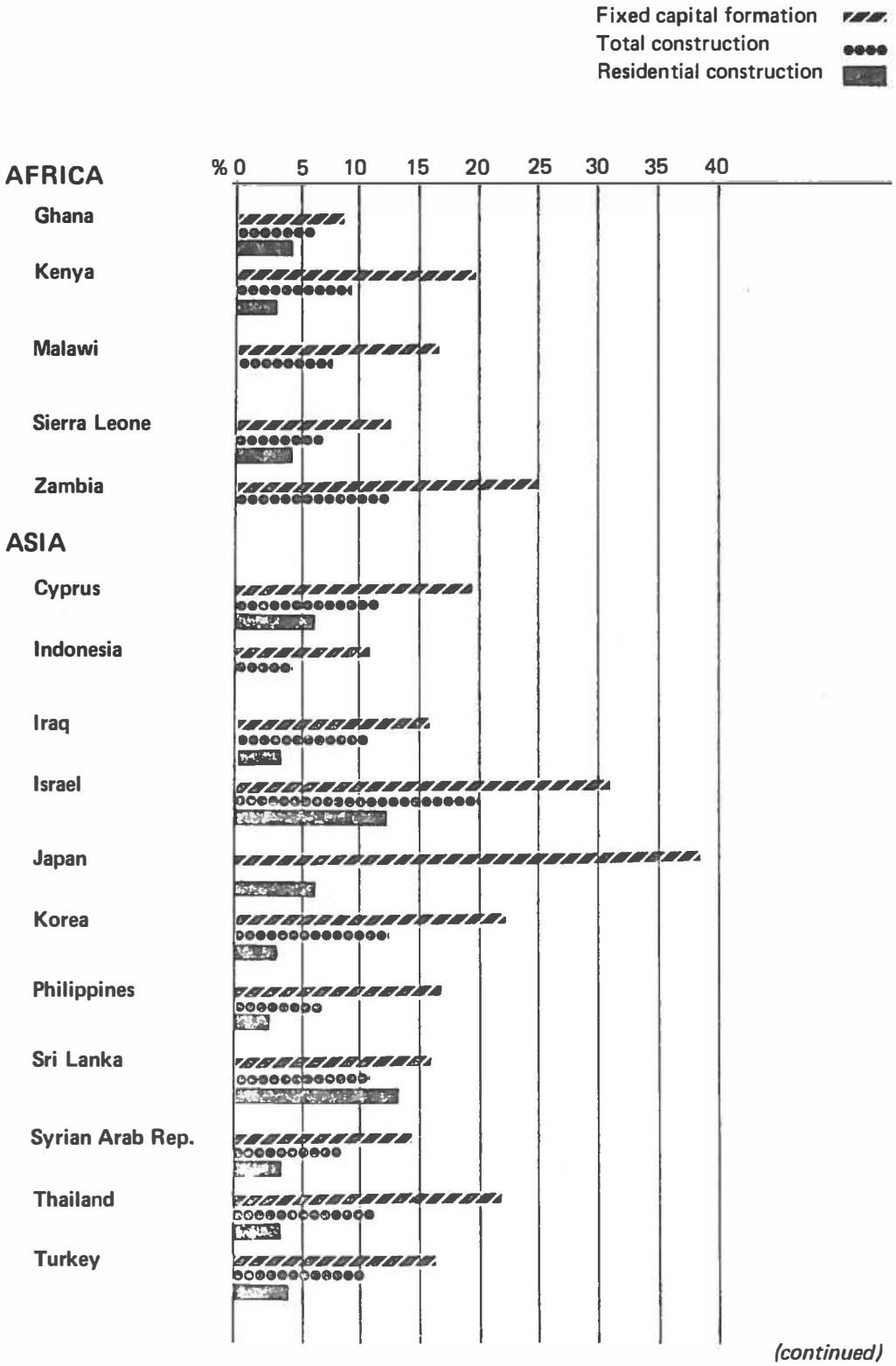
	Total (Bogota)	of which in 1/		Total	Ratio invasion and pirate settlements of total in Bogota
		invasion a/ settlements	pirate b/ settlements		
Inhabitants 1964	1,697,311	13,751	596,687	610,438	36.0
1970	2,585,300	30,830	1,237,220	1,268,050	49.0
Annual % increase	7.1	14.1	12.3	12.3	
Households 1964	271,711	2,210	98,472	100,682	37.1
1970	451,000	4,953	204,182	209,135	46.4
Annual % increase	8.5	14.1	12.3	12.3	
Housing units 1964	219,325	1,842	72,030	73,872	33.7
1970	364,150	4,129	149,354	153,483	42.1
Annual % increase	8.5	14.1	12.3	12.3	

a/ Originated by the illegal occupation of private or public land which does not have public services.

b/ Originated by the acquisition of peripheral land by developers and subsequently sold by lot to individual families without public services.

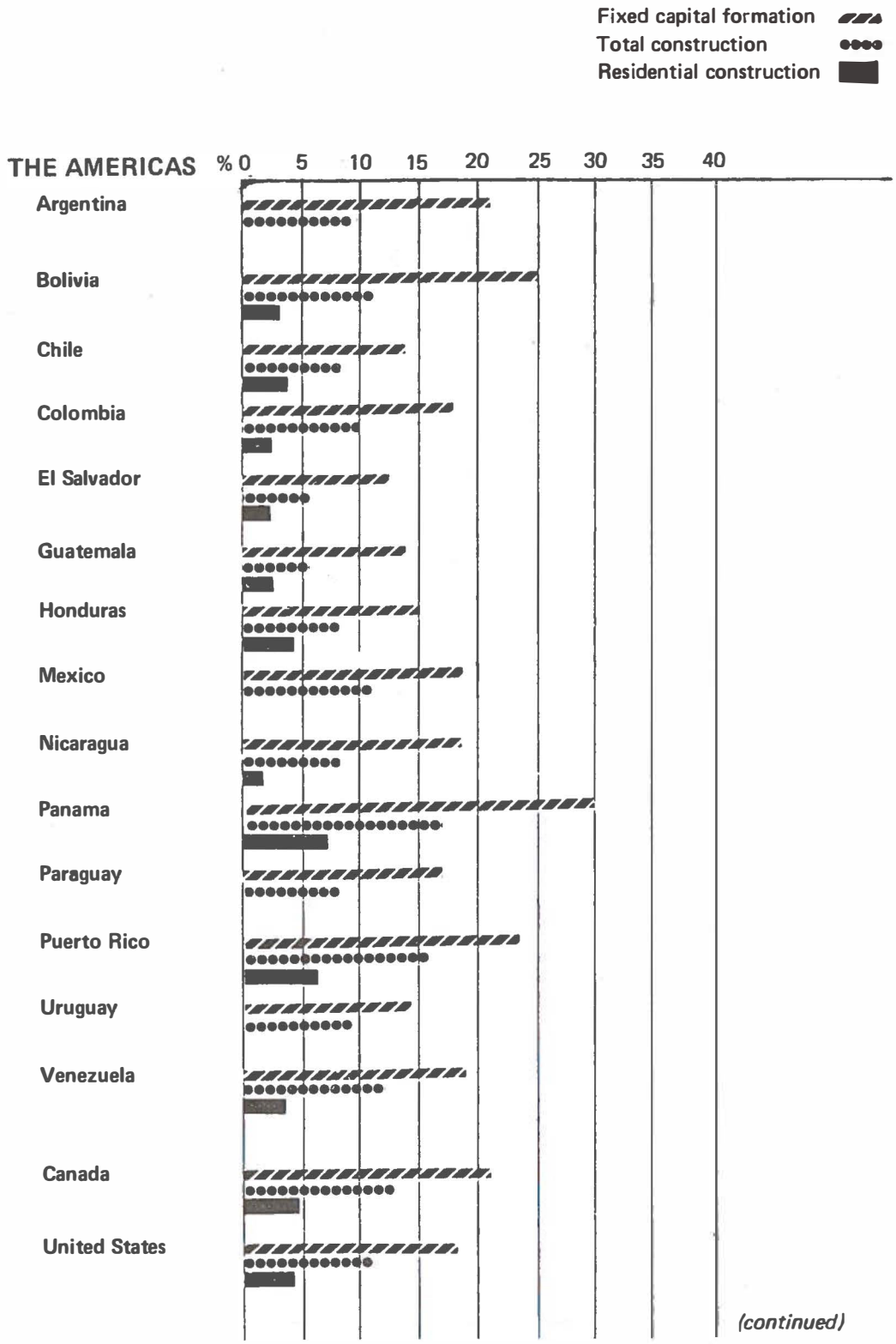
15/ George Vernez, Bogota's Pirate Settlements: An Opportunity for Metropolitan Development, (Berkeley, University of California, 1973).

Figure 4.III.
Fixed capital formation, total construction and residential construction as percentage of gross domestic product, around 1974



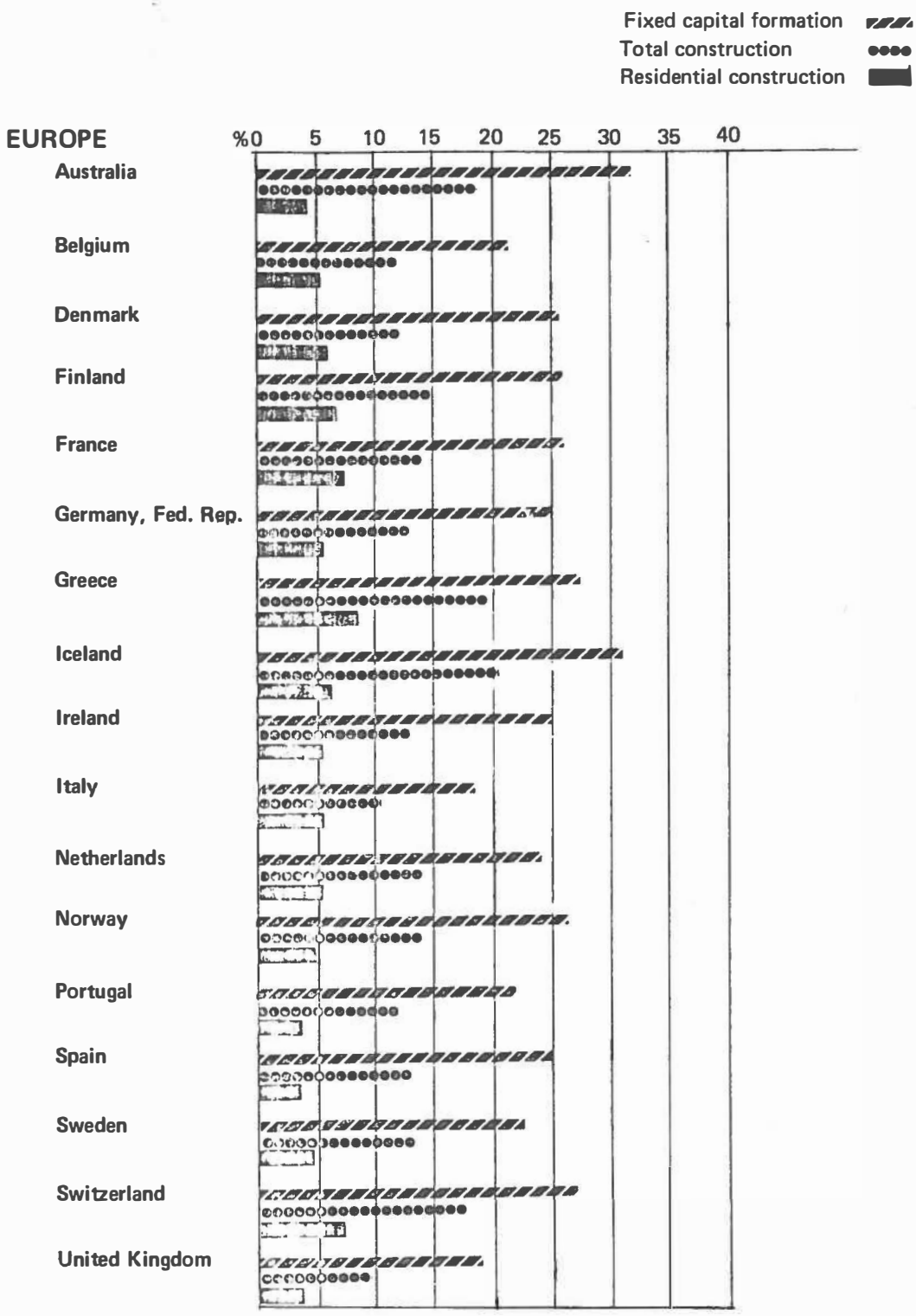
(continued)

Figure 4.III.
Fixed capital formation, total construction and residential construction as percentage of gross domestic product, around 1974



(continued)

Figure 4.III.
Fixed capital formation, total construction and residential construction as percent of gross domestic product, around 1974



Source: United Nations, *Compendium of Housing Statistics, 1972-1974* (advance copy).

Table 4.6. The growth of slums and squatter settlements in selected cities

Country and City	Year	City population		Population living in slums and squatter settlements		Population in slums and squatter settlements, as percentage of city population
		Inhabitants	Annual growth rate	Inhabitants	Annual growth rate	
1	2	3	4	5	6	7
BRAZIL	1947	2 050 000	3.7	400 000	5.0	20
Rio de Janeiro	1957	2 940 000	3.1	650 000	8.5	22
	1961	3 326 000	2.8	900 000	4.0	27
	1970	4 252 009		1 275 600		30
MEXICO	1952	2 372 000	2.3	330 000	12.0	14
Mexico City	1966	3 287 334		1 500 000		46
	1970	7 314 500[a/]				
PERU	1957	1 260 729	8.0	114 000	35.0	9
Lima	1961	1 715 971	6.4	360 000	18.0	21
	1969	2 800 000	2.7	1 000 000	14.8	36
	1970	2 876 000		1 148 000		40
Arequipa	1957	117 208	3.5	10 000	50.0	9
	1961	135 358	4.0	54 000		40
	1970	194 700				
Chimbote	1957	33 000	2.5	6 600		20
	1961	66 000	5.0	45 000	60.0	67
	1970	102 000				
VENEZUELA	1961	1 330 000	6.0	280 000	25.0	21
Caracas	1964	1 590 000		556 300	8.0	35
	1970	2 175 400[a/]		870 160		40
PAKISTAN	1964	2 280 000	4.2	752 000		33
Karachi	1968	2 700 000	9.5	600 000	10.0	27
	1971	3 500 000		800 000		23
TURKEY	1965	979 000	5.0	460 000	9.5	47
Ankara	1970	1 250 000		750 000		60

Source: Statistical annex (A/CONF.70/A/1), table 18.

a/ Urban agglomeration.

/...

243. Another case study 16/ on Lusaka, Zambia, squatter settlements, which shelter about 40 per cent of the city's population, reports that between 1969 and 1972, 22,000 housing units were built. During the same period, the authorized construction was 4,000 conventional dwellings. Thus, five times as much unofficial housing is being provided as official.

244. The above two case studies are mentioned here as examples of the magnitude of growth of unauthorized housing constructions. Other examples, which are reported in table 4.6, refer to the growth of the population living in slums and squatter settlements and do not necessarily imply a growth in the number of housing units. Additional information is included in table 30 of the statistical annex. This information shows that squatter settlements already constitute a large proportion of the urban population of developing countries. Existing migration trends and rates, especially in the developing regions of Africa and Asia, indicate that the rate of rural to urban migration will increase substantially.

245. The environmental conditions under which large proportions of the population of slums and squatter settlements live are intolerable by any standards. Their land is marginal, their air polluted by nearby highway transport and industries, their water dangerously impure, and they have little provision for sanitary facilities and garbage disposal.

4.3 Housing requirements

246. According to the data discussed in section 4.1 of this chapter, there were 463 million dwellings on this planet housing half of the world's population in 1970. Table 4.1 gives the data by major geographical regions. Regarding the number of housing units sheltering the other half of the world's population, only an estimation of its order of magnitude could be undertaken.

247. As the number of existing dwellings is related to the number of existing households, it could be assumed that this relationship is constant within the same geographical region. Consequently it is:

$$\frac{D_x}{H_x} = \frac{D_y}{H_y}$$

Where: D_x = dwelling stock known

D_y = dwelling stock unknown

H_x = households in D_x

H_y = households in D_y

16/ Government of Zambia, National Housing Authority, Lusaka Sites and Services Project, vol. 1 (Lusaka, July 1973).

As: $H_x = \frac{P_x}{h_x}$ and $H_y = \frac{P_y}{h_y}$

where: P_x = population housed in D_x

P_y = population housed in D_y

h_x = household size of P_x

h_y = household size of P_y

the previous formula may be written:

$$D_y = D_x \frac{P_y}{P_x} \frac{h_x}{h_y} \qquad (1)$$

248. The above formula has been used in estimating the unknown dwelling stock in the different regions and subregions. The results are summarized in table 4.7. According to this estimate, there were 877 million dwellings in the world in 1970 of which 341 million or 39 per cent were in the less developed regions and 536 million or 61 per cent in the more developed regions.

249. Taking into account the increase of population and the projections of household size and assuming that the ratio dwellings to households remains constant within the same geographical region, the previous formula (1) could be written as follows:

$$D_n = D_1 \frac{P_n}{P_1} \frac{h_1}{h_n} \qquad (2)$$

where: D_1 = dwelling stock at the beginning of the period

D_n = dwelling stock at the end of the period

P_1 = population at the beginning of the period

P_n = population at the end of the period

h_1 = household size at the beginning of the period

h_n = household size at the end of the period

Table 4.7. Estimate dwelling stock in 1970, world and major regions (in millions)

Regions	Accounted (x) Population (P_x)	h_x	Dwellings (D_x)	Unaccounted (y) Population (P_y)	h_y	Dwellings (D_y)	Dwelling stock (Dx + Dy)
World	1 803.6	4.2	463.5	1 806.0	4.7	413.6[a/]	877.2
More developed regions	1 008.6	3.4	317.7	75.4	3.3	23.9[a/]	341.6
Less developed regions	795.0	6.2	145.8	1 730.6	4.8	389.7[a/]	535.5
Africa	25.1	5.0	3.8	326.5	5.0	49.4	53.2
North America	226.3	3.3	74.9	0.1	4.4	0.02	74.9
Latin America	19.4	5.2	3.9	263.6	5.1	54.0	57.9
Temperate South America	8.8	5.1	1.8	27.2	3.5	8.1	9.9
Other Latin America	10.6	5.3	2.1	236.4	5.4	45.9	48.0
Asia	863.4	5.8	167.8	1 164.0	4.6	293.8	461.6
Japan	104.3	3.7	27.9	-	-	-	27.9
Other Asia	759.1	6.3	139.9	1 164.0	4.6	293.8	433.7
Europe	411.0	3.2	135.4	48.1	3.2	15.8	151.2
Oceania	15.6	3.5	4.79	3.7	6.0	0.63	5.4
Australia and New Zealand	15.4	3.5	4.75	-	-	-	4.75
Other Oceania	0.2	5.1	0.04	3.7	6.0	0.63	0.67
USSR	242.8	3.7	72.9	-	-	-	72.9

Sources: Table 4.1 and United Nations Compendium of Housing Statistics, 1972-1974, advance copy.

Note: For explanation of symbols used in this table, see text in the preceding pages.

a/ Due to differences caused by rounding, these totals, obtained by adding the unaccounted dwelling estimates for each subregion, differ slightly from the figures which would be obtained by applying the formula at the global level.

250. The formula (2) has been used to estimate the number of dwelling units required to house the population of the main regions of the world in the year 1980. The results are shown in table 4.8. It is therefore estimated that 1,100 million units will be required to house the world population in 1980 at the same occupancy ratio (around one household per dwelling) as in 1970. This means that in 10 years, 223 million units should be built in the world to cope only with population increase (see table 4.8).

251. In addition to the above requirements, there are a number of units which should be replaced because of deterioration, demolition for such purposes as road-widening, destruction by fire, earthquakes or other catastrophes. This component is quite difficult to estimate on global and regional bases because information is lacking and criteria to determine when a housing unit is unfit for habitation vary considerably. If it is assumed that 1 per cent of the existing dwelling stock should be replaced every year, then 100 million units should be added to the 223 million arising from demographic requirements. To build 323 million units during this decade, an average annual rate of construction of 8.1 units per 1,000 inhabitants is necessary. Comparing the estimated housing construction rates required during this decade (table 4.8) with the actual rates of construction at the beginning of the decade (table 4.5), developing countries are far below the level required.

252. It should be noted that while the annual population growth rate during this decade is 2.4 per cent in the less developed countries and only 0.9 in the more developed, the estimated average housing construction rates required are about the same (8.2 per cent for less developed countries and 8.0 for more developed countries; see last column of table 4.8). This is because the assumption in the estimates is that the rate of households to dwellings is constant within the same geographical region, and there is an average of 5.1 persons per household in the less developed countries and only 3.3 in the more developed. If requirements were projected on the assumption that developing countries will have the same number of persons per dwellings as developed countries, the required construction rates of developing countries would be much higher.

253. It should be mentioned that the above estimated rates of construction do not make up for the shortage of authorized housing which already exists. They are the minimum desirable rates of construction to meet the requirements arising from population increase and normal replacement of obsolete units. It should also be considered that in the more developed regions there is a decrease in the absolute number of inhabitants of rural areas. This might signify a certain number of vacant dwellings in rural areas, but this number is so low that it can be disregarded in the estimation.

254. Housing requirements are calculated in table 4.8 by main regions. The figures should be considered as an order of magnitude of the needs. The individual countries, taking into account their social, economic and climatic characteristics, must assess the type of housing units which must be constructed.

Table 4.8. Estimated normative housing requirements (1970-1980)

(in millions)

Regions	Year	Population	Average household size	Dwelling units	Estimated units to be constructed during the period 1970-1980			Housing Construction Annual average Rates (per 1,000 inhabitants)
					For increase of population	For replacement	Total	
World	1970	3 610	4.5	877	223	100	323	8.1
	1980	4 373	4.3	1 100[a/]				
More developed regions	1970	1 084	3.4	342	53	37	90	8.0
	1980	1 181	3.2	395				
Less developed regions	1970	2 526	5.2	535	170	63	233	8.2
	1980	3 192	5.0	705				
Africa	1970	353	5.0	53	17	6	23	5.8
	1980	460	5.0	70				
North America	1970	226	3.3	75	10	8	18	7.6
	1980	249	3.2	85				
Latin America	1970	283	5.1	58	17	7	24	8.4
	1980	371	5.0	75				
Asia	1970	2 027	5.1	462	142	54	196	8.7
	1980	2 514	4.8	604				
Europe	1970	459	3.2	151	19	16	35	7.6
	1980	487	3.0	170				
Oceania	1970	19	3.8	5	1	1	2	9.5
	1980	24	3.7	6				
USSR	1970	243	3.7	73	17	8	25	9.8
	1980	268	3.3	90				

Source: Table 4.6 and United Nations Compendium of Housing Statistics, 1972-1974, advance copy.

a/ Due to differences caused by rounding, this total, obtained by adding the dwelling stock estimates for each subregion, differ slightly from the figures which would be obtained by applying the formula at a global level.

4.4 Housing finance institutions

255. During the past 10 years the majority of developing countries have made significant progress in creating or expanding housing finance institutions and programmes. In most countries, however, housing finance systems are still at an early stage of development and, at best, serve the needs of only a small proportion of the inhabitants. In some developing countries lacking a network of savings and loan institutions, semi-public national housing finance institutions have been founded, but these are often handicapped by insufficient equity capital and funding to meet all middle-income requests for home loans. Detailed information on housing finance institutions are included in the World Housing Survey 1974, prepared by the United Nations, to which the reader is referred. Following is a summary of trends in the major regions.

256. Among the three developing regions, Latin America currently has the best developed housing finance system. In general, private institutions finance housing for the middle-income groups and for those with higher incomes, while lower-income households are served, if at all, by a combination of publicly assisted semi-private institutions and purely governmental organizations. Low-income households and those in rural areas receive some assistance through housing built, financed and subsidized by the Government. Many Latin American countries have reached the stage where experts in housing finance are already attempting to build secondary mortgage markets and mortgage insurance schemes, items that will bring their housing finance systems to a fairly advanced stage of development.

257. Loans through the United States Agency for International Development (USAID) and the Inter-American Development Bank have largely been focused on establishing and promoting savings and loans associations and secondary markets. Increasingly, attention has been given to transnational systems, such as the regional secondary market undertaken by the Central American Bank for Economic Integration, with the assistance of a USAID housing guarantee loan, and the Caribbean Development Bank, which emphasizes low-income housing through a secondary mortgage market. Recently, moreover, the savings and loan institutions of the countries of Latin America have founded and capitalized their own private Inter-American Bank for Savings and Loans (the Banco Interamericano de Ahorro y Préstamo with an initial capitalization of $100 million, which has its headquarters at Caracas).

258. The current trend in the major Caribbean countries is towards a two-tier system of housing finance similar to the type of system in Central American countries. Each country has one or more government agencies responsible for financing housing (or for at least facilitating its financing) for low-income and, in some cases, middle-income families.

259. In Asia, there is a very large divergence between countries with the most advanced housing finance systems and those with systems still at a rudimentary stage making difficult a general description of trends there. In several Asian countries, housing finance systems have been relatively well-established and these have now reached a secondary stage of development. The task confronting officials

in these countries is one of consolidating the institutions which have been created, expanding programmes and resources, strengthening the linkages between financial intermediaries and finding ways to overcome the shortage of trained personnel.

260. In Africa, where at the beginning of the 1960s many developing countries had virtually no institutions for financing housing, the past 13 years have seen the creation of many public and private home financing organizations. Frequently, the shortages of capital and staff and the level of economic development are primary obstacles to the further development of housing finance systems.

261. The level of development in financial institutions in Africa appears to be only loosely correlated with the level of economic development of a given country. Most countries, where urbanization and industrial and modern institutional development started some time ago, have relatively well developed housing finance schemes and institutions. The level of development and the volume of savings appear to be less important in determining the degree of development of a housing finance system than the level of government commitment to housing and to the growth of a sound financial system.

262. Uneven institutional development, lack of co-ordination and co-operation among institutions to economize on funds and minimize risk and a combination of high down payments and restrictive terms, usually account for the lack of correspondence in the various countries, between the volume and location of savings as well as the location and capacity to mobilize savings of institutions.

263. A relatively large variety of private financial institutions now exist in the modern sectors of most African countries. Very few of these private financial institutions are financing middle-income housing and those that are, have far from reached their potential capacity. These institutions are commercial banks, insurance companies, co-operatives, credit unions, building societies, housing financing companies, post office savings banks, private self-financing schemes, a few mortgage banks or institutions also involved in mortgaging, and employers financing housing for their workers.

264. Many African Governments now possess some type of agency for financing low- and moderate-cost housing. In addition, several countries have created housing banks specifically to provide mortgage credit to middle-income households on easier terms than commercial banks. Co-operatives are generally not widely developed in Africa; housing co-operatives are still less developed, but exceptions are to be found in some of the larger, better developed countries where co-operatives have existed for some time.

265. In the developed countries with market economies, the housing finance systems have been established for some time and have reached a sophisticated level of development. Yet even in the most affluent countries, there are serious problems and shortages in finance for housing.

266. Many measures have been taken by the private and public sectors to remedy the weaknesses of the housing finance market. At the same time, attempts have been made

to reduce the high rates of inflation and fluctuations in the level of unemployment and to resolve the internal and international difficulties created by the current crisis in the international monetary situation. Such attempts have frequently aggravated the problems of the housing finance systems in developing countries.

267. Two principal trends in the financing of housing by the public sector of European countries with market economies have been a move towards progressively lower subsidies on the one hand, and the abolition or partial elimination of rent controls on the other. Meanwhile, the institutions for housing financing in the private sector have been growing at least as rapidly as the market economies in Europe. Large numbers of workers earn substantially higher rent incomes now than in the 1950s and the demand for better housing has been continuously high.

268. In recent years, the share of investment resources allocated to housing in European countries with centrally planned economies has begun to increase significantly, both as a result of the lessening need to devote as large a volume of investment to industrial sectors, and because of a gradual increase in the relative importance accorded to consumer goods as against producer goods. This has permitted not only an increase in the total number of dwellings built, but also in their size and quality. The shift is taking place in the context of rising incomes and having considerable effect on the system of financing housing. As a consequence, important changes have been taking place in housing finance in the centrally planned countries.

269. A basic principle increasingly being adopted in European countries with centrally planned economies is the mobilizing of the initiative of those individuals with the capacity and the desire to contribute their own efforts and resources to the financing of housing. The State still concentrates on housing for the lowest-income groups, but now co-operatives are providing more house financing for a growing number of their members (with frequently a subsidy of 30 per cent from the State). Finally, the rise in rents resulting from partial decontrol is being met by proportional increases in wages from industrial enterprise rather than from increased state subsidies to housing authorities.

5. Infrastructure

5.1 Utilities

5.1.1 Community water supply and consumption

Water supply

270. Adequate and safe water supply systems are the single most important service that can be undertaken to safeguard the health of people living in urban and rural areas. However, with the increased accent on industrialization, industrial water supplies have been accorded a higher priority than the community water supply; the former is treated as part of the industrial infrastructure, while urban community water supplies are not treated as an integral part of the urban economy.

271. The World Health Organization (WHO), in 1971 and 1972, carried out a survey of community water supply and exreta disposal conditions and needs in both urban and rural areas. 1/ The survey was carried out in many of the developing countries, members of WHO. Its results, country by country, are shown in tables 19, 20, 21 and 22 of the statistical annex. They are summarized by regions in table 5.1. From this table, it appears that in 1970, 32 per cent of the inhabitants of developing countries were supplied with water by housing connexions or standposts or had access to a water source located less than 200 metres from the house.

Urban areas

272. According to the WHO survey (see table 5.1 of this report and table 19 of the statistical annex), almost all regions of the developing countries have increased their water supply to urban areas. Urban areas seem to have kept up with their increase of population and even made tremendous progress in supplying water. To what extent this reflects reality is subject to debate, however. For example, standards in data collection for water supply differ sharply from country to country. In some countries, treated water may be the only water counted, while in other countries, this is not the case. The following data and discussion on water supply should be read with these reservations in mind.

273. In 1962, 57.6 per cent of the urban population in the developing countries were supplied with water, 25.2 per cent by standposts and 32.4 per cent by house connexions. In 1970, 70.4 per cent of urban inhabitants were supplied with water. This increase in the provision of water occurred mainly in the supply of house connexions, since the percentage of populations thus supplied increased from

---

1/ World Health Organization, World Health Statistics Report, 1973, vol. 26, No. 11, pp. 720-783; C. S. Pineo and D. V. Subrahmanyam, "Community water supply and excreta disposal situation in the developing countries - a commentary", Geneva, WHO, 1975 (WHO offset publications).

Table 5.1. Community water supply, percentage of inhabitants supplied with water, 1962 and 1970, by regions

Regions	Year	Percentage of urban inhabitants supplied with water			Rural Inhabitants with reasonable access to water b/	Total
		By house connexions	By public standposts a/	Total urban		
Total Developing Countries: c/						
67 countries	1962	32.4	25.2	57.6	...	...
87 countries	1970	50.6	19.8	70.4	15.7	31.9
Africa						
27 countries	1962	32.4	27.7	60.1	...	...
	1970	48.3	33.1	81.4	20.4	35.1
Latin America						
19 countries	1962	54.8	24.4	79.2	...	...
23 countries	1970	59.7	17.0	76.7	24.5	54.6
Asia						
21 countries	1962	17.7	25.2	42.9	...	...
28 countries	1970	45.3	18.2	63.5	13.3	25.1

Source: Statistical annex, tables 1 and 19.

a/ In urban areas, a public fountain or a standpost located not further than 200 metres away from a house may be considered within reasonable access to that house.

b/ In rural areas, reasonable access would imply that members of the household do not have to spend a disproportionate part of the day in fetching the family water.

c/ For names of countries included in this table, see table 19 of the Statistical annex.

32.4 per cent in 1962 to 50.6 per cent in 1970, while the number of persons supplied by standposts decreased from 25.2 per cent to 19.8 per cent during the same period.

274. This progress is not uniform throughout the three major regions surveyed. Africa and Asia increased their percentages of urban inhabitants supplied with water from 60.1 to 81.4 per cent and from 42.9 to 63.5 per cent respectively. In terms of urban inhabitants, the 24.6 million Africans supplied with water in the countries surveyed in 1962 became 50 million in 1970 (average annual increase 9.3 per cent). For Asia, the figures are 70.9 million in 1962 and 147.2 million in

1970 (average annual increase 9.6 per cent). The 85.4 million people supplied with water in Latin America in 1962 became 116.4 million in 1970 (average annual increase 3.9), while the percentage of urban population served decreased from 79.2 to 76.7. The Latin American figures seem more realistic when compared to the ones for Asia and Africa. However, WHO has endorsed the following statement, which reveals a discrepancy between various studies:

> "The conclusion is inescapable that definite progress has been made by the developing countries in the provision of water supply for their urban communities between the years 1962 and 1970. Latin America is known to be ahead of the other regions in the provision of basic sanitary facilities. It is worth noting, however, that between the years 1962 and 1970 progress in the provision of urban water supply services in the countries of West Asia and North-East Africa was greater than that in Latin America." 2/

275. As regards the quality of drinking water supplies in urban areas of developing countries, world-wide statistics are not available, although it is known that many serious problems exist. A World Health Organization survey indicates that half the population having access to public water supplies in the urban communities of developing countries had access only to an intermittent supply. Intermittent service in any large water supply invariably results in contamination because when the pressure in the distribution system falls there is no resistance to infiltration of pollutants from outside (see table 5.2).

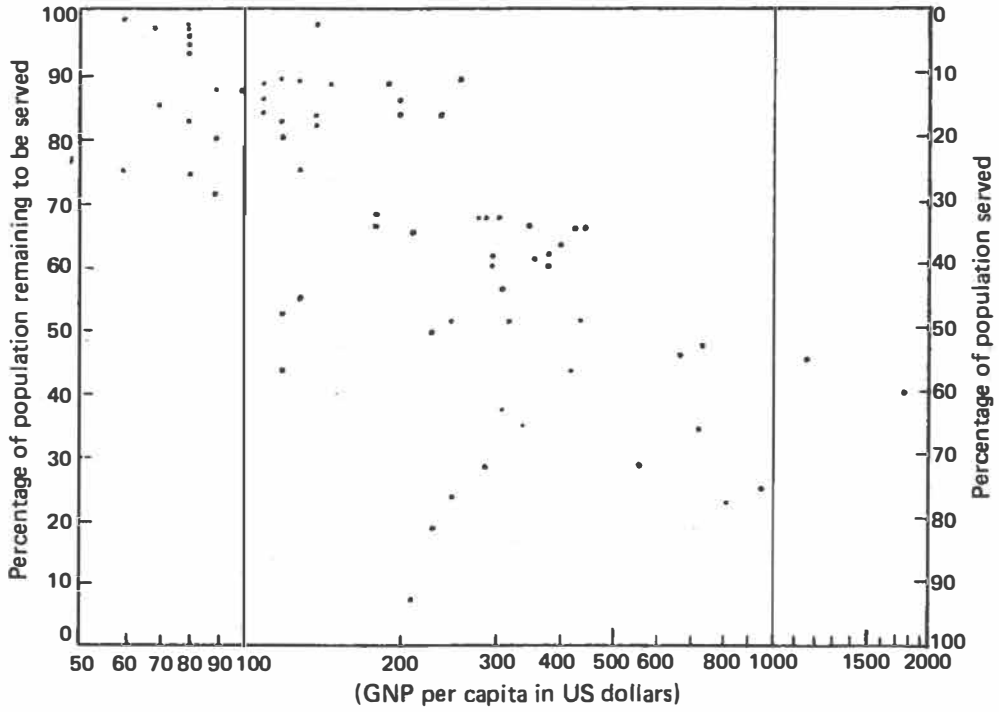
Rural areas

276. According to the available information, about 16 per cent of the rural population in the developing countries had reasonable access to water supplies in the year 1970. The term "reasonable access" (as defined by WHO) means that members of the household in rural areas do not have to spend a disproportionate part of the day in fetching the family water supplies.

277. In 1970, rural populations of developing countries were supplied with water in terms of reasonable access as follows: 20.4 per cent in Africa, 13.3 per cent in Asia and 24.5 per cent in Latin America. Thus Asia, with the most crowded rural areas of the world, has the lowest percentage of rural population supplied with water. Latin America, with the lowest percentage of people living in rural areas of the less developed countries, has the greatest percentage of inhabitants supplied with water.

2/ Pineo, et al., op. cit., p. 27.

Figure 5.I.
Community water supply in relation to economic level, 1970
(● = one country)



Source: S. C. Pineo, *et al, Community Water Supply and Excreta Disposal Situation in the Developing Countries — A Commentary* (Geneva, WHO,1975), p. 14.

Table 5.2. Urban populations that received intermittent water supply in 1970, as percentage of urban populations served a/

	1970 urban population (millions)	Urban population served by house connexions or public standposts (millions)	Percentage of population served that received their supply intermittently
Africa south of the Sahara	30.9	20.8	27
Latin America and the Caribbean	155	122	23
West Asia and North-East Africa	65.0	54.8	34
Algeria, Morocco and Turkey	24.6	17.8	22
South-East Asia	158	83.2	91
East Asia and Western Pacific	38.4	28.8	49
TOTAL	472	327	54

Source: C. S. Pineo and D. V. Subrahmanyam "Community Water Supply and Excreta Disposal Situation in the Developing Countries - a commentary", Geneva, WHO, 1975 (WHO offset publication No. 15).

a/ Data in columns 2 and 3 are from 91 countries; data in column 4 are extrapolations from 47 countries.

Water consumption

278. Consumption in developed countries is far higher than in developing countries. Over-all per capita demand for water on an area-wide basis will depend on the type of industries in the area and the pattern of layout, density and size of the city in terms of population. In an area with industries that are highly water consuming (like paper, steel mills, etc.) a substantial part of the water consumption may be devoted to industrial use.

279. The World Health Organization has estimated the daily water consumption in litres per capita in the majority of the developing countries. Data are reported in table 20 of the statistical annex. A lower per capita consumption does not necessarily mean a lower level of service. Also, pipe water consumption rates in developing countries depend on the price of the water. Dwellings with single water taps have lower levels of per capita consumption than multitap dwellings.

280. Per capita consumption of water in households depending on public standposts is far lower than in dwellings connected to public mains. The reasons are purely economic. It is easier and cheaper to install a system or part of a system with standpipes. By its very nature, a standpipe system restricts the level of

consumption and therefore, with a certain quantity of water, larger numbers of people can be served at minimal cost than in a system with house connexions. Many developing countries, during the initial phases of development, opted for the standpipe system. As the economic conditions improved, the number of houses connected to water mains increased.

281. The average water consumption per capita per day in the three cities of Baltimore, Phoenix and Portland was on the order of about 600 litres. 3/ In the cities of West Berlin and Hamburg it was only 178 and 167 litres respectively. It is, however, interesting to note that there is not much difference in domestic water consumption between Baltimore and Hamburg: 165 and 134 litres respectively, whereas in these two cities there is wide variation in industrial water use per capita - 361 litres in Baltimore and only 20 litres in Hamburg. To some extent this explains the increase in per capita levels of supply in the three United States cities. Another factor which determines the per capita consumption is whether a system is metered or not. In Kingston, Jamaica, metered per capita supply was only 274 litres per day whereas unmetered supplies were about 500 litres. 4/

5.1.2 Sewage disposal and sewerage facilities

282. Inadequate disposal of human wastes can result in the spread of communicable diseases and otherwise degrade the quality of the living environment. The provision of water supply in settlements, if not accompanied by waste water systems to prevent concentration of domestic liquid wastes in backyards, ditches and other drainage courses, might cause the spread of disease.

A survey of community water supply and sewage disposal conditions and needs was conducted by the World Health Organization in 1971 and 1972 in developing countries. 5/ 6/ From this survey, it appears that in urban areas, 28 per cent of the population are connected to a public sewerage system, while 28 per cent are not served by any sanitary system whatsoever. In rural areas, 92 per cent completely lack adequate disposal facilities.

283. The survey also indicated a serious lack of treatment facilities for existing sewerage systems. The percentage of urban population served by a sewerage system, but where no treatment is provided, is 30 per cent for the Latin American region, 21.1 for the Asian region and 13.2 for the African region. Data by countries are given in table 21 of the statistical annex. They are summarized by region in table 5.3.

3/ George E. Daniel, "An Approach to Infrastructure Standards", Discussion Paper prepared for the United Nations Centre for Housing, Building and Planning, 15 August 1975, unpublished.

4/ Ibid.

5/ World Health Statistics Report, op. cit.

6/ Pineo et al., op. cit.

Table 5.3. Percentages of inhabitants served by sewerage facilities in developing countries

Regions	Coverage (% inhabitants of each region)	Urban				Total population with sewage disposal
		Connected to public sewerage system	Household system	Total	Rural with adequate disposal	
Total 58 developing countries	59	28.1	44.2	72.3	7.6	24.5
of which: a/						
22 in Africa	43	18.2	32.2	50.5	14.3	21.4
17 in Latin America	94	34.5	28.4	62.9	20.1	43.1
17 in Asia	51	25.8	55.5	81.3	4.9	20.6
2 in Oceania	3	13.7	56.1	69.8	90.9	84.1

Source: World Health Organization, World Health Statistical Report, 1973, vol. 26, No. 11, table 5.

a/ The countries for which information was available are:

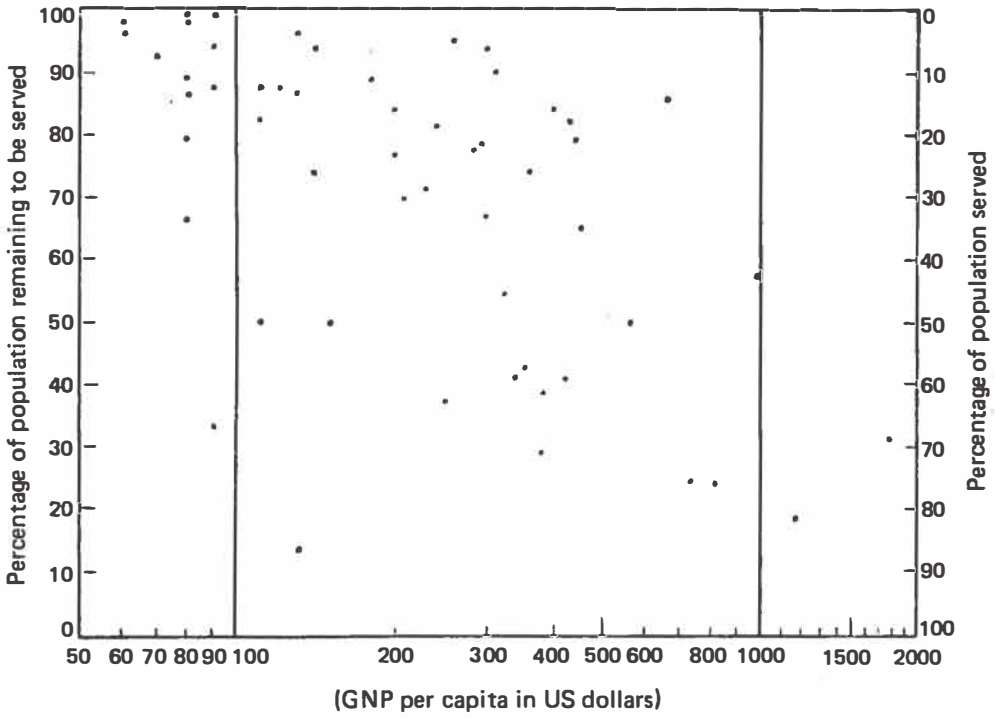
Africa: Algeria, Benin, Burundi, Central African Republic, Chad, Ethiopia, Guinea, Ivory Coast, Kenya, Liberia, Libyan Arab Republic, Madagascar, Mali, Mauritania, Mauritius, Morocco, Niger, Tunisia, Uganda, Upper Volta, Zaire, Zambia.

Latin America: Bolivia, Brazil, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Peru, Venezuela.

Asia: Afghanistan, Bangladesh, Burma, India, Indonesia, Iran, Iraq, Khmer Republic, Malaysia, Nepal, Philippines, Republic of Korea, Saudi Arabia, Singapore, Sri Lanka, Thailand, Republic of South Viet-Nam.

Oceania: Fiji and Western Samoa.

Figure 5.II.
Excreta disposal services in relation to economic level, 1970
(• = one country)



Source: C. S. Pineo, *et al, Community Water Supply and Excreta Disposal Situation in the Developing Countries – A Commentary* (Geneva, WHO, 1975), p. 15.

5.1.3 Solid waste disposal

284. Urban solid waste is heterogeneous and can be classified broadly into two types: (a) biodegradable wastes resulting mostly from processing and consumption of food and (b) non-biodegradable wastes, i.e. metals, inert materials such as ashes, plastics, and chemicals, some of which may be toxic. The ccmposition of both of these types depends on the food habits, way of life, living standards and degree of industrialization of countries. Non-biodegradable wastes, if mixed with domestic wastes, could substantially alter the composition of urban wastes and create special problems in their disposal. The addition of human excreta to solid wastes also creates special problems. Inefficient storage, collection and disposal of wastes may result in the spread of disease. Uncontrolled and partial combustion of solid wastes at low termperature creates air pollution.

285. The problem of "leachate" is particularly serious in the disposal of solid wastes on land. (Leachate is a highly concentrated organic liquid which can pollute underground and surface water resources.) Land is invariably required for the final disposal of solid wastes and this land use must be included in plans for the development of settlements. If solid wastes are dumped without prior treatment or planned operation, the land is spoiled for future use and the surrounding area is degraded in value.

286. Except for a few studies done in relation to comprehensive planning projects, global data on the composition of wastes, methods of collection, storage, transportation, disposal and environmental impact of waste disposal is almost non-existent. Some data is available on solid waste generation rates but interpretation of this data is difficult in explaining the differentials that exist between the countries in the absence of related information on composition of wastes, traditions, food habits, social values, industrial activities, etc. Table 5.4 gives the per capita solid waste generation at city level, and the percentage of inhabitants served in selected cities.

5.2 Community facilities

5.2.1 Health services

287. A separate paper on health and environment in human settlements has been prepared for the Habitat Conference. 7/ This section proposes to supplement that paper with additional data from WHO and the World Bank on health personnel and establishments in human settlements, giving special attention to questions of distribution and coverage.

7/ Habitat: United Nations Conference on Human Settlements, Health and Environment in Human Settlements by A. G. Martin in collaboration with WHO, October 1975 (A/CONF.70/B/2).

Table 5.4. Per capita waste generation rates in some principal cities of developing and developed countries in 1970

Country and city		Per capita a/ solid waste Kg/cap/day	Population served (percentage)
Argentina	Buenos Aires	0.48 (0.41)	10
	Mendoza	0.31	95
	Salta	0.65	94
Bolivia	La Paz	0.65 (0.45)	35
	Cochabamba	0.75	50
	Santa Cruz	0.44	11
Brazil	District Federal	0.51	...
	Salvador	0.55	65
	Rio de Janeiro	0.70	80
	Sao Paulo	0.57	...
	Porto Allegre	0.50	83
Chile	Santiago	0.47	...
Ecuador	Quito	0.92 (0.55)	92
France	Paris	0.77	100
	Lille	0.63	100
Guatemala	Guatemala City	0.86 (0.51)	74
Honduras	Tegucigalpa	0.63 (0.38)	70
Indonesia	Djakarta	0.38	...
Israel	Tel Aviv	0.89	...
Japan	Tokyo	0.93	...
Jordan		0.44	...
Mexico	Mexico City	0.40	...
	Aguas Celiantes	0.39	...
Nicaragua	Managua	0.37	89
Nigeria	Ibadan	0.46	...

Table 5.4 (continued)

Country and city		Per capita a/ solid waste Kg/cap/day	Population served (percentage)
Panama	Panama City	0.87	87
	Santiago	0.80	80
Peru	Lima	0.60	...
	Cuzco	0.52	...
Singapore		0.67	...
Syrian Arab Republic		0.6	...
United Kingdom	London	0.83	100
United States	New York	1.82	100
	Cincinatti	1.5	100
	Washington, D.C.	2.1	100
	Seattle	1.86	100
	Los Angeles	3.0	100
Germany, Fed. Rep. of	Hamburg	1.3	100

Source: George E. Daniel, "An Approach to Infrastructure Standards", Discussion Paper prepared for the United Nations Centre for Housing, Building and Planning, 15 August 1975 unpublished.

a/ Figures in parenthesis denote data adjusted to take into account non-residential solid waste.

288. Recent data from the World Health Organization shows marked improvement over the period 1950-1970 in the total number of countries with more than one physician per 1,000 inhabitants. But there are still many countries with less than one per 10,000. As populations in the latter countries continue their rapid growth, this situation appears to be deteriorating. 8/ There were 40 such countries in 1950; in 1970 there were 47. In 25 countries, the ratio of physicians to population was one per 20,000 or less; the lowest ratio is one per 93,000. Furthermore, many developing countries are greatly affected by emigration of the medical doctors to the developed world (see table 5.5).

Table 5.5. Emigration of medical doctors to the developed world

Country	Years	Medical doctors emigrating each year (as percentage of total graduates)	Permanent loss each year (as percentage of total medical doctors)
India	1961-64	18	7
Thailand	1968	67	4
Philippines	1962-67	20	13
Turkey	1964	22	17
Latin America: a/	1965-68	5	-
Haiti		20	-
Colombia		14	-
Guatemala		8	-
Dominican Republic		16	-
Nicaragua		18	-
Brazil		1	-
Peru		2	-
Mexico		5	-
Jamaica		-	-
Chile		10	-
Argentina		3	-

Source: International Bank for Reconstruction and Development (World Bank), Health-Sector Policy Paper, March 1975, annex 13, p. 83.

a/ Some 80 per cent of Latin American medical doctors are produced by six countries: Argentina, Brazil, Colombia, Cuba, Mexico and Venezuela - and 67 per cent are produced by Argentina, Brazil and Mexico alone.

8/ World Health Organization, World Health Statistics Annual 1970, Geneva, WHO, 1974, vol. III, table A2. cf. as in note 1 of document A/CONF.70/B/2.

289. Figures recently compiled by the World Bank and reproduced in table 5.6 show that it is more expensive (perhaps as much as 300 per cent more) to educate a medical doctor in countries like Senegal, Kenya or Colombia than in the United States.

Table 5.6. Comparative costs of medical education in selected countries, 1965
($US)

Country	Per medical doctor graduated 1/	Per medical assistant	Per nurse graduated	Per auxiliary nurse	Per health assistant	Per auxiliary sanitarian
Senegal	84,000	-	835	-	-	-
Jamaica	24,000	-	1,385	-	-	-
Guatemala	19,200	-	2,700	-	-	-
Thailand	6,600	-	1,200	-	700	350
Kenya	22-28,000	2,890	3,380	2,167	787	1,680
Pakistan	12,600	-	2,960	-	-	-
Colombia	29,000	-	3,000	1,000	-	-
United States	19,630	-	-	-	-	-

Source: World Bank, Health-Sector Policy Paper, March 1975, annex 10, p. 81.

1/ Obtained by dividing total recurrent costs as assignable to medical education by number of students graduating.

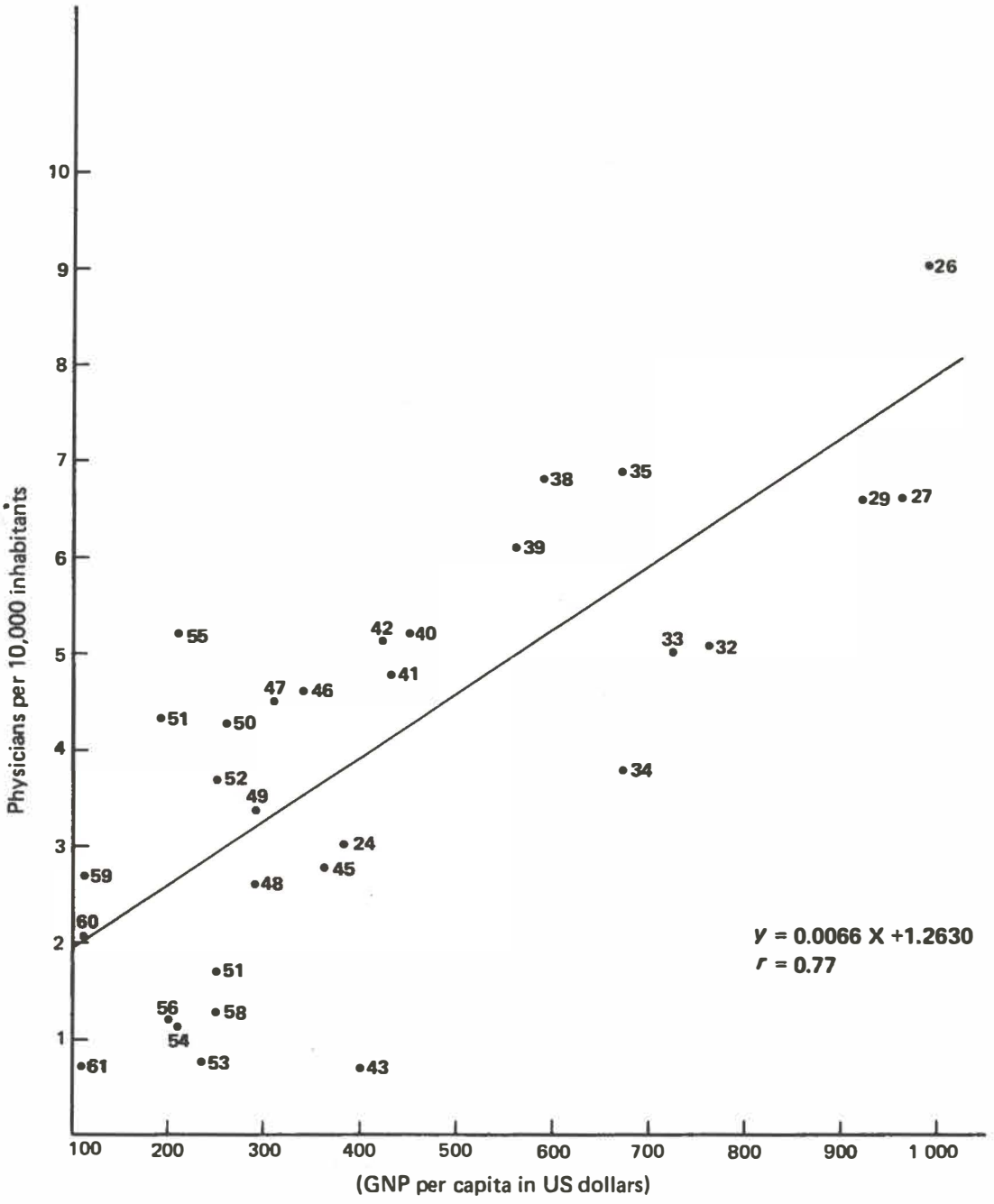
290. Figure 5.III.A shows the relationship of gross national product to the number of physicians per 10,000 inhabitants for a selected group of less developed countries. It is clear that the number of physicians per 10,000 inhabitants for these countries tends to increase with GNP. This seems easily explained by the high cost of health care and medical education. However, in the case of the more developed countries, as illustrated in figure 5.III.B, there is no longer any clear relationship between GNP and the ratio of physicians to population. Certain countries with relatively low GNP have a much higher number of physicians relative to population than many of the wealthier nations. Notable among these are the centrally planned developed economies. It is also worth remarking that the number of physicians per 10,000 inhabitants is no longer increasing very rapidly in most developed market economies, 9/ whereas many centrally planned developed countries continue to experience rapid improvements in the number of available physicians. This is apparent from table 5.7.

9/ Figure 26 and table 12 of document A/CONF.70/B/2.

Figure 5.III.
Gross national product per capita in relation to the number of physicians per 10,000 inhabitants, 1970

(For countries corresponding to the numbered plots in the graphs see list at end of figure)

A. Less developed countries



(continued)

Figure 5.III. (continued)

B: More developed countries

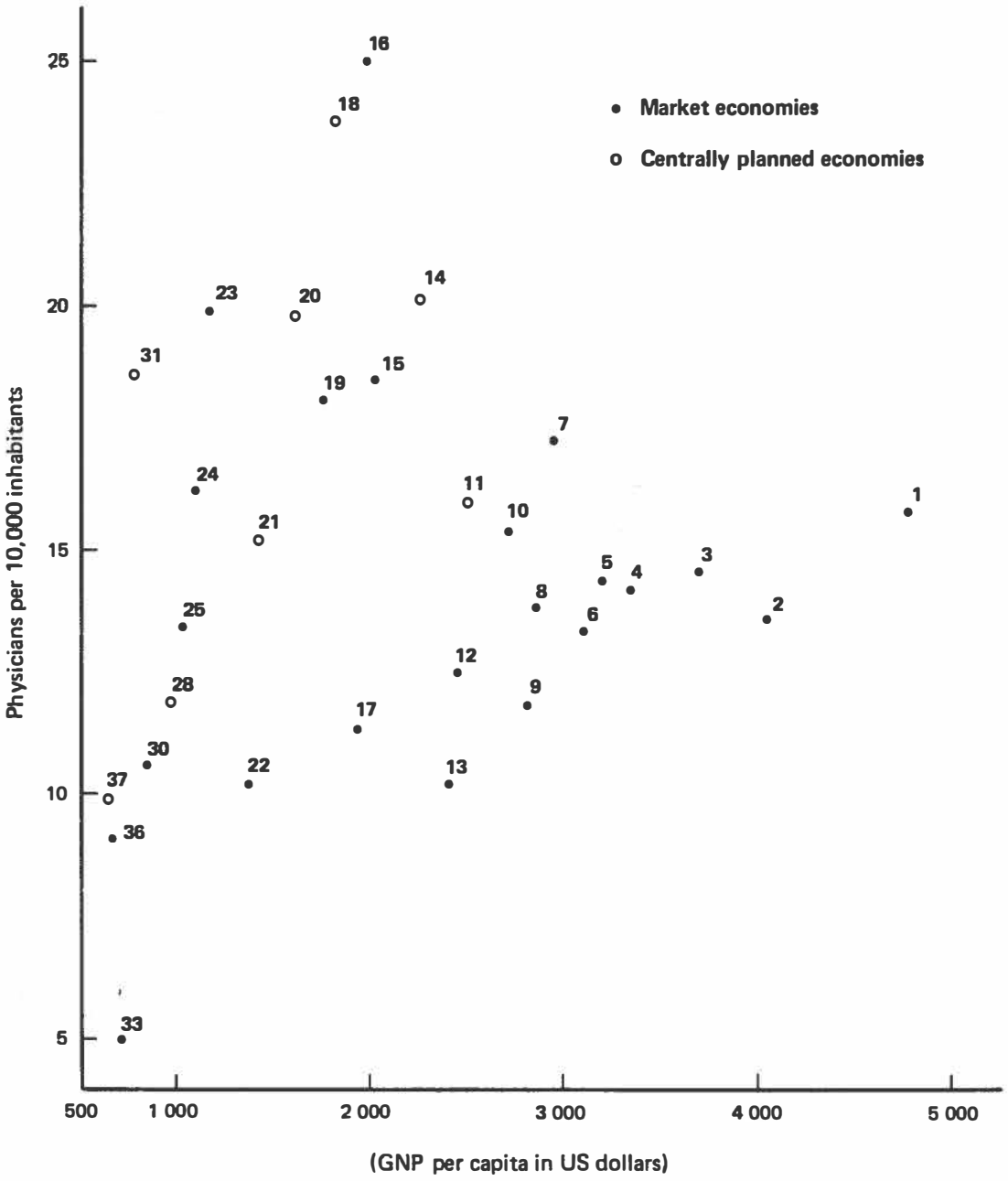


Figure 5.III. (continued)

Sources: World Bank Atlas, 1972; WHO, World Health Statistics Annual, 1970, Geneva, 1974.

List of countries:

1. United States
2. Sweden
3. Canada
4. Switzerland
5. Denmark
6. France
7. Fed. Rep. of Germany
8. Norway
9. Australia
10. Belgium
11. German Dem. Rep.
12. Netherlands
13. Finland
14. Czechoslovakia
15. Austria
16. Israel
17. Japan
18. USSR
19. Italy
20. Hungary
21. Poland
22. Ireland
23. Argentina
24. Greece
25. Spain
26. Venezuela
27. Hong Kong
28. Romania
29. Singapore
30. Uruguay
31. Bulgaria
32. South Africa
33. Chile
34. Jamaica
35. Mexico
36. Portugal
37. Yugoslavia
38. Lebanon
39. Costa Rica
40. Peru
41. Nicaragua
42. Brazil
43. Zambia
44. Iran
45. Guatemala
46. Colombia
47. Turkey
48. Syrian Arab Rep.
49. Ecuador
50. Paraguay
51. Tunisia
52. Jordan
53. Morocco
54. Philippines
55. Egypt
56. Thailand
57. Bolivia
58. Kenya
59. Sri Lanka
60. India
61. Haiti

Table 5.7. Number of physicians per 10,000 inhabitants: 25 leading countries in 1950 and 1970

Rank	Country	Physicians/ 10,000 inhabitants	Rank	Country	Physicians/ 10,000 inhabitants
	1950			1970	
1	Israel	23.09	1	Israel	25.02
2	Falkland Islands	20.00	2	Monaco	24.00
3	Nauru	16.67	3	USSR	23.78
4	Monaco	16.19	4	Czechoslovakia	21.01
5	Austria	15.93	5	Falkland Islands	20.00
6	United States	13.26	6	Hungary	19.76
7	Germany (Fed. Rep. of)	13.15	7	Panama (Canal Zone)	19.11
8	USSR	13.08	8	Argentina	18.91
9	Switzerland	13.05	9	Bulgaria	18.63
10	Iceland	12.66	10	Austria	18.51
11	New Zealand	12.56	11	Italy	18.07
12	Italy	12.23	12	Germany (Fed. Rep. of)	17.21
13	Argentina	11.71	13	Mongolia	16.84
14	U.K. (Scotland)	10.58	14	Greece	16.23
15	Panama (Canal Zone)	10.57	15	German Dem. Rep.	15.98
16	Norway	10.51	16	United States	15.78
17	Hungary	10.48	17	Belgium	15.38
18	U.K. (Northern Ireland)	10.41	18	Poland	15.18
19	Denmark	10.40	19	Channel Islands (Jersey)	14.86
20	Canada	10.19	20	Canada	14.56
21	Spain	10.11	21	Iceland	14.50
22	Ireland	9.88	22	Denmark	14.40
23	Uruguay	9.87	23	Nauru	14.28
24	Australia	9.84	24	Switzerland	14.22
25	Cuba	9.84	25	Norway	13.82

Source: World Health Organization, World Health Statistics Annual 1970, Geneva, 1974, table A.2.

291. The number of Soviet physicians per 10,000 inhabitants increased from 13.08 in 1950 to 23.78 in 1970. Czechoslovakia, Bulgaria and Mongolia, for example, improved their number of physicians per 10,000 inhabitants from 9.21, 7.12 and 1.90 respectively in 1950 to 21.01, 18.63 and 16.84 respectively in 1970. These differential growth rates in medical density presumably have something to do with the priorities given by various countries to the improvement of health services.

292. The distribution of medical personnel within urban and rural areas and between small and large cities is uneven. Capitals and primary cities can have as many as 70 per cent of the country's medical doctors. This is the case in Alexandria and Cairo, for example, whose combined populations do not exceed 18 per cent of Egypt's total inhabitants. 10/ Developing countries demonstrate a similar asymmetry, as seen in table 5.8. This pattern can also be seen in regard to most other categories of medical personnel, from nurses to pharmacists and dentists. In Brazil, a study has shown a very high correspondence between towns having no banks and towns having no doctors, and an extraordinary match between the number of doctors in an urban area and the number of banks. It is also noticeable that the percentage of doctors in a given region of Brazil is the same as the percentage of national income of that region. 11/

293. This distribution pattern is very often enforced and encouraged by the policies of many developing countries which provide a "pyramid of health care", starting with health centres or health posts, through district hospitals, up to a national referral-teaching hospital. 12/ As a result, in Ghana, for example, the central hospital absorbed 149 of the 298 physicians available to the official health services, yet only about 1 per cent of the patients in this hospital had been officially referred by medical personnel outside the hospital. Another 7 per cent had referred themselves, coming into the Accra region from outside for treatment. 13/

294. This situation favours the already existing cultural gap between physician and patient from the countryside or poor urban social class, which almost assures that such patients will visit such hospitals only in cases of extreme need.

Health establishments

295. Health establishments differ in nature, ranging from the university hospital and neighbourhood clinics to village health posts. World Health Organization studies 14/ show that in the developed countries there are definite trends, firstly toward integrating specialities and outpatient treatment into general hospitals, and secondly, toward discontinuing the provision of beds in rural hospitals and health centres in districts easily cared for by the general hospitals in the cities. This policy is followed by most countries with marked economies and by the USSR.

10/ See World Health Organization, Annuaire de Statistiques Sanitaires Mondiales 1964, vol. III, graphiques pp. 212-216, Geneve, 1968.

11/ Carlos Gentile de Mello, "A interiorização de medicina no Brasil" in Revista Brasiliera de Medicina, vol. 30, May 1973, No. 5.

12/ International Bank for Reconstruction and Development (World Bank), Health: Sector Policy Paper, March 1975, p. 36.

13/ Ibid., pp. 36-37.

14/ World Health Organization, Fifth Report on the World Health Situation 1969-1972, Official Records of the World Health Organization, No. 225, pp. 25-30.

Table 5.8. Distribution of medical doctors between the capital and the remainder of the country in selected countries, 1968

Country	Population/medical doctors		
	Nationwide	Capital city	Remainder of country
Haiti	14,700	1,350	33,300
Kenya	10,999	672	25,600
Thailand	7,000	800	25,000
Senegal	19,100	4,270	44,300
Ghana a/	18,000	4,340	41,360
Tunisia	6,486	2,912	10,056
Colombia a/	2,220	1,000	6,400
Guatemala	4,860	875	22,600
Iran	3,750	906	6,220
Lebanon	1,470	650	3,000
Jamaica	2,280	840	5,510
Panama	1,850	760	4,400

Source: World Bank, Health-Sector Policy Paper, March 1975, p. 81.

a/ Major urban centres instead of capital city.

296. This "rationalization" of hospital management is influenced by the fact that the cost of a hospital day is equal to approximately four times the daily per capita income. 15/ Since each individual "consumes" an average of two hospital days per year in the developed countries, every member of the population therefore devotes one week's worth of his annual income to health care. 16/ This trend of organizing health care as a "pyramid" has also become a declared policy in most developing countries. However, this solution is adequate only for a handful of developing countries - those having a geographically small territory or benefiting from exceptional transport and communications facilities to permit rural and small town people to overcome the problems of distance.

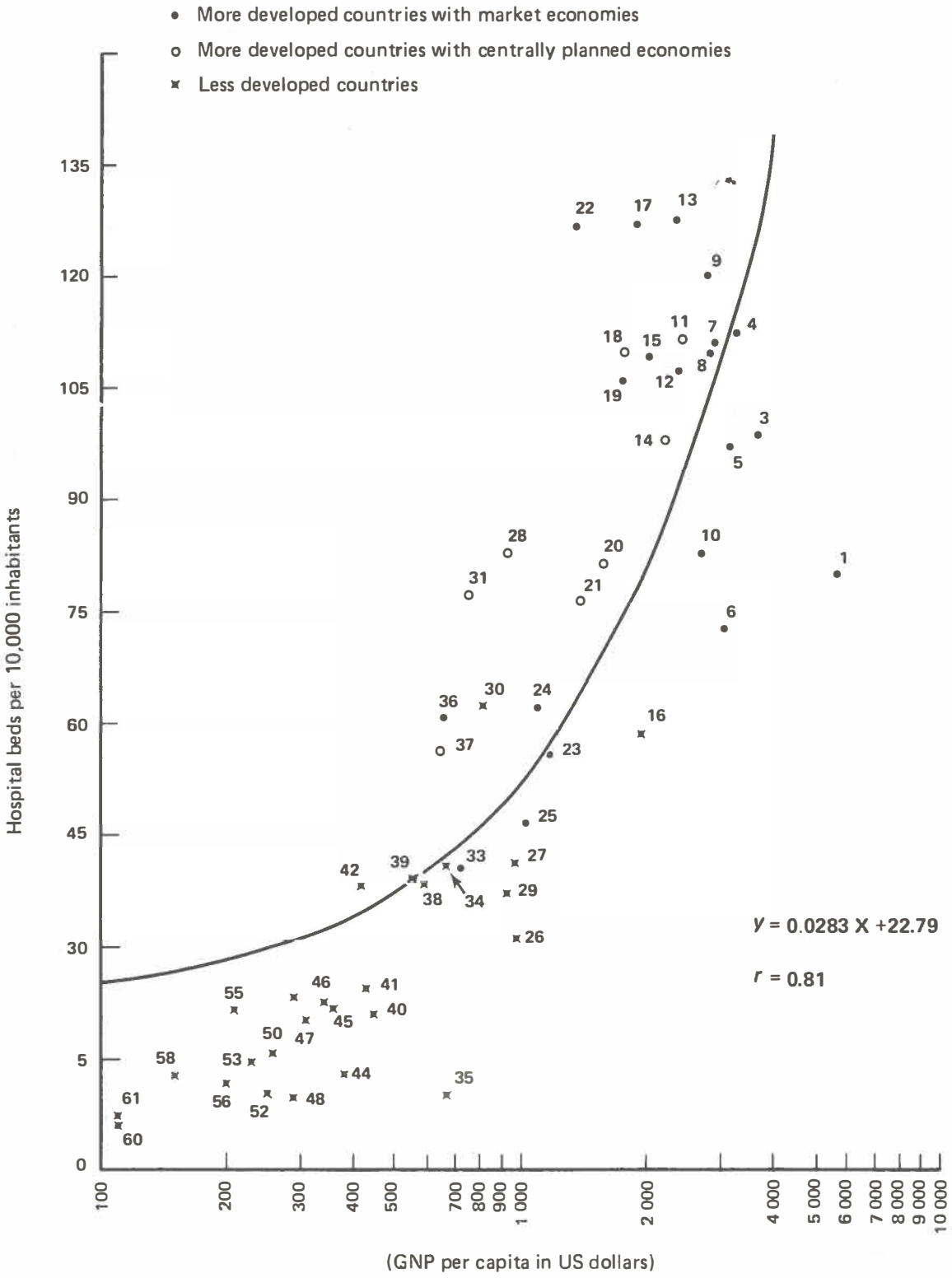
297. Figure 5.IV shows that the higher the GDP per capita in a country, the higher the hospital bed per person ratio. There is also a correlation between the number of beds and the specificity of reported causes of death as a percentage of total mortality. Thus, the poorer the country, the lower the ratio of hospital beds to population and the higher the number of deaths attributed to "symptoms and ill-defined conditions". 17/

15/ B. Abel-Smith, An International Study of Health Expenditure, Geneva, WHO, 1967, Public Health Paper No. 32, as cited in note 1, p. 28 of document A/CONF.70/B/2.

16/ World Health Organization, Fifth Report, ibid., p. 28.

17/ Ibid., p. 30.

Figure 5.IV.
Gross national product per capita in relation to the number of hospital beds per 10,000 inhabitants, 1970



For sources and list of countries, see figure 5.III.

298. Numbers of hospital beds are not entirely satisfactory as indicators of health services. It is difficult to define just what is a "hospital bed" in many cases. It is also difficult at times to determine the extent to which beds in a hospital are used and the average length of stay in a hospital. Nevertheless, figure 5.V shows differences which cannot be accounted for by problems of this nature. Many of the developed countries have more than one hospital bed per 100 people whereas 15 countries have less than one bed per 1,000 people.

299. In many developing countries there is an intense concentration of available medical facilities in urban areas, especially capital cities. Figure 5.VI illustrates this for three developing countries. Severe deficiencies in health care facilities are apparent in the isolated rural areas of many countries. The average percentage of beds in rural health establishments as compared to the total number of beds in general hospitals in 23 developing countries is no more than 16.6; this percentage can be as low as 1.5 in Libya or 2.7 in Venezuela. 18/ Many developed countries also have low percentages of hospital beds located in rural establishments: 6.9 per cent in Norway, 13.8 in Iceland and 22 in Canada. However, this information is hard to interpret, requiring a knowledge of the individual countries. The World Health Organization emphasizes that in most countries there is a trend towards concentrating hospital beds and consultant services in the large provincial hospitals "to facilitate the more effective use of medical time and specialized equipment".

Coverage of official health services

300. Although the evidence is fragmentary, it appears that public health services cover only a small part of the population in many developing countries. In some cases, the proportion covered is so small that the influence of the services on the nation's health can at best be negligible. The findings of the World Bank's Policy Paper on Health 18/ underline this situation:

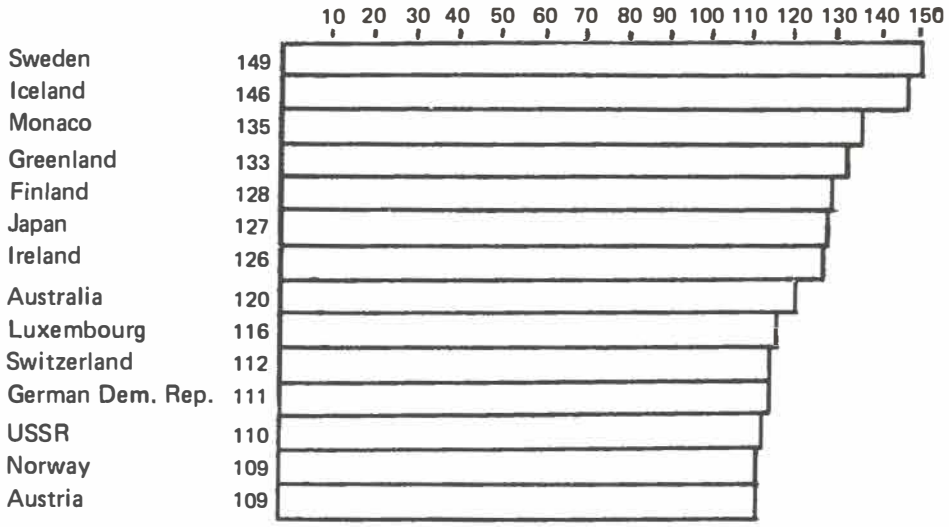
> "The combined impact of geographical, administrative and cultural factors seriously limits effective health coverage in many developing countries ... Most patients visiting health facilities come from the immediate vicinity ... The decline in inpatients' use of health facilities is somewhat less rapid, but still rather dramatic ... A wide cultural gap may exist between the personnel at a modern health facility and the tradition-bound people it is designed to serve ... In 1970, a countrywide health survey undertaken in Thailand found that, on the average, sickness occurred twice per year per person but that only 17 per cent of the surveyed population utilized public health facilities during a year. Even in the metropolitan area of Bangkok, 45 per cent of the people treated themselves with the aid of a pharmacy; in the rural areas this figure rose to 61 per cent. Private clinics were important sources of health care in Bangkok, serving 31 per cent of the people, and traditional doctors or priests were quite important in

---

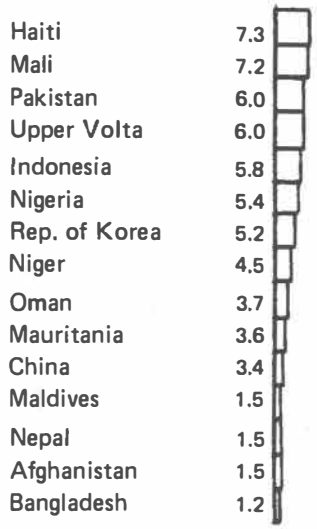
18/ World Bank, Health: Sector Policy Paper, Washington, D.C., March 1975, pp. 35-38.

Figure 5.V.
Number of hospital beds per 10,000 inhabitants, selected countries, 1970

A. Fourteen countries with the highest number of beds per 10,000 inhabitants

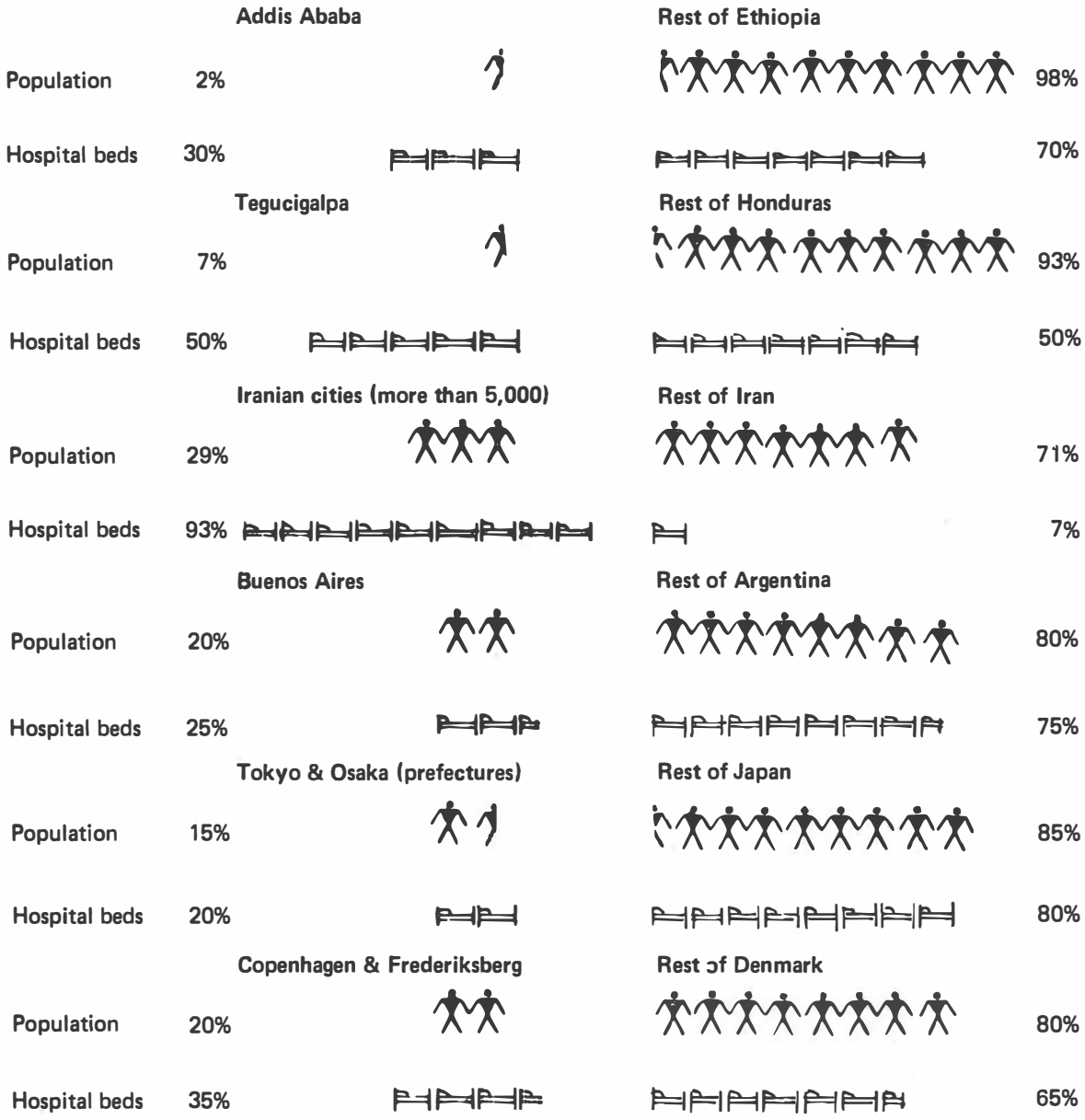


B. Fifteen countries with the lowest numbers



Source: Habitat: United Nations Conference on Human Settlements, "Health and environmental health in human settlements," by A. C. Martin in collaboration with WHO (A/CONF.70/B/2), October 1975, p. 93.

Figure 5.VI.
Concentration of hospital beds in urban areas of selected countries, circa 1964



Key: Each stands for 10% of total national population.

Each stands for 10% of total number of hospital beds in the nation.

Source: WHO, *World Health Statistics* Annual, 1964, vol. III, (Geneva, 1968).

the rural areas of Thailand, serving 12 per cent of the people. In Cali, Colombia, where the physician-population ratio is 1/910, 17 per cent of the children who die are not seen by a physician and another 19 per cent have no medical attention during the 48 hours preceding death. A study in rural Punjab, India, found that for every 100 of the population, there were 89 yearly contacts with health personnel in the public sector, against 221 with registered indigenous medicine practitioners. A recent study in a village close to New Delhi showed that only 7 per cent of illnesses came to the attention of the medical services. In another study of Punjab, 8,000 episodes of illness were reviewed: 37 per cent, or 3,000, did not require health services. Of the remaining 5,000, 10 per cent were dealt with by the public sector, 29 by private practitioners (mostly indigenous) and 61 received no care at all."

5.2.2 Educational facilities 19/

301. World urban population is increasing by more than 30 per cent each decade. Parallel to this growth there is a massive increase in the number of people attending school. In 1970 the total of educational institutions received over 500 million enrolments against 320 million in 1960, which consumed 16 per cent of the world's budgetary resources.

302. Global elementary school enrolment increased by 97 million during the decade 1960-1970; from 254 million to 351 million (see table 5.10). The world's secondary school population increased by 64 million between 1960 and 1970: from 66 million to 130 million (see table 5.10). The university population also grew considerably, from 11.6 million in 1960 to 26.8 million in 1970 (see table 5.11).

303. This makes the number of students per 10,000 world population equal to 55 in 1960 and 97 in 1970 (see table 5.9). However, in 1970, this number was 35 students/10,000 population in the third world against 197/10,000 in the more developed regions of the world. Thus the average number of students/10,000 population of the more developed regions is more than 5.6 times that of the less developed regions. This proportion has been almost the same since 1960.

19/ United Nations Educational, Scientific and Cultural Organization, Culture, Education and Human Settlements, a report prepared for Habitat: United Nations Conference on Human Settlements (A/CONF.70/B/5), 12 January 1976.

Table 5.9. Number of students per 10,000 inhabitants

Regions	1960	1965	1970
WORLD TOTAL	55	73	97
Africa	7	9	12
Latin America	27	37	57
North America	190	275	402
Asia	27	34	48
Europe	73	109	135
Oceania	98	134	159
Developed countries	99	146	197
Developing countries	19	25	35

Source: United Nations Educational, Scientific and Cultural Organization, ibid.

304. The current number of students in the more developed regions has become an important factor in the history of these regions. Thus, in the United States of America and Canada, there were more than 400 students per 10,000 population in 1970 (see table 5.9). Furthermore, there is an important proportion of young adults in higher education. More than 20 per cent of Europeans and 50 per cent of Americans between the ages of 20 and 24 are students at the university level.

305. Average annual growth rates of school enrolments decreased during the 1960-1970 period in primary and secondary schools as well as at the university level throughout the world (see tables 5.10 and 5.11). According to UNESCO estimates, this trend is expected to continue during the next 10 years. Thus, the world annual growth rates of primary school enrolment decreased from 4 per cent in 1965 to 2.5 per cent in 1970 and are expected to become as low as 1.9 per cent in 1985. For secondary schools, annual growth rates were 8.9 per cent in 1965, 5.1 per cent in 1970 and perhaps as low as 3.2 per cent in 1985. At the university level, the annual growth rate was 9.6 per cent for the period 1960-1965; this also dropped to 7.9 per cent during the period 1965-1970.

306. Despite this trend, the less developed countries saw their school enrolments increase by 67.6 per cent at the primary level, 175.3 per cent at the secondary level and 176.3 per cent at the university level, from 1960-1970. These increases are much higher than the ones experienced by more developed regions of the world: 11.6 per cent for primary, 60.3 per cent for secondary and 121 per cent for university.

Table 5.10. School enrolment and average annual growth rate for primary and secondary school

Regions	Year	Primary school		Secondary school	
		Enrolments	% Annual growth rate a/	Enrolments	% Annual growth rate a/
WORLD	1960	254 649	-	66 111	-
	1965	310 266	4.0	101 323	8.9
	1970	351 425	2.5	130 011	5.1
	1985	468 902	1.9	209 330	3.2
MORE DEVELOPED REGIONS	1960	134 763	-	45 218	-
	1965	145 864	1.6	64 794	7.5
	1970	150 451	0.6	72 498	2.3
	1985	162 388	0.5	93 196	1.7
LESS DEVELOPED REGIONS	1960	119 886	-	20 893	-
	1965	164 402	6.5	36 529	11.9
	1970	200 974	4.1	57 513	9.5
	1985	306 514	2.9	116 134	4.8
AFRICA	1960	18 543	-	1 767	-
	1965	25 814	6.8	3 139	12.2
	1970	33 094	5.1	5 098	10.2
	1985	50 991	2.9	12 797	6.3
ASIA	1960	91 984	-	25 157	-
	1965	119 291	5.3	38 929	8.0
	1970	137 625	2.9	47 886	4.2
	1985	215 975	2.9	86 536	4.0
LATIN AMERICA	1960	26 517	-	4 038	-
	1965	34 403	5.3	6 725	10.7
	1970	43 536	4.8	10 709	9.8
	1985	64 435	2.6	24 919	5.8

a/ These percentages concern the average annual growth rate during the three periods 1960-1965, 1965-1970 and 1970-1985.

Table 5.11. Number of students in higher education and growth rate

Regions	Number of students			% Average annual growth		
	1960	1965	1970	1960-1970	1960-1965	1965-1970
WORLD TOTAL	11 594 714	18 353 726	26 343 947	8.8	9.6	7.9
Africa	135 055	247 098	373 884	10.7	12.9	8.6
Latin America	569 151	914 078	1 614 790	11.0	9.9	12.1
North America	3 778 908	5 890 425	9 140 130	9.2	9.3	9.2
Asia	2 295 797	3 731 289	5 943 943	10.0	10.2	9.8
Europe	4 690 874	7 380 138	9 502 270	7.3	9.5	7.1
Oceania	124 929	190 698	268 930	8.0	8.8	7.1
Developed countries	9 399 190	14 677 813	20 778 381	8.3	9.3	7.2
Developing countries	2 195 524	3 675 913	6 065 566	10.7	10.9	10.6

Source: United Nations Educational, Scientific and Cultural Organization, ibid.

Note: South Africa, Southern Rhodesia, China, Democratic People's Republic of Korea and Democratic Republic of Viet-Nam are not included.

307. This situation can be explained, on one hand, by the fact that more developed regions already have an established educational infrastructure which does not have to expand tremendously and also because the annual growth rates of their populations constantly decreased during the last 10 years. On the other hand, less developed regions have relatively little experience in dealing with mass education, undergo tremendous population growth and, above all, have given investment priority to education and have adopted a policy of universal schooling. The effect of this on the third world countries is the following: not more than one half of the adults and children in need of education are receiving it, while expenditure for education reached 4 per cent of the GNP and 18 to 20 per cent of the national budget.

308. School enrolment 20/ rates projected in less developed countries during the 1960s for 1970 have fallen short. For example, the Addis Ababa Conference had

20/ Percentage of the number of population attending school to the total population of the same age group.

foreseen the following increases: 15 per cent for secondary school and 71 per cent for elementary school enrolments. The actual rates were 6.34 per cent and 46.16 per cent respectively. According to UNESCO, these failures had their roots in the demographic underestimates for Africa and Asia, in the inefficiency of the internal system of education and, finally, the growth of disparity within the same region. Indeed, the regionalization of educational systems did not happen either in Africa, Asia or in Latin America; instead, differences within these same regions had been increasing.

Educational institutions and human settlements

Developed countries: the hierarchy of urban centres

309. These countries have determined the following hierarchy of educational establishments according to population concentration:

(a) University and research institutions in primary educational centres (200,000 to 1 million inhabitants);

(b) Secondary (high) schools and colleges for vocational education in secondary centres (20,000 to 100,000); and

(c) Elementary schools and kindergartens on the neighbourhood level.

310. These population limits defining the type of educational establishment in each centre vary from country to country; however, it is important to underline the fact that this hierarchy of educational facilities is applied to reinforce urban structure and design of cities and towns in developed countries.

Developing countries

311. The third world has inherited an educational system from the colonial period. The result of this is a culture of "dependence" which does not meet the needs of the bulk of the population. It also leads to the waste of educational and human resources by excessive prolongation of school years as a result of the "staying-down system" (see table 5.12). In some cases, as in Morocco, households try spontaneously to limit such waste by sending only one child per family to school. This situation is also the result of a disequilibrium in the distribution of educational facilities between urban and rural areas: these services are heavily concentrated in capitals and primary cities. This along with the poor state of housing, health and transportation already discussed, adversely affects the coverage of educational facilities.

Table 5.12. Inefficiency in primary education

	Years to produce primary school graduates		Primary education expenditures spent on students who drop out in grades 1, 2 or 3 (%)
	Ideal	Actual	
Latin America			
Venezuela	6	10	19
El Salvador	6	15	37
Africa			
Ethiopia	6	14	32
Ivory Coast	6	12.5	21
Kenya	7	8	6
Asia			
Malaysia (East)	6	7	4
Sri Lanka	7	10.5	10

Source: International Bank for Reconstruction and Development, Education, Sector working paper, September 1971, table 2.

Coverage

312. The percentage of children between 5-14 years of age (school age) is very high in the third world. On the other hand, the percentage for the age group 25 to 45 (individuals most valuable from the economic point of view) is lower than in the more developed regions. In effect, a certain percentage of children now in the educatonal systems of the third world countries will never enter the job market, or will stay there for only a limited period.

313. Between 1970 and 1985 it is projected that the total number of the world's children under 15 years old will increase by about 450 million, of whom 400 million will be in the less developed regions. The growth rate among people 5 to 24 years old is 30 per cent for every 10 years in the less developed regions and only 10 per cent in the more developed regions. As far as formal educatiсn is concerned, this means that, in order not to increase the gap, it will be necessary to increase expenditure for education three times more in less developed regions than in more developed regions.

314. At the same time, between 1970 and 1985, the increase in the active population will be 42 per cent in Africa, 48 per cent in Latin America, 34 per cent in Asia and 16 per cent in the rest of the world. This means that Africa, Latin America and Asia face the need for a drastic increase of funds for education and more and more money to create new jobs, together with specific investments in professional training.

315. Another significant indicator is the rate of school attendance after six years of schooling. In 1960 in the more developed regions 93 per cent of boys between 6 and 11 continued to attend school; a figure of 99 per cent is projected for 1980. For girls, these figures are 91 per cent and 99 per cent respectively. In the less developed regions, however, the figure is only 62 per cent for boys, with a decrease projected for 1980, and 52 per cent for girls with a slight increase expected. The situation is even more dramatic when considering the number of children who enter and remain in school for 12 years between 1975 and 1987: 49 per cent for boys and 39 per cent for girls in more developed regions. The figures for the less developed regions for the same period are 11 per cent and 7 per cent respectively.

316. One must not forget that the education gap is already quite significant. In 1968 more developed regions invested $132 billion ($380 per capita) in education while the less developed regions invested $12 billion ($11 per capita). The widening of this gap involves increasingly unequal levels of educational systems.

317. These disparities are not limited to the scholastic system only; the comparative educational structure outside the school system is even more dramatic, since schools and universities have higher priority in less developed regions. Let us take as an example two countries in 1971, one from each category. Regarding libraries, the first country, with a population of about 10 million, had a network of about 9,000 libraries with loans totalling 50 million documents. The second, with a population of 16 million,,had two libraries lending 9,400 documents per year.

Urban-rural differences

318. The educational gap between city and countryside, and in the city itself, between the centre and the suburb, is also dramatic. The ratio of schooling to the retention of students in schools is higher in the cities than in the countryside; and the migration of young people and adults to the cities also indicates that the initial educational investments into the rural areas finally end up for the profit of urban centres. In the year 2000 a population 81 per cent urban is predicted for the more developed regions as against 43 per cent for the less developed regions. In the former, the number of structures devoted to education will increase significantly; in the latter their number will increase somewhat, either in the urban zones or in the rural areas where the school enrolment rate was very low during the 1960s. Let us not forget that, even if the reduction of rural inhabitants maintains a 5 to 10 per cent rate between 1965 and 1985, it will not decrease in absolute terms.

319. A demographic analysis of the world population reveals that the gap between town and country will accentuate the gap between more developed regions and less developed regions. It is in fact in the less developed regions that the rural population is and will continue to be more significant.

320. Another important indicator of the town-country gap in the educational field is the ratio between those who enter primary school and those who complete

a comprehensive course. For example, in Colombia the national figure is 17.3 per cent with 27.3 per cent for the city and 3.7 per cent for the countryside. In Guatemala, with a national figure of 25.4 per cent, the percentage for town is 49.6 per cent and for country 3.5 per cent. In urban areas of Latin and Central America 88 per cent of the children are able to complete the whole course at the primary level at the same school as against 34 per cent in the rural areas.

321. Marriage age, higher in the cities, is another variable to be considered because it is in positive correlation to the level of school attendance.

Social class differences

322. Differences in social class affect both school enrolment and the quality of housing in all societies. In the less developed regions the semi-urban zones tend to diminish social class differences because educational services develop in a more selective fashion in the urban centres than in the rural areas. Social demand increases without an accompanying rise in the number of educational structures. In the less developed regions urbanization, particularly in the cities, is not accompanied by any increase in revenue which would permit significant investments in educational structures. The percentage of children having no school to attend (58 per cent in 1965 and 30 per cent in 1985, and which, in absolute numbers, will increase from 164 million in 1965 to 405 million in 1985) will be composed of children from peasant, non-skilled worker and urban unemployed families, deprived of any social, cultural and educational facilities.

Sex differences

323. The sex variable also plays a role affecting school attendance. If, in the more developed regions this variable is not sufficiently important at the level of higher education, in the less developed regions, however, this factor unquestionably discriminates against women at every level.

Existing alternatives to urban and rural differences in less developed regions

324. Given the absolute increase in the world population statistically projected for the year 2000, the reorientation of the educational models of certain third world countries implies a new emphasis on the intrinsic value of the rural areas, within the framework of a policy designed for a balanced management of land use. Schools in rural China try to adapt to local conditions and specific needs with mobile schools on boats, travelling schools under tents and, in the mountains, elementary schools suiting the needs of shepherds. These are but a few examples of original solutions allowing education to be extended to scattered populations far from urban centres.

325. Significant experiences of decentralized educational activities in the rural areas took the form of voluntary literacy campaigns in different countries: Cuba, United Republic of Tanzania, Ethiopia, Senegal and others. The goal was and is to permit the participation of the entire population in the education of their society and in the break-up of the educational disequilibrium between town and country. The voluntary participation of students acting as teachers surpassed the normal scope of expansion of the educational system linked to the

increase in the GNP. The Freire method and the educational "nuclearization" in Peru, the "Ujama" villages in the United Republic of Tanzania and those of the liberation movement of the former Portuguese colonies (Angola and Mozambique) are but a few examples of educational work based on the active participation of the peasants of these countries.

326. If one retains the stereotyped thinking about the costs of education, the gap between more developed regions and less developed regions will never be closed. But if one trusts the people as carriers of social values and active members of the community responsible for their own educational experience, then the profitableness of the educational systems will transcend the pure logic of financial investments.

5.3 Transport

5.3.1 Availability of passenger and commercial vehicles

327. The availability of motor vehicles, their percentage distribution per 1,000 inhabitants and their growth rates are unevenly balanced between industrialized countries and the less developed regions. Data of 72 countries available from 1964 to 1972 support this (see table 5.13). In 1972, there were 315 motor vehicles in use per 1,000 inhabitants in the industrialized countries while, in the less developed countries, the rate was 13 vehicles per 1,000. This, despite the fact that the developing countries' annual growth rate of 9.5 per cent from 1964 to 1972 was higher than the 6.4 rate in the industrialized countries.

328. Among the industrialized countries, the United States and Canada have the largest number of vehicles in use per 1,000 inhabitants (548) followed in decreasing order by Australia and New Zealand, Japan and Europe. Within Europe, it should be noted that in 1972 the countries with market economies had 233 vehicles per 1,000 inhabitants, while there were 60 vehicles per 1,000 inhabitants in countries with centrally planned economies. Among the developing countries, Africa and Asia have the lowest number of vehicles per 1,000 inhabitants - 7.9 and 8.5 respectively, while Latin America has a comparatively higher rate of 48 vehicles per 1,000 inhabitants.

329. It should be noted that there is an inverse correlation between the number of vehicles in use per 1,000 inhabitants and the annual average growth rate between 1964 and 1972. The United States, which had the highest number of vehicles per 1,000 inhabitants, had the lowest growth rate, while Africa, Asia and Latin America had comparably higher growth rates. Japan is a special case: it has the highest growth rate in the world, but comes fourth with 208 vehicles per 1,000 inhabitants (see table 5.13).

330. Automobile registrations in selected primary cities of developing countries (see table 5.14) show that they range between 14 and 72 per cent of the total automobile stock of their respective countries, while their populations range between 1 and 19 per cent of their total population. This means that, in small

urban and rural areas, the overwhelming majority of the population use non-motorized transport or buses. A cost comparison 21/ of different urban travel modes per person in US cents per mile indicates the kind of transport system which the disadvantaged in the third world can afford.

Table 5.13. Motor vehicles in use by major regions, 1964 and 1972

Major regions	A: Motor vehicles in use (in thousands) 1/ B: Motor vehicles in use (per thousand inhabitants)	1964	1972	Annual growth rate, 1964-1972
Total 72 countries 2/ of which:	A	139 375.1	230 645.0	6.5
	B	122.7	173.1	4.4
26 in more developed regions	A	135 556.2	222 731.7	6.4
	B	205.6	315.2	5.5
46 in less developed regions	A	3 818.9	7 913.3	9.5
	B	8.0	12.7	5.9
13 in Africa	A	663.6	1 271.3	8.5
	B	5.1	7.9	5.6
18 in Asia	A	1 570.0	3 292.7	9.7
	B	5.5	8.5	5.6
12 in Latin America	A	1 547.7	3 240.2	9.7
	B	27.5	44.7	6.3
3 in Polynesia and Micronesia	A	37.6	109.1	14.2
	B	14.4	34.0	11.3
21 in Europe	A	34 495.7	67 633.9	8.8
	B	102.5	191.5	8.1
17 market economies	A	32 523.1	62 460.8	8.5
	B	127.5	233.2	7.8

21/ World Bank, Urban Transport, Sector Policy Paper, May 1975.

Table 5.13 (continued)

Major regions		A: Motor vehicles in use (in thousands) 1/ B: Motor vehicles in use (per thousand inhabitants)		Annual growth rate, 1964-1972
		1964	1972	
4 centrally planned economies	A	1 927.6	5 173.1	13.1
	B	24.2	60.6	12.2
United States and Canada	A	91 433.2	126 340.9	4.1
	B	432.9	547.7	3.0
Australia and New Zealand	A	4 374.8	6 488.9	5.1
	B	317.9	409.1	3.2
Japan	A	5 252.5	22 268.0	19.8
	B	53.7	208.2	18.5

Source: Statistical Yearbook, 1973, 25th issue (United Nations publication, Sales No. E/F.74.XVII.1).

1/ Passenger cars and commercial vehicles combined.

2/ The countries for which data are available in 1964 and 1972 are:

Africa: Angola, Egypt, Ivory Coast, Kenya, Mauritius, Niger, Nigeria, Senegal, Togo, Tunisia, Uganda, United Republic of Tanzania, and Zambia.

Asia: Bangladesh, Brunei, Burma, Cyprus, Indonesia, Iran, Iraq, Israel, Jordan, Khmer Republic, Republic of Korea, Lao People's Democratic Republic, Malaysia, Philippines, Singapore, Sri Lanka, and Syrian Arab Republic.

Latin America: Bahamas, Bermuda, Costa Rica, Dominican Republic, El Salvador, Guyana, Haiti, Mexico, Puerto Rico, St. Kitts-Nevis-Anguilla, St. Lucia, and Trinidad and Tobago.

Europe: (market economies): Austria, Belgium, Finland, Federal Republic of Germany, Gibraltar, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Norway, Portugal, Spain, Sweden, Switzerland, and United Kingdom.

Europe: (centrally planned economies): Czechoslovakia, Democratic Republic of Germany, Poland, and Yugoslavia.

Polynesia and Micronesia: Fiji, Guam, and Papua-New Guinea.

Table 5.14. Automobile registrations in selected cities

City	Year	Persons per car		City's % of national total	
		National	City	Population	Automobiles
Abidjan	1968	93	16.5	12.5	70.4
Bangkok	1966	320	34.8	7.9	72.8
Bogota	1969	138	45.0	11.6	35.6
Bombay	1966	1,131	82.0	1.1	14.5
Caracas	1966	21	11.3	19.3	36.1
Djakarta	1969	557	58.0	3.8	36.6
Nairobi	1965	135	10.8	4.7	59.4
San Jose (C.R.)	1966	56	14.2	12.3	48.1
Sao Paulo	1967	61	14.4	6.1	25.8
Teheran	1966	144	31.7	10.8	49.1

Source: World Bank, Urbanization, Sector Working Paper, June 1972.

Category I
1. footway: 4 feet wide. cost: negligible
2. bicycle: track 4 feet wide; cost: 0.3 cents US
3. bus: with 30 passengers minimum, track 24 feet wide; cost: 2.2 cents US
4. urban railway: 22,500 passengers/hour; cost: 2.2 cents US

Category II
5. minibus: with 10 passengers, track 24 feet wide; cost: 2.9 cents US
6. metro: 22,500 passengers/hour; cost: 3.9 cents US
7. taxi: with 4 passengers, track 24 feet wide; cost: 4.5 cents US

Category III
8. car: with driver only, track 24 feet; cost: 17.5 cents US

331. Category I seems to be closest to that which can be afforded by the majority of the population of developing countries. Perhaps, because of heavy capital expenditure, even the urban railway system must be ruled out. Within this category, motorized bicycles, motor scooters and motorcycles should also be included. Category II is already expensive and demands higher maintenance costs and more sophisticated organization to be efficient, while Category III is obviously beyond the means of the vast majority.

5.3.2 Availability of public transportation

332. Public transportation systems are very different from one city to another. They are very closely related to the density of the population, its economic and social characteristics and the availability of non-public means of transportation. Consequently, it is not advisable to aggregate data of different cities in an attempt to give information on regional or global bases. Even on a country basis, conclusions would be misleading.

333. Table 5.15 gives the length of lines and the number of passenger journeys in selected cities for which comparable information is available. The length of public transport lines ranges, for the majority of the cities included in the table, between 0.20 and 0.90 km per 1,000 inhabitants. There is no apparent correlation between this rate and city size. The annual number of passenger journeys per inhabitant is higher in cities of the USSR and European countries with centrally planned economies. These cities also have a relatively high number of kilometres per 1,000 inhabitants, which means that they have an extremely high use of public transport vehicles.

5.3.3 Popular "low technology" transport 22/

334. The term "low technology" transport originally embraced all non-motorized forms of transport such as bicycles, cyclo-rickshaws, horse and ox carts. However, some motorized vehicles have become so durable, plentiful and inexpensive that they too must be included in the definition of low technology transport. These include: mopeds, motorbikes and scooters, three-wheeled vehicles and some light trucks. On the other end of the transport spectrum, many of the devices used in conjunction with walking must also be encompassed by the definition of low technology transport. This would include the variation in shoes (or lack of them) and the different ways goods are carried by people.

335. This report limits itself to wheeled vehicles only, either with or without motor. The bicycle and, more recently, the motorcycle and motor scooter are playing an increasing role in urban transport systems. In a selected group of 22 developing countries there were 40 million motorized two-wheelers on the registration lists in 1970, and generally two to four times as many non-motorized two-wheelers. 23/

Non-motorized transport: the case of South-East Asia

Bicycles

336. Bicycles are used in virtually every country of the third world although the degree of dependence varies greatly. Soon after its introduction into South-East

---

22/ This section is drawn mainly from Alan Meier, "Superior Technology in Low Technology Transport", unpublished draft dated April 1975 made available to the United Nations through the courtesy of Prof. Rechard L. Meier.

23/ Wilfred Owen, "Transportation and Human Settlements", New York, United Nations, 17 April 1975 (A/CONF.70/RPC/BP/3).

Table 5.15. Public urban transport in selected cities: length of lines and number of passenger journeys, 1967

Regions and cities a/	No. of inhabitants in the area supplied (1,000)	Length of lines		Annual number of passenger journeys	
		Km	Km per 1,000 inhabitants	millions	per inhabitants
1	2	3	4	5	6
AFRICA					
Cairo	4 325	1 706	0.39	784	181
Alexandria	1 848	444	0.24	278	150
Kinshasa	864	130	0.15	72	83
ASIA					
Tokyo	8 938	1 108	0.12	728	81
Calcutta	3 059	456	0.15	713	233
Nagoya	1 978	560	0.28	515	260
Yokohama	1 929	429	0.22	201	104
Ahmedabad	1 419	1 282	0.90	185	130
Kyoto	1 393	484	0.35	318	228
Kobe	1 240	324	0.26	209	169
Kitakyushu	1 052	543	0.52	303	288
Ankara	1 000	667	0.67	65	65
LATIN AMERICA					
Bogota	2 027	...	...	7.5	3.7
Medellin	877	...	...	7.4	8.4
OCEANIA					
Wellington	133	...	...	29	218
EUROPE b/					
London	10 217	5 200	0.51	1 979	194
Paris	7 057	1 313	0.19	664	94
Madrid	2 950	672	0.23	500	169
Budapest	1 980	807	0.41	1 443	729
Barcelona	1 738	394	0.23	362	208
Vienna	1 636	425	0.26	434	265
Bucharest	1 390	824	0.59	1 115	802
Warsaw	1 275	572	0.45	1 501	1 177
Naples	1 263	660	0.52	244	193
Birmingham	1 102	412	0.37	346	314
Belgrade	1 035	521	0.50	309	299

Table 5.15 (continued)

Regions and cities a/	No. of inhabitants in the area supplied (1,000)	Length of lines		Annual number of passenger journeys	
		Km	Km per 1,000 inhabitants	millions	per inhabitants
1	2	3	4	5	6
Prague	1 034	492	0.48	587	568
Copenhagen	900	239	0.27	167	186
Stuttgart	884	802	0.91	148	167
Stockholm	776	294	0.38	46	59
Bremen	628	330	0.53	99	158
Séville	610	212	0.35	117	192
Zurich	589	216	0.37	210	357
Zagreb	570	574	1.01	261	458
Goteborg	444	242	0.55	89	950
Malaga	340	111	0.33	46	135
Trieste	281	90	0.32	267	236
Wiesbaden	264	192	0.73	38	144
Metz	147	53	0.36	11	75
Le Mans	143	31	0.22	10	70
NORTH AMERICA					
Detroit	2 217	1 107	0.50	131	59
Washington, D.C.	793	...	...	134	169
USSR					
Moscow	6 535	3 257	0.50	2 516	385
Leningrad	3 317	873	0.26	1 712	516
Kiev	1 435	1 031	0.72	784	546
Tashkent	1 269	956	0.75	400	315
Novosibirsk	1 072	1 021	0.95	381	355
Tbilisi	851	291	0.34	256	301
Riga	685	835	1.22	363	530
Frunze	404	601	1.49	177	438
Kishinev	307	297	0.97	138	450
Ashkhabad	241	194	0.80	71	295

Source: International Statistical Institute, International Statistical Yearbook of Large Towns, vol. 4 (1968), The Hague, 1970.

a/ Cities are listed in decreasing population size within each region.

b/ For data on additional European cities, see the source of the table.

Asia, the bicycle began evolving to meet the demands and constraints of the region. As a result, the bicycle became simpler and heavier but cheaper than in industrialized countries.

337. Although different in their designs, bicycles in Saigon and India, for example, have been adapted to provide seats for extra passengers (usually children), either over the rear wheel or as hang-on attachments. In any case, they have been designed to increase efficiency and withstand extreme climatic conditions as well as poor maintenance or its complete lack.

Tricycles

338. The most interesting area of low technology transport is in the three-wheeled sector. The pedal tricycle (or betjak, cycle-rickshaw, pedicab or cyclo) is an adaptation of the bicycle, with a passenger compartment designed to transport people or goods. It is always locally produced and rarely exported outside the city of manufacture. Its importance in the urban transport mix of South-East Asian cities varies considerably. In most of the largest cities, it must compete with increasing motor traffic and an unsympathetic government administration. Nevertheless, transport by rickshaw in many Asian cities persists. For example, the yearly rate of increase of betjaks for the period 1966-1971 was 10.5 per cent in Jakarta. In 1971, the contribution of betjaks to the regional gross domestic product of Jakarta was estimated to be R3.15 billion (equivalent to $7.63 million in constant 1969 prices), 24/ or a gross annual income of $100 per betjak. In spite of this, the Master Plan of Jakarta states that, by the beginning of 1980, this form of transport will no longer be used.

Motorized transport: the case of South-East Asia

339. The motorized sector of low technology transport is a relatively new phenomenon in most South-East Asian countries. Italy and Japan introduced most of the early vehicles (1960) which were specifically designed to carry passengers cheaply and without any special adaptations.

Two-wheeled motorcycles

340. The Asians quickly learned that motorcycles could carry much greater loads than indicated and the variety of products seen transported on the back of these machines may range from live chickens to bricks. One of the most interesting adaptations of the motorcycle has been the creation of the motorcycle taxi, mostly in Saigon and some larger Indonesian cities (excluding Jakarta). Although illegal, these taxis offer a faster journey at less than half the price of the automobile taxi and have been very popular since the late 1960s.

Three-wheeled vehicles

341. The three-wheeled vehicle is unique in several aspects. There are no large international corporations manufacturing three-wheelers, hence the market is open to many small and, potentially, local manufacturers. The three-wheeler is almost

---

24/ Government of Jakarta, Census and Statistical Office, Pendapatan Regional DKI Jakarta 1966-1971, DCI Jakarta, 1973, table 6.10, p. 92.

as convenient as a motorcycle and can run through narrow streets not normally accessible to automobiles while enjoying a greater passenger or freight capacity and an enclosed compartment.

342. It is curious that the three-wheeler is never used as a private means of transport, i.e. as a normal automobile. However, it has proven to be an excellent vehicle for use as a taxi, as for example in India and Jakarta, where it has virtually replaced the four-wheeled taxis. In India, the auto-rickshaw, which charges only half the fare of normal taxis, is becoming increasingly popular.

Minibuses

343. These vehicles perform an increasingly important function in urban transport. At present, three-wheeled minibuses are being developed in various companies throughout the world. There are only a few four-wheeled motor vehicles fitting into the low technology category. The principal constraints are the high cost per passenger of the vehicle and the relatively high technology involved in its maintenance. With the exception of the soi taxis in Bangkok, four-wheelers that fit the low technology category operate as minibuses. Among the oldest types of four-wheelers were the jeepneys in the Philippines and the opelets in Indonesia, which appeared in the early to mid-1940s and were adapted from American Jeep and Opel chassis respectively.

Transit fare arrangements

344. One factor affecting the use and efficiency of all low technology motor vehicles used in public transport is the system of fare collection. India is the only country which has successfully enforced the use of meters in its three-wheeled taxis. In other countries, the three-wheeled taxis set their fares through negotiation (bargaining). During peak hours the fares rise and during slack hours they sink. The inhabitants of a city soon learn to estimate the "correct" fare to the extent that the bargaining rarely passes a second round.

345. The fare payment arrangement is much more important in the minibus, where several other passengers are kept waiting while the bargaining and payment take place. The general procedure, used in Saigon, Jakarta, Bangkok and many other places in South-East Asia, is to establish a fixed fare. The curious exception to this generalization is the bemo in Jakarta, which has a mixed bargain/fixed zone system. The city government has for years tried unsuccessfully to establish a zone system.

C. RELEVANT DEFINITIONS

LIST OF TABLES INCLUDED IN THE STATISTICAL ANNEX, COUNTRY COMPOSITION OF MAJOR REGIONS

6. Relevant definitions

These definitions are included in the statistical annex published as a separate document (A/CONF.70/A/1/Annex). They are reproduced here for the convenience of the reader.

(1) AGRICULTURAL POPULATION

The agricultural population is defined as the population depending upon agriculture for its livelihood.

(2) BATHING FACILITIES

Bathing facilities refer to a fixed bath or shower installation.

(3) BUILDING - TYPE OF

A building is any independent, free-standing structure comprising one or more rooms or other spaces, covered by a roof and usually (though not always - particularly in tropical areas) enclosed within external walls or dividing walls which extend from the foundations to the roof.

A building may be used or intended for residential, commercial or industrial purposes or for the provision of services. It may, therefore, be a factory, shop, detached dwelling, apartment building, warehouse, garage, barn and so forth. In the case of living quarters with detached rooms (a detached kitchen, for example), these rooms should be considered as separate buildings. A building may, therefore, contain several sets of living quarters, as in an apartment building or duplex; it may be coextensive with a single detached set of living quarters, or it may be only a part of a set of living quarters, e.g. a detached room clearly intended to be used as part of the living quarters.

(4) BUILDING ACTIVITY - TYPE OF

New construction: The erection of an entirely new structure, whether or not the site on which it is built was previously occupied.

Restoration: Repairs by which at least one dwelling or other structure is effectively reinstated and where substantial parts of the existing structure are used.

Extensions: Enlargement of buildings by which space is added.

Conversion: Structural changes carried out within a building.

(5) CONSTRUCTION ACTIVITY

Construction activity comprises activity carried out by general and special trade contractors primarily engaged in contract construction. Also included is activity undertaken by units of enterprises primarily engaged in construction work for the parent enterprise which can be separately reported.

General contractors may be engaged in constructing, altering, repairing and demolitioning buildings; constructing, altering and repairing highways and streets and bridges; viaducts, culverts, sewers, and water, gas and electricity mains; railway road-beds; subways; harbours and water-ways; piers, airports and parking areas; dams, drainage, irrigation, flood-control and water-power projects and hydroelectric plants; pipe lines; water wells; athletic fields, golf courses, etc.; communication systems; marine construction and other types of heavy construction. Businesses primarily engaged in performing mining services such as preparing and constructing mining sites and drilling crude oil and natural gas wells, on a contract or fee basis, are classified in this group.

Special trade contractors are engaged in only part of the work of a construction project. Special trade contractors may work on subcontract from the general contractor or directly for the owner. However, maintenance or repair work done by maintenance staffs in the full-time employ of the units, the premises of which are being repaired, are excluded.

The assembly and installation on the site of prefabricated, integral parts into bridges, water tanks, storage and warehouse facilities, etc., systems of buildings, and all kinds of structures, is a construction activity. Departments or other units of the manufacturers of the prefabricated parts and equipment which specialize in this work and which it is feasible to treat as separate establishments, as well as independent businesses primarily engaged in the activity, are classified in this group.

Tabulated items of data are defined as in International Recommendations for Construction Statistics, Series M, No. 47.

(6) CONVENTIONAL DWELLINGS

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

A permanent building is defined as a structure which may be expected to maintain its stability for 10 years or more.

(7) CROPLAND

Cropland is defined as arable land and land under permanent crops.

(a) Arable land

Arable land means all land generally under rotation, whether it is under temporary crops, used as temporary meadows, or market and kitchen gardens (including cultivation under glass), temporarily fallow or lying idle.

(b) Land under permanent crops

Land under permanent crops means land cultivated with crops which occupy the land for a long period of time, and do not need to be planted for many years after each harvest, such as cocoa, coffee, rubber, shrubs and fruit trees, nut trees and vines, but excluding wood and timber. It includes nurseries, except those for forest trees which should be classified under "Wood or forest land".

(8) CRUDE REGISTERED INFANT-MORTALITY RATES

Crude registered infant-mortality rates are the number of deaths under one year of age during the year per 1,000 live births which occurred during the same time period.

(9) CRUDE REGISTERED DEATH-RATES

Crude registered death-rates are the number of deaths reported for a calendar year per 1,000 persons present in the same geographic area at the mid-point of the year.

(10) ECONOMICALLY ACTIVE POPULATION

Economically active population is defined as all persons of either sex who furnish the supply of labour for the production of goods and services during the time reference chosen for the investigation.

(11) HOUSEHOLD AND HOUSEHOLD HEAD

(i) Household

The concept of "household" is based on the arrangements made by persons, individually or in groups, for providing themselves with food or other essentials for living. A household may be either: (a) a one-person household - that is, a person who makes provision for his own food or other essentials for living without combining with any other person to form part of a multiperson household or (b) a multiperson household - that is, a group of two or more persons who make common provision for food or other essentials for living. The persons in the

group may pool their incomes and have a common budget to a greater or lesser extent; they may be related or unrelated persons or a combination of both.

Households usually occupy the whole, part of, or, in some cases, more than one housing unit, but they may also be found living in camps, in boarding houses or hotels, or as administrative personnel in institutions, or they may be homeless.

For the 1960 censuses, the occupants of hotels, boarding and lodging houses were grouped into collective households, each collective household corresponding to the total occupants of the living quarters. Boarders and lodgers occupying housing units 1/ were considered a part of the household with which they boarded or lodged.

In considering the revisions that should be introduced for the 1970 censuses, it was concluded that a household may lose a good deal of its significance as an analytical unit if it includes boarders and lodgers, since, as a rule, the ties that boarding or lodging households have with the main household consist only of the payment of a certain sum for the space occupied and services received. Nor did the total of occupants of a hotel or boarding house appear to be useful for analytical purposes. Therefore, the definition of household was revised so as to identify boarders and lodgers as one-person or multiperson households according to their demographic ties and/or the economic and social arrangements made for providing themselves with the essentials for living. This situation gives rise to a certain lack of comparability between the number of households reported in the 1960 censuses and that reported in the 1970 censuses. However, because of the relatively small proportion of persons involved, the effect is not in most cases considered significant.

(ii) Household head

The head of the household is that person in the household who is acknowledged as such by the other household members.

(iii) Persons not living in households

Persons who are not members of households include persons in military installations, in correctional and penal institutions, in the dormitories of schools and universities, in hospitals, in religious institutions and so forth. However, personnel such as administrators and staff of institutions should be distinguished as members of one-person or multiperson households on the basis of the arrangements they make for providing themselves with the essentials for living.

1/ By definition a housing unit becomes a boarding or lodging house and therefore belongs with the category "living quarters other than housing units", if the number of boarders and lodgers exceeds five. This definition applied to the 1960 censuses and it applies also to the 1970 censuses.

(12) HOUSEHOLD INCOME - SOURCE OF

(a) Wages and salaries: Total remuneration of all household members as wage earners and salaried employees, in cash and in kind, before deduction of social security and other contributions of employees; includes earnings from principal and secondary employment and generally comprises direct wages and salaries, remuneration for time not worked, bonuses and gratuities, housing and other allowances (including the imputed value of rent free or subsidized housing provided to the worker, as well as family allowances paid directly by the employer). Employer's contributions to social security, pension, insurance schemes on behalf of their employees are not included.

(b) Self-employment: Income of household members in cash and in kind derived from self-employment in household enterprises or from regular or occasional business and independent professional activities.

(c) Owner-occupied dwelling: The imputed net rental value of owner-occupied dwellings.

(d) Rent from other structures: The net rent (before tax) received for structures, other than an owner-occupied dwelling.

(e) Land rent and royalties: The net rent received for land and various royalties and assimilated receipts.

(f) Interest and dividends: Returns from financial investments and loan interest received.

(g) Pensions, social security and related benefits

(i) Pensions and annuities: Retirement pensions of employees and receipts from annuities.

(ii) Other social security and related benefits: Family allowances, benefits under social assistance schemes, other social security and related benefits (including old age and survivors' benefits).

(iii) Remittances, gifts and other assistance: Remittances and gifts in cash and in kind received from persons outside the household; includes also alimony, periodic receipts from an inheritance or trust fund (excluding transfers of assets), scholarship and similar receipts.

(13) HOUSING UNITS

A housing unit is a separate and independent place of abode intended for habitation by one household, or one not intended for habitation, but occupied as living quarters by a household at the time of the census. Thus it may be an occupied or vacant dwelling, an occupied mobile or improvised housing unit or any other place occupied as living quarters by a household at the time of the census.

This category includes housing of various levels of permanency and acceptability and therefore requires further classification in order to provide for a meaningful assessment of housing conditions.

(14) INDUSTRY

Industry refers to the activity of the establishment in which an economically active person worked during the time-reference period established for data on economic characteristics, or last worked, if unemployed.

(15) INVESTOR (in construction)

This refers to the persons or bodies on whose account the building is done and not to those actually erecting it.

(16) LAND UNDER PERMANENT MEADOWS AND PASTURES

This means land in the holding used permanently, i.e., five years or more, for herbaceous forage crops, either seeded and cared for or existing naturally (wild prairie or grazing land). Permanent meadows and pastures on which trees and shrubs are grown should be recorded under this heading only if the growing of forage crops thereon is the most important use of the area.

(17) LIGHTING - TYPE OF

Lighting refers to the principal type of lighting used in the living quarters being enumerated. In most countries electric lighting is of special interest.

(18) LITERACY

Literacy is defined as the ability both to read and to write; hence unless otherwise specified, semi-literates (persons able to read but not to write) are included with illiterate population.

(19) NATIONAL ACCOUNTS

For definitions relating to national accounts see System of National Accounts (United Nations publication, Sales No.: E.69.XVII.3).

(20) OCCUPANCY STATUS

Occupancy status is determined on the basis of whether living quarters are occupied or vacant at the time of the census.

(21) OCCUPANTS - NUMBER OF

Each person usually resident in a housing unit or other living quarters should be counted as an occupant of those living quarters. However, since housing censuses are usually carried out simultaneously with population censuses, the possibility of applying this definition depends upon whether the information collected and recorded for each person in the population census indicates where he spent the census night or whether it refers to his place of usual residence.

(22) OCCUPATION

Occupation refers to the kind of work done during the time-reference period established for data on economic characteristics by the person employed (or performed previously by the unemployed), irrespective of the industry or the status (as employer, employee etc.) in which the person should be classified.

(23) ROOMS - NUMBER OF

A room is defined as a space in a housing unit or other living quarters enclosed by walls reaching from the floor to the ceiling or roof covering, or at least to a height of two metres (approximately six feet), of a size large enough to hold a bed for an adult, that is, four square metres (approximately 40 square feet) at least. The total number of rooms includes bedrooms, dining rooms, living rooms, studies, habitable attics, servants rooms, kitchens, rooms used for professional or business purposes and other separate spaces used or intended for dwelling purposes, so long as they meet the criteria of walls and floor space. Passageways, verandahs, lobbies, bathrooms and toilet rooms should not be counted as rooms even if they meet the criteria.

(24) SEWAGE DISPOSAL

Sewage disposal may include collection and disposal, with or without treatment, of human excreta and wastewater by water-borne systems, or the use of pit privies and similar installations.

(25) SQUATTER SETTLEMENT

Squatter settlement generally refers to areas where group of housing units have been constructed on land to which the occupants have no legal claim. In many cases, housing units located in squatter settlements are shelters or structures built of waste materials and without a predetermined plan. Squatter settlements are usually found in urban and suburban areas, particularly at the peripheries of the principal cities. See also, definition of "Improvised Housing Unit", Principles and Recommendations for the 1970 Housing Censuses, United Nations publication, Sales No.: E.67.XVII.4, para. 182.

(26) STATUS

Status (as employer, employee etc.) refers to the status of an economically active individual with respect to his employment, that is, whether he is (or was, if unemployed) an employer, own-account worker, employee, unpaid family worker or a member of a producers' co-operative, as defined below.

(i) Employer: a person who operates his or her own economic enterprise or engages independently in a profession or trade, and hires one or more employees. Some countries may wish to distinguish among employers according to the number of persons they employ.

(ii) Own-account worker: a person who operates his or her own economic enterprise or engages independently in a profession or trade, and hires no employees.

(iii) Employee: a person who works for a public or private employer and receives remuneration in wages, salary, commission, tips, piece-rates or pay in kind.

(iv) Unpaid family worker: a person who works a specified minimum amount of time (at least one third of normal working hours), without pay, in an economic enterprise operated by a related person living in the same household. If there are a significant number of unpaid family workers in enterprises of which the operators are members of a producers' co-operative who are classified in category (v), these unpaid family workers should be classified in a separate subgroup.

(v) Member of producers' co-operative: a person who is an active member of a producers' co-operative, regardless of the industry in which it is established. Where this group is not numerically important, it may be excluded from the classification and members of producers' co-operatives should be classified to other headings, as appropriate.

(vi) Persons not classifiable by status: experienced workers with status unknown or inadequately described and unemployed persons not previously employed.

(27) TENURE

Tenure refers to the arrangements under which the household occupies the living quarters - that is, whether the accommodation that it occupies is owned by a member of the household, rented, subrented, occupied free of charge etc.

(28) TOILET FACILITIES

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

(29) URBAN AGGLOMERATION

An urban agglomeration refers to the populated area falling within the contours of a cluster of dense, contiguous settlement. The boundaries of an agglomeration frequently extend beyond the administrative boundaries of the corresponding city but they may also be more restricted. In some highly urbanized areas an urban agglomeration may include more than one city. An urban agglomeration is usually smaller than a "metropolitan area", which can include significant tracts of land under rural forms of settlement.

(30) URBAN AND RURAL

Because of national differences in the characteristics that distinguish urban from rural areas, the distinction between urban and rural is not yet amenable to a single definition which would be applicable to all countries. The criteria used to distinguish urban areas from rural areas are shown in a separate section below.

(31) WATER SUPPLY SYSTEM

Water supply system refers to the availability and location of piped water in relation to living quarters. The basic information to be obtained by the census is whether the living quarters have or have not a piped water installation - i.e. whether or not water is laid on to the living quarters by pipes from a community-wide system or an individual installation, such as a pressure tank, pump etc. It is necessary to indicate also whether the living quarters have a tap inside or, if not, whether it is within a certain distance (100 metres) from the door.

(32) WOOD OR FOREST LAND

This includes all wood lots or tracts of timber, natural or planted, which constitute part of the holding and which have, or will have, value as wood, timber, or other forest products or for protection. Nurseries of forest trees should also be included in this category. It excludes wood and forest land used for recreation purposes only, which should be reported under the category of "Land in the holding not classified elsewhere".

B. National definitions of urban/rural

The criteria, in so far as they are known, used nationally to distinguish urban areas from rural areas appear below.

Africa

Algeria: 55 of the most important communes having local self-government.

Angola: Agglomerations of 2,000 or more inhabitants.

Benin: Towns of Cotonou, Porto-Nova, Ouidah, Parakou and Djouqou.

Botswana: The cities of Gaberone and Lobatsi and the urban agglomeration of Francistown.

Burundi: Commune of Bujumbura.

Central African Republic: 20 principal centres with a population of over 3,000 inhabitants.

Chad: 10 urban centres.

Egypt: 1957: Governorates and chief towns of provinces and districts.
1960: Governorates of Cairo, Alexandria, Port Said, Ismailia, Suez, frontier governorates and capitals of other governorates as well as district capitals (Markaz).

Gabon: Towns having a population of over 2,000 inhabitants.

Gambia: Banjul only.

Ghana: Localities of 5,000 or more inhabitants.

Guinea: Urban centres.

Kenya: Towns of 2,000 or more inhabitants.

Liberia: Localities having more than 2,000 inhabitants.

Libyan Arab Republic: Total population of Tripoli and Benghazi plus the urban parts of Beida and Derna.

Madagascar: Centres having more than 5,000 inhabitants.

Malawi: All townships and town planning areas and all district centres.

Mauritania: Urban centres.

Mauritius: 1952: Localities with legally defined limits, administered by a locally nominated body or a municipal corporation. 1962: Proclaimed townships, according to enlarged limits as of August 1963, plus the town of Makebourg.

Morocco: 117 urban centres.

Namibia: Localities (towns, villages and townships) large enough to be treated as separate units, whether having local government or not.

Réunion: 1954: Administrative centres of communes having more than 2,000 inhabitants. 1961: Agglomerations in communes of which the administrative centres have more than 2,000 inhabitants.

Senegal: Cap-Vert region and the cities of Saint-Louis, Thiés, Kaolack, Diourbel and Zigiunchoz.

Seychelles: Port Victoria, the capital.

South Africa: All areas of 500 or more inhabitants and adjoining suburban areas, excluding predominantly rural agricultural settlements, temporary villages for construction work in rural areas and alluvial diamond diggings; well-established towns with specified urban characteristics with fewer than 500 inhabitants but having at least approximately 100 white inhabitants; "rural" portions of certain districts in which large metropolitan areas fall and where the percentage of the "rural" population is small compared with the urban and a considerable proportion of the workers follow urban-type occupations.

Southern Rhodesia: Main towns including suburbs.

Sudan: 68 towns.

Swaziland: Localities proclaimed as urban.

Togo: 1958-1960: 7 urban communes. 1961: Localities having been given the status of communes.

Tunisia: 1956: Localities having been given the status of communes. 1966: Population living in communes.

Uganda: 1959: The population of all settlements as small as trading centres with populations as low as 100 persons.

United Republic of Cameroon: Urban centres.

United Republic of Tanzania: 16 gazetted townships.

Tanganyika: 1958: 33 gazetted townships. 1967: 15 gazetted townships.

Zanzibar: 1958: Town of Zanzibar, townships of Vete, Chake and Mkoani, and township planning areas of Bububu, Kimara, Mbweni and Mombasa. 1967: Administratively gazetted township of Zanzibar.

Upper Volta: 6 urban communes and 8 localities which can be considered as urban.

Zaire: Agglomerations of 2,000 or more inhabitants where the predominant economic activity is of the non-agricultural type and also mixed agglomerations which are considered urban because of their type of economic activity but are actually rural in size.

Zambia: 1950: The 9 main European towns, neighbouring mines, locations and compounds. Beginning 1961: Main towns and as many small townships as could be separately identified.

America, North

Antigua: St. John City.

Bahamas: Island of New Providence.

Barbados: Bridgetown.

Belize: Legally established towns.

British Virgin Islands: Road Town.

Cayman Islands: Georgetown.

Canada: Cities, towns and villages of 1,000 or more inhabitants, whether incorporated or unincorporated, including urbanized fringes of cities classed as metropolitan areas and other major urban areas. Beginning 1961, also including urbanized fringes of certain smaller cities if the population of the city and its urban fringe was 10,000 or more.

Costa Rica: 1950: Administrative centres of cantons. 1963: "Metropolitan area" of San José City (excluding rural sector of district of Las Pavas), Cartago City, and administrative centres of all cantons except San Pablo (province of Heredia), Nandayure (province of Guanacaste) and Buenos Aires (province of Puntarenas).

Cuba: Population living in a nucleus of 2,000 or more inhabitants.

Dominica: Towns of Roseau and Portsmouth and suburban area of Good-will, which is an extension of Roseau.

Dominican Republic: Administrative centres of municipios and municipal districts, some of which include suburban zones of rural character.

El Salvador: Administrative centres of municipios.

Greenland: Localities of 200 or more inhabitants.

Grenada: Towns having a population of over 1,000.

Guadeloupe: 1954: Agglomerations in communes of which the administrative centre has more than 2,000 inhabitants. 1961: Administrative centres of communes having more than 2,000 inhabitants.

Guatemala: 1950: Localities of more than 2,000 inhabitants, and localities of 1,500-2,000 inhabitants if running water is supplied to houses. 1964: Municipio of Guatemala Department and officially recognized centres of other departments and municipalities.

Honduras: 1950: Administrative centres of districts and municipios, 1961 and 1969: Localities of 1,000 or more inhabitants having essentially urban characteristics.

Jamaica: 1960: Kingston Parish and urban sector of St. Andrew's Parish. 1970: Kingston Metropolitan area and selected main towns.

Martinique: Total population of the commune of Fort-de-France plus the agglomerations of the other communes which have more than 2,000 inhabitants.

Mexico: Localities of 2,500 or more inhabitants.

Nicaragua: Administrative centres of departments and municipios.

Panama: Localities of 1,500 or more inhabitants having essentially urban characteristics.

Canal Zone: Localities of 2,500 or more inhabitants.

Puerto Rico: Places of 2,500 or more inhabitants and densely settled urban fringes of urbanized areas.

St. Kitts-Nevis-Anguilla: Town of Basse-Terre.

St. Vincent: Towns of 1,000 or more inhabitants.

Trinidad and Tobago: Port of Spain, Arima borough and San Fernando town.

United States: Places of 2,500 inhabitants or more incorporated as cities, boroughs (except Alaska), villages and towns (except towns in New England, New York and Wisconsin) but excluding persons living in rural portions of extended cities; the densely settled urban fringe whether incorporated or unincorporated of urbanized areas, unincorporated places of 2,500 inhabitants or more.

U.S. Virgin Islands: Localities of 2,500 or more inhabitants.

America, South

Argentina: Populated centres with 2,000 or more inhabitants.

Bolivia: Cities of La Paz, Oruro, Potosi, Cochabamba, Sucre, Tarija, Santa Cruz, Trinidad and Cobija.

Brazil: Urban and suburban zones of administrative centres of municipios and districts.

Chile: Populated centres which have definite urban characteristics contributed by certain public and municipal services.

Colombia: Population living in a nucleus of 1,500 or more inhabitants.

Ecuador: Capitals of provinces and cantons.

French Guiana: Communes of Cayenne and Saint-Laurent du Maroni.

Guyana: 1960: City of Georgetown and the town of New Amsterdam.

Paraguay: Cities, towns and administrative centres of departments and districts.

Peru: Capitals of districts and those populated centres with such urban characteristics as streets, plazas, water supply systems, sewerage systems, electric lights, etc.

Surinam: Paramaribo town.

Uruguay: Cities

Venezuela: Centres with a population of 1,000 or more inhabitants.

Asia

Bahrain: For 1950: Towns of Manama, Muharraq, Hedd and Awali. Beginning 1959: Towns of Manama, Muharraq (including Muharraq suburbs), Hedd, Jiddhafs, Sitra, Rifa'a and Awali.

Cambodia: Towns.

China: Cities (including suburbs) and towns.

Cyprus: Six district towns and Nicosia suburbs.

Hong Kong: Districts in which high density building is permitted and adjoining districts in which an intermediate scale of density if permitted.

India: 1951: Localities (municipalities and towns) of 5,000 or more inhabitants having definite urban characteristics. A few localities of less than

5,000 inhabitants having urban characteristics are included while a few of more than 5,000 having rural characteristics are excluded. 1961: Towns (places with municipal corporation, municipal area committee, town committee, notified area committee or cantonment board); also, all places having 5,000 or more inhabitants, a density of not less than 1,000 persons per square mile, pronounced urban characteristics and at least three fourths of the adult male population employed in pursuits other than agriculture.

Indonesia: Municipalities, regency capitals and other places with urban characteristics.

Iran: All Shahrestan centres, regardless of size, and all places of 5,000 or more inhabitants.

Iraq: The area within the boundaries of Municipality Councils (Al-Majlis Al-Baldei).

Israel: Prior to 1957, towns, settlements which are adjacent to towns and of which most of the inhabitants are engaged in non-agricultural occupations, work camps and urban villages. Beginning 1957: All settlements of more than 2,000 inhabitants, except those where at least one third of the heads of households participating in the civilian labour force, earn their living from agriculture.

Japan: City (shi) having 30,000 or more inhabitants with 60 per cent or more of the houses located in the main built-up areas and 60 per cent or more of the population (including their dependants) engaged in manufacturing, trade or other urban type of business. Alternatively, a shi having urban facilities and conditions as defined by the prefectural order is considered as urban.

Ryukyu Islands: Urban municipalities (shi) usually having 30,000 or more inhabitants and which may include some rural areas as well as urban clusters.

Jordan: District headquarters; localities of 10,000 or more inhabitants (excluding Palestinian refugee camps in rural areas) and those localities of 5,000-9,000 inhabitants and the suburbs of Amman and Jerusalem cities in which two thirds or more of the economically active males are not engaged in agriculture.

Korea, Republic of: Seoul City and municipalities of 5,000 or more inhabitants (shi).

Kuwait: Kuwait City (Dasman, Sharq/1, Sharq/2, Murgab, Salihia and Qibla) and Labourers City.

Macau: Concelho of Macau (Macau City) including area maritima.

Malaysia: Sabah: Gazetted areas with population of 10,000 or more. Sarawak: Gazetted areas with population of 10,000 or more. West Malaysia: Gazetted areas with population of 10,000 or more.

Maldives: Malé, the capital.

Mongolia: Capital and district centres.

Nepal: Prior to 1961: Cities of 5,000 inhabitants or more. For 1961: Cities of 10,000 or more inhabitants in identifiable agglomerations with essentially urban characteristics, i.e. Kathmandu, Lalitpur, Bhaktapur, Biratnagar, Nepalgunj and Birgunj.

Pakistan: Municipalities, civil lines, cantonments not included with municipal limits, any other continuous collection of houses inhabited by not less than 5,000 persons and having urban characteristics and also a few areas having urban characteristics but fewer than 5,000 inhabitants.

Philippines: Cities and municipalities having a population density of 1,000 or more persons per square kilometre. Central districts of municipalities and cities having a population density of 500 or more persons per square kilometre. Central districts regardless of population density having the following: network of streets; six or more commercial or recreational establishments and some amenities of a city, e.g. town hall, church, public plaza, market place, school, hospital, etc. Barrios conforming to the conditions listed above and having 1,000 or more inhabitants whose occupation is neither farming nor fishing.

Sri Lanka: Municipalities, urban councils and towns.

Thailand: 1956: Municipalities with 2,000 or more households. 1960: Municipalities.

Turkey: Prior to 1960: Administrative centres of provinces and districts. 1960: Localities of more than 10,000 inhabitants. Beginning 1965: Population of the localities within the municipality limits of administrative centres of provinces and districts.

Viet-Nam, Democratic Republic of: Cities.

Yemen, Democratic: The entire former Colony of Aden excluding the oil refinery and the villages of Bureika and Fugum.

Europe

Albania: Towns and other industrial centres of more than 400 inhabitants.

Austria: Communes (Gemeinden) of more than 5,000 inhabitants.

Belgium: Cities, urban agglomerations and urban communes.

Bulgaria: Town, i.e. localities legally established as urban.

Channel Islands: Guernsey: Civil parish of St. Peter Port. Jersey: Civil parish of St. Hélier.

Czechoslovakia: Large towns, usually of 5,000 or more inhabitants, having a density of more than 100 persons per hectare of built-up area, three or more living quarters in at least 15 per cent of the houses, piped water and a sewerage system for the major part of the town, at least five physicians and a pharmacy, a nine-year secondary school, a hotel with at least 20 beds, a network of trade and distributive services which serve more than one town, job opportunities for the population of the surrounding area, the terminal for a system of bus lines and not more than 10 per cent of the total population active in agriculture; small towns, usually of 2,500 or more inhabitants, having a density of more than 75 persons per hectare of built-up area, three or more living quarters in at least 10 per cent of the houses, piped water and a sewerage system for at least part of the town, at least two physicians and a pharmacy, other urban characteristics to a lesser degree and not more than 15 per cent of the total population active in agriculture; agglomerated communities which have the characteristics of small towns in regard to size, population density, housing, water supply and sewerage, and the percentage of the population active in agriculture, but which lack such town characteristics as educational facilities, cultural institutions, health service and trade and distributive services, because these facilities and services are supplied by a town in the vicinity.

Denmark: Provincial capitals plus capital city. At the 1965 census 64.8 per cent of the population was living in localities of over 2,000 inhabitants. 1970: Agglomerations of 200 or more inhabitants.

Faeroe Islands: Towns of more than 200 inhabitants.

Finland: Urban communes. 1970: Localities.

France: Communes containing an agglomeration of more than 2,000 inhabitants living in contiguous houses or with not more than 200 metres between houses, also communes of which the major portion of the population is part of a multicommunal agglomeration of this nature.

German Democratic Republic: Communities with 2,000 and more inhabitants.

Germany, Federal Republic of: For 1950: Communes with 2,000 or more inhabitants. For 1969: Not available.

Greece: Urban: Population of municipalities and communes in which the largest population centre has 10,000 or more inhabitants. Including also the population of the 12 urban agglomerations, as these were defined at the census of 1961, namely: Greater Athens, Salonika, Patras, Volos, Iraklion, Canea, Kalamata, Katerini, Agrinion, Chios, Aegion and Hermoupolis in their entirety, irrespective of the population size of the largest locality in them. Semi-urban: Population of those municipalities or communes in which the largest population centre has 2,000-9,999 inhabitants (except those belonging to the above urban agglomerations).

Hungary: Budapest and all legally designated towns.

Iceland: For 1950: Agglomerations of 300 or more inhabitants. Beginning 1951: The capital with suburbs.

Ireland: Cities and towns including suburbs of 1,500 or more inhabitants.

Isle of Man: Towns of Castletown, Douglas, Peel and Ramsey.

Luxembourg: Communes having more than 2,000 inhabitants in the administrative centre.

Malta: 1966: Old walled cities and their outgrowths bordering the Grand Harbour. 1967: Towns of 1,500 or more inhabitants.

Netherlands: Urban: Municipalities with a population of 2,000 and more inhabitants. Semi-urban: Municipalities with a population of less than 2,000 but with not more than 20 per cent of their economically active male population engaged in agriculture, and specific residential municipalities of commuters.

Norway: Town municipalities.

Poland: Towns and settlements of urban type, e.g. workers' settlements, fishermen's settlements, health resorts.

Portugal: 1950: Agglomerations of 2,000 or more inhabitants. 1960: Agglomerations of 10,000 or more inhabitants.

Romania: Cities, towns and 183 other localities (comprising 13 per cent of total urban population) having urban socio-economic characteristics.

Spain: Localities of 10,000 or more inhabitants.

Sweden: 1950: Administrative towns, not including market towns and municipalities. Beginning 1960: Built-up areas with at least 200 inhabitants and usually not more than 200 metres between houses.

Switzerland: Communes of 10,000 or more inhabitants, including suburbs.

United Kingdom:

England and Wales: Area classified as urban for local government purposes, i.e. county boroughs, municipal boroughs and urban districts.

Northern Ireland: Administrative county boroughs, municipal boroughs and urban districts.

Scotland: Cities and all burghs.

Yugoslavia: 1953: Urban agglomerations according to 1948 administrative-territorial divisions. 1961: Localities of 15,000 or more inhabitants;

localities of 5,000-14,999 inhabitants of which at least 30 per cent are not engaged in agriculture; localities of 3,000-4,999 inhabitants of which at least 70 per cent are not engaged in agriculture; and localities of 2,000-2,999 inhabitants of which at least 80 per cent are not engaged in agriculture.

Oceania

Australia: For the larger urban centres: Population clusters of 1,000 or more persons having a minimum density of 500 persons per square mile and some areas of lower population and/or density classified on other grounds (e.g. holiday areas). For other urban centres: Built-up area as determined from aerial photographs.

Fiji: For 1956: Suva City, towns and townships. For 1966: Not available.

Guam: Localities of 2,500 inhabitants or more.

New Caledonia: City of Noumea.

New Zealand: 1971: All cities, plus boroughs, town districts, townships and country towns with a population of 1,000 or more. Estimates: Central cities or boroughs, including neighbouring boroughs and town districts and parts of counties which are regarded as suburban to the centre of population.

Pacific Islands: District centre areas plus Ebeye in Kwajslein atoll of the Marshall Islands and Rota in the Marianna Islands.

Papua New Guinea: Centres with population of 500 or more but excluding separately located schools, hospitals, missions, plantations, rural settlements and rural villages regardless of population size.

Solomon Islands: Centres with population of 2,000 or more; this, until 1970, includes only the township of Honiaria.

Western Samoa: Urban area of Apia, comprising the Faipule districts of Vaimauga West and Foleata East.

Union of Soviet Socialist Republics

USSR: Cities are urban-type localities, officially designated as such by each of the constituent Republics, usually according to the criteria of number of inhabitants and predominance of agricultural, or number of non-agricultural workers and their families.

Byelorussian SSR: See USSR above.

Ukrainian SSR: See USSR above.

7. List of tables

These tables are included in the statistical annex published as a separate document (A/CONF.70/A/1/Annex). Their titles are reproduced here for the convenience of the reader.

POPULATION

1. Population estimates and projections (medium variant) and average annual rates of growth: world total, regions, countries or areas, urban and rural, 1950-2000.

2. Component rates of population growth: world total, macro regions, regions, urban and rural, 1960.

3. Estimated and projected percentage of population (medium variant) in urban areas: world total, macro regions and regions, 1950-2000.

4. Sex-age composition of population: number and percentage, world total, macro regions, regions, urban and rural, 1960.

5. Estimated and projected population (medium variant) in urban agglomerations of 100,000 inhabitants and over as of 1970 and number of urban agglomerations by size category: world total, macro regions and regions, 1950-2000.

6. Estimated and projected population (medium variant) in urban agglomerations of 500,000 inhabitants and over as of 1970: countries or areas and urban agglomerations, 1950-2000.

7. Households. Distribution by number of persons per household; average number of persons per household; age groups for one-person households: cities or urban agglomerations, number and percentage, latest available census.

POPULATION AHD HOUSEHOLDS: DEMOGRAPHIC AND SOCIAL CHARACTERISTICS

8. Crude death-rates: urban and rural, annual, 1969-1973.

9. Infant mortality rates: urban and rural, annual, 1969-1973.

10. Illiterate population 15 years of age and over by sex: as percentage of total population, urban and rural, each census 1965-1973.

LAND

11. Land use by area:

    Part 1. Estimates; macro regions and regions; 1960, 1965, 1970, 1973.

    Part 2. Countries or areas for which data are available; 1960, 1965, 1970, 1973.

12. Land use. Population density, distribution of area by use, real estate owned by municipalities, areal changes by incorporation: cities or urban agglomerations, latest year for which information is available.

13. Gross urban densities: persons per hectare, cities or urban agglomerations and recent years for which data are available.

14. Cropland and area of cropland in relation to total population and agricultural population: early 1970s.

HOUSING: HOUSING CONDITIONS

15. Total population and rate of growth; population living in households; number, average size and tenure of households; number of conventional dwellings and occupancy status; size, density of occupation and facilities of occupied dwellings; rate of dwelling construction; capital formation in residential building construction: urban and rural, as of two latest available censuses (for data on dwelling construction, years closest to census years; for capital formation, 1968 and 1972).

16. Number and occupants of: buildings by type; housing units in temporary buildings; conventional dwellings by period of construction, facilities and number of rooms. Cities or urban agglomerations, latest available census.

HOUSING: DWELLING CONSTRUCTION

17. Conventional dwellings constructed annually: number and rate per thousand population, large cities and urban agglomerations, three latest available years.

HOUSING: HOUSING NEEDS

18. The growth of slums and squatter settlements: geographic areas and recent years for which data are available.

INFRASTRUCTURE

19. Community water supply. Population supplied by house connexions and by public standposts: number and percentage, developing countries or areas, urban and rural, 1962 and 1970.

20. Community water supply. Average daily consumption by house connexions and by public standposts: actual and projected, developing countries or areas, urban, and rural, 1970.

21. Sewage disposal facilities. Population served by public systems and by private systems: number and percentage, developing countries or areas, urban and rural, 31 December 1970.

22. Community water supply and sewage disposal facilities. Annual investment for construction: developing countries or areas, urban and rural, 1970.

ENVIRONMENT

23. Environmental pollution. Information on research, measurement and control activity by type of pollution (air, noise and water): large cities and urban agglomerations, latest available data.

8. Country composition of major regions 1/

Countries and areas having a 1970 population of 1 million or more are listed below in decreasing order of population size within each region:

More developed countries or areas 2/

Western Europe:	Federal Republic of Germany, France Netherlands, Belgium, Austria, Switzerland;
Northern Europe:	United Kingdom, Sweden, Denmark, Finland, Norway, Ireland;
Southern Europe:	Italy, Spain, Yugoslavia, Portugal, Greece, Albania;
Eastern Europe:	Poland, Romania, German Democratic Republic, Czechoslovakia, Hungary, Bulgaria;
Union of Soviet Socialist Republics;	
Japan;	
Northern America:	United States of America, Canada;
Temperate South America:	Argentina, Chile, Uruguay;
Australia and New Zealand;	

1/ United Nations, Department of Economic and Social Affairs, The Population Debate: Dimensions and Perspectives, World Population Conference, Bucharest, 1974, vol. I, Population Studies, No. 57 (United Nations publication, Sales No. 75.XIII.4).

2/ United Nations Department of Economic and Social Affairs, Concise Report on the World Population Situation in 1970-1975 and its long-range Implications, New York, 1974, Population Studies, No. 56 (United Nations publication, Sales No. 74.XIII.4).

Less developed countries or areas 2/

China;	
Other East Asia:	Hong Kong, Republic of Korea, Democratic People's Republic of Korea, Mongolia;
South-East Asia:	Indonesia, Democratic Republic of Viet-Nam, Republic of South Viet-Nam, the Philippines, Thailand, Burma, Malaysia, Khmer Republic, the Lao People's Democratic Republic, Singapore;
Middle South Asia:	India, Pakistan, Iran, Afghanistan, Sri Lanka, Nepal;
South-West Asia:	Turkey, Iraq, Saudi Arabia, Syrian Arab Republic, Israel, Lebanon, Jordan, Democratic Yemen;
Northern Africa:	Egypt, Sudan, Morocco, Algeria, Tunisia, Libyan Arab Republic;
Western Africa:	Nigeria, Ghana, Upper Volta, Mali, Ivory Coast, Senegal, Guinea, Niger, Sierra Leone, Benin, Togo, Liberia, Mauritania;
Eastern Africa:	Ethiopia, United Republic of Tanzania, Kenya, Uganda, Mozambique, Madagascar, Southern Rhodesia, Malawi, Zambia, Rwanda, Burundi, Somalia;
Middle Africa:	Zaire, Angola, United Republic of Cameroon, Chad, Central African Republic;
Southern Africa:	South Africa, Lesotho;
Tropical South America:	Brazil, Colombia, Peru, Venezuela, Ecuador, Bolivia, Paraguay;
Middle America, mainland:	Mexico, Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, Panama;
Caribbean:	Cuba, Haiti, Dominican Republic, Puerto Rico, Jamaica, Trinidad and Tobago;
Melanesia:	Papua New Guinea.
