

PART II

Inside Human Settlements

6

Housing

6.1 Assessing Housing Conditions

Introduction

The central importance of housing to everyone's quality of life and health is often forgotten. The importance of secure, safe and adequately serviced housing to health was described in some detail in Chapter 4. But housing should do more than simply minimize disease and injury. If it meets the needs and priorities of its residents, it also contributes much to physical, mental and social well-being. The quality and size of housing, and the quality of the neighbourhood in which it is located, is obviously important for privacy, security and an enjoyable domestic life. Its location is important in terms of the access it provides its residents to city services and employment opportunities. For a considerable proportion of the world's population, their house is their most valuable asset and, for many, it is also their most significant item of expenditure. Thus, whilst housing has considerable importance as a proportion of a nation's total fixed capital, this measure cannot accurately represent its value to house dwellers. Its importance in people's health, quality of life and enjoyment of life is so much more than this. But these are aspects that are difficult to capture in statistics.

One of the most important changes in the last 10-15 years has been the move away from assessing the quantitative dimensions of housing 'deficits' or 'backlogs' within nations to whether people can find accommodation that meets their needs and priorities-and what constrains those with low incomes from being able to do so. In many instances, the problem is not one of too few housing units but of the poor quality and lack of basic services in a high proportion of the total housing stock.

But before considering this, a review is made of global housing conditions under four main aspects:

- The quality of housing-including its size relative to the number of inhabitants, the quality of construction and the extent of provision for water supply, electricity, sanitation and drainage.
- Housing tenure-the proportion of households who, as legally recognized owners or renters, have protection against sudden or arbitrary eviction.

- The quantity of housing (relative to the number of households).
- Housing accessibility-the proportion of people able to buy, rent or in other ways obtain adequate quality housing. Of special interest in this is whether those with low incomes or those unable to earn an income (for instance the elderly) are able to find adequate shelter.¹

It is difficult to substantiate statistically whether housing conditions under these four aspects improved or not, worldwide, over the last 10-15 years. For many countries, there are no reliable statistics on housing; for many others, detailed data on housing conditions from their most recent census (1989/1990/1991) are still not available.

There is also the fact that in many countries, the statistics on housing do not provide much information on housing conditions. For instance, one of the most widely collected official statistics is the number of conventional dwellings constructed annually per 1,000 persons. This can be compared to the growth in the population in any country to see whether there is a large gap between the two.² But this statistic only has some validity as an indicator of housing conditions in countries where most housing is constructed as conventional dwellings, within a legal and administrative system which ensures that virtually all new housing units are recorded. This statistic has very little relevance in countries where most housing construction is unrecorded. According to international statistical compendia, that draw their data from government figures, in nations in Africa, Asia and Latin America, the number of conventional dwellings constructed annually is usually between 2 and 4 per 1,000 inhabitants-when the actual growth in the housing stock (including all illegal and informal housing) is likely to be between 15 and 30 units per 1,000 inhabitants. Most people are housed in shelters that are never recorded.

If most new housing units are not counted in official statistics, then figures for a country's or city's 'housing deficit' can be misleading-especially by emphasizing that the main problem is one of the quantity of housing units (the deficit) when the main problem is often the quality of new units.³ In addition, since housing deficits also include the number of housing units which are 'sub-standard' and thus have to be 'replaced', the use of invalid criteria as to what is 'substandard'

often leads to half a city's housing stock and nine out of ten of all new housing units currently being produced being given zero value. This includes large numbers of houses built, repaired and extended by their inhabitants which represent not only these people's homes but also their most valuable asset. Calculations for housing deficits within a city or nation may also misrepresent the problem as there may be no deficit in numbers nationally or city-wide but serious problems of many housing units being too expensive or in the wrong location.

However, since the last *Global Report on Human Settlements* was published in 1987, a considerable body of new data has become available on housing conditions. The first, covering only urban housing, is the data from the Housing Indicators Programme whose findings form the central part of this section on assessing housing conditions. The second is data on the health burden that arises from poor housing conditions and/or from poverty in general-which was summarized in Chapter 4. The third is a considerable number of new studies of housing conditions for particular nations, regions, cities or neighbourhoods within cities. Although these exist for only a minority of the world's settlements, they provide greater detail about housing conditions and the processes that influence housing conditions. As Section 6.2 explains, these also demonstrate the complexity of housing markets in most cities and their dynamic nature-and how little they conform to the widely used stereotype of the poor housed in 'slums'. They also demonstrate the great differences in conditions and trends between cities. They make clear that the quality and quantity of housing in many cities in the South has improved considerably in recent years. In other instances there is some improvement in housing conditions but the growth in the number of households is still greater than the increase in the number of households in better quality housing.

The Housing Indicators Programme

There is a stronger basis for comparing housing conditions in cities worldwide than in the previous *Global Report*, because of a new international programme on housing indicators. This programme undertook a survey of housing in 52 cities covering around 10 per cent of the world's urban population in 1990. Table 6.1 lists the cities while Box 6.1 gives more details about this programme.

The 52 cities are drawn from countries covering the greatest possible range of per capita incomes. The level of detail on housing conditions in this survey is substantially greater than any other international survey. However, care must be taken in extrapolating the findings to the

BOX 6.1

The Housing Indicators Programme

In 1990, the United Nations Centre for Human Settlements and the World Bank set up an international programme to create a more solid analytical, empirical and institutional base for the conduct of housing policy in the South. Two of its most important objectives are

- to provide a comprehensive, policy-sensitive framework for monitoring the performance of the housing sector; and
- to illustrate the benefits of good housing policies by providing new empirical information on the relationship between housing policies, housing sector outcomes and broader social and economic outcomes.

The Programme is collecting data from four sources:

1. An extensive survey of housing indicators (whose results are reported here)
2. An intensive survey of housing indicators in selected countries
3. Urban household surveys conducted by the World Bank in selected countries in recent years
4. Other relevant housing data

The extensive survey of housing indicators requested consultants based in each of the 52 countries to calculate values for 25 key indicators, 10 alternate indicators and 20 regulatory audit indicators. These were chosen to provide an overview of the performance of the housing sector in each city, including information on housing affordability, quality, finance, production, subsidies and the workings of the regulatory and institutional environment. All were based on existing data and expert estimates; no new household surveys were undertaken.

Source: The Housing Indicators Program Volume III, Preliminary Findings, A Joint Programme of the United Nations Centre for Human Settlements (Habitat) and the World Bank, Washington DC, April 1993.

rest of the world's urban centres since the sample is not representative of urban centres, either geographically (in terms of the proportion of cities chosen from different regions to represent the proportion of the world's urban population located there) or in terms of city-size. A high proportion of the sample were large cities; 44 had a million or more inhabitants in 1990. Little more than 2 per cent of the population in the 52 sample cities lived in cities with less than a million inhabitants when worldwide, in 1990, more than 60 per cent of the world's urban population lives in urban centres with less than one million inhabitants. The sample includes a high proportion of national capitals (39 out of the 52) and housing conditions and government responses to such conditions may be unusual in capital cities.

Housing quality

In general, perhaps not surprisingly, the research of the Housing Indicators Programme found that the higher the per capita income of the country,

TABLE 6.1 The 52 cities included in the Extensive Survey of Housing Indicators for 1990

Urban centre	Country
Cities from low income countries	
Dar es Salaam	Tanzania
Lilongwe	Malawi
Dhaka	Bangladesh
Antananarivo	Madagascar
Ibadan	Nigeria
Delhi	India
Nairobi	Kenya
Beijing (Peking)	China
Karachi	Pakistan
Accra	Ghana
Cities from low-mid income countries	
Jakarta	Indonesia
Cairo	Egypt
Harare	Zimbabwe
Dakar	Senegal
Manila	Philippines
Abidjan	Côte D'Ivoire
Rabat	Morocco
Quito	Ecuador
Amman	Jordan
Bogota	Colombia
Cities from middle income countries	
Bangkok	Thailand
Tunis	Tunisia
Kingston	Jamaica
Istanbul	Turkey
Warsaw	Poland
Santiago	Chile
Monterrey	Mexico
Algiers	Algeria
Kuala Lumpur	Malaysia
Johannesburg	South Africa
Cities from mid-high income countries	
Caracas	Venezuela
Rio de Janeiro	Brazil
Budapest	Hungary
Bratislava	Slovakia
Seoul	Korea, Republic of
Athens	Greece
Tel-Aviv	Israel
Madrid	Spain
Singapore	Singapore
Hong Kong	Hong Kong
Cities from high income countries	
London	United Kingdom
Melbourne	Australia
Amsterdam	Netherlands
Vienna	Austria
Paris	France
Toronto	Canada
Washington DC	United States
Munich	Germany
Oslo	Norway
Stockholm	Sweden
Tokyo	Japan
Helsinki	Finland

the larger and better quality the housing and the higher the proportion of dwelling units that have water piped to the plot and are made of permanent building materials.⁴ However, there are large differences in housing quality between the most prosperous cities in countries with comparable levels of per capita income. An analysis

TABLE 6.2 Regional breakdown of the 52 cities

	The number of			Percentage of sample's
	cities	national capitals	million-population cities	(1990)
East Asia	7	7	7	23.6
EMENA*	10	8	8	13.9
West Europe, North America, Australasia**	15	11	14	33.8
Latin America and the Caribbean	7	5	6	12.9
South Asia	3	2	3	10.4
Sub-Saharan Africa	10	6	6	5.5
TOTAL	52	39	44	100.0

* EMENA is North Africa, the Middle East and some eastern, central and southern European countries.

** This was designated 'industrialized countries' but such a category has very limited validity as many so called 'non-industrialized' nations have a higher proportion of their workforce working in industry and a higher proportion of their GDP generated by industrial production.

based on the data of the Housing Indicators Programme suggests that effective government housing policies, especially efficient systems that ensure an unconstrained supply of land, materials, infrastructure for housing and finance, are among the main reasons for this difference.⁵

The floor area per person⁶ is a more precise indicator than persons per room for highlighting overcrowding. Among the 52 cities, the floor area per person generally gets larger, the higher the per capita income of the country but the large variation in this indicator between cities in countries with comparable per capita incomes suggest that many other factors are also influential (see Figure 6.1). Among the cities in countries with per capita incomes of over \$US 10,000, only Hong Kong had less than 20 square metres per person. Among the cities in countries with less than \$US5,000 per capita income, only Istanbul had more than 15 square metres per person and most cities had less than 10. However, there is considerable variation between cities in countries with comparable levels of per capita income and preliminary analyses suggest that most of the variation is linked to land costs and construction costs. Among the cities in the low-income countries, all but Accra had less than 10 square metres; in Dhaka, there is only 3.7 square metres of floor area per person and in Nairobi, Dar es Salaam and Antananarivo, around 5. Among the high-income countries, all but Tokyo (15.8 square metres per person) and Amsterdam (23.8) had more than 30 with Stockholm, Oslo and Toronto with more than 40, Melbourne with more than 50 and Washington DC with more than 60.

Figure 6.1 shows the cities with large and small floor areas per person relative to their country's per capita income. Hong Kong (with 7 square metres) has an especially low floor area per person in comparison to per capita income;

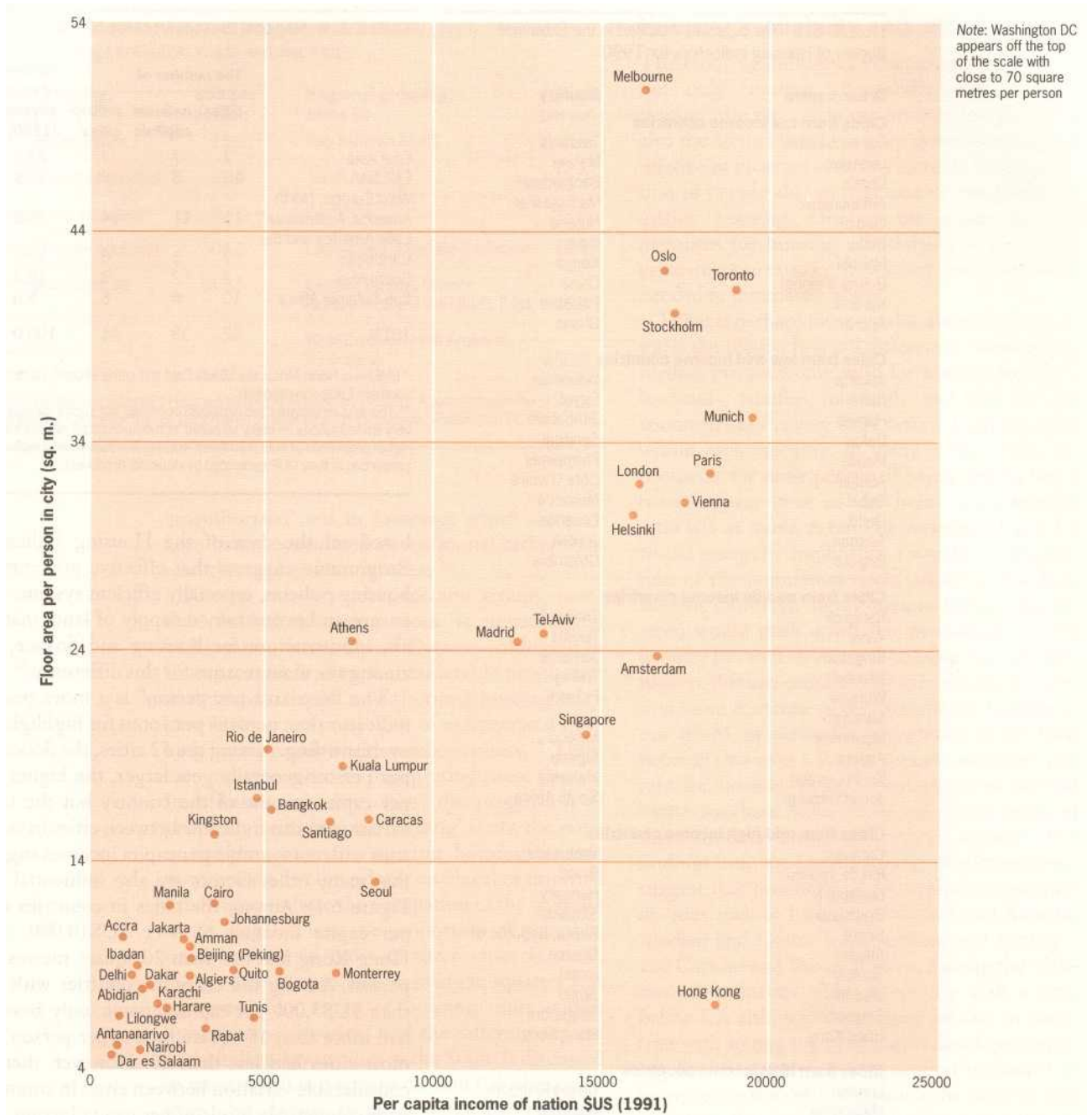


FIGURE 6.1
Housing Quality:
Floor area per
person

Monterrey (with 8.6) and Seoul (with 13) also have low scores while Bangkok, Istanbul, Rio de Janeiro, Athens and Melbourne have relatively high scores. The score for Washington DC is particularly high—perhaps reflecting people's preference within Washington DC (and most cities in North America) for relatively large, detached housing within relatively low density residential areas—although this is a preference that has been shaped by government policies and powerful economic interests.

City averages for floor area per person often obscure high levels of overcrowding for low-income groups in general—or for particular low-income groups or for those living in particular settlements. For instance, in Seoul in 1985,

the poorest 30 per cent of the population had an average of 2 square metres per person, many times less than the average.⁷ In Karachi, the living space in many of the informal settlements (*katchi abadis*) where close to 40 per cent of the population live is between 2 and 3 square metres per person while those living in bungalows or the larger town houses or apartments had between 23 and 33 square metres per person.⁸ In a study of Olaleye-Iponri, a centrally located informal settlement in Lagos, many tenant households lived in a single room with an average of around 1 square metre per person.⁹

The Housing Indicators Programme also collected data on persons per room¹⁰ in the 52 cities and these indicate that overcrowding tends to

TABLE 6.3 Housing Quality

Income Grouping; cities in:	Floor area per person (m ²)	Persons per room	%age of permanent structures	%age of dwelling units with water connection to their plot
Low-income countries	6.1	2.47	67	56
Low-mid-income countries	8.8	2.24	86	74
Middle-income countries	15.1	1.69	94	94
Mid-high-income countries	22.0	1.03	99	99
High-income countries	35.0	0.66	100	100

Source: The Housing Indicators Program Volume III; Preliminary Findings, A Joint Programme of the United Nations Centre for Human Settlements (Habitat) and the World Bank, Washington DC, April 1993.

decrease, the higher the country's per capita income. In all 12 of the high-income countries, there is less than one person per room; in Oslo and Toronto, there are two rooms to each person. Among the low-income countries, most have 2 or more persons per room with 3 or more in Dhaka, Antananarivo, Nairobi, Karachi and Accra. Among cities in low-mid-income countries, Manila and Amman are the most overcrowded with 3 or more persons per room; Jakarta is the least overcrowded with 1.3 persons per room. It is worth noting that Jakarta is thus relatively overcrowded in terms of floor area per person but much less overcrowded in terms of persons per room. Among cities in the middle-income countries, Warsaw was the least overcrowded (0.9 persons per room) with Algiers (2.6) the most overcrowded.

The proportion of dwellings in a city that are made of permanent materials also increases consistently with the country's per capita income, although there are very considerable variations in this indicator among cities in countries with comparable per capita incomes. One factor that helps explain this variation is the rate of growth of a city's population-the more rapidly growing cities tend to have a higher proportion of houses built on temporary materials. Cities with relatively low levels of infrastructure expenditure per person and lower percentages of dwellings with piped water also tend to have a smaller proportion of houses built of permanent materials. However, for many cities, the figures given for this indicator seem at odds with other research reports or official statistics. For instance, the data from the Housing Indicators Programme suggests that in Karachi, 97 per cent of the dwelling units are made of permanent materials-which does not accord with other sources.¹¹ Figures of 97 per cent for Accra, 80 per cent for Manila, 97 per cent for Amman and 99 per cent for Rio de Janeiro are also among figures that seem at variance with other research reports on housing conditions in these cities.

The proportion of dwellings in cities with water connections to the plot they occupy also increases as the country's per capita income increases-to the point where these are provided for nearly all households in the cities in the mid/high- and high-income countries-see Chapter 8 for more details. The expenditure per person by government agencies on water supply, sanitation, garbage collection and other forms of infrastructure and services also gives some indication of housing quality. The range of such expenditures in the 52 cities was enormous-from 1 or 2 \$US per person per year in Antananarivo and Dar es Salaam to more than \$US1,000 in Vienna, Stockholm, and Tokyo and \$US2,201 in Helsinki. Table 6.4 shows the median values for cities grouped by their country's per capita income and by their geographic region. These expenditure figures per person cover operations, maintenance and capital for all government agencies for roads, sewerage, drainage, water supply, electricity and garbage collection. If this figure had been restricted only to capital investment, the contrasts would have been even more dramatic. As Chapter 5 described most city and municipal authorities in the South have an annual investment capacity of less than \$US10 per person in their jurisdiction; many have less than \$US 1 per person. Cities with low per capita expenditures on infrastructure also tend to be cities with the largest gap between the price of undeveloped land and the prices of a land plot with infrastructure within a typical subdivision-as will be described in more detail in Chapter 7.

Housing tenure

It is well known that between 30 and 60 per cent of the housing units in most cities in the South are illegal in that either they contravene land ownership laws or they contravene building and planning laws or codes. Many contravene both sets of laws. Among the 52 cities, there is a dramatic fall in the percentage of the housing stock that is unauthorized, going from cities in the lowest to the highest income countries. Among the ten cities in the lowest income category, the mean is 64 per cent unauthorized and all but Beijing has 40 or more per cent (see Table 6.5). In Nairobi, Ibadan and Dhaka, three-quarters or more of the housing stock is unauthorized. In cities in the low/mid-income countries, the proportion of the housing stock that is unauthorized varies from 8 (Bogotá to 65 or more per cent (Jakarta, Cairo, Dakar and Manila)-although care must be taken in interpreting these figures. For instance, in the case of Bogotá, a large proportion of housing that is now considered 'authorized' was built on illegal subdivisions.¹² In Jakarta, a considerable proportion of the housing stock considered

TABLE 6.4 Government expenditures per person on water supply, sanitation, drainage, garbage collection, roads and electricity

Income Grouping; cities in:	\$US per person	Regional grouping; cities in:	\$US per person
Low-income countries	15.0	Sub-Saharan Africa	16.6
Low-mid-income countries	31.4	South Asia	15.0
Middle-income countries	40.1	East Asia	72.5
Mid-high-income countries	304.6	Latin America and the Caribbean	48.4
High-income countries	813.5	Eastern Europe, Greece, North Africa and the Middle East	86.2
		West Europe, North America, Australasia	656.0

Source: The Housing Indicators Program Volume 111; Preliminary Findings, A Joint Programme of the United Nations Centre for Human Settlements (Habitat) and the World Bank, Washington DC, April 1993.

'unauthorized' was in *kampung*s which are perhaps better considered as traditional rather than unauthorized residential areas.¹³

Among cities in other income groups, more than half the housing stock is unauthorized in Kingston, Istanbul and Caracas-although in Caracas, as in Bogotá, a considerable proportion of those who live in 'unauthorized' housing stock have little or no possibility of eviction and have long been provided with public services.¹⁴ Thus, care must be taken in interpreting these figures. In addition, in many cities, the proportion of people in 'unauthorized housing' is not the same as the proportion in 'squatter housing' in that they include dwellings built on illegal or informal subdivisions where the occupation of the land site is not illegal. Thus, the proportion of unauthorized housing in most of these cities is much higher than the proportion living in squatter settlements. The range of housing units within 'unauthorized housing' and the different aspects of their illegality in cities in the South is discussed in more detail in Sections 6.2 and 6.4; these sections also discuss in more detail the different forms of tenure under which people live in city dwellings.

TABLE 6.5 Housing tenure for the 52 cities

Income Grouping; cities in:	%age of dwelling units owned by the occupants	%age of dwelling units that are public housing	%age of total housing stock that is unauthorized
Low-income countries	33	13	64
Low-mid-income countries	52	11	36
Middle-income countries	59	14	20
Mid-high-income countries	55	53	3
High-income countries	51	13	0

Source: The Housing Indicators Program Volume III; Preliminary Findings, A Joint Programme of the United Nations Centre for Human Settlements (Habitat) and the World Bank, Washington DC, April 1993.

Housing availability and affordability

The Housing Indicators Programme investigated not only housing affordability-for instance through the ratio of house price to income-but also the factors that help keep down house prices relative to incomes and thus increase the proportion of people able to purchase or rent adequate quality housing. One of the most common measures for housing affordability is the house price-income ratio i.e. how many years' income is needed to purchase a house.

What is perhaps most notable about this indicator is the relatively small differences between the median price-income ratio for housing for low-, low/mid-, middle-, mid/high- and high-income countries but the very large variation among cities within each category. In many of the cities, the prospects for most people of being able to buy a house appear poor as the house price-income ratio is 5 or more. A ratio of between 2:1 and 3:1 would generally imply that a significant proportion of the population could afford to purchase housing (although highly unequal income distribution would push down this proportion). If the country has well-developed housing finance institutions, this can considerably increase the proportion since it increases the amount the household can afford, by permitting repayment of the total housing cost over a longer period-although it is rare for housing finance institutions to provide house purchase loans or mortgages in excess of three times a household's annual income. The findings from the Housing Indicators Programme suggest that housing is cheap relative to incomes in cities such as Lilongwe, Nairobi and Karachi, Abidjan and Quito, Johannesburg and Santiago, and Caracas and Rio de Janeiro. Among the high-income countries, there is no city with a ratio below 3.7, although these cities are also in countries with among the most highly developed housing finance systems. Some caution is needed in interpreting the city figures since the value for this indicator can change quite rapidly. For instance, the price-income ratio for housing in Greater London, fell by 27 per cent between 1988 and 1993.¹⁵

A comparison between house prices in Tokyo and Washington DC in 1990 illustrates the differences in housing affordability. Reported house prices for median dwelling units in this year were \$US442,000 for Tokyo and \$US196,000 for Washington DC; the average size of these dwellings was 41 square metres in Tokyo and 161 square metres in Washington DC.¹⁶ In some cities, one factor in high price to income ratios is the proportion of housing in public ownership. Some of the cities where the ratios are particularly high are also cities where a high proportion of the housing stock is publicly owned-for instance Beijing and Hong Kong. However, some

cities with a high proportion of housing in public ownership also have relatively low house-price-to-income ratios—for instance Helsinki, Paris, Stockholm and Amsterdam.

The price of rental housing

In most cities, the price of rental housing has great importance to lower-income groups. Rental housing is not only cheaper because no payment has to be made for the asset and for the security that owning provides—it is also because smaller units can be rented rather than purchased. It is possible to rent a room in a multi-room building and even a bed but these cannot be purchased. Renting tends to be particularly important for those who work in low-paid jobs in central city locations and for those who earn an income from casual work or other work sources that require them to move constantly. As will be discussed in more detail in section 6.4, the price and availability of cheap rental accommodation in cities in the North is one important influence on the level of homelessness.

The Housing Indicators Programme found that rent levels per square metre of dwelling space were about three times as variable among cities in the South, compared to cities in the North. In addition, it was in the cities in the low-income countries that rent levels per square metre appeared to be highest, relative to the country's per capita income.¹⁷ The mean for the rent to income ratio for all cities was 0.16, i.e. on average, 16 per cent of the income of renters was being spent on rent. In certain cities, it was much lower than this. For instance, it was only 3 per cent in Dar es Salaam and Bratislava and between 5 and 10 for many cities. In some of these cities, where a high proportion of all renters are accommodated in public housing, this may reflect the fact that rents in public housing are subsidized—for instance in Beijing, Hong Kong and Bratislava; in others, it may reflect a high degree of rent control. The preliminary analysis of the Housing Indicators Programme suggested that this ratio of rent to income rises, as a country's per capita income increases, to reach a peak in middle-income countries and then falls.¹⁸ It also suggested that cities with a rapid growth in the number of households have relatively high rent-to-income ratios—and that these ratios also appear to be associated with residential mobility and tenure choice. When rents are low, especially in countries with pervasive rent controls, people generally move less frequently. When rents are relatively high, owning a house becomes more attractive and the proportion of households owning their home rises. Section 6.2 will describe in more detail the scale of renting and home ownership in different cities and who rents.

Another source of information about the relative cost of rental housing between cities is a sur-

vey undertaken in 53 cities by the Union Bank of Switzerland in Zurich. This survey included rent levels for two kinds of accommodation: local rent levels; and rent levels for furnished apartments of 'international' standard. Perhaps the most dramatic difference between these two is the lack of correspondence between international rent levels and the per capita income of the country. Thus, in cities such as Jakarta, Bombay, Bangkok, Sao Paulo, Lagos, Rio de Janeiro and Kuala Lumpur, it was more expensive to rent an 'international level' four-room apartment than in most cities in Europe and North America. The most expensive city of all was Hong Kong—much more expensive than Tokyo, New York and all the major European cities. Of course, this is biased by the type of apartment considered—which in this instance had to be built after 1975, be furnished to satisfy the tastes of Europeans in middle management positions, located in a 'choice' residential area with a garage. The premium paid just for a garage is likely to be very considerable in the wealthiest and most densely populated cities.

In contrast, there is a much closer correspondence between local rent levels and the country's per capita income. According to this, cities such as Cairo, Jakarta, Seoul, Hong Kong and Tokyo have among the highest rents relative to their country's per capita income while cities like Lagos, Prague, Caracas, Montreal and Houston have among the lowest. It is also interesting to note the variation between the four cities in the United States. Local rent levels in Houston are half the rate in Los Angeles, Chicago and New York. Although Houston is substantially smaller than the other three cities, it has also had a booming economy and a much more rapid growth in population in recent decades. Houston's rapid population growth has taken place without constraints on its expansion or internal land use whereas in New York-New Jersey, there are many controls; the proportion of households who move each year in Houston has also been twice or more than that of New York-New Jersey since 1970.¹⁹

Costs of land, construction and finance for housing

The final cost of housing is obviously much influenced by the cost of land, construction and finance for housing construction (including land purchase). Variations in the cost of these inputs help explain the large differences in housing quality between cities in countries with comparable per capita incomes. For instance, in Athens, in 1990, median dwellings had 70 square metres while in Hong Kong, they had 26 square metres; in Athens, they were valued as \$US54,000 compared to \$US 112,000 in Hong Kong. The differences in costs are attributable to differences in

both land and construction costs.²⁰ Below are discussed the influence of housing finance and construction costs; Chapter 7 considers land costs.

An overview of institutional housing finance

Next to land and building materials, housing finance is perhaps the most important factor in housing production—and may even be considered the most important, given that adequate finance can help the purchase of the land and materials.²¹ Indeed, the extent to which housing finance is available, the terms under which it is available and the proportion of the population that can obtain it is a major influence not only on housing but on cities.²²

Analyses and inferences in the sections above notwithstanding, current, comparable and comprehensive data on housing demand, housing supply and housing finance around the world are extremely inadequate. International agencies have been unable to mobilize the funds and elicit the co-operation of member countries in collecting and supplying adequate information on the sector. This is indicative of the lack of organization in the sector and of the priority attached to housing by policy-makers and their administrative systems. An enormous amount of research into the issues of housing and housing finance remains to be done, but cannot be done until the basic task of adequate data collection and dissemination has been completed. This section seeks to provide an overview of institutional housing finance around the world by presenting such data and information as have been collected and developed.

Experience in housing finance development around the world demonstrates that broad, market-based systems are the most effective vehicle through which to provide financial resources for shelter development. A fundamental problem facing Governments, however, is that formal-sector financial institutions seldom lend down-market to serve the needs and requirements of low-income households. Low-income families are denied credit altogether, because the mode of operation followed by formal financial institutions is not compatible with their economic characteristics and financing needs. For example, commercial lending institutions require that borrowers have a stable source of income out of which the principal and interest on loans can be paid according to the agreed terms, whereas the income of self-employed people is usually not stable regardless of its size. Lenders also look for collateral with a clear title that many low-income urban people do not have. In addition, financial institutions tend to think that low-income households are a bad risk, although there is no proven evidence for it.²³

Governments often try to address the problem of lack of access to credit for low-income households by creating specialized lending institutions. In so doing, most governments also provide capital or low-cost funds to the special circuit housing finance institutions so that they could extend credit to the low-income clientele at subsidized interest rates.²⁴ Interest rate subsidies are usually justified on social policy grounds that the low-income borrowers cannot afford to service the loans offered on commercial terms.

Virtually all the countries in the North have identifiable financial institutions specializing, to one degree or another, in housing finance. Many countries in the South have also established housing finance institutions or systems. However, enabling legislation and even an initial grant of operating capital, is not enough to assure the success of a housing finance system. Many of the housing finance systems in the South are all but moribund; they are housing finance systems in name only. Many have also prospered for a time, only to fall prey to macroeconomic policies and external shocks that allowed the operating environment to deteriorate to the point at which they could no longer function (see Box 6.2). It is thus hardly surprising to find that most housing finance in the South comes from non-institutionalized sources such as family savings, assistance from friends and other relations or loans from employers or informal credit-groups or unions.²⁵ For instance, among the owner-occupiers of housing in informal settlements in Abidjan which house around a fifth of the city's population, housing finance either came from personal savings or from kinship networks or employers in the form of loans.²⁶

Housing credit, as a proportion of the financial assets of a country's banking system, generally increases with the level of per capita income. Thus, among the low income country category for the Housing Indicators Programme, only 3 per cent of the outstanding credit is held in the form of housing loans, compared to 27 per cent in the high-income countries—with figures for the other country categories ordered by per capita income falling between these two extremes. However, there is considerable variation between countries in each of the five categories, reflecting, among other things, variations in the extent of development of housing markets, housing finance institutions and government policy towards housing finance. Contrasting this indicator in the centrally planned economies and Latin American countries in the 52-country sample illustrates this. Latin America, with a rich set of financial institutions dealing with housing finance has an unusually high share of the assets of its banking system allocated to housing loans; the median for the countries in the region was 21

BOX 6.2

Examples of financial distress

Argentina: The failure of a large private bank sparked the 1980-1982 banking crisis. By 1983, 71 of 740 financial institutions had been liquidated.

Bangladesh: Four banks that accounted for 70 per cent of total credit had an estimated 20 per cent of non-performing assets in 1987. Loans to two loss-making public enterprises amounted to fourteen times the banks' total capital.

Bolivia: In late 1987 the central bank liquidated two of twelve private commercial banks; seven more reported large losses. In mid-1988 reported arrears stood at 92 per cent of commercial banks' net worth.

Chile: In 1981 the government liquidated eight insolvent institutions that together held 35 per cent of total financial systems assets. In 1983 another eight institutions (45 per cent of system assets) were taken over; three were liquidated, five restructured and recapitalized. In September 1988, central bank holdings of bad commercial bank loans amounted to nearly 19 per cent of GNP.

Colombia: The 1995 losses of the banking system as a whole amounted to 140 per cent of capital plus reserves. Between 1982 and 1987 the central bank intervened in six banks (24 per cent of system assets), five of which in 1985 alone had losses equal to 202 per cent of their capital plus reserves.

Costa Rica: Public banks, which do 90 per cent of all lending, considered 32 per cent of loans 'uncollectible' in early 1987. This implied losses of at least twice capital plus reserves. Losses of private banks were an estimated 21 per cent plus reserves.

Ghana: By mid-1988 the net worth of the banking system was negative, having been completely eroded by large foreign exchange losses and a high proportion of

nonperforming loans. The estimated cost of restructuring is \$300 million, or nearly 6 per cent of GNP.

Greece: Non-performing loans to ailing industrial companies amount to several times the capital of the largest commercial banks, which hold more than 80 per cent of total bank assets.

Guinea: The Government that assumed power in 1984 inherited a virtually defunct banking system; 99 per cent of loans proved unrecoverable. All six state-owned banks were liquidated, and three new commercial banks were established.

Kenya: Many of the non-bank financial institutions that have sprung up since 1978 are insolvent, and in 1986 several of the larger ones collapsed.

Kuwait: Because of the large losses sustained by speculators in stock and real estate markets, an estimated 40 per cent of bank loans were nonperforming by 1986.

Madagascar: In early 1988, 25 per cent of all loans were irrecoverable, and 21 per cent more were deemed 'difficult to collect. Given the low level of reserves (less than 5 per cent of assets), the banking system as a whole was insolvent.

Norway: Commercial and savings banks suffered heavy losses in 1987 and 1988 owing to the collapse of the price of oil and imprudent lending.

Philippines: Between 1981 and 1987, 161 smaller institutions holding 3.5 per cent of total financial system assets were closed. In addition, the authorities intervened in two large public and five private banks. The public banks were liquidated in 1986 and their largest bad assets (equal to 30 per cent of the banking system's assets) were transferred to a separate agency.

Republic of Korea: Seventy-eight insolvent firms, whose combined debts exceeded

assets by \$5.9 billion, were dissolved or merged during 1986 and 1987.

Spain: Between 1978 and 1983 fifty-one institutions holding nearly a fifth of all deposits were rescued; two were eventually liquidated, and the rest were sold to sound banks

Sri Lanka: Two state-owned banks comprising 70 per cent of the banking system have estimated non-performing assets of at least 35 per cent of their total portfolio

Thailand: The resolution of a 1983 crisis involving forty-four finance companies that held 12 per cent of financial system assets cost \$190 million, or 0.5 per cent of GNP. Between 1984 and 1987, the Government intervened in five banks that held one quarter of bank assets.

UMOA Countries: More than 25 per cent of bank credits in the UMOA countries are non-performing. At least twenty primary banks are bankrupt; non-performing credits are almost six times the sum of their capital, reserves, and provisions.

United Republic of Tanzania: In early 1987 the main financial institutions had long-standing arrears amounting to half their portfolio, and implied losses were nearly 10 per cent of GNP.

United States: Between 1980 and 1988 nearly 1,100 savings and loan associates (S&Ls) were closed or merged. In early 1989, more than 600 (one-fifth of all S&Ls) were insolvent, and the cost of restructuring was estimated to be roughly \$80 billion in terms of present value. By 1989, 10 per cent of commercial banks were on the regulator's 'watch list.

Uruguay: After several banks failed in 1981/2, the central bank began to aid banks by purchasing their worst assets; by 1983 it had acquired \$830 million in bad loans. The potential cost of recapitalizing the banks has been estimated at \$350 million, or 7 per cent of GNP.

Source: UNCHS (Habitat), Integrated Housing Finance into the National Finance Systems of Developing Countries: Exploring the Potentials and Problems, Nairobi, 1991-drawing on a report prepared for UNCHS by James W. Christian III.

per cent. For the formerly centrally planned economies, which lack market-based lending for housing and market oriented housing finance institutions, housing finance makes up a much smaller proportion of total investment.

The findings from the Housing Indicators Programme also emphasize the extent to which formal financial institutions come to dominate total housing investment in the high income countries but still have a relatively small role in low-income countries. When viewed regionally, the 'credit-to value' ratio (the proportion of total housing investment provided by mortgage loans) is particularly low in sub-Saharan Africa and South Asia. This is unsurprising, given that the higher a country's per capita income, the higher

the proportion of income the average household spends on housing and the more important housing finance becomes within financial systems.²⁷

However, in most countries in the South, the unavailability of housing finance for a large proportion of low- and lower middle-income groups who have considerable capacity to save, invest in housing and repay loans is a major constraint on improving their housing quality-and housing quality in the city overall. It also slows down housing construction, especially where (as is common in many cities in the South) a high proportion of new housing units are constructed by self-help. One of the reasons why self-help construction takes so many years is that the households can only fund it out of their income as no

long-term loan can be obtained-and this helps explain why many urban dwellers live in housing units that are only partially completed with construction undertaken incrementally over many years.²⁸ Many innovative housing finance initiatives-most of them undertaken by NGOs but also some by governments-have shown how individuals or households who cannot obtain loans for house purchase or improvement or land acquisition from conventional finance institutions have a considerable capacity to save and take on loans-and often achieve better repayment rates than more wealthy individuals using the formal institutions.²⁹ The credit-to-value ratio appears to have considerable importance in terms of housing quality as it was positively associated with every indicator of housing quality and space-and with residential mobility and owner occupancy.

Construction costs

The Housing Indicators Programme found that construction costs per square metre for a median-priced dwelling unit differed much less between cities relative to the per capita income of the nation than might have been expected, given the very large differences in levels of per capita income. However, there was great variation between cities within countries of comparable per capita incomes-sometimes by a factor of 10. Construction costs were considerably higher relative to incomes in the lowest income countries, which suggests that the efficiency of the residential construction industry generally increases, as a country's per capita income increases. Construction costs were particularly high in cities in sub-Saharan Africa, relative to per capita income, which could be partially explained by high building material prices (that also relate to monopoly elements in the building materials industries), the scarcity of skilled labour, high transport costs, inappropriate standards and (when the research was undertaken) over-valued exchange rates. For instance, in South Africa, at least until recent years, building material costs have been kept high because of the highly concentrated ownership within the building materials industry and restrictions on the import of building materials; for most building materials, only one or two firms control production and distribution.³⁰

Many cities with high house price-to-income ratios also have high construction costs per square metre-although a strong correlation between high construction costs and high price-to-income ratios only appears common for cities in the middle, mid/high- and high-income countries. For instance, Hong Kong and Seoul with the highest price-income ratios in their group

also have among the highest construction costs while Caracas and Rio de Janeiro with the lowest house price-income ratio also have among the lowest construction costs. Tokyo with much the highest house price-income ratio also has much the highest construction cost per square metre.³¹

The effects of government regulation

One of the most debated aspects of government's role in housing provision over the last ten years is its role as regulator of land sales, land conversion and development, land-uses and construction standards and as the body responsible for defining housing and infrastructure standards. At one extreme, unrealistically high standards demanded for housing plot sizes, construction and building material standards, and standards for piped water, sewers, drains and roads relative to most of the population's income, ensures that legal housing is too expensive for most of the population. If it also proves to be a cumbersome process to obtain the necessary permissions and approvals, the costs will go up still further. And it is common for anyone building a house who wants to do so legally to have to obtain permission for different aspects of the work from different agencies-for instance the land purchase, the use to which it is to be put, the provision for infrastructure and services, the house design, the standard of the house construction, and so on. At the other extreme, no regulation and no standards will allow housing and land developers to avoid all the basic standards for infrastructure and service provision, structural safety and plot size that are so needed for health and safety. It can also lead to highly exploitative, large-scale landlordism as in the *thika* tenants of Calcutta, the beehive buildings in Seoul, and the cage people of Hong Kong.³² For the cage people, several thousand people live in 'cages', rows of double or triple bunk beds in rooms with 30 or more beds; they are called the cage people since many of the beds are surrounded with a wire cage surrounding each bed and a lock for security.³³

The Housing Indicators Programme looked at a variety of indicators that would influence the cost of all houses that were built with official permission-including minimum lot size, the speed with which a permit could be obtained for a residential land subdivision and the proportion of land in that subdivision that could be sold (i.e. the saleable land ratio). It also looked at the amount of time needed to get approvals, permits and titles for a new medium-size residential subdivision in an area on the urban fringe where residential development is permitted-and this varied from under 5 months for around a third of the cities to over 20 months for a quarter of cities. A 'restrictiveness index' was constructed as the unweighed

sum of positive answers to a list of questions concerning the existence of legal restrictions on the development and exchange of land, on the production of housing and building materials and on the provision of housing finance. The value of the index generally declines as per capita incomes rise; the highest values were among the low income countries with the lowest values among the high-income countries. Higher values for this index are also associated with a high degree of land concentration (see Chapter 7), lower vacancy rates, higher ratios of house price to income and relatively lower amounts of housing finance.

A recent paper suggested a very strong correlation between the level of government regulation and public housing ownership on the one hand and the extent to which people move house.³⁴ It suggested that in countries with high levels of government regulation and ownership, 5 per cent or fewer households moved annually. In countries with few controls on landlords and investors such as Switzerland, Thailand and the USA, 16-19 per cent moved annually. In countries with an intermediate amount of intervention in building, rents and finance, around 9 per cent moved annually. A high proportion of households in public housing or in rented accommodation where rents are controlled is likely to keep down residential mobility. Households in subsidized housing are obviously more reluctant to move. Residential mobility is likely to be particularly low for public housing, if for most households it requires several years waiting to get the housing and as the administrative systems that allocate and manage public housing have difficulties managing continuous changes in tenants within each unit.

However, the variation between cities in the wealthiest nations in terms of the proportion of people who moved in one year is notable and not obviously linked to the proportion of housing in public ownership-see Figure 6.2.

Thus, Amsterdam with a high proportion of housing units in public ownership has among the highest level of mobility with London and Stockholm also having relatively high mobility and significant proportions of their housing stock in public ownership-while cities such as Munich, Oslo and Tokyo with low proportions in public ownership also have low levels of mobility. Some of the cities with low levels of residential mobility relate to particular circumstances-for instance in Hong Kong and Singapore, the very small size of these city-states would allow more people to move jobs without necessarily moving house. Among the cities in low to middle income countries, some of those with among the lowest levels of residential mobility also had among the highest proportions of public housing stock. Certain cities with a high proportion of their rented housing stock subject to

rent control in 1990 also had relatively low mobility rates-for instance Manila, Dar es Salaam, Budapest and Rio de Janeiro-but Toronto, Amsterdam and Beijing that also had a high proportion of their rental accommodation subject to rent control in 1990 also had relatively high mobility rates.

6.2 Housing Markets and Tenure

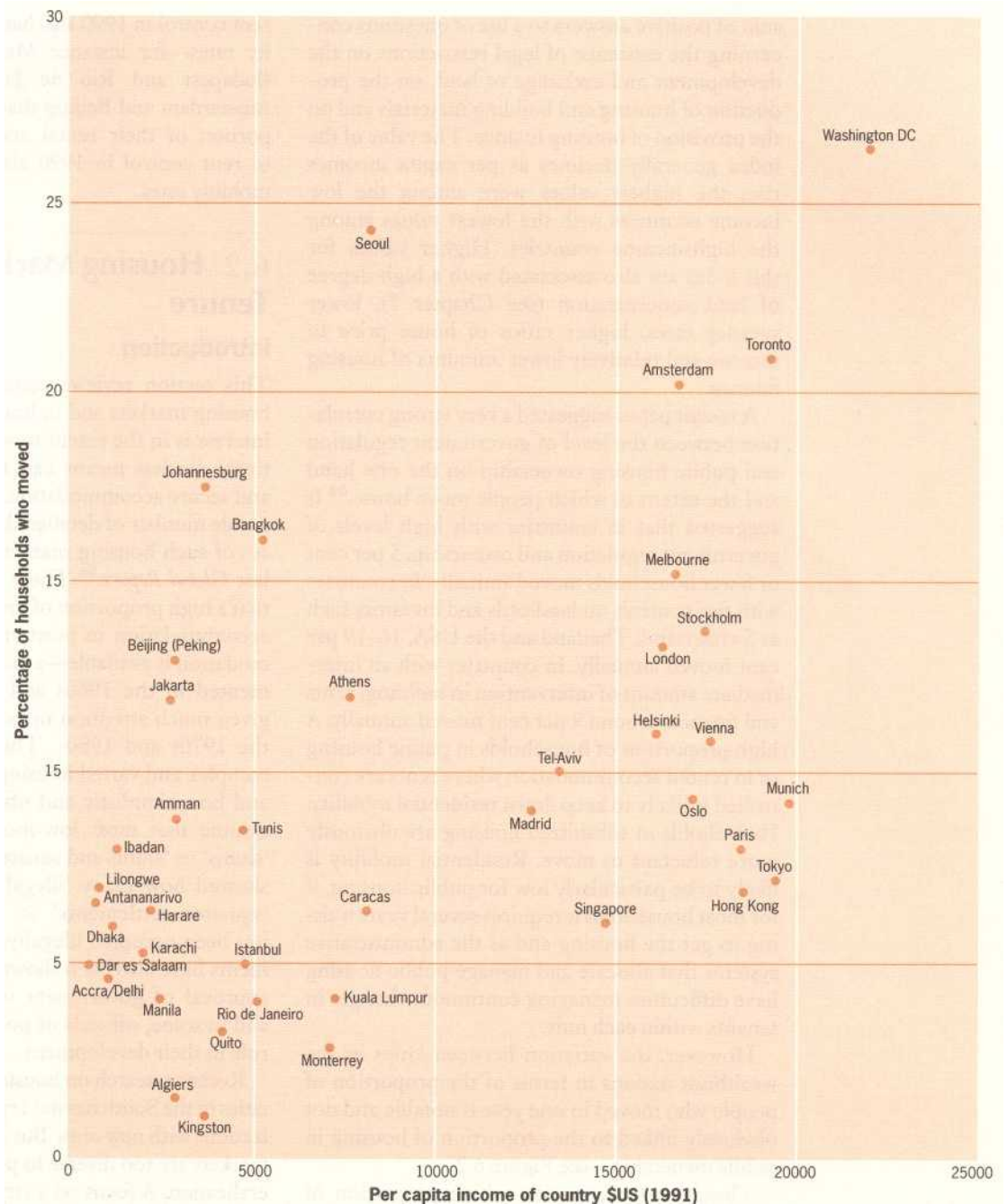
Introduction

This section reviews conditions and trends in housing markets and in housing tenure. Its main interest is in the extent to which those with relatively modest means can find adequate quality and secure accommodation. It draws on a considerable number of detailed descriptions and analyses of such housing markets published since the last *Global Report*.³⁵ These served as a reminder that a high proportion of low-income groups rent accommodation in most cities, if rental accommodation is available-a fact that had been documented in the 1960s and early 1970s but not given much attention in housing policies during the 1970s and 1980s. They also revealed how complex and varied housing markets often are-and how simplistic and often inaccurate it is to assume that most low-income groups lived in 'slums' or 'slums and squatter settlements'. They showed how many 'illegal settlements' are not 'squatter settlements' at all as the land had not been occupied illegally. Many 'illegal' settlements have also been shown to have had the tacit approval of government officials or politicians and in some, officials or politicians had a leading role in their development.

Recent research on housing and land markets in cities in the South has not replaced the old generalizations with new ones. But it has shown how these markets are too diverse to permit much valid generalization. A focus on a city-specific understanding of how housing markets work and the ways in which poorer individuals and households find some form of accommodation-even if it is only a temporary structure, erected on a pavement-produces a more precise understanding of the needs of low-income groups and how these are currently met (however inadequately) in each particular city. It also demonstrates how a detailed understanding of housing problems cannot be abstracted out of the particular city. Such problems are too rooted in the particulars of that city-especially the supply and price of land for housing (described in more detail in Chapter 7), the extent and spatial pattern of roads, water supply, provision for public transport and other forms of infrastructure and public services and the cost of constructing a house (including the costs of loans and building materi-

FIGURE 6.2

Residential mobility—the percentage of households who moved their unit in 1989



als). Government policies and the laws, codes and standards that underlie them have a great direct and indirect influence on all of these. So too does the nature of land ownership and the formal and informal mechanisms that influence its development for housing—legally or illegally. Governments' macro-economic and pricing policies can also have a major influence, especially where a significant proportion of the population have large outstanding loans to allow them to buy or build a house. What is evident in housing, as in land (see Chapter 7) and in environmental problems (Chapter 4) is the extent to which social and economic change in cities in the South have out-paced governments' willingness or capacity to

change their institutional frameworks for managing urban change. This is a theme to which this chapter will return in its conclusions.

Housing demand from low-income groups

A recent World Bank policy paper on housing noted how one of the most striking findings about expenditures for housing is their regularity across countries:

Spending for housing, like that for most commodities, increases with household income in every urban society. Moreover, as economic development proceeds, the average fraction of income spent on housing in countries at

different levels of economic development increased from about 5 per cent to about 30 per cent, before beginning to decrease again. This is, to a considerable degree, because households give increased priority to housing as incomes increase and as food becomes less of a problem. This shift of expenditures towards housing creates the possibility of rapid improvement in housing conditions, as economic development proceeds.³⁶

In a study of Cairo, Manila, Bogotá and Seoul in the mid-1980s, patterns of spending were remarkably similar, despite the considerable differences in average monthly income between these cities.³⁷ In each of the cities, the proportion of income spent on housing declined systematically at relatively similar rates, as household income increased. Thus, lower-income households spent a higher proportion of their income on housing than more prosperous households.

However, this regularity across countries or cities does not imply any valid generalizations as to how much different low-income individuals or households want to spend on housing. Studies of urban housing markets or of particular sub-markets used by lower-income groups demonstrate a great diversity of 'demand'. This diversity stems from two factors. The first is how much income they have available to spend on housing; the lowest-income individuals or households may have nothing to spend on housing as all income is needed to purchase their immediate daily necessities.³⁸ The second is each individual's or household's choice as to how much they want to spend on housing; this decision will be influenced by what kinds of accommodation currently available within the city or its periphery best serve their needs in terms of cost relative to location (especially in relation to sources of employment), size and quality of dwelling and associated infrastructure and services and level of security. Their priorities in regard to location, size of dwelling, amount they want to pay and many other factors will be much influenced by their age, employment status, whether they are single or a couple and whether or not they have children-and how many children they have and their ages.

In most cities, there is a large section of the population who want to spend as little as possible on housing and certainly do not want to own a home-at least in their current circumstances. Many single people or parents working in cities with their families living elsewhere choose to spend as little as possible on housing to maximize their income or minimize costs. For instance, in Thika (Kenya) 'the poor do not squat' because most of the population prefer to rent accommodation; they are in Thika to earn money and do not intend to make their home there.⁴⁰

A proportion of those who are considered

BOX 6.3
Constraints on investment in housing by low-income households

In addition to their very limited capacity to pay for housing, low-income households face other constraints if they seek better quality accommodation:

Inability to get credit: Many households with sufficient income to repay a long-term loan cannot obtain such a loan because they cannot meet official criteria for being creditworthy-for instance, working in the informal economy and lacking proof of employment or lacking the required collateral. Women headed households face particular problems, because of widespread gender biases in credit-vetting procedures.

Locational needs: Many low-income households could afford the cost of better quality housing on the city periphery but not the time and money needed to go to and from work. Improvements in public transport will tend to widen the range of choices open to low-income households.

Lack of 'free-time': The assumption that most 'low-income' households have 'free time' in which they can organize and build their own housing and work with neighbours in developing community-level infrastructure has often been shown to be wrong because of the long hours worked by the heads of household-or all adults or even, in extreme circumstances, all adults and many children. There has long been a confusion between 'low income' and 'unemployment' or 'underemployment'. Those with very low incomes, working in the informal economy, are assumed to be out of work because they are not working in a job that is registered but in fact they are working long hours. Single-parent households (most of them headed by women) face the greatest constraint on 'free time' as they have to combine income earning, child-rearing and household maintenance.³⁹

'homeless' in the sense that they sleep in public buildings, parks or other open spaces may have sufficient income to rent a room or bed indoors but prefer to avoid these costs to maximize their savings or to permit them to send more funds to their family living elsewhere. It is also common for migrants newly arrived in a city to spend as little as possible on accommodation by relying on family members, relatives or friends to provide accommodation initially and help in finding employment that then permits them to pay for their own accommodation.⁴³ At the other extreme, relatively low-income households may be spending a high proportion of their income on a house-for instance a family that has acquired a plot of land with reasonably secure tenure who invest as much income and labour as possible in building, developing or improving their home as this not only improves their house but also represents an asset whose value is increasing. Box 6.4 presents the reasons why the inhabitants of precarious settlements in Abidjan were attracted to live there.

BOX 6.4

Choosing a neighbourhood among precarious settlements in Abidjan

For both owner-occupiers and tenants, housing opportunities, access to areas of economic activity and potential employment and the presence of relatives were the most important attractions for people moving to the precarious settlements. The table shows the main factor that attracted owners and tenants, based on interviews with 620 people.

Attraction	Owners	Tenants	All
Land available	196(39.2)	-	196 (31.6)
Accommodation available	23(4.6)	8(6.7)	31(5.0)
Presence of relatives	89 (17.8)	37 (30.8)	126 (20.3)
Easy access	78(15.6)	-	78 (12.6)
Close to employment	107 (21.4)	29 (24.2)	136 (22.0)
Low cost of living	3 (0.6)	44 (36.7)	47 (7.6)
Community lifestyle	4 (0.8)	2 (1.7)	6 (1.0)
All	500 (100.0)	120 (100.0)	620 (100.0)

Proximity to one's job, the most important factor for 22 per cent of those interviewed, has about the same weight as the presence of relatives (20.3%). However, it is logical that owners should be more attracted by the availability of land (39.2%), whereas tenants are more likely to look for neighbourhoods with a low cost of living (36.7%) or where their relatives live or close to areas of economic activity.

Living close to their places of work may reduce but does not remove the high cost of transport. According to various studies, transport represents between 6 to 12 per cent of the expenses of heads of household in informal housing.⁴¹

Whether transport and proximity to places of work, or competitive rents and property opportunities, appear amongst criteria for choosing neighbourhoods, these elements

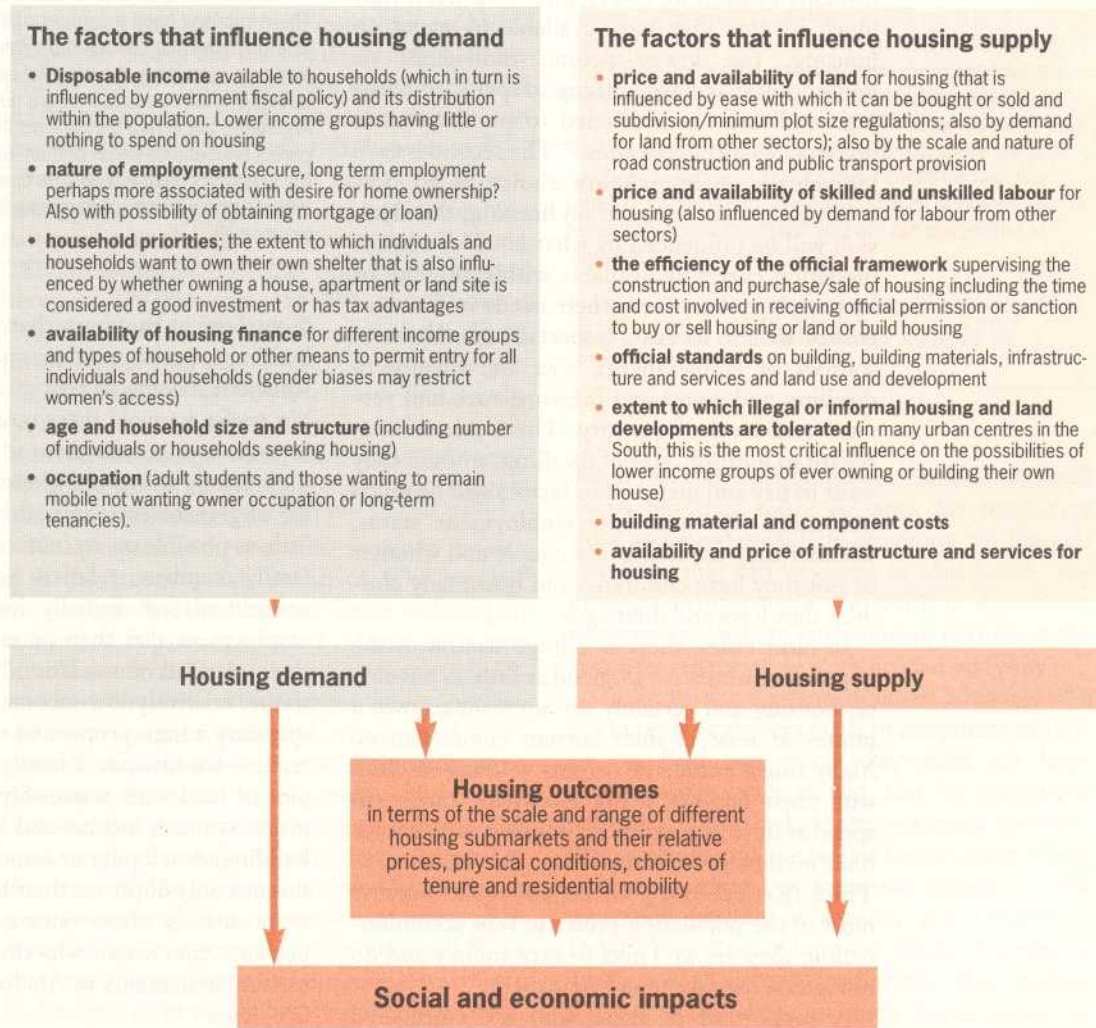
show that low-income groups' residential strategy cannot be reduced to a simple equation. Choice is generally based on a combination of several inter-acting factors. There are many illustrations of this, in the life-histories of city dwellers that have been recorded in various neighbourhoods of Abidjan.⁴²

Source: Yapi-Diahou, Alphonse, The informal housing sector of the metropolis of Abidjan, Ivory Coast, Background Paper for the United Nations Global Report on Human Settlements, 1994.

FIGURE 6.3

The factors that influence housing supply and housing demand

Source: The framework is drawn from Mayo, Stephen K. and Shlomo Angel, Enabling Housing Markets to Work, A World Bank Policy Paper, The World Bank, Washington DC. The factors that influence housing supply and demand have been added.



Housing supply for low-income groups

Figure 6.3 lists various factors that influence the supply of housing for low income groups. The factors that influence housing demand have already been discussed. On the supply side, one obvious factor is the price and availability of land for housing that in turn is influenced by the demand for land from other sectors and by the attitude of national, city and municipal authorities to different kinds of illegal developments (whose range and influence is discussed in Chapter 7). Another major influence is the scale and nature of road construction and public transport provision. A cheap and efficient public transport system can greatly expand the choices available to those seeking housing and keep prices down by greatly expanding the land area within reach of the main centres of employment. A large highway and freeway road system can have a similar effect, although generally with a much larger land area and with obvious biases towards middle- and upper-income groups since access to cheap land will depend on a household owning one or more automobile.

One of the most significant influences on the supply of housing for low-income groups in the South has been the extent to which illegal or informal housing and land developments are tolerated. In many cities in the South, this is the most critical influence on the possibilities of low- and often middle-income groups of owning or building their own house. The proportion of a city's population living in illegal and informal settlements is not necessarily a good measure of housing problems in that rudimentary houses or shacks in illegal or informal settlements often meet the cost, location and space needs of low-income households better than other available alternatives.

As Chapter 7 will describe in more detail, in nearly all instances, the state, much influenced by the main landowners, sets the limits within which illegal or informal land markets can operate. Here, as in most other aspects of housing supply, there are great variations in what is tolerated and the scale and nature of illegal developments are sensitive to this. In some cities, there is very little control of illegal or informal land markets, as long as these do not impinge on the more valuable sites. In some cities, the extent of these illegal or informal developments is much enhanced by the large amounts of well-located land that is too dangerous or expensive to develop commercially—for instance the *suburbios* built over the floodplain in Guayaquil⁴⁴ and dozens of other cities or the low income *barrios* built on the steep hillsides around Caracas⁴⁵ and in the favelas in Rio de Janeiro, or the *tugurios* built in ravines in San Salvador.⁴⁶ In others, they are enhanced by the fact that the state owns large amounts of land and has been tolerant of illegal land develop-

ments on it—as in Karachi,⁴⁷ Valencia,⁴⁸ or Lima.⁴⁹

A further factor in housing supply (and price) is the availability of piped water, provision for sanitation and drainage and other forms of infrastructure and services needed by housing and residential neighbourhoods. Where municipal agencies or the companies responsible for the supply of these fail to keep up with demand, the price of land or land developments with infrastructure and services acquires a 'scarcity premium'.⁵⁰ The Housing Indicators Programme found that in cities such as Bangkok, these scarcity premiums were relatively small and the price of land with infrastructure was only slightly higher than the combined cost of raw land and the installation of infrastructure. In other cities such as Manila, Seoul, Kingston and Cairo, land sites with infrastructure and services were of the order of 10-15 times the price of raw land—which is far more than the cost of installing the infrastructure.⁵¹

Another major influence on housing supply is the efficiency of the official legal and regulatory framework within which those who supply housing operate.⁵² This includes the framework that regulates and supervises the development and purchase/sale of housing including the time and cost involved in receiving official permission or sanction to buy, sell or build housing or land. It also includes official standards on building, building materials, infrastructure and services and land use and development. The impact on housing prices of the legal and regulatory frameworks for land are considered in Chapter 7.

Housing submarkets for low-income groups

A city's housing market is the final outcome of the interaction of all the factors that influence supply and demand. Within any city, it is usually possible to detect a range of housing submarkets that have developed as the best compromise between poorer groups' needs and their inability to pay much for housing. These can be divided into 'rental' and 'owner-occupier' with the relative balance between the two varying greatly, from city to city and, within any city, varying over time. For instance, inner-city tenements and houses developed on illegal subdivisions are two common housing sub-markets—the first with mostly tenants, the second generally with a predominance of 'owner occupiers', even if government has not recognized their status as such. Each sub-market for owners or tenants has its relative price-influenced by, among other things, location, size, physical conditions, and forms of tenure.

This is illustrated by Table 6.6 that gives examples of the types of housing available in Karachi and the typical income range of their occupants. The housing types range in value from the one room dwelling built of semi-permanent material in an illegal or informal settlement (*katchi abadi*) worth around 3,750 rupees to large apartments and bungalows worth 1-2 million rupees. For the lowest-income groups, the choices are to build their own dwelling in a *katchi abadi* (in which around 37 per cent of Karachi's population live) or to rent a room in an existing house there. If they build their own home, they can generally only afford to build a one room structure of semi-permanent materials-and in an area with no piped water or electricity. Those with a little more income have the possibility of building two or three rooms in a structure built of semi-permanent material in an illegal subdivision with a toilet and bathroom. As per capita income rises, so too does the choice of housing types.

Various studies have documented the scale and range of housing sub-markets within cities-

or in particular those used by low-income groups. For instance, in Dhaka, there are six major sub-markets in which the poorest two-thirds of the population live: squatter settlements, refugee rehabilitation colonies and squatter resettlement camps, *bastis* (cheap rental accommodation in one or occasionally two-storey buildings), conventional inner-city tenement housing, and employee housing (including accommodation provided by government agencies for some of their staff and accommodation provided by middle- or upper-income households for servants)-with another 2.5 per cent living in housing that does not fall within these six categories (for instance boats or shared rooms with multiple occupancy that are widely used by single women working in garment factories).⁵³ In San Salvador, the majority of low-income groups find accommodation in one of four kinds of housing: tenements (*mesones*), illegal subdivisions (*colonias ilegales*), what were once temporary camps (*campamentos*) and squatter settlements (*tugurios*).⁵⁴ In Tunis, the main sources of housing for low-income groups are within the traditional

TABLE 6.6 The range of housing types in Karachi

Type of housing	Plot size (square metres)	House or apartment size	Living space; m ² per person	Dweller status	Persons per room	Income range of occupant Rupees	Property value Rupees
A. Katchi abadis with homes built of semi-permanent materials							
1 room, sharing toilet, no water, bathroom or electricity	30-40	12-15	2.45	Illegal	5.0	501-1000	30,000
1 room, no water, bathroom or electricity	30-40	12-15	2.11	Illegal	5.0	501-1000	3,750
2 rooms, squatter settlement next to waterways	50-70	25-50	4.38	Renter	2.5	1001-1800	25,000
2-3 rooms, illegal subdivision with bathroom and toilet	70-90	50-70	5.31	Owner	2.5	1500-2000	60,000
B. Old house built with semi-permanent materials							
2-4 rooms, 1-2 levels in the old city centre	70-90	55-120	5.03	Illegal	4.0	2001-6500	200,000
C. Houses built with permanent materials							
2-3 rooms, new development, small plot size	70-100	30-60	5.38	Owner	2.5	2001-2500	46,900
2-4 rooms, 1-2 levels, small plot size	70-100	60-85	6.76	Owner	1.2	2501-5000	200,000
2-4 rooms, 1-2 levels in Metroville, medium plot	100-250	60-85	6.80	Owner	1.8	5001-8000	200,000
4-5 rooms, 1-2 levels, medium plot	120-250	70-95	9.01	Owner	1.5	10001+	800,000
5-8 rooms, 2 levels, townhouse	120-180	90-120	23.49	Owner	1.0	20001+	900,000
D. Bungalow							
5-10 rooms, large plot size	300+	150-400+	26.74	Owner	0.8	25,001+	1.5 m
E. Apartment							
1-2 rooms in a building of 4-5 storeys	FAR:2.2	25-45	8.00	Owner	2.5	4001-6000	100,000
3-5 rooms in a building of 4-5 storeys	FAR: 1.7	50-140	11.57	Owner	1.6	15000+	500,000
3-5 rooms in a building of 4-18 storeys	FAR:1.3	70-180	33.00	Owner	1.0	25001+	1 m

Source: Hasan, Arif, Profiles of three Pakistani Cities; Karachi, Faisalabad and Thatta, Background paper prepared for the Global Report on Human Settlements, 1994. FAR is floor-to-area ratio.

city centre (*medina*), a great variety of *gourbivilles* (illegal or informal settlements), illegal subdivisions (mostly on the periphery) and social housing.⁵⁵ A study of Lagos also pointed to a great variety of different housing sub-markets used by low-income groups.⁵⁶ A study in La Paz (Bolivia) pointed to the range of housing sub-markets used by lower income groups, including one that was neither rental nor owner-occupation but where a dwelling or space in a dwelling is temporarily lent without charging rent.⁵⁷ These and other studies⁵⁸ are important not only for providing a more accurate basis on which to develop housing policy in these cities but also for showing the extent to which the social, economic and political structure of the city, its region and the nation and the particular topographical characteristics of a city shape the scale and nature of housing provision.

Rental housing and their tenants

There is great variety between cities in the proportion of households who are tenants—from cities where less than 10 per cent are tenants to cities where 90 per cent or more are tenants. This includes great variety not only internationally but between cities in the same country. For instance, in India in 1981, the proportion of urban households living in rented accommodation varied from 19 per cent in the state of Kerala to 79 per cent in Arunachal Pradesh while among India's largest cities, it varied from 30 per cent in Lucknow to 76 per cent in Calcutta.⁵⁹ In Brazil, more than 40 per cent of households in the Southeast were tenants in 1984, compared to less than 30 per cent in the North-East.⁶⁰ There are also large variations in the proportions of tenants in different districts or neighbourhoods within cities. In most cities, there are districts where most of the population is in rented accommodation, especially in areas with high concentrations of cheap boarding and rooming houses or tenements—and also districts (including many suburban areas) with most of the population as owner-occupiers.

There is also great variety in the form of housing that is rented—from, at one extreme, beds in shared rooms that are rented by the hour and land plots rented for short periods on which tenants have to build their own temporary shelter, through to high-quality houses or apartments. There is also great variety in the landlords who own the beds, rooms, houses, shacks, apartments or land plots that they rent. In some cities, rental markets are dominated by the public sector; in others they are almost entirely within the private sector. Then within the public sector, there is considerable variety as to whether the owner is central government, local government or a public enterprise. There are also many forms of social housing that are part private and part public or

that are privately owned and managed but which receive public funding.

Within market or mixed economies, the proportion of a city's population who are tenants is generally smallest, the higher the proportion of people who can afford to purchase or build their own house—although this is not always the case, as can be seen by the high proportion of middle- and upper-income households who are tenants in many of Europe's most prosperous cities. For instance, many cities in Germany, Switzerland and the Netherlands have a high proportion of households who rent accommodation. In cities where illegal or informal land acquisition is tolerated, the proportion of the city population able to afford to become owner-occupiers obviously increases considerably, even if the 'owner-occupiers' are not recognized as such in law. In many cities in the Russian Federation and in certain countries of East and Central Europe, a considerable proportion of the population are tenants of public authorities, although in most instances, the proportion of owner-occupiers is increasing rapidly through the sale of publicly owned dwellings and the restitution of property that was confiscated.⁶¹

This great variety in the scale and form of renting is only partially explained by factors on the demand side—for instance, the preferences of those seeking accommodation. As one of the specialists who has helped stimulate a much greater interest in rental accommodation in recent years comments, 'The fact ... that the poor in Lima invade land, those of Bogota buy land and those of Lagos rent accommodation is only partly due to different household preferences. Much more important are the structural conditions that limit the choice.'⁶²

Table 6.7 shows the diversity between cities in terms of the proportion of households who rent accommodation and how there are examples of cities in the wealthiest and the poorest countries where most households are tenants. The table also includes examples of cities where there has been a rapid decrease in the proportion of households who rent accommodation. There has been a clear trend towards a decrease in the proportion of tenant households in many Latin American and Asian cities.⁶³ This is less evident in several cities in sub-Saharan Africa for which there is data and the proportion of tenant households to total households remains very high in many cities. There are also instances where the proportion of tenant households remains very high in Asian cities—as in the case of Seoul. There is also little or no data on changes in the proportion of households who were tenants in the late 1980s and early 1990s and it may be that the proportion of urban households who were tenants increased in many countries during the 1980s and early 1990s.⁶⁴

TABLE 6.7 The proportion of city populations who rent accommodation

City	Date	Percentage of households		Notes
		Renting	Owning	
Africa				
Benin City (Nigeria)	1986	65	20	13 per cent Of households as 'other'. ⁶⁵
Cairo (Egypt)	1986	59		⁶⁶
Kumasi (Ghana)	1986	62		7 per cent Of households rented dwellings with 55 per cent renting one or two rooms, usually in compound houses. ⁶⁷
Port Harcourt (Nigeria)	1984	88	12	Relatively little change as the proportion of renters was 89.7 per cent in 1973. ⁶⁸
Port Louis (Mauritius)	1990	31	60	9 percent in 'other'.
Rabat (Morocco)	1981	53	33	⁶⁹
Thika (Kenya)	1985	91	8	74 per cent of all households were private tenants, 17 percent were tenants in public or staff housing. ⁷⁰
Tunis (Tunisia)	1989	28	59	
Asia				
Greater Amman (Jordan)	1985	25	c.66	The rest have no legal title. ⁷¹
Bombay (India)	1987/88	48	43	The proportion who were renters has fallen from 90 per cent in 1961. ⁷²
Calcutta (India)	1987/88	56	33	The proportion Of households who are tenants has fallen considerably as 83 per cent Of households were reported to be tenants in 1961. ⁷³
Delhi (India)	1987/88	37	53	The proportion Of households who are tenants have fallen from 66.5 per cent in 1961. ⁷⁴
Jakarta (Indonesia)	1988	30	55	⁷⁵
Lucknow (India)	1981	30		This is the proportion Of households who were tenants-and this is down from 61.7 per cent in 1961. ⁷⁶
Seoul (Republic Of Korea)	1987	59	41	The proportion in rented accommodation had grown in previous decades. ⁷⁷
Tokyo (Japan)	1990	53	42	7 er cent in 'other'. ⁷⁸
Urban centres in India	1988	37		The proportion of renters is down from 46.4 per cent in 1981 and 53.7 in 1961. ⁷⁹
Europe				
Bratislava (Slovak Republic)	1988	47		Most of the rest owned by co-operatives ⁸⁰
Budapest (Hungary)	1992	45		It was 60 per cent in the early 1980s but had fallen to 44.5 per cent by January 1992. ⁸¹
Greater London (UK)	1993	40	57	Of the 40 per cent who were tenants, 22 per cent were in local authority public housing, 6 per cent in housing association accommodation and 14 per cent were private sector tenants. ⁸²
Hamburg	1987	77	16	
Helsinki (Finland)	1989	39	59	
Munich (Germany)	1987	79	17	
Oslo (Norway)	1990	24	76	
Prague (Czech Republic)	1988	61		Most of the rest owned by co-operatives ⁸³
Stockholm	1990	66	11	
Urban centres in Poland	1990	77		Around half this is co-operative housing and a proportion Of the apartments within co-operative housing are privately owned. ⁸⁴
Zurich (Switzerland)	1980	90	7	

TABLE 6.7 continued

city	Date	Percentage of households		Notes
		Renting	Owning	
Latin America				
Bogota (Colombia)	1985	40	57	The percentage of tenants has declined from 50 per cent in 1973. ⁸⁵
Cali (Colombia)	1985	27	68	The proportion of tenants has declined from 42 per cent in 1973. ⁸⁶
Caracas (Venezuela)	1981	31	63	6 per cent 'others'; the proportion of tenant households within the Federal District of Caracas was 47 per cent in 1950. ⁸⁷
La Paz (Bolivia)	1986	20	49	Although only 20 per cent of households were tenants, another 28 per cent were living in accommodation lent them by others, rent-free. ⁸⁸
Lima (Peru)	1985/6	30	61	
Sao Paulo (Brazil)	1982	35	56	Around 1900, more than 80 per cent of Sao Paulo's dwellings were rented. ⁸⁹

Notes: Care must be taken in comparing the figures between cities for at least two reasons. The first is the problem discussed in Chapter 1 with regard to city boundaries. Where the figures above are only for central cities, the proportion of tenants may be higher than if a wider boundary had been used. The second is differences in the way that households are classified—for instance whether those living in illegal or informal settlements are classified as 'owner-occupiers' or 'other' or whether members of housing co-operatives are classified as 'tenants' or 'owner-occupiers'.

Sources: Drawn mainly from UNCHS (Habitat), Support Measures to Promote Rental Housing for Low Income Groups, United Nations Centre for Human Settlements, HS/294/93E, Nairobi, 1993, and from data drawn from United Nations, Human Settlements Statistics Questionnaire 1992, reported in Table 9 of the Statistical Annex.

In most cities in the South, over the last 20-30 years, much the most important way by which most low-income and many middle-income households have become owner-occupiers is by developing their own shelter on land that was either illegally occupied or illegally subdivided. The importance of the informal land market for housing is described in more detail in Chapter 7. But as cities grow in size and wealth, and competition increases for the best quality and best located land sites, the possibilities for low-income households of acquiring a land plot for housing—by purchase or illegal occupation—are likely to diminish. As land becomes more valuable, illegal land occupations become more difficult and there is hardly any land for which ownership is not already claimed (whether legally or illegally).⁹⁰ Cheap land sites are almost always available in the least commercially attractive areas but in general, the larger the city, the greater the distance between these and the locations where most low-income households can earn an income. As demand for housing begins to concentrate in areas where there is no affordable land on which someone with a modest income can acquire their own home (legally or illegally), rental markets develop as those with land there can adjust or extend their structures to allow part or all to be rented.⁹¹ Many renters become locked into rental accommodation with increasing rents and no possibility of owner-occupation.⁹² However, this can change if the city structure changes—for instance if industry, commerce and services dis-

perse to less central sites (or even into suburbs or the urban periphery)—so that cheap land sites for housing are once again within reach of employment opportunities. It may also change through a much-improved public transport system or the installation of new urban-suburban links (for instance an efficient and cheap commuter railway service)—both of which increase the land area that is accessible to employment opportunities.

In all cities, there is a section of the population that prefers rental accommodation—and a section that needs to rent because their incomes or employment make owner occupation impossible. As a report on housing in the United Kingdom commented, 'what is accepted by all except the most ideologically committed to a 'property owning democracy' is that this tenure is not suitable for everyone and that it should be complemented by other methods of providing housing'.⁹³ The proportion of a city's population who prefer to rent may be very high, especially if there is a competitive and diverse rental market and if there are few financial advantages in owner occupation compared to renting. As was noted earlier, in many European cities, a high proportion of the population rent their accommodation and most of these choose to do so. In many sub-Saharan African cities, one reason for the high proportion of households who are tenants is that they regard their stay in that city as temporary.⁹⁴

There are also individuals or households whose only possibility of finding accommodation is renting because their income is too low to afford

the cheapest 'owner-occupation', even if they wanted to. It is now much rarer to find low-income households able to find cheap or free land in the larger and more prosperous cities in the South. In the North, there is always a proportion of the city population that also lacks the means to own their own home. For instance, in the United States, more than a third of all households do not own their home⁹⁵ and it has always been difficult for low-income families to buy their own home. During the 1980s, access to owner-occupation became more difficult even for many families who had assumed that they would be able to purchase their own home.⁹⁶ During the 1980s, the rate of home ownership fell for nearly every demographic group.⁹⁷ Without a substantial shift in the distribution of wealth and income, large numbers of young families and many older and poorer families cannot afford their own home. In the United Kingdom too, during the late 1980s, the proportion of people able to purchase their own home decreased.⁹⁸

In many cities in both North and South, women-headed households are more likely to be tenants or sharers than owners. This is linked to the discrimination they face in comparison to men in housing and employment markets. But it is also linked to the fact that it is usually the mother rather than the father that takes responsibility for the children, when parents separate (see Box 6.5).

Sharers

Among the people who do not own the house in which they live, there are also 'sharers' i.e. people who are permitted to share the dwelling with the owner or tenant without payment. They may represent a significant proportion of the city population—for instance in Abidjan, Benin City, Delhi, Khartoum, Kumasi, La Paz, Lima and Santiago de Chile, sharing houses is common.¹⁰⁵ In some cities, the sharing of housing plots is also important (see Chapter 7).

It is important to draw a distinction between the sharing of a house, apartment, room or land site that becomes common because many single adults or households lack the income to be able to find any alternative and sharing which is done by choice. Sharing driven by necessity often leads to high levels of overcrowding and a high number of persons relative to provision for water supply and sanitation: But sharing by choice is common in many societies as adult children remain in the home of their parents—for instance as they complete secondary and higher education. Among low-income groups in many cities, it is also common for young married couples to stay in the house of their parents. For young adults (whether single or married), remaining with parents may be

BOX 6.5

Gender dimensions to renting and gender-related constraints to owner-occupation

Female-headed households are more likely to be tenants or sharers than owners. Research in Guadalajara, Mexico City, Queretaro and Puebla found that there was a higher incidence of female-headed households among tenants.⁹⁹ This was also found in West Africa.¹⁰⁰ A study of informal settlements in Abidjan found that a higher proportion of women-headed households were tenants, compared to male-headed households.¹⁰¹ A study in a low-income settlement in Khulna (Bangladesh) found that female-headed and supported households were concentrated in the poorest and potentially most vulnerable group of households.¹⁰²

There are several reasons for this. First, women are often excluded from official housing programmes offering owner-occupation.¹⁰³ Secondly, female-headed households tend to be poorer and since poorer households frequently rent, women tend to be tenants. Female-headed households also frequently lack both skills and time to self-build but are often required to do so in the absence of funds for professional labour'.¹⁰⁴ Experience in Cordoba, Argentina, on a housing programme for squatters that were relocated found that women-headed households who formed around a third of all households had similar aspirations to other beneficiaries but had particular difficulties that were not recognized and which meant they were least able to develop their homes. For instance, no special provision was made for the fact that women-headed households lacked the free time to permit them to develop their own homes—and no provision was made for child-care that might have permitted them to work more on self-help construction. Among the different types of housing sites or core houses available, the ones allocated to women-headed households were generally those that least suited their needs and priorities both in the design and in the amount of self-construction they required.

Source: Drawn principally from UNCHS (Habitat), Support Measures to Promote Recital Housing for Low Income Group, United Nations Centre for Human Settlements, HS/294/93E, Nairobi, 1993. The case study in Argentina is from Falu, Ana and Mirina Curutchet, 'Rehousing the urban poor: looking at women first, Environment and Urbanization, vol. 3, no. 2, Oct. 1991, 23-38.

particularly important in giving them time to save, and thus allowing them to avoid the poorest quality rental accommodation when their earnings are low. Indeed, for young adults with low-income jobs, having parents in the city with whom they can stay is an important economic advantage.

Sharing is obviously important in many cities for those able to share, i.e. those who have parents or children in a city, or, in societies where there is an obligation to house kin, also other relatives. Housing conditions would be worse without sharing. An increase in sharing in any city may be one indicator of an increasing proportion of the population unable to afford accommodation. In some cities, it is clear that many families are forced to share because of a lack of alternatives. In Santiago de Chile, as many as one-fifth of households were

sharing in the 1980s-and sharing had become important because few families could afford to pay the high rents and cheap land was unavailable.¹⁰⁶ The sharers and *allegados* in Santiago were typically much poorer than tenants and owners. A survey in Delhi found that households share accommodation because of the very high rent levels and the difficulties in building their own home.¹⁰⁷ Karachi is likely to be one among many cities where young couples are now tending to stay in their parents' home for longer periods.¹⁰⁸

Sharers may also include 'disguised renters'. For instance, family members who are considered sharers may be making significant payments to the home-owners but not considering this as rent.¹⁰⁹ In addition, 'sharers' may pay no rent but still make important contributions to household expenditures and to domestic work or child-care and their contribution can be particularly important for households having to cope with declining real incomes or rising costs.¹¹⁰

Private landlords in cities in the South

Although it is clear that the lowest income groups tend to rent, various studies in particular cities or particular settlements in cities have found that the contrasts between tenants and their landlords are not very great. For instance, in Karachi's *katchi ahadis*, the renters include a number of singularly poor people or those unable to earn much such as widows and aged people and large young families with one income-earner but they do not in general exhibit any striking characteristics distinguishing them from the owners.¹¹¹

Detailed information on private-sector landlords is rare. Among the detailed studies of renting in illegal or informal settlements on which the sections above have drawn, there are few examples of large-scale landlordism. Several studies of Latin American cities and in Indonesia and Turkey found that the typical landlord is a former self-help builder.¹¹² Many reside in the same property as the tenants and few have more than a couple of properties. In the consolidated periphery of Santiago de Chile, seven out of ten landlords rent only to one tenant household, in Mexico City three-quarters and in Caracas two-thirds. Even in the central areas of these cities, most landlords operate only on a small scale. In Mexico City, subdivision of property through inheritance has gradually reduced the level of property concentration.

The few available studies in Asian cities also suggests a predominance of small-scale landlords. A similar pattern of small-scale ownership seems to hold for most African cities.¹¹³ It has been suggested that 'the rental market has been dominated by the small landlord; rarely except perhaps in North Africa, have private investors built large

blocks of tenements for the relatively poor'.¹¹⁴ In a survey in Cairo, 91 per cent of landlords live in the building and 76 per cent of surveyed landlords had less than ten tenants.¹¹⁵ In a survey in Benin City (Nigeria), 86 per cent of the 50 landlords interviewed own only one property and only one had more than three properties.¹¹⁶ The typical landlord is self-employed and built the accommodation originally for their and their family's own use.

There is evidence of some relatively large-scale landlords renting to low-income individuals or households in certain cities-for instance in Kibera in Nairobi,¹¹⁷ Bangkok¹¹⁸ and urban areas in Nigeria but what is not known is their share in the city's overall rental market. Certain studies have also shown the complexity that has to be unravelled to establish the scale and nature of landlordism. For instance, in a study of an informal settlement within Lagos, three-quarters of the population were tenants and the landlords could be divided into three categories: seven large landowners who lived outside the settlement; small landowners who had freehold titles to their plots and most of whom live within the settlement; and landlords who lease their land from landowners.¹¹⁹

The characteristics of most landlords in cities in the South seem to be generally rather similar to those of other owners and sometimes even to those of their tenants. Clearly, landlords, owners and tenants living in the same consolidated settlements may be drawn from the same social class. The main characteristic that may distinguish landlords from the rest of the population is their age. Landlords tend to be older than other owners and much older than most tenants. In Cairo, almost half of the landlords interviewed had been renting for more than 30 years. Because of their age, landlords are much more likely to be retired, live in larger properties than other families and have lived longer in their current home.

There are also what might be termed 'reluctant' landlords-for instance those who let their premises out of sheer need-to finance a daughter's marriage, to rebuild or expand a house, to pay off debts-and do so only for a limited period.¹²⁰

Rental sub-markets

Table 6.8 lists the different kinds of rental housing that are commonly used by low income groups. Some are only found in relatively few cities; others are almost universal. The Table shows the range of different rental sub-markets evident in cities-that include not only houses, apartments or rooms but also land sites on which a temporary shack may be built by the tenant. At the cheapest end of the range, the tenant rents a

Inside human settlements

TABLE 6.8 The different kinds of rental housing used by low-income groups in many cities

Types of rental accommodation	Common characteristics	Problems
Rented room in subdivided inner-city tenement building	Often the most common form of low-income housing in early stages of a city's growth. Buildings originally built legally as residences for middle/upper-income groups but subdivided and turned into tenements when they move to suburbs or elsewhere. Advantage of being centrally located so usually close to job or income earning opportunities. Sometimes rent levels are controlled by legislation. Many cities in the South never had sufficient quantities of middle/upper-income housing suited to conversion into tenements to make this type of accommodation common.	Usually very overcrowded and in poor state of repair. Whole families often in one room, sometimes with no window. Facilities for water supply, cooking, storage, laundry and excreta/garbage disposal very poor and have rarely been improved or increased to cope with much higher density of occupation caused by sub-division. If subject to rent control, landlord often demanding extra payment 'unofficially'. Certain inner-city areas with tenements may be subject to strong commercial pressures to redevelop them (or their sites) for more profitable uses. Building often very poorly maintained
Rented room in custom-built tenement	Government built or government approved buildings specially built as tenements for low income groups; sometimes publicly owned. Common in many Latin American cities and some Asian cities and usually built some decades ago. Some public housing estates fall into this category.	Similar problems to above in that the original building never had sufficient provision for the high density of inhabitants in regard to adequate provision for water supply, cooking, ventilation, food storage, laundry, excreta and garbage disposal. Building often very poorly maintained, especially fabric and public and semi-public areas
Rented room, bed or bed hours in boarding or rooming house, cheap hotel or pension	Often, these kinds of accommodation are most in evidence near railway station or bus-station though they may also be common in other areas, including illegal settlements. Perhaps common for newly arrived migrant family or single person working in the city to use these. Single person may hire bed for a set number of hours each day so more than one person shares cost of each bed. Usually relatively cheap and centrally located.	Similar problems to above in terms of overcrowding, poor maintenance and lack of facilities. A rapidly changing population in most such establishments inhibits united action on the part of users to obtain improvements or lower charges.
Rented room or bed in illegal settlement	In many cities, rented rooms in illegal settlements represent a larger stock of rental accommodation than in tenements which were originally legally built (see above). May take the form of room or bed rented in a house or shack with de facto owner-occupier; may be rented from small or large-scale landlord who lives elsewhere.	Problems in terms of poor quality of building and lack of infrastructure (paved roads, sidewalks, storm drainage ...) plus site often ill-suited to housing as in squatter settlements and illegal subdivisions. Also, insecurity of tenure which is even greater than for de facto house/shack owners.
Rented land plot on which a shack is built	The renting of plots in illegal subdivisions or renting space in another person's lot, courtyard or garden is common in certain cities; in some cities, even the flat roofs on top of apartment blocks are rented out to people who build a shack there. Their extent and relative importance are not known.	Similar problems to those listed above in terms of insecure tenure and lack of basic services and infrastructure. Additional burden on household to build shack, despite no tenure and no incentive to improve, since the owner may require them to move at short notice.
Rented room in house or flat in lower- or middle-income area of the city	Declines in the purchasing power of many lower-middle income or formal sector worker households have encouraged many to rent out rooms in their own houses/apartments to supplement their incomes and to help them pay off loans or mortgages on their house or apartment.	Probably relatively good quality compared to above options. Tenant-landlord relationship not usually subject to contract. Such rooms are often in locations at considerable distances from the city areas where most jobs or income-earning possibilities are concentrated.
Employer-housing for low-paid workers	In many cities, a considerable proportion of the higher income groups provide accommodation for servants. Some large enterprises provide rented rooms for some of their workforce. This is common in plantations but is also evident in some city-based enterprises or for some public authority employees.	The quality of this housing is usually very poor with several people crowded into each room and very inadequate provision for basic services. Rules may prevent workers' families living there and these have to live elsewhere so two separate forms of accommodation have to be paid for and household members have to live apart for much of the time.

TABLE 6.8 continued

Types of rental accommodation	Common characteristics	Problems
Public-housing unit	In many cities, public housing units represent a considerable proportion of all rental accommodation although the extent to which low income groups obtain access to them varies greatly. In some cities, most public housing units are allocated to government employees or military personnel. Some may be sublet from their original tenants. In many cities, the proportion of public housing stock that is rented is declining, as governments promote their sale to tenants.	The size and quality of the buildings vary greatly-but many have suffered from inadequate or no maintenance. Many have also been very small, relative to the size of household using them.
Renting space to sleep at work	The extent is simply not known. A study in Lagos found that space to spread a sleeping mat can be rented in a warehouse or some other commercial establishment-often with caretakers organizing this, without the knowledge of the owner or manager. Some families find accommodation through agreeing to live as caretakers in uncompleted or empty buildings or workshops and they in turn may sublet spaces within these buildings. Many young people who are very low paid including apprentices are allowed to sleep in the commercial or industrial establishments in which they work. ¹²¹	In most instances, a lack of facilities for washing and food preparation and a complete lack of security.
Renting a space to sleep	Where there are large numbers of people who sleep outside or in public places e.g. railway/bus stations, graveyards or temples, local officials or protection gangs may demand money.	The problems are obvious-not only the insecurity and lack of shelter and basic services but also the need to pay for this space and often to pay people who have no right to demand such payments.

Source: Based on a table in *Squatter Citizen: Life in the Urban Third World*-Jorge E. Hardoy and David Satterthwaite, Earthscan Publications, London, 1989.

bed in a room rather than a room-and may indeed only rent the bed by the hour. In Calcutta, the 'hotbed' system permits two or three persons to use the same bed over a 24-hour period and thus pay less than they would have done, if they rented the bed for their sole use.

In most cities, there is a considerable range of rental sub-markets. Central city areas or the areas immediately surrounding them often retain tenements or other forms of cheap rental accommodation (for instance cheap boarding and rooming houses) that may be declining in the proportion of the population living there but none the less remain important. A study of historical city centres in Latin America found that tens of thousands of individuals or households lived in tenements, lodging houses or cheap 'hotels' in Buenos Aires, Montevideo, Santiago de Chile, Lima, Mexico City, Bogotá and many other large cities and metropolitan centres in Latin America.¹²² Centrally located rental accommodation serve those low-income individuals or households whose source of income is in central cities or other prime locations where all forms of legal or illegal 'owner-occupation' are far beyond their means. Many work long hours in industrial or service occupations for low incomes-and the cost in time and fares on public transport travel-

ling to and from the nearest house, shack or land site they could own and afford is also far beyond their means.¹²³

In many cities, the bulk of affordable rental housing is now provided in the homes of low-income homeowners-whether they have legal, semi-legal or no legal tenure of their land and house.¹²⁴ This is generally because the returns to landlords of organized renting are not sufficiently high to encourage large-scale formal-sector capital investment.¹²⁵ The proportion of housing that is rented out or has renters within it varies greatly from some areas given over almost entirely to renters to others with virtually all *de facto* owners. In some instances, the tenure of the owner-occupier is too insecure for any renting-for instance, in a study of an illegal settlement within Khartoum in 1986, no renting was found because the occupants were afraid that tenants might challenge their right to stay in that house, if and when the public authorities legalized their settlement.¹²⁶ A United Nations survey of nineteen different 'slums and squatter settlements' found that eight had more than a third of the buildings either rented out or with mixed tenure (i.e. partially rented out) while five had more than half; two had more than 80 per cent of the buildings rented out.¹²⁷ In a 1979 study of Kibera, a

large, informal residential settlement in Nairobi, most of the houses or shacks were rented out and there was large-scale and highly profitable landlordism there.¹²⁸ In Lusaka, in upgraded areas, over half the population were tenants in 1986.¹²⁹ In interviews with 122 households in one district of a large informal settlement in Khartoum, two-thirds of households had a tenant, 19 per cent with the owner and one tenant family, the rest with a mix of tenants and sub-tenants.¹³⁰

The illegal or informal settlements that have a more central location and a greater degree of consolidation are likely to have the largest proportion of renters. In a survey of three low-income settlements in Santa Cruz (Bolivia) undertaken in 1985-6, the proportion of people who were tenants was much higher, the older and more consolidated the settlement. In the oldest settlement, located quite near the city centre and founded in the late 1950s, 65 per cent of households were non-owners. A second settlement founded in the late 1970s near the city's current edge had 48 per cent of households as non-owners. The third, on the edge of the city and developed from a land invasion in 1984 had virtually no non-owners.¹³¹ In George, one of the largest squatter areas in Lusaka, what began as a settlement dominated by *de facto* owners in the late 1960s slowly developed a rental market so that by 1989, around a third of the population were tenants.¹³²

In many cities, there are also what might be termed rental shantytowns-ciudades perdidas in Mexico, favelas *de quinta* in Brazil, corralones in El Salvador, rentyards in the Caribbean and bustees in Calcutta.¹³³ In many African cities, low-income compounds may have become almost entirely given over to rent-for instance tenements that house between twelve and twenty families each are common in the low-income compounds of Kumasi,¹³⁴ Lagos¹³⁵ and Nairobi.¹³⁶ The physical quality of the housing is very poor, services are almost non-existent and tenure is usually illegal. These areas represent the worst living conditions of any kind of low-income rental housing. Illegal or informal settlements with predominantly rental accommodation are likely to be common where there are supply constraints, a high level of demand for cheap rental accommodation and few or no controls on the quality of housing that can be rented and the rents charged.¹³⁷

Many cities have rental sub-markets other than the renting of rooms. These include tenants renting house-plots¹³⁸ or roof-space or space in another person's backyard on which a temporary structure is built. There may even be a rental market for people sleeping on pavements or in public spaces-with small payments made to officials or to people demanding 'protection money' for the right to sleep there. Chapter 7 discusses in

more detail 'land renting' while Section 6.4 on homelessness discusses in more detail the nature of 'homelessness'.

State-owned housing

In many urban centres in the North and in many cities in the South, public housing represents a significant proportion of all housing-and among the largest sources of rental accommodation. Some Latin American governments managed to build the equivalent of 15 per cent of the housing stock in major cities such as Bogotá, Caracas, Mexico City and Santiago de Chile and even larger proportions in new cities such as Brasilia and Ciudad Guyana.¹³⁹ In the 52 cities in both the North and the South covered by the Housing Indicators Programme, most had over 10 per cent of their total housing stock in public ownership while nine from the South and five from the North (four of them in West Europe) had more than 25 per cent. 92 per cent of the housing stock in Beijing was reported as public housing stock.¹⁴⁰ In Hong Kong, by 1994, half the population live in public housing.¹⁴¹ Some care must be taken in interpreting figures in some countries, as apartments within public housing units have been sold and have thus become owner-occupied. For instance, Singapore presents this case of the country with the highest proportion of its housing stock built by the public sector-but also a high degree of owner-occupiers, as people who were formerly tenants of public housing were encouraged to become owners. In Hong Kong too, a considerable proportion of the apartments in public housing have been sold.

Public housing programmes became popular with many governments in the North and South during the 1950s-although for different reasons. In West Europe, they were seen as ways of rapidly expanding housing and rebuilding cities damaged during the Second World War as well as providing cheap, good-quality accommodation for low-income groups. In Eastern Europe and the former Soviet Union, they were seen both as this and as a way of creating an egalitarian society and avoiding exploitative landlordism.¹⁴² In Latin America, where most countries had long had independence, public housing programmes were a response to rapidly growing city populations-although such programmes had been started in many countries in the region prior to World War II.¹⁴³ In Africa and Asia, they were favoured by many newly independent governments-although they were often rooted in colonial precedents that had previously housed colonial staff or provided cheap accommodation for the workers in certain key institutions and industries.

It was during the 1960s and early 1970s that most governments in the South either launched

large public-housing programmes or greatly enlarged existing ones.¹⁴⁴ In Latin America, from the early 1960s, aid was available for the first time, on a large scale to finance housing projects—from the Inter-American Development Bank but funded largely by the US government under the 'Alliance for Progress'.¹⁴⁵ Most such public housing programmes were initially to provide rental accommodation for low-income groups and/or government workers. Large public-housing programmes were initiated during the 1950s or 1960s in many countries—with efforts during the 1970s to expand them.¹⁴⁶ In many others, new public housing agencies were set up during the 1970s—although these often consolidated existing agencies.¹⁴⁷ Many governments also set up new housing finance institutions or overhauled existing ones. Certain public-housing programmes achieved a considerable scale. For instance, the National Housing Bank of Brazil set up in 1964 and closed down in 1986 had provided the core of a housing finance system that had produced around 4 million units.¹⁴⁸ In Egypt, some 456,000 public-housing units were produced between 1960 and 1986.¹⁴⁹ In Singapore, some 230,000 units were constructed between 1960 and 1975 and around as many again between 1975 and 1985.¹⁵⁰

During the 1980s, the scale of support for public-housing programmes diminished in most countries with market or mixed economies—and in East and Central Europe and the Russian Federation, after their political realignments during the late 1980s or early 1990s.¹⁵¹ The reaffirmation of the importance of market forces influenced this in many countries—particularly in the United Kingdom, the United States and the former communist bloc. In many countries in the South, recession and the cuts in public expenditures linked to debt crises and structural adjustment also had a role. Both in the North and the South, it also relates to difficulties in the public-housing programmes themselves. First, public housing was often unpopular with the tenants because it was too small or poorly designed or poorly maintained. In addition, bureaucratic allocation systems found it difficult if not impossible to cope with the diversity of priorities within low-income groups in terms of each individual's or household's preferred trade-off between type of dwelling, size and location. Individuals or families who have often waited many years to obtain a public-housing unit are reluctant to move, if the possibilities of finding comparable accommodation elsewhere are limited or non-existent.

In many countries in the South, problems of inadequate or no maintenance were added to the failure to build the planned number of units, despite large sums spend on public housing. In many public-housing programmes, less than a

quarter of the initial target was met and in some, less than 10 per cent.¹⁵² Many public-housing programmes suffered problems of very high unit costs. And even with subsidized rents, a substantial proportion of the 'low-income groups' could not afford them.¹⁵³ If governments reduced the scale of the subsidy given to each unit so more could be built, the units generally became too costly for low-income households. In many other countries, low-income groups simply did not get the public housing as they were allocated to civil servants or military personnel or to middle or higher income groups.¹⁵⁴ Even where efforts were made to ensure that low-income households received public-housing units, the eligibility criteria often excluded the poorest households—especially women-headed households.¹⁵⁵

Few governments now have large public-housing programmes building rental accommodation and in most countries where there had been large public-housing programmes for rent, much of the public-housing stock has been sold—or at least the tenants of such stock encouraged to purchase it. In some countries, this change dates back to the late 1970s. For instance, as noted above, a considerable proportion of the public-housing in Singapore and Hong Kong has been sold and in Singapore, the sale of apartments in public-housing blocks began in the 1970s. In India, it was in the late 1970s that the Federal Government resolved to convert public-housing tenants into owner-occupiers and the property was offered for sale to the occupants—and the only rental housing provided by the Federal Government is to its own employees. State governments in India have generally followed the same policy.¹⁵⁶ In Nigeria and Egypt, public-housing units were increasingly sold during the 1980s. And in Egypt, the state has withdrawn from the production of subsidized housing.¹⁵⁷

In the United Kingdom, there has been a rapid decline in the number of public-housing units built since 1980 and a major programme to promote the sale of public-housing to their tenants.¹⁵⁸ By the end of 1992, some 1.4 million tenants of public-housing had purchased their dwelling.¹⁵⁹ Government policy placed strong controls on the possibilities of local authorities continuing to build public-housing units and encouraged the sale of public-housing estates to private buyers or housing associations.¹⁶⁰

The most dramatic declines in public-housing construction and in public-sector rental housing are evident in East and Central European countries. The privatization of the state housing stock may be the single most distinguishing feature of the transition in these countries. There is a clear pattern across this diverse group of countries in the form of decentralization of the ownership of state housing to local authorities and the cut in

national funding for public-housing construction.¹⁶¹ In every country where privatization has been undertaken, the tenants of public housing have been offered generous terms—at least at the outset—and by 1992, more than 20 per cent of public housing had been transferred in Slovenia, Hungary and Bulgaria.¹⁶² There is also the change in property rights since 1989 and the restitution of property to its former owners that is affecting housing in these countries—see Box 6.6.

BOX 6.6

The change in property rights and restitution of property in East and Central European countries

The economic and political transition in East and Central European countries has also marked the beginning of a return to capitalist property relations through private ownership. This has raised the issue of restitution of property to its original owners.

Private property in Eastern Europe was treated, for most of the period since World War II as something inconsistent with the social and economic system. It was gradually eradicated through communist legal acts that secured mass collectivization of land and nationalization of factories, businesses, shops, hotels, restaurants—and houses—although the extent to which it was carried out varied considerably from country to country. All the post-1989 democratic governments have recognized that some amends have to be made for the expropriation of such property.

There is an important distinction between property returned in its original form (i.e. natural restitution) and provision of compensation (financial restitution). Natural restitution is considered fairer but financial restitution answered the economic imperative of speeding up privatization and thus economic development. Natural restitution is also complex—for instance, those who receive back housing may find tenant protection and rent control still in operation. For instance, in the Czech Republic, many former owners have received back their property but find that the repair and maintenance costs far exceed the rental income. The owners could not evict the tenants, unless they provided alternative accommodation to the same standard. In other instances, restitution is difficult since the property no longer exists and no documentation is available to set its value. There is also the difficulty of setting a fair price, as property's value has increased manifold since World War II.

Source: Carter, F. W., 'East Europe: population distribution, urban change, housing and environmental problems', background paper for the Global Report, 1994.

Owner-occupied housing

There are large variations in the proportion of a nation's or a city's population that owns the house or apartment in which it lives—in both the North and the South. Table 6.9 shows the proportion of housing that is occupied by owners for a range of countries for which statistics were available. Not surprisingly, various countries that until the late

1980s were centrally planned economies with the state having the central role in housing provision are among the countries with the lowest proportion of housing that is owner-occupied—Russia, the Czech Republic and Poland. But what is perhaps more surprising is to find several countries from this same region with among the highest proportion of housing that is owner-occupied—for instance Bulgaria and Hungary. It is also evident that countries with the highest per capita incomes are not necessarily countries with the highest proportion of housing that is owner-occupied. It tends to be the countries in the North with among the lowest per capita incomes that have among the highest proportion of housing that is owner-occupied—Ireland, Greece and Spain—although this partially reflects the fact that these countries have a higher proportion of their national populations in rural areas—where owner-occupation predominates—than other countries in the North. But this is not the case for Finland, where in 1990, around 64 per cent of the urban housing stock was owner-occupied.¹⁶³ Most of Norway's urban housing stock is also owner-occupied. But there is no simple correlation between wealth and proportion of housing that is owner-occupied as countries that are among the wealthiest can have 60–80 per cent of housing that is owner-occupied (USA, Norway, Japan, Belgium, Luxembourg), only 40–50 per cent (Germany and the Netherlands) or in between these two extremes (France and Denmark).

In several countries, the proportion of the population who own their main house has increased considerably in recent years. For instance, in France, there has been a considerable increase in the proportion of households who own their main home; between 1963 and 1992 it rose from 42 to 54 per cent.¹⁶⁴ In the United Kingdom, it grew from around 41 per cent in 1961 to just over 50 per cent in 1971 to around two-thirds in 1992.¹⁶⁵ The proportion of home-owners in the Russian Federation has also increased rapidly in recent years, as large numbers of public units have been sold.

Owner-occupiers within cities

Table 6.7 included statistics on the proportion of households who are owner-occupiers in many cities. These proportions are generally lower than national averages, as a higher proportion of rural populations tend to be owner-occupiers. However, for many cities in the South it is difficult to produce accurate statistics on owner-occupation, since a considerable proportion of the population live in shelters for which they are *de facto* owner-occupiers but not *de jure* and the proportion of households that are 'owner-occupiers' will vary considerably,

TABLE 6.9 The proportion of housing that is owner-occupied

Country-in categories according to the proportion of housing that is owner-occupied	Date	Proportion of dwellings owner-occupied	Proportion of dwellings rented		Other
			Proportion in public rental units	Proportion in private rental units	
70 per cent or more					
Ireland	c.1986	74	12	10	
Greece	c.1986	70		27	
Spain	c.1986	88	1	11	
Bulgaria	1990	87	9	3	1
Hungary	1990	80	20		
Finland	1990	c.73	c.14	c.10	
Norway	1990	78			
New Zealand	1991	72	8	14	5
Tunisia	1989	80	11	8	1
60 to 70 per cent					
United Kingdom	1991	66	20		10
United States of America	1990				
Italy	c.1986	64	5	24	
Belgium	c.1986	62	6	30	
Luxembourg	1991				
Slovenia	1991				
Canada	1986	63			
Chile	1992	63		17	20
Brazil	1984	63			
Japan	1990	61	7	26	6
50-60 per cent					
France	1990	54	15	25	2
Denmark	c.1986	56	21	22	
Portugal	c.1986	56	4	36	20
Hong Kong	1994				
40-50 per cent					
Germany ^a	c.1986	40	17	43	
Netherlands	1990	c.44			
Poland	1990	41	31	4	25 ^b
Under 40 per cent					
Russia	1990	26	67		7
Former Czechoslovakia	1988	26	45		26 ^c

Notes:

a. Statistics for the former West Germany.

b. Cooperatives-11 per cent owners, 14 per cent renters.

c. Cooperative-owners.

Sources: For Bulgaria, Hungary, Poland and Russia: Baross, Pal and Raymond Struyk, 'Housing transition in Eastern Europe', *Cities*, vol. 10, no. 3, Aug. 1993, 182. For countries with data c.1986:

Ghèkiere, L., *Marchés et Politiques du Logement dans la CEE*, La Documentation Française, 1991, quoted in Mary Daly, *European Homelessness-the Rising Tide*, The first report of the European Observatory on Homelessness, FEANTSA, 1992. For Finland: Andersson, Kari and Anneli Juntto, *The effect of the recession on the Finnish housing market*, European Network for Housing Research Newsletter 1.93,1993, 3-6. For Hong Kong, Government Information Service 1994. For Chile: Rojas, Eduardo and Margarita Greene, 'Reaching the poor: Lessons from the Chilean housing experience', *Environment and Urbanization*, vol. 7, no. 2, Oct. 1995. For all others: United Nations, *Human Settlements Statistics Questionnaire 1992*, see Table 8 in the statistical annex.

depending on how these are classified. Many are illegally occupying the land on which the shelter is built. Others are closer to being *de jure* owner-occupiers as they purchased the land from the landowner and it is the shelter or the subdivision that is illegal, not the land occupation. Although the Housing Indicators Programme collected statistics on owner-occupancy in 52 cities, in cities with a high proportion of the population living in illegal or informal settlements, the proportion that were owner-occupiers' varied greatly, depending on the extent to which the *de facto* owner-occupiers

living in illegal or informal settlements were classified as 'owner-occupiers'.

Table 6.7 also shows how the proportion of households who were owner-occupiers had grown considerably in many cities of the South. This is linked to two factors: the first is the much-increased demand for owner-occupation (as an increasing proportion of households have higher incomes); the second is that illegal land subdivisions and illegal land occupation lowered the cost of housing and brought 'ownership' within reach of a larger proportion of the low-income households.¹⁶⁶ The extent of owner-occupation among low-income households is much influenced by the extent to which cheap land sites are available-whether in legal or illegal subdivisions or through illegal occupation-and the cost of developing a house is not too high.¹⁶⁷ A third factor, in many cities, was government support for owner-occupation.

In many Latin American cities, the proportion of city inhabitants who are owner-occupiers has increased-although the number of tenants has not.¹⁶⁸ Mexico City provides a dramatic example of the decline in renting. Between 1850 and 1950, most of the rapidly growing low-income population was housed in rental accommodation and in 1950, three-quarters of the housing stock was rental accommodation.¹⁶⁹ But by 1980, close to two-thirds of the population were owner-occupiers. Among the reasons for the decline in renting were: rapid economic growth and political stability that made investments in other sectors more profitable; government decrees that froze rents and reduced the return on housing investment; and implementation of building regulations that made the construction of rental-housing for low-income groups unviable.¹⁷⁰ The proportion of households who are owner-occupiers has also increased very considerably in many other cities over the last few decades, although the increase in owner-occupation and decline in renting may have slowed or even reversed in some cities with the economic stagnation of the 1980s.¹⁷¹

The possibilities for non-house owners to become owners obviously varies greatly from city to city and within each city over time. One of the key questions is-under what circumstances do low-income households who want to become owners (including those who currently rent or share) find it possible to become owners? The proportion of low-income tenants or sharers who want to become owners will obviously vary greatly from city to city. In certain cities, for certain periods, a considerable proportion of low-income households have found it possible to become owner-occupiers. Perhaps the most important condition is a plentiful supply of cheap or free land in or close to the city. In dif-

ferent cities, for different periods, this condition has been present, although in different forms. In Karachi, the land was available because the city is located on semi-desert land that is for the most part in public ownership and the government did not oppose its occupation by squatters and its development by illegal subdividers.¹⁷² In Santa Cruz (Bolivia), land was also available to squatters when the political authorities tolerated land invasions-because the city is surrounded by flat, low-value agricultural land much of which is uncleared scrubland.¹⁷³ This issue of land availability is discussed in more detail in Chapter 7 since in general, the larger the land area that is accessible to the main centres of employment and the easier it is for low-income households to obtain land, the higher the proportion of households who are owners. The motivation for becoming owners in illegal settlements is obviously strongly linked to the likelihood of being able to avoid eviction-and eventually acquiring legal tenure and infrastructure and services.

In considering cities with a high or a low proportion of housing that is owner-occupied, there are certain other factors that are known in particular instances to have affected this balance. For instance, the high rate of owner-occupation in most cities in the United States and the United Kingdom is certainly related to the widespread availability of housing finance and a considerable financial advantage given to owner-occupiers by government policies. The particularly high rate of owner-occupation in Indonesian cities has been attributed to greater access to land with a reasonable degree of tenure security, development of a water supply and provision for sanitation that is simpler and less costly and no onerous land-use and building regulations (or if they exist they are not rigorously enforced).¹⁷⁴ Rising incomes for a considerable proportion of a city's population and the availability of land for housing through informal or illegal land markets has obviously been important for the many Latin American cities where the proportion of households who are owner-occupiers has increased.

Since there is a general tendency for well located land sites in cities (and thus the housing on them) to become more valuable if the city grows in size and prosperity, those who own property in such cities benefit from this rising value-while those who rent do not. In effect, those that own property in cities benefit from the increment in land values created by the combination of public and private investment concentrated there. Owner-occupiers also generally have more secure tenure. This would encourage owner-occupation rather than renting, at least for those able to afford this-although as previous sections noted, there is a sec-

tion of the population in most cities who prefer to rent, even when they can afford to purchase a dwelling. But this does not explain the great differences between cities in the proportion of people who choose to rent or become owner-occupiers, including prosperous cities where most middle- and upper-income groups prefer to rent. What has to be considered in each city at any point in time is the relative advantages and disadvantages of owner-occupation-whether of a completed house or apartment or of a legal, semi-legal or illegal plot on which a dwelling is built. And central to this is the direct and indirect influences of government policies. In many of the wealthiest market economies, owner-occupiers have long been given generous financial incentives-for instance in the United Kingdom, the United States and Australia.¹⁷⁵

Many low-income households may particularly value the possibility of becoming property owners, if circumstances permit this.¹⁷⁶ First, they acquire a capital asset-and possibly their first significant capital asset. As noted in Chapter 3, it is often low-income groups' lack of assets that make them so vulnerable to economic changes and an asset can be used as a collateral against a loan or sold or part of it rented if a more pressing need presents itself. Building, improving or extending their own home can also take the form of a savings account, as their own labour input into this is translated into a more valuable asset. A house and the land on which it is developed have often proved among the safest capital assets during times of inflation. But, equally important for many low-income households, owning their own dwelling provides more security, unless in an illegal settlement threatened with eviction. And if a household can acquire or build a home without a loan, it removes the necessity of regular rent payments-something that people with irregular incomes find particularly useful.¹⁷⁷

In many nations-or particular cities-there are also obvious constraints to households who want to become owner-occupiers from doing so. For instance, a major deterrent is where potential owners find it difficult to obtain property titles that guarantee their ownership-for instance where property markets are not well developed and where title to land and property is often not clear, as in many African cities.¹⁷⁸ A lack of availability of long-term finance for housing purchase is also a major constraint since a well-functioning housing finance system greatly increases the amount any individual or households can afford to pay-by spreading repayment over a long period.

Owner-occupier markets

Housing submarkets where the occupiers own the house (even if this ownership is not recog-

nized by law) are also diverse and vary from city to city in the form they take and their relative importance. Table 6.10 outlines various kinds of housing in which it is common for low-income households to be 'owner-occupiers' although in two of them, the occupation of the land or building is illegal and in all but one, some aspect of the building is illegal.

The costs and benefits of different forms of housing tenure

Table 6.11 is drawn from a study that compares housing production systems in Europe, with a special concentration on comparing housing produc-

tion in Britain, Sweden and France. But this summary of the costs and benefits of different form of tenure has a wider relevance. The inclusion of 'self-provided owner-occupation' might be considered an unusual category for Europe and of much greater relevance to countries in the South where most housing is 'self-provided owner-occupation' even if most units are built illegally with many built on illegally occupied land. Yet during the 1980s, self-provided owner-occupation accounted for over half of all housing completions in France¹⁸⁰ and over a quarter of all housing completions in Sweden.

Self-provided housing covers all housing in which an individual household takes the responsibility for getting the house built for themselves and

TABLE 6.10 Different kinds of 'owner-occupation' housing used by low-income groups in many cities in the South

Types of owner-occupation	Common characteristics	Problems
Building a house or shack in a squatter settlement	As city grows and so too does the number of people unable to afford a legal house (or house site on which they can organize the construction of a house), illegal occupation of land site and the construction of a house there becomes more common. Advantage to users of (usually) being a free site-although as the settlement develops, a monetized market for sites often appears and land sites can be expensive in better quality, better located settlements. The extent to which households actually build most or all their house varies considerably; many people lack the time to contribute much and hire workers or small firms to do much or all the construction	Lack of secure tenure and settlement often subject to constant threat of destruction by government. Lack of legal tenure inhibits or prevents households offering site as collateral to bank for loan to help pay for construction. No government provision of water, drains, sewers (or other forms of sanitation), roads, electricity, schools, public transport-or even where government does so, this is usually years after the settlement has been built and is usually inadequate. Poor quality sites often squatted on (e.g. subject to flooding or landslides) because these have lowest commercial value and thus give inhabitants the best chance of not being evicted.
Building a house or shack in an illegal subdivision	With housing built in squatter settlements, this represents the main source of new housing in most large cities. The site is bought (or sometimes leased) from landowner or land agent who acts as the developer for the landowner. Or where customary law is still common, the site may be obtained through receiving permission to use it from the chief who acts for 'the community'. Governments often prepared to tolerate these while strongly suppressing squatter invasions since illegal subdivisions do not threaten land owning classes. Often relatively well-off households also organize their house construction on illegal subdivisions. As in squatter settlements, extent to which people build own houses varies considerably.	Comparable problems to those above except land tenure is more secure and landowner or developer sometimes provides some infrastructure (e.g. a road and some water faucets). The site is usually planned (although so too are some squatter settlements). The better located and better quality illegal subdivisions are also likely to be expensive. If the city's physical growth is largely defined by where squatter settlements or illegal subdivisions spring up, it produces a haphazard and chaotic pattern and density of development to which it will be very expensive to provide infrastructure and services. Very large cost-savings can be made if new settlements are planned and located close to existing roads, pipes and sewers.
Building a house or shack on a legal land subdivision on the city periphery	Often a popular solution, especially if there is good quality public transport to keep down the time and costs of getting to and from work.	Low-income households generally having to buy land at a considerable distance from the city centre and the main sources of employment as legal land plots that are better located are too expensive.
Invading empty houses or apartments or public buildings	Known to be common in a few cities; its overall importance in the South is not known.	Obviously insecure tenure since occupation is illegal. May be impossible to get electricity and water even if dwelling was originally connected to these.
Building a house or shack in government sites-and-services scheme or core housing scheme	An increasing number of governments have moved from a concentration on public-housing schemes (which rarely were on a scale to make much impact and often did not benefit poorer households) to serviced sites or core housing schemes. Very rarely are these on a scale to have much impact on reducing the housing problems faced by lower income groups. In addition, it is often middle or upper income groups which receive the serviced plots or core housing units.	Public agency responsible for projects often finds it impossible to acquire cheap, well-located sites. Sites far from low-income groups' sources of employment are chosen, since the public agency finds these cheaper and easier to acquire. Extra cost in time and bus fares for primary and secondary income earners can make household worse off than in squatter settlement. Eligibility criteria often bar women-headed households. Regulations on repayment and building schedule often make many ineligible. Rules often forbid workshops in house or renting out of rooms which limit household income.
Building or developing a house or shack in a 'temporary camp'	Many examples known of governments who develop 'temporary' camps for victims of disasters or for those evicted by redevelopment. Usually located on the city periphery. Many become permanent. ¹⁷⁹	Land and house tenure is often ambiguous; the provision of infrastructure and services at best inadequate, at worst non-existent. The location is often far from the inhabitants' sources of income.

Source: Developed from a table in Hardoy, Jorge E. and David Satterthwaite, *Squatter Citizen: Life in the Urban Third World*, Earthscan Publications, London, 1989

TABLE 6.11 A comparison of the costs and benefits of different forms of housing tenure

	Social renting	Private renting	Cooperative tenant-ownership	Purchased owner-occupation	Self-provided owner-occupation
Entry costs	lowest	low	medium	highest	high
Form of access	queue	market	queue/market	market	self-help
Choice of location and dwelling type	variable	variable	medium	medium	high
Current expenditure	lowest	variable	medium	highest	high
Security of tenure	highest	variable	high	medium	high
Dwelling control	variable	lowest	medium	high	high
Responsibility for repairs & maintenance	low	low	medium	high	high
Property ownership	none	none	mixed	mortgaged	mortgaged
Capital gains	none	none	low	medium	highest

Source: Barlow, James and Simon Duncan, *Success and Failure in Housing Provision: European Cities Compared*, Pergamon, 1994.

includes self-build (i.e. where the household also takes responsibility for building the house) and self-management with the building undertaken by a builder or by a specialist firm supplying the household's chosen prefabricated dwelling.¹⁸¹ In the case of France, a fifth of the self-promoted housing completions during the 1980s were self-build with another fifth through one-off contracting and the rest through specialist mass-producing 'catalogue' builders.

Table 6.11 also highlights the way in which cooperative tenant-ownership is placed between renting and owner-occupation in terms of entry costs, current expenditure, level of dweller's control, responsibility for maintenance and capital gains. This intermediate category between full ownership rights and no ownership rights has proved very important in several European countries. In Sweden, housing co-operatives produce units for tenant-owners where the co-operative owns the unit but the tenant owns the 'occupancy rights' which are also bought and sold-and housing co-operatives produced a quarter of all the housing produced in Sweden during the 1980s.¹⁸² In Norway, 14 per cent of all housing is managed by co-operative building and housing associations-with higher proportions in urban areas (for instance in Oslo, they manage two-thirds of all homes).¹⁸³ In other countries, there are possibilities for occupants of social housing to become part-owners. Forms of housing tenure such as these that are more secure than renting and in which the occupier has a stake in the house or apartment's capital value but which none the less are much cheaper than owner-occupation may have considerable relevance to other countries-although care should be taken in assuming that a model that worked in one country neces-

sarily works in another. In Sweden, the importance of housing co-operatives is linked to long-established political developments; social housing co-operatives are long established and had strong links with the labour movement and with other people's movements.¹⁸⁴

6.3 The Construction Sector for Housing and Infrastructure Delivery

Construction's importance to national development

The construction industry makes significant contributions to the socio-economic development process in most countries. The level of that contribution has been measured in several ways-notably in terms of its contribution to a nation's gross domestic product or to its capital assets or gross fixed capital formation. In countries in the South, major construction activities account for about 80 per cent of total capital assets. And investment in the construction sector yields continuous benefits over a long period. Investments in shelter are also significant to national development, even though a large part of such investments are often not accounted for, especially those undertaken in illegal or informal settlements. There are also the many indirect benefits from the construction sector-for instance the multiplier effects that the sector stimulates in other sectors and the significant contribution in terms of conserving and generating foreign exchange. However, there are many constraints on the construction sector delivering these direct

and indirect benefits in most countries in the South-and this is the focus of this section.

Existing limitations in the construction sector

The underlying problems of the construction sector can be classified into two main groups. The first arises from the fact that the sector is not viewed and planned in a holistic manner, but, rather, operates with fragmented, unrelated and often conflicting components resulting in wastage, duplication, inefficiency and inability to plan for total development. The second set of problems is related to deficiencies in the specific inputs required for the supply of construction output and to unfavourable characteristics of the sector in terms of demand. For instance, key building materials are scarce and expensive; access to finance is limited; much needed equipment and machinery are not easily available; skilled workforce is underdeveloped; and other supporting mechanisms, such as regulatory systems and research efforts, have had little or no impact on the development trends of the industry. A further problem is that large amounts of capital are needed to pay for large scale infrastructure with the financial returns coming over a long period. Such projects are only profitable when considered over a time period that is longer than most commercial investments. Investors are reluctant to commit capital to long term projects when other investment opportunities give a more rapid pay-back and when there is uncertainty about the future demand for new infrastructure.

Primary resource inputs required by the construction sector

Building materials

Building materials generally constitute the single largest input into the construction of housing, accounting for as much as 80 per cent of the total value of a simple house. It is, therefore, important that building materials be made available in sufficient quantities and at affordable costs. The building materials available on the market, in most countries in Africa, Asia and Latin America are either prohibitively expensive and in scarce supply or of low quality. In some low-income settlements, the use of traditional building materials is in decline. This is probably due to the low quality of the traditional materials or to the higher level of maintenance their use requires or to the higher value and greater attractiveness of 'contemporary' building materials. Whatever the reason, this has had negative consequences on the low-income shelter-construction market.

In many countries in the South, the formal

construction industry depends almost exclusively on contemporary building materials that have to be imported-and for which very high prices often have to be paid. Among the 52 cities considered in the Housing Indicators Programme, eighteen had imported materials representing more than 20 per cent of the value of residential construction materials with imported materials representing more than 40 per cent in Accra, Dakar and, not surprisingly, the small city-states of Singapore and Hong Kong.¹⁸⁵ There are numerous examples of well-intended government-sponsored low-cost housing programmes being entirely shelved or abandoned before completion, mainly because of the unavailability of the specified materials. Sometimes, low-cost housing projects undergo frequent upward budget revisions, while awaiting the requisite supplies of 'modern' materials, to the point where the project becomes unfeasible.

The above-mentioned constraints in the building materials sector have the same negative effect on the provision of basic infrastructure as they have on housing supply. For instance, in rural areas and in urban squatter settlements, the predominant practice is to use non-durable materials for the construction of pit latrines. In a few cases where public-sponsored programmes have provided water supply and sanitation systems, items such as sewers, septic tanks, latrine slabs and pavement tiles have mainly been procured from conventional production systems, so that they have been also affected by the usual limitations of high cost and inadequate supply.

A good indicator of the relative costs of building materials is represented by the price changes of these materials over time in relation to the average cost of living. Data from Africa show drastic rises in prices of building materials, outpacing the general inflationary trends in the economy. For example in the United Republic of Tanzania, between 1982 and 1989, three basic materials-sand, cement, and steel-increased in price more than fivefold, substantially more than the increase in the cost-of-living index.¹⁸⁶ Similarly, recent data from Nigeria show that three components of a small building-reinforced concrete work, steel roof-sheets and timber doors-have increased in price by more than twice the Nigerian consumer price index during the last decade.¹⁸⁷

Energy is one of the most crucial inputs required for the production of building materials and the rise in the cost of energy contributes directly to price rises for basic building materials. For example cement, steel, bricks and lime are all energy-intensive materials and the direct fuel costs can contribute by more than 50 per cent to the cost of production of these materials.

Although there is a move towards alternative

fuels such as agricultural waste and low-grade oils, these fuels are also in demand elsewhere, and their prices are quickly catching up with those of conventional fuels. The limited supply and the high price of electricity also prohibits upgrading of traditional technologies using machinery. Even in India, where a range of fuels is available, energy prices to the consumer have increased over the last decade by 25 per cent in real terms.¹⁸⁸

An important prerequisite for wide-scale production of low-cost/appropriate building materials is that the technologies involved are tested and widely known at the local level. Appropriate technologies for the low-cost building materials production have multiple advantages, including a reduction in the dependence on imported inputs, opportunities for developing substitute inputs from abundant indigenous resources, and potentials for generating new and improved skills among the local workforce. Appropriate technologies can also be useful for reducing the cost of construction output, which is particularly significant for the construction requirements of the poor.

Many governments have found it feasible to establish large-scale factories for the production of basic building materials, particularly cement, steel, roofing sheets, bricks, tiles and concrete products with mainly imported technologies. However, within a short period, many of these factories have been faced with numerous difficulties, arising primarily from the choice of technology. The absence of stable markets and production interruptions resulting from the lack of spare parts and irregular energy supply have often made production planning difficult, resulting in low capacity utilization. For example, the average capacity utilization of cement factories in some African countries in the 1980s was only 58 per cent, and, in some cases, as low as 30 per cent.¹⁸⁹

The small-scale sector of the building-materials industry, however, has shown remarkable potential in meeting the local demand, despite the fact that they are often forced to operate in an environment that favours large-scale enterprises. For example, in Sri Lanka small-scale enterprises producing bricks, tiles, sand and lime supply more than 35 per cent by value of the total building materials used in the country.¹⁹⁰ However, the continued reliance of the small-scale industries on traditional and outdated production technologies, which are wasteful of raw materials and energy, has been the biggest stumbling block in improving productivity in this sector.

Transportation and distribution costs can claim a significant share of the total cost of a building material. In the South, especially in sub-Saharan Africa, distribution costs can be disproportion-

ately high because of run-down infrastructural facilities and high trucking costs. Small-scale producers, on the other hand, can meet the needs of proximate markets with price advantage. Their strength, essentially, lies in keeping overheads and distribution costs low and meet the local demand. Nevertheless, they lack in managerial and marketing skills for progressive market penetration through forward planning and product diversification.

The lack of requisite knowledge or techniques in the appropriate use of low-cost building materials in construction is an important factor limiting marketing and the wide-scale adoption of such materials. An indigenous building material may be sold at a low cost on the market but, where skills are deficient, the overall objective of low-cost construction will be defeated, because of the excessive use of materials in construction or simply as a result of the prohibitive cost of labour in construction. Where skills are deficient good-quality products may be wrongly employed and thereby lead to unsafe and non-durable constructions and, consequently, render a particular set of building materials unpopular.

Even when low-cost building materials are attractive in terms of market price, there is still the problem of consumer biases against the products. For example, preference for Portland cement, as against lime or lime-pozzolana may not be based on considerations of cost but rather on the lack of information on the technical properties of lime and lack of awareness of the fact that cement can easily be replaced by lime in the construction of 1-2 storey simple houses. The failure to use low-cost materials in government-sponsored construction projects is another serious constraint which limits the wide-scale adoption of these materials. Governments in the South are often the single largest clients of the construction industry and their efforts can easily popularize the use of these materials by private low-income house builders.

Regulatory instruments

Building acts, regulations and codes are the means by which authorities control construction activities for the purpose of ensuring safety and health in the built environment. Similarly, standards and specifications for building materials production and use, ensure stipulated quality construction of products. To a large extent, these regulatory procedures can determine the types of building materials, skills and construction techniques to be used in a given construction process. In this way, an opportunity is created to promote the use of appropriate building materials, so that the capacity of the shelter delivery can be enhanced: conversely, regulatory instruments can be formulated in a manner so as to prohibit

the use of certain materials which are normally accessible to the low-income population and, thereby, limit the delivery of low-income shelter. For example, the use of soil in construction probably offers the best opportunity for most low-income settlements: however, to build a safe and durable house in soil requires some basic technical guidelines which can be provided through standards and specifications and permitted by building regulations.

The inadequacies of existing regulatory instruments have negative effects on the provision of basic infrastructure to the low-income population in much the same way as on shelter supply. Typically, existing public health acts and regulations, covering water supply, sanitation and solid-waste disposal, ignore actual practices in low-income settlements and do not offer any corrective devices to the unhealthy state of affairs and faulty trends in the minimal available infrastructure in low-income settlements. Rather, the regulations stipulate infrastructure standards which are far too costly for the target group and which, even if they were provided, could not be maintained with local resources and know-how.

Finance

The construction industry is dependent on financing to purchase required inputs and to pay for labour costs. Shelter and infrastructure construction for the low-income population, even though termed 'low-cost', is still dependent on financing, especially if conventional approaches are adopted. Any constraint in cash flow, therefore, could jeopardize a construction programme and, worse still, lead to cost escalations. In most countries in the South, existing public financial institutions do not respond adequately to the demands for financial resources which are required for critical inputs in construction. The few available financing institutions have had little impact and the normal practice in private-sector low-income shelter construction is to depend on the builder's own finances which often are limited. Financial resources are more readily available in the private sector than in the public sector. Yet, in most countries, the financing of public construction projects, which usually require large investments, are borne by public sources of finance. However, private-sector investment can be attracted, with suitable conditions and interest rates. An example of this is the collection of tolls on highway projects as a means of paying back the investment.

Small contractors

Contractors are one of the key components of the construction sector, as they are directly responsible for the physical realisation of the designs prepared in response to the client's needs and

objectives. Small contractors often make a very large contribution to the provision of housing (or its improvement or upgrading) and infrastructure. But they are often affected by several constraints which include: lack of technical and managerial expertise; lack of adequate finance; difficulty in obtaining essential resources—materials, equipment and skilled personnel; and inadequate supervisory capabilities. These constraints can be removed, if adequate policies are in place and necessary support can be provided to them by governments, local and international communities. The ultimate goal, which is to increase progressively the share of local construction activities and attain sustainable development and maintenance of built environment, calls for strengthening small-scale contractors' involvement in the sector, which should have an impact on improving quality of outputs and reducing costs.

Maintenance and upgrading

The expected life-span of a building or infrastructure element requires that some basic regular maintenance will be provided during the service period of the facility. In normal practice buildings and infrastructure also tend to be exposed to unexpected deterioration, thus requiring repair in addition to routine maintenance. Because of the low quality of construction in most low-income settlements, the concept of maintenance is even more relevant than in 'high-cost construction'. Maintenance is also crucial for low-income construction, because most low-income families cannot afford the replacement cost, should a building deteriorate to the point of failure. Finally, given the low rate at which new dwellings and infrastructure are provided for the low-income population, a logical option is to ensure that the little that is already available is sustained in use to the utmost point of its service life.

Sustainable construction industry¹⁹¹

The construction industry, while contributing, largely to overall socio-economic development in every country, is a major exploiter of natural non-renewable resources and a significant polluter of the environment. The need, therefore, to introduce more sustainable construction practices is taking new urgency in the overall development context of human settlements. The process of socio-economic development through increased construction activities and protection of the environment are not separate challenges. The sustainability of development cannot be ensured in a climate where growth plans consistently fail to safeguard the environment and arrest the degradation of the natural-resource base and the ecosystem as a whole. It is for this reason that

Agenda 21, adopted by the United Nations Conference on Environment and Development, underscores the importance of the sustainable construction industry activities as a major contributor to the sustainable human settlements development.

While increased awareness and knowledge of the implications of resource depletion and environmental degradation caused by the activities of the construction industry have resulted in some action being taken in the North, there has been little progress in countries of the South, especially in sub-Saharan Africa. Their position is even more desperate given that many of them are faced with fragile environments, involving aridity, desertification, flooding, etc.

Construction and the deterioration of physical environment

The highly dispersed character of construction activities in most countries makes it difficult to monitor the physical disruption caused by them. There is a growing concern, in many countries, about increasing land dereliction caused by the quarrying of sand and gravel, extraction of brick clay, etc. which ultimately reduces the land available for human settlements development. The degradation of the marine environment, caused by coral mining for the production of building lime, and the disruption of wildlife habitats and water tables, by excavations are now attracting the increasing attention of physical planners and coast-conservation authorities.

Appropriate land-use policies and planning, specially aimed at eco-sensitive zones, are very often lacking in the South. One of the main reasons for the lack of clear policies is that data on which to carry out environmental impact assessment and cost-benefit analysis are seriously lacking. The assignment of priorities to alternative environmental needs is not a very difficult task to undertake. However, ultimately, the allocation of land-use priorities would involve an economic decision between costs and returns and safeguarding the environment.

Construction activities similarly contribute to the loss of forests, wetlands and other natural areas by their conversion to other uses and by their unsustainable exploitation for building timber. Timber, because of its superior characteristics and almost zero-energy content, has been one of the basic building materials for centuries. It is estimated that in the Philippines, the demand for wood in building construction is likely to rise from 173,000 m³ in 1990 to 433,000 m³ by the year 2000. In Indonesia, the demand for wood in housing construction is likely to exceed nearly 4 million m³. Japan imports 18 million m³ of sawn wood for the 1.5 million homes annually built there. In Chile 60 per cent of the annual produc-

tion of sawn timber is used in houses and other building construction.¹⁹² These figures mean that wood is going to be an essential building material both for modern structures as well as for traditional building construction in the years to come and their unsustainable exploitation will cause rapid deforestation in many countries.

Construction and depletion of non-renewable resources

The construction industry is responsible for the consumption of commercial energy in two principal ways: (1) in the production of buildings and other facilities, and (2) in the subsequent use of them. It has been found that the consumption of energy in the manufacture of building materials and components is about 75 per cent of the energy requirement for the production of a building, the remaining 25 per cent being primarily used during on-site construction activities.¹⁹³

However, in the context of lower-income countries, where construction activities are labour-intensive, the amount of energy required in construction is mainly used in the manufacture and transport of building materials. A high proportion of the energy used in the production of building materials is in a small number of key materials such as steel, aluminium, cement, bricks, glass and lime. Similarly different types of construction systems (sets of materials) can result in considerable differences in the total embodied energy requirements in complete house systems.

Energy is also used in buildings for cooking, space-heating and cooling, lighting and for productive activities. In areas where there is a substantial annual heating requirement, coal-burning stoves are often used in urban housing: insulation standards in such housing are frequently very poor by comparison with those of industrialized countries, and the combustion products add considerably to urban air pollution.

Construction and atmospheric pollution

Pollution caused by construction activities and the production of building materials includes water pollutants from quarrying activities and effluents from chemicals, particulates from fuel combustion and manufacturing processes, carbon oxides (CO and CO₂) from burning fuel, sulphur dioxide (SO₂) from high-temperature burning, and hydrocarbons from the manufacture of chemicals and allied products such as paints.

At local scale, construction and building materials industries create air pollution through emissions of dust, fibre, particles and toxic gases from site activities and building materials production processes. It contributes to regional pollution through emissions of nitrogen and sulphur oxides in building materials production and it contributes to pollution on a global scale in two

important ways: (a) by the use and release of chlorofluorocarbons (CFCs) for refrigeration which contribute to the depletion of ozone layer; and (b) by the emission of carbon dioxide and other 'greenhouse gases'.

6.4 Homelessness

Introduction

Worldwide, the number of homeless people can be estimated at anywhere from 100 million to 1 billion or more, depending on how homelessness is defined. The estimate of 100 million would apply to those who have no shelter at all, including those who sleep outside (on pavements, in shop doorways, in parks or under bridges) or in public buildings (in railway, bus or metro stations) or in night shelters set up to provide homeless people with a bed. The estimate of 1 billion homeless people would also include those in accommodation that is very insecure or temporary, and often poor quality—for instance squatters who have found accommodation by illegally occupying someone else's home or land and are under constant threat of eviction, those living in refugee camps whose home has been destroyed and those living in temporary shelters (like the 250,000 pavement dwellers in Bombay). The estimate for the number of homeless people worldwide would exceed 1 billion people if it were to include all people who lack an adequate home with secure tenure (i.e. as owner-occupiers or tenants protected from sudden or arbitrary eviction) and the most basic facilities such as water of adequate quality piped into the home, provision for sanitation and drainage.

The European Observatory on Homelessness has developed a fourfold classification that can be used to define the condition of homelessness and evaluate its extent:

- rooflessness (i.e. sleeping rough);
- homelessness (i.e. living in institutions or short-term 'guest' accommodation);
- insecure accommodation; and
- inferior or substandard housing.¹⁹⁴

The fact that widely differing estimates are given for the number of homeless people in any city or country reflect different definitions for homelessness and the difficulty of measuring how many homeless people there are. In Europe and North America, the number of 'homeless' people is generally equal to the number of people registered with some official body as 'homeless' or the number of people using night shelters. They rarely include many of those who sleep outside or in public places because they are not registered as homeless and do not use night shelters. The number using night shelters is often a poor indi-

cation of the scale of homelessness—for instance where the quality of night shelters is very poor or authoritarian so homeless people avoid using them, or very inadequate in relation to the number of homeless people, or they fail to provide for those in need.

There is also what can be termed 'concealed homelessness' made up of all the individuals or households who are sharing accommodation or are in temporary accommodation when they need their own home. The previous section noted how in many cities a considerable proportion of adults who would like to have their own accommodation stay for long periods in the home of family members, because they cannot afford their own accommodation. Many young people also find temporary accommodation by illegally occupying a building or by staying with friends or family. There are also the many instances of women wishing to leave an unhappy marriage or relationship but are unable to do so, because they cannot afford separate accommodation.¹⁹⁵ A significant proportion of women in the North who become homeless do so because they are fleeing domestic violence¹⁹⁶—but many are discouraged from doing so because of the limited possibilities of finding accommodation. This helps explain why in the UK, the average length of time that women tolerate domestic violence before leaving home is 7 years.¹⁹⁷ There may be many disabled people presently accommodated in institutions who have the desire and the capacity to live in their own home but are not able to do so because of costs or lack of suitable housing. These people whose need for housing remains unmet are rarely included in statistics on homelessness. Thus, any statistic given for the number of homeless people for a particular neighbourhood, city or country needs to be qualified with a definition as to what part of 'the homeless' population it is measuring.

The scale of homelessness

Homelessness is certainly not concentrated in low-income countries. The proportion of people who are homeless in the sense of sleeping rough or in a night shelter or temporary accommodation may be higher in some of the world's wealthiest cities than in some cities in the lowest-income countries, largely because they have a higher proportion of people who lack the income to find the cheapest accommodation.

Several million people are homeless in Europe and North America. Using a conservative definition of homelessness, around 2.5 million people were estimated to be homeless in the early 1990s within the twelve countries that made up the European Union (see Box 6.7).¹⁹⁸ This includes 1.8 million who in the course of a year depend on public or voluntary services for temporary shelter

or squat or sleep rough, and another 0.9 million in cheap boarding houses and furnished rooms who pay for their own accommodation or are temporarily doubling up with friends and relatives.¹⁹⁹ If the definition was widened to include people in seriously substandard accommodation, the number would be much higher—at least another 15 million people are living in substandard housing and in overcrowded conditions (with more than two persons per room).²⁰⁰ If the definition was widened further to include all single persons and households who want but are not able to obtain their own home, the number would rise still further; one estimate suggested that 10 per cent of the population of the European Union, some 35 million people would be homeless by this definition.²⁰¹ A survey in London in 1986/7 found 188,000 'sharers', people who were living as part of another household when they would prefer to live in their own separate accommodation.²⁰²

Given the scale of domestic violence and its health impact on women and children in many countries in the North, a more comprehensive service to find new accommodation for the women and children seeking this as a result of domestic violence and sexual abuse would probably reveal a large 'concealed homeless' problem. To give an idea of the scale of the problem, in the United States, battering is the leading cause of injury to women and accounts for nearly one third of all emergency room visits by women.²⁰³

In the United States, most figures on 'homelessness' refer to people who have no accommodation or who may use temporary night shelters. Official estimates for the mid-1980s suggest between 250,000 and 350,000; the National Coalition for the Homelessness puts the figure much higher—at over 3 million with between 60,000 and 80,000 in New York alone. In Canada, estimates for the number of homeless people based on the number using temporary night shelters and those living and sleeping outside suggest between 130,000 and 250,000.²⁰⁴

No comparable figures exist for most nations in Latin America, Asia or Africa. The number who are 'roofless' and have no home and sleep in public buildings or open space is likely to be tens of millions. In India, it is common to see individuals and families taking shelter under bridges and fly-overs, in culverts and even unused water pipes.²⁰⁵ Those who are 'roofless' include many who move constantly in response to where work is available—for instance building construction workers who live with their families on construction sites.²⁰⁶ Many street children sleep in open spaces—although the proportion of street children that do so is generally relatively small.²⁰⁷ In many cities, a proportion of the people who sleep in the open or in public buildings are not home-

BOX 6.7

The extent of homelessness in the European Union in the early 1990s

In the early 1990s, around 18 million citizens within the European Union were homeless or extremely badly housed. This included 1.8 million people who in the course of a year depended on public or voluntary services for temporary shelter or who squat or sleep rough. Another 900,000 were estimated to be in cheap temporary accommodation for which they pay themselves—for instance boarding houses or furnished rooms—or were temporarily doubling up with friends and relatives. Another 15 million people were living in housing of very poor quality in overcrowded conditions (with more than two persons per room). A much higher number live in dwellings that do not meet their own national criteria for housing of good quality. Drawing data from ten of the twelve European Union countries, 71.3 million people lived in dwellings which did not meet their own national criteria for housing of good quality. Although most of West Europe's population live in housing with adequate provision for water and sanitation, none the less, in the second half of the 1980s, around 20 million people within the European Union lived in a dwelling without a water closet while around 30 million lived in a dwelling without a bathroom or shower.

Figures are available for most European Union countries on 'the number of homeless people' but these are generally based on the number of people who have been dependent on some public or voluntary sector service for homeless people. If these figures are used as 'the number of homeless people', it tends to be countries with relatively good provision for the homeless that appear to have the highest proportion of homeless people. For instance, by such statistics, Greece, Spain and Portugal appear to have a relatively small homeless population but there are large numbers of people in each of these countries sleeping rough or living in tents, caravans, shacks or other forms of temporary accommodation who are not considered as 'homeless' by official statistics.

Source: Avramov, Dragana, Homelessness in the European Union: Social and Legal Context for Housing Exclusion in the 1990s, FEANTSA (European Federation of National Organizations Working with the Homeless), Brussels, 1995.

less in that they have homes in rural areas or small towns but they move to cities for temporary work and sleep outside to maximize the amount of money that can be saved or sent home—for instance, many people who work in agriculture move temporarily to cities during periods of the year when there is less work needed on farms.

There are also the large numbers of people who live in tents or shelters made of temporary materials on land on which they have no hope of remaining—who should also be considered homeless. These include the 'pavement dwellers' that can be seen in the largest Indian cities; recent estimates suggest that there are around 250,000 pavement dwellers in Bombay and 130,000 in Delhi²⁰⁸ (see Box 6.8 for more details of pavement dwellers in Bombay). In Karachi, they include those who live over and along storm drains, on

road reserves or on land set aside for parks and playgrounds that had not been realized.²⁰⁹ Similar kinds of what might be termed 'temporary squatting' can be seen on similar sites in many other cities throughout Africa, Asia and Latin America. These are really the last resort for poor households unable to find rental accommodation they can afford or more secure 'illegal' sites.²¹⁰ And the very precarious nature of their tenure ensures that they keep their shelters made of temporary and easily transportable materials. As one person living in an illegal settlement in Abidjan commented:

Wooden houses are more expensive than permanent houses, but the land does not belong to us; we have no papers from the Town Hall or Government, so as we cannot use permanent materials, we build in wood ... If we are thrown out of here, I can take my wood and go and set up somewhere else, which I could not do with a brick house: you lose a lot, apart from the metal sheeting and wood which you can pick up to take elsewhere.²¹¹

The number of people in Africa, Asia and Latin America that live in accommodation that is both insecure and substandard is much higher, as described already-for instance the hundreds of millions who live in illegal settlements that are under threat of eviction and with their shelters lacking basic services such as piped water and provision for sanitation and drainage and services such as schools and health care centres. These could be defined as homeless using the broadest

definition. Millions of rural households also live in insecure and substandard dwellings-for instance plantation workers, tenant-farming households or temporary or seasonal workers living in communal shacks in very poor conditions. The number living in substandard but relatively secure accommodation would run into the hundreds of millions in rural areas.

Trends

Data about homelessness in the South is too sparse to be able to comment on trends. However, the increasing commercialization of land markets in many cities described in Chapter 7 and the increasing difficulties that low-income groups are having in finding cheap rental accommodation and housing plots that was described earlier suggests that the proportion of people unable to find an adequate quality and secure home is on the rise. The large and possibly rising scale of forced evictions described in Chapter 7 would also support the idea that homelessness in the South is growing.

The evidence in the North suggests that homelessness rose during the 1980s-although here too, the lack of data does not allow precise estimates, especially for the broader categories of 'homelessness'. In the United States, during the 1980s, the number of shelter beds available for the homeless in cities of over 100,000 inhabitants

BOX 6.8

Pavement dwellers in Bombay

Pavement dwellers live in small shacks made of temporary materials on pavements and utilize the walls or fences that separate building compounds from the pavement and street outside. They can be seen in most large cities in India but are mostly concentrated in Bombay and Calcutta. They are not a new phenomenon; an English woman, who lived in Bombay in the 1920s, wrote of her shock and distress at the numbers of people for whom the pavements were the only home. The only real change since then has been in the magnitude of the problem and in the nature of official reaction to it.

Most households living in pavement dwellings have at least one household member employed-and hardly any make their livelihood through begging. Far from being a burden to the city's economy, they are supplying it with a vast pool of cheap labour for the unpleasant jobs which organized labour does not like to do. Most are employed in the informal economy as petty traders,

hawkers, cobblers, tailors, handcart pullers, domestic servants and waste-pickers. They can only work for such low wages because they are living on pavements that minimizes their housing costs and incur no overheads on either shelter or transport (most walk to and from work).

The inhabitants of pavement dwellings come to live there initially as a temporary measure, until they can locate and afford better housing. Unfortunately, most are never able to acquire better housing and live out their lives on the footpath. In a census of pavement dwellers undertaken by the Indian NGO SPARC in one ward of Bombay, almost all the families have been living on the pavement ever since their arrival in Bombay-which could be as much as 30 years previously. Fourteen per cent of household heads were not first-generation migrants but born in the city and 23 per cent had been living in the city for more than three decades. Most pavement dwellers moved to Bombay because of poverty, landlessness or lack of employment; most were agricultural labourers, before moving to Bombay.

In a sample of 375 pavement dwellers, half

lived in huts of less than 5 square metres.

Given the size of the hut, the pavement in front of the shelter becomes an important part of the domestic space-and is where most children eat, sleep, study and wash. Most pavement dwellers had to obtain water from housing nearby (probably where the women work as domestic helps). For toilets, most used public toilets for which a nominal charge had to be paid while 30 per cent used the railway tracks. When mothers of children under 6 were asked about the main problems they face in staying in their current location, problems of water and sanitation were the ones most frequently mentioned.

Pavement dwellers also had many characteristics in common with most other low-income households in terms of their incorporation within the city. Around two-thirds had their names on electoral roles and just over half the children attend school. Three-quarters of the children had been born in municipal hospitals. Just over a third of all households said they had savings and 28 per cent had loans with banks.

Source: 'We the Invisible' a census of pavement dwellers, SPARC, 1985; Patel, Sheela, 'Street children, hotel boys and children of pavement dwellers and construction workers in Bombay: how they meet their daily needs', *Environment and Urbanization*, vol. 2, no. 2, Oct. 1990, 9-26.

BOX 6.9

Homeless people in Europe and North America

Most studies of homeless people draw their information from the people who use public services set up for the homeless. Although population censuses record the condition of homelessness and poor quality housing, they do not catch all homeless people, they are generally only undertaken once every ten years and they usually have limited information about the immediate and underlying causes of homelessness.²¹⁵ But studies on the extent of homelessness and on who is homeless and why that draw on those using public services are only representative of the homeless who use these public services. A survey of those using night shelters cannot be representative of homeless people if most homeless people do not use night shelters.

In recent years, studies of homeless people in the North that use the most restricted definition of homelessness-i.e. people who use public or voluntary services for the homeless-have undermined the idea that it

Sources: Most of the information in this box is based on the first, second and third report of the European Observatory on Homelessness by Mary Daly, the fourth research report by Dragana Avramov, FEANTSA, Brussels, and Burt, Martha R., *Over the Edge; the Growth of Homelessness in the 1980s*, The Urban Institute Press, Washington DC, 1992.

tends to be older, single men who account for most of the homeless.

Women: In both Europe and the United States, a significant and growing proportion of homeless people are women-many with children.²¹⁶ Around 40 per cent of the people receiving services for the homeless within the European Union are women.²¹⁷ A third of the young single homeless people arriving at an emergency shelter in Central London (Centrepoint) each year are female.²¹⁸ Single parent households, most of which are headed by women, are particularly vulnerable to homelessness because of the combination of higher costs than single people and very restricted income-earning possibilities for the single parent, especially if the children are too young to go to school.

Younger age groups: The average age of those who are homeless has also fallen. In the 12 countries that formed the European Union in 1994, over 70 per cent of the homeless were younger than 40 years of age. While the age profile varies from country to country, in general there is a fall in the average age of homeless people. In Denmark, both the 18-24 and the 25-34 age groups doubled as

a proportion of homeless people between 1976 and 1989. In Spain, the proportion of those assisted as homeless under the age of 30 grew from 19 to 32 per cent of the total between 1984 and 1991.²¹⁹ In the United Kingdom, more than 150,000 young people are homeless-and nearly half of them have been in care and nearly half are young women who left home because of sexual abuse.²²⁰

Level of education: Homeless people tend to have below average levels of education and it is generally their difficulties in finding work that makes them homeless. In Germany, 80 per cent of those in shelters had not progressed beyond primary schooling; in Spain, over 70 per cent of homeless people have only basic reading and writing skills and most of the rest have no more than middle-range education.²²¹ Although most homeless people in Europe and the United States rely mostly on subsistence incomes paid by government agencies, a proportion actually have work but the work pays them too little to allow them to find secure accommodation.

nearly tripled-from 41,000 to 117,000.²¹² In the United Kingdom, where provision for homeless people is less oriented to single males and more oriented to parents with young children or pregnant women and other 'priority groups'²¹³, the number of households recognized as 'homeless' by public authorities rose from around 20,000 in 1970 to 117,900 in 1986 to 167,300 in 1992.²¹⁴ Box 6.9 outlines some characteristics of the homeless in the North.

The causes of homelessness

Much of the research on homelessness tends to describe characteristics of the homeless such as those outlined in Box 6.9 or immediate causes that precipitated a person or family being homeless-for instance the loss of a job or a fall in income that meant the rent could no longer be afforded or the break-up of a relationship leaving one parent and often the children homeless. The underlying causes are sometimes not mentioned at all-for instance a decline in the availability of cheap rental accommodation to allow these people to find accommodation without becoming homeless, the decreased emphasis given by most governments to social housing, and changes in the labour market that make it increasingly difficult for substantial sections of the adult population to find employment, or the possibility of earning an income or (in the North) the decline

in the value of the subsistence income available to the unemployed and the limits on its availability for unemployed people.

Most homelessness is the result of people unable to find adequately paid work and it is often exacerbated by housing markets where adequate accommodation is beyond the means of those with low incomes. The clear links between poverty and homelessness were noted in Chapter 3 when describing the scale and nature of poverty.

Although the general causes of homelessness will have common elements in most countries in the North and the South, its scale and the groups most affected by it will vary greatly. It is also likely that the causes of homelessness vary for different groups-for instance comparing men and women and considering the special circumstances that make young groups or older groups or those with physical or mental difficulties more at risk of homelessness. Minority groups and refugees are often more at risk of homelessness because of greater difficulties in finding jobs and because of discrimination against them by landlords and possibly by agencies selling or renting housing or selling mortgages. In many countries, women also face discrimination in job markets, housing markets and access to housing finance.

In regard to gender differences, the European Observatory on Homelessness noted that male and female homelessness tend to be precipitated by different conditions. For women, relationship

problems are the most common stated cause of homelessness—often arising from marital difficulties, a considerable proportion of which include domestic violence. Men are more likely to be made homeless by either material problems (for instance loss of job, shortage of money) or personal difficulties of some kind. Men who are homeless are more likely to seek and receive accommodation from the available services (which are typically more suited to the needs of lone individuals) or are more visible on the streets and in public places. Women who are homeless or potentially homeless (for instance having left their home and are staying with a family member or a friend) often have responsibility for children.²²²

In regard to homelessness among young adults, the most critical factor is the extent of employment opportunities and their level of pay. For instance, perhaps the most fundamental underlying cause of increased homelessness among the young in Britain (and probably in most European countries) is their deteriorating economic position that has its roots in the rapid changes in the labour market.²²³ In Britain, young people have experienced dramatic rises in unemployment, particularly long-term unemployment, a downward pressure on wages for young workers and reductions in entitlements to a minimum income if unemployed.²²⁴

A study of the growth of homelessness in the United States during the 1980s was unusual in that it investigated in considerable detail the variety of underlying causes.²²⁵ One of the most important was the change in labour markets—like the disappearance of many casual-labour and manufacturing jobs that had paid relatively high incomes to people with relatively little formal education. This was part of the increase in inequality in the United States; during the 1980s, the average incomes of lower-income groups declined. These changes had the greatest effects on people with the highest risk of experiencing homelessness—minorities and low-skilled men and families headed by women. A second underlying cause was rising rents, especially in relation to the incomes of those who rented accommodation; in many cities, there were also increases in living costs. The third was changes in government 'safety net' programmes during the 1980s that generally withdrew or reduced resources for very poor households. The fourth was the increase in the number of households with only one income-earner; low-income households who rented accommodation in the 1980s were more likely than in the 1970s to be single-person households or households that included only one adult (usually these were households headed by women). Both household types are less able to weather a crisis than husband-wife households.

They are less able to support disabled or unemployed family members—and if some crisis pushes them into homelessness (e.g. losing a job or eligibility for welfare), their lack of assets are less likely to be able to get them back into their housing market. Their circumstances combined with increasing housing costs put them and their wider network of family and friends at higher risk of homelessness.

A fifth underlying cause was the decrease in government support for people with mental illnesses or problems of chemical or alcohol dependency. A significant proportion of the people using homeless services have problems with chemical dependency or mental illness—and the proportion increased rapidly during the 1980s. However, they were still a minority among those using homeless services.²²⁶ and a proportion of these people were able to avoid homelessness when cheap rental accommodation and casual work was available. Their numbers were also increased by reduced government provision for those with mental illnesses, including a greater tendency to release people too early, without support. The proportion of homeless people with problems of chemical dependency or mental problems would be much lower, if a broader definition was used for defining the homeless.

Studies of homelessness in Europe and North America stress the broad range of people who are homeless or at risk of becoming homeless. They also show how the relative importance of different underlying causes varies considerably from country to country and city to city—and often, in any country or city over time. The study of homelessness in the United States also found that a city's poverty rate rarely contributed to explaining differences in homeless rates between cities. The author suggests that

poverty should be viewed as a factor making one vulnerable to homelessness but homelessness depends less on the proportion of the city's population that are poor than on external conditions affecting poor people. Poverty reduces a household's ability to cope with heavy pressures but it is the structural pressures of poor quality jobs, high living costs, pressures from middle class and tight housing markets that tip poor people into homelessness.²²⁷

However, despite the great variety in the scale and nature of homelessness between countries and cities, certain common themes recur in research findings. The most common is the extent to which poverty, poor housing and homelessness are concentrated in households with only one income-earner—and especially so in single-parent households where the single parent (almost always a woman) has to combine responsibility for child-rearing and for all housekeeping tasks with earning an income. Another common theme is that the scale of homelessness in any

country is much influenced by the extent and quality of government action in three areas:

- Providing a framework in both housing policy and macro-economic policy and tax structure that ensures housing costs are kept down and constraints on the supply of housing (including rental accommodation) and on inputs into housing (land, finance, materials) are kept to a minimum. Cheap rental accommodation is often of particular importance to individuals or households most at risk of becoming homeless;
- The provision for education and training and for health care that increases people's capacity to earn income and minimizes the time that potential income earners are sick or injured; and
- The extent and quality of safety nets or social

security schemes that ensure at least a minimum income and access to accommodation for those who are sick, disabled, fleeing domestic violence (usually women, often with children) or otherwise unable to find a source of income.

These reasons underlie homelessness and many other aspects of deprivation in both North and South. The safety net must include adequate provision for the people with mental illnesses and problems of alcohol or drug abuse but it should be recognized that these are only part of the people who are 'roofless' and a very small proportion of the homeless, using the broader definition for homelessness. And as a study on homeless within the European Union noted, since homelessness is largely the outcome of social and economic factors, it also means it can be much reduced by reducing the social and economic factors that cause or precipitate homelessness.²²⁸

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206. See Patel, Sheela, 'Street children, hotels boys and children of pavement dwellers and construction workers in Bombay: how they meet their daily needs', *Environment and Urbanization*, vol. 2, no. 2, Oct. 1990, 9-26.
207. Within 'street children', it is useful to distinguish between children who work in the street but live in a stable home, usually with their parents, and children who live and work on the streets. UNICEF has suggested three categories of street children. The first is 'children on the street' which is much the largest category of 'street children'; these are children who work on the streets but have strong family connections, may attend school and, in most cases, return home at the end of the day. The second category is 'children of the street'; these see the street as their home and seek shelter, food and a sense of community among their companions there. But ties to their families exist, even if they are remote and they only visit their families infrequently. The third category is 'abandoned children'; these are difficult to distinguish from children of the street since they undertake similar activities and live in similar ways. These children have no ties with their families and are entirely on their own and are most likely to sleep in the open. However, in most cities, the proportion of 'street children' who are abandoned is relatively small, although in the largest metropolitan areas it can still run into thousands.
208. Das and Gupta 1994, *op. cit.*
209. Van der Linden 1990, *op. cit.*
210. *Ibid.*
211. Yapi-Diahou 1995, *op. cit.*
212. Burt 1992, *op. cit.*
213. Local governments in the UK have a statutory duty to help homeless people in defined categories of 'priority need' and these are essentially families with young children, women expecting babies and those vulnerable through old age, physical disability, mental handicap or illness (Central Statistical Office, *Social Trends 24*, 1994 Edition, HMSO, London, 1994). This means that services for homeless families are probably much better than in the United States-but a large number of homeless people or people wishing for their own home and unable to find one do not receive support (see for instance Morris and Winn 1990, *op. cit.*)
214. Department of the Environment, Welsh and Scottish Office, quoted in *Social Trends 1994*, *op. cit.*
215. Avramov 1995, *op. cit.*
216. Burt 1992 and Daly 1994, *op. cit.*
217. Daly 93, *op. cit.* In some instances, this might reflect the fact that such services are prioritized for families with children and the fact that many families become homeless through a breakdown in the relationships between the parents with the woman generally taking responsibility for the children.
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219. Daly 1993, *op. cit.*
220. National Children's Home, *The NCH Factfile*, NCH, London, 1993 quoted in Commission on Social Justice, *Social Justice: Strategies for National Renewal*, Vintage, London, 1994.
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7

Land, Land Markets and Settlement Planning

7.1 Land Markets for Housing¹

Introduction

The price and availability of land for housing remains an important influence on housing price (and on housing conditions) in most urban centres.² This is also true in rural areas where the value of the land is related to its locational advantage rather than its agricultural value. The price and availability of land for housing is especially influential on housing conditions and prices in urban centres in the South with rapidly growing populations and inadequate housing stocks in relation to the number of households-and where the other monetary costs of housing construction are kept down by self help construction and by widespread use of local (often semi-permanent or temporary) building materials.

The issue of how to ensure that urban land markets serve the economic and social needs of urban inhabitants and enterprises remains one of the most complex-perhaps the most complex-tasks for urban governments. The economic and social benefits from good land management are enormous; one of the main determinants of the economic success and quality of housing and living conditions in any city is the price and availability of land-for commercial and industrial use, for housing, infrastructure, public services and the various forms of public space-playgrounds, parks, public squares. The social costs of poor or no land management are also enormous, as earlier chapters have described, where a large proportion of the city's population (including most of its labour force) have to resort to illegal practices in occupying, renting or purchasing land to find a home. The economic costs of poor land management are often the failure to attract productive investment, especially as many enterprises now give a higher priority to good quality infrastructure and services both for the enterprise itself and for their workforce when choosing locations. Chapter 4 also documented the high environmental health costs and ecological costs of inadequate or inappropriate land policies.

The Recommendations for National Action endorsed at the first United Nations Conference on Human Settlements (Habitat) in 1976 recognized the central importance of land policies. Many of the recommendations were addressed to improved management of urban land. The recommendations also noted that

Land, because of its unique nature and the crucial role it plays in human settlements, cannot be treated as an ordinary asset, controlled by individuals and subject to the pressures and inefficiencies of the market. Private landownership is also a principal instrument of accumulation and concentration of wealth and therefore contributes to social injustice; if unchecked, it may become a major obstacle in the planning and implementation of development schemes. Social justice, urban renewal and development, the provision of decent dwellings and health conditions for the people can only be achieved if land is used in the interests of society as a whole.³

What was not fully recognized in these recommendations was how inappropriate government legislation, administration or intervention in urban land markets could contribute as much to economic, social and environmental costs as no management. This includes inappropriate legal frameworks and inefficient administrative procedures for defining land tenure and land transfer (including its purchase and sale) and for managing land use and land development. As in housing markets, too little attention had been given to what constrains land supply and as such, directly or indirectly increases its price. This section (7.1) focuses on urban land markets for housing, while section 7.2 reviews the overall urban land-use planning frameworks in which these processes take place.

Illegal or informal land markets for housing

Overview

The 'solution' to the rigidities and inefficiencies of public action and administration on land and the high proportion of city populations with very limited capacity to pay for 'housing' has been the development of illegal or informal land markets. These have provided the land sites for most additions to the housing stock in most cities in the South over the last 30 to 40 years.⁴ They have also proved important in some cities in the North-for instance studies in Lisbon (Portugal) show that where the demand for residential land is much greater than the formal channels of supply, extensive informal markets have emerged.⁵ A study of urban issues in Pakistan⁶ suggested the reasons why-because informal or illegal land developments provide land for housing at a cost that is affordable by many low-income households and with the advantages of immediate

possession and no paper work. Standards for plot sizes and infrastructure adjust to the capacity to pay. This system is exploitative in that a high proportion of housing plots have very inadequate or no provision for infrastructure and services; in many instances, the occupier pays substantial sums for the plot and may not even receive secure tenure. The illegal land system serves many powerful vested interests-including in many instances politicians and real estate companies. But housing conditions would be much worse without it. This is a conclusion that has validity in most cities in the South.

Three points about these illegal markets should be stressed:

- There is far less squatting in the sense of illegal occupation of the land than that suggested in most of the general literature on urban issues in the South. Only rarely do illegal land markets develop in the face of strong opposition from governments, landowners and real estate companies. In most instances, illegal land markets operate within limits that do not threaten the interests of governments and landowners, real estate companies and developers.
- In many cities, what might be considered as the key actors in legal land markets-real estate companies, politicians and the staff of government agencies-are also active within informal or illegal markets.
- There is great variety in the nature of the illegality between households and settlements. Although illegal land markets provide most new housing plots in most cities in the South, the precise nature of the illegality differs enormously both between countries and cities and, within cities, between different neighbourhoods.

Studies of particular cities have shown the great variety in the nature of the illegality for different settlements. Although it is common to label all people who live in 'illegal settlements' as squatters, most are not squatters since they occupy the land with the permission or implicit approval of the landowner. There is a great range in the nature of the illegality-in the occupation of the land, in the registration of ownership, in the way the land site is subdivided, in the use to which the land is put and in the nature of the building on it. At one extreme, there is illegal occupation (squatting) and at the other, fully legal occupation of the land but with one aspect of the house or the plot or the wider subdivision not meeting official standards or perhaps even meeting official standards but not having received official approval. There are also various forms of land acquisition that fall somewhere between these two extremes-for instance in countries where traditionally land is owned by

the community, a person may develop their home on a site for which they received permission to do so from the chief or traditional authority that has had the right to bestow this-but not from the municipal planning office.

Then among squatter settlements, i.e. settlements built on land that has been illegally occupied, there is considerable differentiation in terms of whose land is occupied, the likelihood of those occupying the land being able to stay there (or being evicted with or without compensation), the terms under which they are permitted to stay and, if they do succeed in obtaining legal tenure, the time taken for this to happen and the delay in receiving public services. There are also settlements that are partly legal and partly illegal-for instance as a new legal settlement develops on the periphery of a city, sanctioned by government, illegal houses and settlements may develop around it.⁷

There are also large variations between cities and countries in such aspects as the nature of the legislation governing land ownership or use, the extent of concentration in land ownership, the extent to which international investors are active in a city's real estate market and the extent of public ownership of land. In all countries, people's access to land within illegal markets is influenced by traditional and/or legal attitudes to land ownership rights - and by government attitudes.⁸

A review of how people obtain land in different cities⁹ suggested that these be divided into three categories: administrative, non-commercial and commercial. Within the non-commercial category there are settlements on the following types of land: customary land (usually with permission from the traditional authorities); government land; abandoned land (for instance after foreign settlers moved away when a nation achieved independence); and marginal land that has little commercial value. Within the category of commercial land acquisition, there are 'mini-plots' within existing settlements, mostly from the subdivision of existing plots within illegal settlements; renting land; and finally illegal subdivisions.¹⁰ Box 7.1 outlines how this range fits within broader commercial and non-commercial markets.

But in any illegal or informal settlement, there are usually a considerable variety of ways through which the people currently living in the settlement acquired the site. For instance, in a survey of households living in informal settlements in Abidjan, 61 per cent obtained their land through a 'gift', 15 percent through purchase, 15 percent through occupation of the site without payment, 7 per cent through leasing and 3 per cent through inheritance.¹¹ In one of the many informal settlements built on the municipal floodplain on which around three-fifths of Guayaquil's population

BOX 7.1

The range of ways through which people obtain land for housing in cities in the South**Formal****Commercial**

- public or private residential development of serviced sites available through purchase or renting
- land purchase with approval obtained for its use for housing

Semi- or non-commercial

- Government subsidized site and services schemes
- 'regularization' of tenure in what were illegal settlements
- inheritance or gift

Informal and/or illegal

- purchase of plot on illegally subdivided public land
- purchase of plot in illegal subdivision
- purchase of house site formed by subdivision of existing plot
- Renting of land site on which a shelter (often only a temporary shelter) can be built
- purchase or renting of permission to develop a house on a plot without tenure rights to the plot
- settlement on customary land with permission of traditional authority or farmer-although the size of 'gifts' given for this may reach a level where this is better considered as commercial
- squatting on government land
- squatting on marginal or dangerous land which has no clear ownership
- squatting on private land
- 'nomadic' squatters who use land site temporarily

Source: Based on Table 1 in Payne, Geoffrey, *Informal Housing and Land Subdivisions in Third World Cities: A Review of the Literature*, CENDEP, Oxford, 1989.

lives, a study found that there were eight distinct ways in which the inhabitants had obtained their housing plot—from opening up the land for themselves by cutting the mangrove (14 per cent of the inhabitants) to paying a 'professional squatter' to cut the mangrove and mark out the plot (19 per cent), to buying the plot without a house (30 per cent) or with a house already built (11 per cent). Most of the rest obtained the plot by individual invasion—9 per cent without paying, 6 per cent with paying. In all, two-thirds of the population had paid to acquire their plot.¹² Research in three unplanned areas of Dar es Salaam found that a quarter of those interviewed owned land; of these, a third had acquired it through the purchase of vacant land while 10 per cent had bought the land with a house (or in one instance the land with a foundation). Among the others, 21 per cent had inherited the land while 12 per cent were allocated it by a friend or a relative and 8 per cent occupied it without permission. Only 15 per cent of those who had land held the official Certificate of Title or a Letter of Offer.¹³

In many cities in the South, customary patterns of land tenure still apply to large tracts of urban land—or such patterns of tenure overlap with imported models of land legislation that were generally imposed by colonial rulers. For instance, in

many urban centres in West Africa, land for a house can be obtained from its customary owner or the person who has the right to allocate land. One example of this is the case of land acquisition within informal settlements in Abidjan noted above where 60 per cent of households surveyed acquired their land through a gift.

However, this form of land acquisition has become more commercialized. To take again the case of Abidjan, the gifts that were given to traditional leaders or farmers when a land plot is allotted were once symbolic—the price of a drink' and the 'price of pulling up' crops; now they involve much more substantial gifts and may occasionally reach a size that is comparable to the commercial value of the land.¹⁴ In Bamako (Mali), unauthorized housing almost invariably complies with customary land rights, even if it is in violation of traditional norms and formal legislation, but here too the land market has become commercialized through the sale of rights by those who retain traditional land rights and a range of 'land-brokers'.¹⁵

Illegal or informal land markets for housing are markets in the sense that in most instances, the individual or household seeking a housing plot has to pay for it. In most instances, the person who sells them the plot is the landowner or a developer acting on the owner's behalf—or a

developer who subdivides public land, with the tacit approval or acceptance of the government. Where customary tenure prevails, what might be sold is the temporary or permanent right to live on a plot-but not the tenure of the plot itself. A review of the literature on illegal or informal land markets noted how this usually took the form of developers who acquire land from the original landowners, often on the urban fringe

and subdivide it for sale to individual purchasers at whatever rate the local market will bear. In doing this, they generally circumvent or ignore official standards concerning plot size and levels of initial service provision in order to achieve a product which lower income groups can afford. Households are then left to build whatever type of dwelling they want or can afford without any imposed obligation to conform to official norms and procedures. It is their ability to cut corners-and costs-which has helped the commercial subdividers to expand their operations and to provide plots which are more appropriate, affordable and easily available than any other housing option.¹⁶

Illegal subdivisions are likely to emerge as an important supplier of land for housing wherever there is an effective demand for land sites for housing that official rules and procedures prevent from being fulfilled. For instance, a study in Hyderabad shows how illegal subdivisions evolved as a response to élitist standards, urban land demand and the ineffectiveness of local management agencies. The study also shows how the process was initiated by the landlord or colonizer and is sustained by political support for the provision of services and inaction in enforcing planning regulations.¹⁷ Box 7.2 gives an example of how an illegal subdivision in Karachi developed. It illustrates how the development of illegal subdivisions is often a complex process-in this instance involving not only the official owner of the land (a government agency) but also a tribe which had established the right to use the site. It is a reminder of how any illegal subdivision often has a complex array of actors and how the whole process of illegal subdivision is rooted in the particulars of each country's and city's legal, administrative and political structure, including the structure of land-ownership.

Many studies of illegal land markets in Africa, Asia and Latin America have shown the central role of particular agents or brokers in the development of illegal subdivisions. The variety of agents involved in illegal land development was stressed in a study covering Bogotá, Mexico City and Valencia-where the agent responsible for developing the land (that could be public, private or communal) could be a party politician, a real-estate developer, a community that invaded or purchased land or a popular leader or organization.¹⁸ A case study in Karachi showed the involvement of political leaders, administrative leaders, administrative personnel, devel-

opers, developers' personnel and dwellers.¹⁹ `Professional subdividers' and subdivision companies have also had a central role in the illegal or informal land developments around Cairo.²⁰ Customary landowners in Papua New Guinea who control almost 97 per cent of the land have taken to providing low-income households with plots at low rents on which households build a temporary shelter; consolidation or improvement is strongly discouraged and the provision of services denied so as not to prejudice the long-term interests of the landowners.²¹ A study of informal housing areas in Abidjan also described the complex range of intermediaries who were important in the acquisition of land for housing-including neighbourhood leaders, kinship networks and public and private agencies.²²

For illegal subdivisions, a distinction should be drawn between where the land occupation is legal and where it is not. In most illegal subdivisions, the occupation of the land is legal and is done by landowners acting as developers or developers who have purchased land to develop the subdivisions. In some instances, it is through customary landholders `renting' sites as in the above case of Papua New Guinea or selling sites-as is common in and around many cities in Mexico where *ejido* land that is owned by rural communities has been subdivided and sold-although in theory such land can be neither subdivided nor sold.²³ In other instances, where the government itself is a major landowner or perhaps where the city has grown in a site without a commercial land market in its surrounds, subdividers can operate even though they do not own the land. This was the case in Yakoobabad described in Box 7.2 and is common in other settlements of Karachi. In Tunis too, `pirate subdividers' have become important and include individuals who without official sanction subdivide land that is not legally theirs-including land that belongs to the state.²⁴ This is an interesting variation in that these developers have the knowledge and contacts to permit them to develop land belonging to other people (usually a government agency) whereas individuals who tried to occupy the same land that these developers subdivide would probably not be permitted to stay there. Developers become important because of their ability to anticipate what was likely to be officially or politically acceptable²⁵ or because their political and economic power is such that their subdivisions are not challenged, even while squatter settlements are being cleared.²⁶

Increasing commercialization of urban land markets

In many of the cities for which detailed research has been undertaken on informal land markets, the non-commercial informal land markets are in

BOX 7.2

The development of Yakoobabad illegal subdivision in Karachi, Pakistan

Yakoobabad is a settlement on the north-western fringes of Orangi township in Karachi. The land belongs to the Central Board of Revenue. The land to the north of Yakoobabad belongs to an elder of the Rind tribe and this tribe has lived next to Yakoobabad since 1839. The tribe has also had the right to use the site under an annual contract dating back to the 1880s. The tribe, through the elder, also retains certain rights over the site including the right of pre-emption in matters of contract or purchase, if it is put up for sale (this is known as *shifa*).

The land is rocky and uneven. Although it had been used for damming water to aid cultivation of crops, agriculture was poor and the land was virtually worthless before the development of Orangi township. By 1976-8, most of the plots in settlements adjacent to Yakoobabad had been occupied. The value of the remaining vacant plots increased beyond what poorer groups could afford. The West Karachi subdividers felt that the time had come to colonize new land. The plan to colonize the area was first conceived by a well-established developer whom we shall call Mr X. He was also involved with the development of adjacent sites and, some years previously, had begun work on a plan for the development of Yakoobabad.

People who had been settled in the neighbouring areas kept informing Mr X of their friends and relations who needed plots of land. Many social welfare organizations and public-spirited people also approached him, asking for help in settling refugees, widows and the destitute. At some point in 1977, Mr X drew up a list of 100 families and made informal representations on their behalf to government officials. They agreed to the development of Yakoobabad. The developers say that Karachi Municipal Corporation officials were to be paid Rs200 (about \$US10)

for each plot sold and the police also collected this amount for each construction undertaken in the settlement. These negotiations took place in the evenings in the tea shops of Orangi.

Early in 1977, Mr X moved 100 destitute families onto the Yakoobabad site. With the families were transported the bamboo posts and mats needed for the initial construction. The Rind tribe followed them onto the land and threatened to kill those who remained. It was agreed that the destitute could stay but no houses would be erected until an agreement had been reached. The next day, the tribe's elder went to court and, through a lawyer, argued for his right of pre-emption. This case was admitted. The subdivider filed a report in the local police station accusing the tribe of causing 'bodily harm' to his clients and associates.

Further negotiations took place; one source said that these were arranged by mutual friends who received several plots as their 'fee' while others suggested the talks were set up by the local police. Agreement was reached whereby the Rind tribe received Rs 500 (\$US25) for every plot developed (although the first 100 destitute families were exempt from this payment). The Rind tribe then withdrew their case against the development although they have continued to press their case against the government for permitting the colonization of the land.

The subdivider then laid out the settlement with about 2,000 plots on a grid iron plan. Roads were levelled by informally hiring (at a reduced rate) tractors and a bulldozer from the Karachi Municipal Corporation. Space was set aside for a mosque and school, and plots on the main road were left for communal purposes. It is reported that informal representations were made by government officials and local informants state that about 30 per cent of all plots were set aside for speculative purposes with the subdivider agreeing to sell these at an appropriate time on behalf of government officials. Additional speculative plots were held by the subdivider.

In total, ten years after development started, 32 per cent of plots are still vacant.

In 1979, there were local elections. Residents have told of how the subdivider gave small sums of money to elected councillors and also tried, successfully in some cases, to make them office-bearers of his welfare organization. (It is common for illegal subdividers to formally register a social welfare society formed by residents. This strengthens their ability to push for service provision to the area, thereby increasing the value of the land.)

The subdivider engaged people with donkey carts to first supply water to the residents. The water was acquired illegally from the water mains in Orangi. The subdivider paid for the first supply but after this the residents bought direct from the water-vendors. Initially, residents collected this water in containers but later built their own concrete storage tanks which served each small street (lane), with a committee of residents organizing the purchase and distribution of water.

Transportation links to and from the new settlement are poor. The nearest regular transport is a mile (1.6 kilometres) away. Buses now go to and from the settlement itself but these are privately owned. The permits for the route were given to the operator due to pressure from the subdivider's welfare organization.

Electricity is provided commercially to a few households from a privately operated generator. This is illegal but can function because of police protection. The subdivider is pressurizing people to apply for regular electricity connections. When a sufficient number of applications have been collected, pressure for electricity connections will be put on the Karachi Electricity Supply Corporation through the subdivider's welfare organization. The subsequent increase in the value of the property will benefit the subdivider and government officials holding speculative plots in the area.

Source: Hasan, Arif, A Study of Metropolitan Fringe Development in Karachi (focusing on informal land subdivision), report prepared as part of the United Nations ESCAP study on metropolitan fringe areas in major cities in the region, April 1987.

decline and the informal commercial land markets are expanding rapidly.²⁷ Many researchers point to the increasing commercialization of informal land markets as city economies and populations grow.²⁸

Two characteristics of this increasing commercialization of informal land markets were noted above—the emergence of land-brokers or agents operating on land that is not officially theirs and the increased amount of 'gift' that has to be given to farmers or traditional authorities to secure the right to use a plot. Another is the emergence of 'land rental' where it is the land site for a shelter that is rented rather than a shelter itself. For

instance, in Bangkok, short-term leases for land plots on which the tenant develops a shelter are often provided by landowners but the lease is only temporary (perhaps renewed on a yearly basis); the advantage for the landowner is a return on land that is undeveloped but the land remains available when the landowner chooses to develop more profitable uses.²⁹ The *bustees* in Calcutta are shelters that the occupants rent from middle-men (*tbika* tenants) who in turn have leased the land from the landowners.³⁰ Land leasing became important for low-income groups on the periphery of Fez (Morocco) as central-city rental accommodation became saturated, although a

paper in 1988 also reported that landowners were finding it more profitable to sell rather than lease land.³¹ It was also reported in the informal settlements of Abidjan, although only for a small proportion of plots.³² In Latin America, case studies have also given examples of small land plots rented out by the owners of lots that are large enough to permit this but their extent and relative importance is not known.³³

Temporary squatting may also be another characteristic of the increasing commercialization of illegal land markets. In many cities in the South, there are thousands of people who live in rudimentary shacks built on sites that are illegally occupied on which they can have little hope of permanency or secure tenure. This may reflect the fact that there is no free or very cheap land available on which these people would have some chance of avoiding eviction and even obtaining tenure in the longer term-although 'temporary squatting' may provide temporary accommodation for seasonal workers or people who plan only a short stay in a city.

Highly commercialized land markets can also produce new variations in illegal land occupation and use. For instance, in most cities of the South, there is also the problem of private encroachment onto public space-for instance influential real estate interests being allowed to site new developments on public land, including parks and greenbelts. It is also common to find private developments encroaching onto public roads or sidewalks-or, as in a recent example in Karachi, onto a major stormwater drain.³⁴

One final and obvious characteristic of increasingly commercialized land markets is the increasing concentration of the lower-income groups on a small proportion of the land area. One study in Dhaka revealed the level of inequality in the use of land; in 1987, the wealthiest 2 per cent of the city's population used almost as much of the city's residential land as the poorest 70 per cent and 2.8 million of the poorest people lived on just 7 square kilometres of land.³⁵ A study in Nairobi found that one-third of the population lived in illegal or informal settlements which covered less than 4 per cent of the land area.³⁶ This high concentration of low-income groups in very small proportions of the land area does not imply that overall densities are high. Indeed, in most of the largest cities in the South, there is sufficient vacant or underutilized land within the city or metropolitan boundaries to provide good-quality housing for all those currently living in overcrowded tenements or high density illegal or informal settlements.³⁷

Squatting and evictions

Large-scale invasions of urban land are relatively rare. They are too much of a threat to the estab-

lished structure of asset ownership. Where they happen, they constitute one of the few examples of a redistribution of assets towards lower-income households-although some case studies of squatter invasions have also revealed that not all those taking part in invasions are low-income.

There are certain characteristics that land invasions tend to have in common. First, they often occur under particular political circumstances. For instance, the large-scale land invasions in Buenos Aires in late 1981 took place because the (then) military government was in crisis. In Santa Cruz (Bolivia), large-scale land invasions coincided with particular political circumstances that permitted the invasions.³⁸ In Karachi, despite the fact that illegal land markets are the main means by which low-income groups obtain land for housing, relatively few low-income households have managed to get land free. Some land invasions have occurred and succeeded-typically they coincide with specific political events-for instance, the hanging of ex-Prime Minister Bhutto in Pakistan or the announcement of the five-point government plan for low-income housing by ex-Prime Minister Junejo. Almost all of those who took part in these invasions were renters or sharers. Most said that they could never afford to settle in an illegal subdivision both because of the costs and because they fear they cannot survive outside their socio-spatial network which gives them access to jobs and some help when needed.³⁹

A second characteristic of land invasions is that they are generally carefully planned, with the sites selected for invasion chosen either for the good possibility of being able to stay there or for the strong negotiating position that occupying that site will provide.⁴⁰

In one important sense, most evictions are the opposite of successful invasions in that they involve the transfer of high value land from the inhabitants of the settlements who are evicted to middle- or upper-income groups or to free land for the construction of houses, commercial developments, roads and other forms of infrastructure that primarily benefit wealthier groups. An analysis of who benefited from the favela eradication programme in Rio de Janeiro in the late 1950s and early 1960s showed that it was primarily middle- and upper-income groups and industry and construction firms:

The re-organization of space ... freed land from occupation by the most deprived classes and placed it at the disposal of the wealthier groups. The program aimed to stimulate upper and middle class residential construction by clearing the most desirable areas of the city from the presence of the poor. 'Clearing' took the double meaning of physically opening new sites for construction and symbolically freeing the well-to-do from daily confrontation with the misery of the favelas.

Other sites were cleared to serve the needs of industry and construction firms were given an additional boost by receiving government contracts to build public housing projects. Needless to say, all of this was done in the name of the government's concern for the welfare of the 'less favoured' families.⁴¹

Developments in Rio de Janeiro in the mid-1990s parallel those thirty years earlier as the communities in Tijuca lagoon are evicted or threatened with eviction to clear land for middle- and upper-income groups and the construction companies which would build for them.⁴² Perhaps the most notable change in these thirty years is the extent to which protecting 'the environment' is invoked as a justification for the eviction, although the existing communities are making major efforts to safeguard the mangrove swamps while the middle- and high-income housing developments being built there are not.

The increasingly comprehensive information base on evictions suggests that several million people are evicted by force from their homes in urban areas each year.⁴³ The annual total is almost certainly higher in rural areas as people are evicted from their homes or lands to make way for reservoirs and building works associated with dams or other 'infrastructure works' or as farmers, pastoralists and huntergatherers are evicted from lands they traditionally 'owned' and managed.⁴⁴

It would be wrong to suggest that no redevelopment should take place within cities which displaces people. Inevitably, in any rapidly growing and developing city, there will be a need to redevelop certain areas and for public agencies to acquire land for infrastructure and services. The issue is not that such redevelopments should never take place but their scale, the way in which they are currently implemented with little or no dialogue with those who will be displaced, the lack of respect for the needs of those evicted and the lack of any attempt to develop solutions which minimize the scale of the evictions and the disruption caused to those who have to move. Table 7.1 lists some of the recent cases of evictions that have been identified and documented by the Habitat International Coalition. Six of these cases involved more than 100,000 people.

It is difficult to know if the scale of evictions in urban areas is increasing. There were certainly massive eviction programmes in many countries during the 1960s, 1970s and 1980s.⁴⁵ Probably the largest was in Seoul in South Korea where millions were evicted from their homes between 1966 and 1990. Between 1983 and 1988, 720,000 people lost their homes to demolitions and redevelopments and 90 per cent of those evicted did not obtain an apartment in the redeveloped site.⁴⁶

One factor that has probably helped moderate the scale of evictions has been the move towards more democratic governments.⁴⁷ But another fac-

tor which works in the opposite direction by increasing the scale of evictions is action by governments to make up for the backlog in urban infrastructure with large road, drainage and other developments. In the more prosperous cities with rapidly growing private car ownership and where the 'solution' to traffic problems is still seen in terms of ever increasing provision for private automobile use, the potential scale of evictions is very high.

Although evictions share one common characteristic-the removal of one group of people currently occupying (and often owning) land at the behest of a more powerful group-there are a variety of underlying causes. Some evictions arise because wealthier groups do not want settlements of low-income groups near them.⁴⁸ Others arise through a systematic process of oppression or control imposed by one people or group in society on another,⁴⁹ while others arise because of public works programmes. An overview of many recent cases of evictions that took place between 1987 and 1993 considered the role of local authorities in evictions. In most evictions, local governments had a major role either in initiating the evictions-for instance for public works or city beautification programmes-or in sanctioning them.⁵⁰

Governments usually justify evictions in one of three ways. The first (and perhaps the most common) is to 'improve' or 'beautify' the city. Major eviction programmes often take place just prior to some international event-for instance in Seoul prior to the 1988 Olympics,⁵¹ in Manila prior to the Miss Universe contest and the visit of the Pope, and in Bangkok to beautify the city for the meeting there of the Board of the World Bank. Authoritarian governments are more likely to implement large 'city beautification' plans with large scale evictions; a lack of dialogue with citizens and their organizations, a lack of representation for citizen views within government and a style of government which represses popular protest greatly limits the possibility of successful opposition to such plans. The negotiation of a compromise between those undertaking the redevelopment (whether government or private company) and those to be evicted is more common in nations with representative forms of government, although many of the evictions described in the review of these 40 cases were implemented in countries with elected governments.

A second way in which government justifies evictions is to claim that 'slums' are centres of crime and havens for criminals. Thus, evictions not only make the city more 'beautiful' but rid it of 'centres of crime'. When a new eviction programme was launched in Manila in mid-1982, the then Mayor of Metro Manila talked of 'professional squatters' who were 'plain landgrabbers taking advantage of the compassionate society'.⁵² In Tibet, the authorities in Lhasa tried to portray the people living in the

TABLE 7.1 Recent examples of evictions

Location	Date	Persons evicted	Motive for eviction	Agent responsible for eviction
Argentina (Buenos Aires)	1992	1,200	illegal occupation	Landowner
Bhutan	1990-1	500	military control	Royal Bhutan Army
Brazil (Sao Paulo)	1990-1	10,000	illegal occupation	Landowners & judiciary
Chile (Santiago)	1981-90	11,325	urban development	Municipality
Dominican Republic (Santo Domingo)	1987-92	180,000	500-year anniversary commemoration	Municipality & government
El Salvador	1991	450	illegal occupation	Government
France (Paris)	1990	240	real-estate speculation	Municipality
Guatemala	1987-90	11,825	illegal occupation	Municipality
India (Bhopal)	1991	3,000	urban renovation	Municipality
India (Bombay)	1988	200	illegal occupation	Municipal council
India (Calcutta)	1993	500	real-estate speculation	Municipality
India (Narmada Valley)	1985-?	610,000	dam construction	Federal & state govts.
Indonesia (Jakarta)	1991	29,247	urban renovation	Municipality
Kenya (Nairobi)	1990	2,000	real-estate speculation	Municipality
Korea (Seoul)	1983-90	720,000	Olympic Games	Government
Malaysia	1990	250	real-estate speculation	Government
Mexico (Alto Balsas)	1990-2	46,000	dam construction	Federal government
Mexico (Chiapas)	1991	230	ethnic discrimination	Political boss/ land owner
Mexico (Guadalupe)	1992	775	ecological reserve	Local authorities
Mexico (Pensil)	1992	700	real-estate speculation	Owner & local authorities
Myanmar (Rangoon)	1988-92	500,000	political control	Government
Nicaragua (Managua)	1992	25,000	illegal occupation	Municipality
Nigeria (Lagos)	1990	300,000	urban renovation	Government
Panama (Panama City)	1990	5,800	illegal occupation	Municipality
Papua New Guinea (Lae)	1991	600	illegal occupation	Government
Philippines (Quezon City)	1988	60,000	urban renovation	Municipality
Senegal (Dakar)	1991-2	1,035	real-estate speculation	Municipality
Sudan (Khartoum)	1987-90	500,000	ethnic discrimination	Federal government
Thailand (Bangkok)	1984-9	214,500	real-estate speculation	Municipality
Thailand (Bangkok)	1991	2,930	World Bank Meeting	Municipality
Uruguay (Montevideo)	1987-92	750	illegal occupation	Owner & municipality
USA (Atlanta)	1993-?	10,000	Olympic Games prep.	Municipality
Zambia (Lusaka)	1987-91	2,290	urban renovation	Local authorities
Zimbabwe (Harare)	1991	2,500	Visit Queen Elizabeth II	Municipality

Source: Habitat International Coalition

houses being demolished as beggars and unemployed people.⁵³ Many other instances have been documented where the authorities undertaking the evictions seek to portray those being evicted as criminals or racketeers.⁵⁴

Governments have also used the health problems evident in inner-city tenements or squatter settlements as a justification for their clearance, although eviction and slum or squatter clearance will usually increase rather than decrease health problems. If no alternative accommodation is provided for those displaced, they have to find space in other cheap areas and increase overcrowding there. Or the health problems of those evicted increases because of the very poor quality and location of the land on which they are forcibly 'resettled'.

A third justification for evictions is 'redevelopment', to use the cleared land more intensively or to build public works or facilities. Here, underlying reasons and official justifications are more likely to coincide. Centrally located areas in a city and other strategically located sites (for instance

close to airports or main roads) become increasingly valuable, as the city's economy develops. In many cities, cheap tenement districts developed in central areas but as the city grows, so too does the pressure to redevelop central locations for offices or other uses which yield higher returns. This helps to explain the rapid decline in the number of people living in the central areas of cities such as old Delhi, Bombay, Karachi, Bangkok, Santiago and Lima.⁵⁵ Similarly, squatter settlements which developed on what was once the city's periphery some decades (or years) ago are often on land that has become very valuable, as the city expands. Landowners or developers can make very large profits redeveloping such sites, especially if they can avoid the cost of rehousing those evicted from these sites. If settlements are judged to be 'illegal'-even if they have been there many decades-this is a convenient excuse to bulldoze them with no compensation paid to former inhabitants.

In 'redevelopments' of areas where the housing

that is to be replaced is legal, house-owners usually receive compensation although not necessarily enough to allow them to purchase another house of comparable quality and value to the one they lose. But it is very rare for tenants to receive any compensation. In many redevelopment schemes in Seoul, home-owners received some compensation although not enough to allow them to purchase another house or flat in the new development. But tenants—who often made up 60 per cent or more of all those displaced—usually received nothing but a notice to quit and at best a small token payment. When government officials were asked about this by the Asian Coalition for Housing Rights, it became obvious that they had never considered the idea of tenant rights and indeed had difficulty understanding the concept. The implication is that government views tenants as second-class citizens with fewer rights than those rich enough to afford the purchase of their own house or flat. The same is true in the large-scale evictions in Santo Domingo, initiated in 1988; here too, home-owners received very inadequate compensation but tenants (again the majority) received nothing.

More attention is also being given in recent case studies to the trauma of evictions where people are forced from homes and neighbourhoods in which they have lived for years or even decades. It is not only that they lose their homes—in which they have often invested a considerable proportion of their income over the years—or their possessions, as no warning is given before the bulldozers destroy their settlement. But they also lose their friends and neighbours as they scatter in the search for other accommodation.⁵⁶ They also lose the often complex reciprocal relationships which provided a safety net of protection against the costs of ill-health, income decline or the loss of a job, and which allowed many tasks to be shared. They often lose one or more sources of livelihood as they are forced to move away from the area where they had jobs or sources of income.⁵⁷ Where provision is made for resettlement, this is almost always at a distant site where the people are expected to build their homes once again, but on land with little or no provision for infrastructure and services. Those evicted rarely receive any financial support for rebuilding. The land site on which they are relocated is also very often of poor quality.⁵⁸ There are also the deaths and injuries caused by the violence in many evictions and the injuries or the murder of community leaders who oppose the evictions.⁵⁹

The role of government in informal land markets

In most countries in the South, one characteristic of government involvement in urban land is a

combination of official policies that restrict and constrain legal land markets and unofficial tolerance of illegal or informal land operations. This has been the case in a great range of countries with very diverse social, economic and political structures. What is also common to most is that this tolerance of informal land markets is only as long as such markets are kept within limits that neither threaten most landowners nor question the primacy of private or public land ownership, nor gravely endanger public safety and the environment in general.

In regard to the legal land market, most governments adopted policies that have contributed to land shortages, rather than land availability. Government policies have emphasized the control and regulation of land use rather than supporting and facilitating the supply and development of land to ensure demand is met as quickly and cheaply as possible. Government land-use policies have often been subsumed under some other heading—such as shelter needs or masterplanning. Governments have also failed to act on the fact that one of the most effective ways to support a city's economy and to improve housing conditions is to ensure that land with basic infrastructure is available for a great range of activities at the lowest possible price. Few governments have used their powers and investment capacities to stimulate increased supplies. Yet stimulating increased supplies can often meet economic, social and environmental goals more effectively than controlling use.

However, as already described, a range of informal and illegal land markets have provided the means by which the cost of housing—for renting, self building or purchase—could be brought down sufficiently to become affordable by a much larger proportion of each city's population. Governments have tolerated informal land markets to defuse what was potentially a huge political problem—the fact that a high and growing proportion of the population could not afford the cheapest legal house or site. But this toleration was virtually always within strict limits so most land for housing was not occupied illegally—and where it was occupied illegally, only rarely was it on valuable privately owned land. Most illegal land occupation took place on government land or land of very poor quality with limited commercial value. And over time, conventional land and housing markets developed in most illegal or informal settlements so what originally appeared to be a threat to the existing order ended up fully integrated into that order.⁶⁰

There are also many documented examples of government involvement in illegal or informal land markets. In some instances, this takes the form of providing tenure to those living in illegal settlements; perhaps not surprisingly, announcements regarding the provision of secure tenure

for the inhabitants of particular illegal settlements often take place just before elections.⁶¹ There are also examples of government authorities targeting their programmes that provide land tenure and basic services to those illegal settlements that appear to be the most substantial political threat to the government in power and not doing so to other, long established illegal settlements that did not represent a centre of opposition.⁶² Providing those living in illegal settlements with secure tenure can thus be used to counteract urban popular movements that threaten the established political order.⁶³

The extent to which governments develop a major programme to provide secure tenure and basic infrastructure and services to those living in illegal settlements and the choice of settlements that get priority is likely to be influenced by the extent to which those living in illegal settlements are organized. There are many case studies of squatter movements or popular movements in Latin America negotiating successfully with the state. At the other extreme, there are few if any organizations based in low-income settlements that represent 'the settlement'; for instance, a study in Bamako pointed out that people are active in organizations along ethnic and religious lines or based on being from the same area of origin and not on the basis of where they now live.⁶⁴

A study in Mexico City highlighted three different forms of government response to demands from low-income settlements:⁶⁵

- no formal government structure for the government-community interaction, with community leaders serving as intermediaries between residents and the government in an informal network of patron-client relationships;
- an opening of the official government agencies to petitions and a greater readiness to respond to demands but with no formal structure to manage this; and finally
- a formal structure established to manage government-community interactions (although not necessarily succeeding in doing so).

These distinctions may be useful in considering how other governments currently respond to demands from low-income settlements. Certainly the case studies of the role of government officials and politicians in illegal or informal land markets suggest that most remain in the first of these.

The cost of developing land for housing

Converting raw land into land for housing is often a long, complex and expensive process, if undertaken legally. Table 7.2 outlines the different stages that are often involved in transforming

raw (often agricultural) land into a housing plot.

The Housing Indicators Programme developed two indicators to measure how much the price of land increased as it became legally available for housing or developed for housing. The first was the *land development* multiplier-stage 5 in Table 7.2-that reflects the premium that had to be paid for a land plot developed for housing, in comparison to raw, undeveloped land. Data was collected on the price of 'raw' land and of land with services on the urban fringe. The land development multiplier was the average ratio between the median land price of a developed housing plot and the median price of raw undeveloped land in an area currently being developed. This not only reveals the size of the premium that has to be paid for land with infrastructure and services but in effect also the availability of infrastructure and services as well as of other constraints on the availability of land for housing-such as complex land development regulations and/or monopolistic land ownership patterns.

The second indicator was the *land conversion* multiplier (stages 2-4 in Table 7.2) that reflects the premium paid for a legal land plot for housing that meets zoning regulations and has planning permission in comparison to land in agricultural use. This measures the extent to which regulations governing changes of land use and its development for housing restrict the conversion of land from agriculture to urban housing.

There was considerable variation between cities for both these indicators and with the premium being paid for a legal housing plot and a housing plot with services often being much higher, in cities in relatively low income countries. For instance, for the land development multiplier, there was a tendency for cities in the wealthiest nations to have smaller land development multipliers-see Figure 7.1. Very large premiums had to be paid for land with infrastructure and services compared to undeveloped land in cities such as Lilongwe, Harare and Accra and, among the more prosperous nations, Madrid. Within the country groupings defined by per capita income, the cities in the high-income countries had the lowest land development multiplier; the median figure for price of the land plot with infrastructure was only 2.25 times that of the undeveloped land and no city had a land development multiplier of more than 5. The mid/high-income countries as a group had a land development multiplier of 5, the highest of any country group; in Madrid, it was 12 although Singapore, Hong Kong and Seoul had among the lowest land development multipliers of any country. The median figure for the other groups of countries based on income varied between these two extremes-but as Figure 7.1 shows, with great variation between them. Among

TABLE 7.2 The different stages in transforming raw (often agricultural) land into a housing plot

The different costs that have to be met	Factors that influence price
1. Raw land price.	Perhaps high because of high concentration of land ownership and very little incentive to develop it or penalty for not developing it-e.g. Manila. ⁶⁶ Or poor road network so land close to roads having inflated prices. Tending to be lower in cities which grew up in areas with land largely unused or desert?
Land conversion costs	2. The cost of obtaining permission to convert it from agricultural or non-urban use to use for housing.
	3. The cost of obtaining approval for the subdivision plan.
	4. The influence of subdivision regulations on the price of the plot-for instance the minimum plot size, the requirements for provision for roads, community facilities, the plot to building area ratio etc.
5. Land development costs-the costs involved in meeting official standards for infrastructure and services.	Where government agencies provide these, one of the main costs may be the delays in obtaining this. Plot costs are obviously much increased if the developer is responsible for paying for these or installing them.
6. Cost of finance for subdivider.	
7. Cost to person seeking to purchase the plot of doing so-including fees that have to be paid for legal services, registering the plot ownership, taxes and duties if any.	Influenced by ease with which the legal requirements for the purchase of a plot and registering its ownership can be met.
8. Cost to land purchaser of obtaining funds to permit this transaction.	Influenced by availability of and terms for long-term loans.

the cities within low-income countries, the land development multiplier was very high in Accra and Lilongwe but very low in Ibadan and Dhaka. Among cities within low/mid-income countries, it was very high in Harare and Cairo and relatively low in Abidjan, Karachi and Jakarta. Among cities in middle-income countries, it was very low in Kingston and relatively low in Bangkok, Bogotá and Santiago and relatively high in Istanbul and Rio de Janeiro. With the exception of Madrid, the variation in this indicator in cities in the wealthiest countries is much smaller than in the low-, low/mid- and middle-income countries.

Many of the cities in low- and middle-income countries that have low land development multipliers are also cities that have a relatively high proportion of housing plots with piped water, relative to their country's per capita income-notably Dhaka, Ibadan, Jakarta, Kingston and Seoul. Three cities in sub-Saharan Africa had particularly high values-Lilongwe, Harare and Accra-and in general, in this region, provision of basic infrastructure and services to residential areas lags far behind need. The good performance among the cities in the wealthiest nations is obviously helped by the slow population growth that

most have-or indeed in some instances, population decline (although the number of households may be increasing).

For the land conversion multiplier, which reflects how expensive it is to get official permission to develop agricultural land for residential use, there are even larger variations between cities (see Figure 7.2). Here, it was generally cities in low-, low/mid- and middle-income countries that had the lowest land conversion multipliers-especially Ibadan, Beijing, Dar es Salaam, Bangkok, Santiago, Dhaka and Caracas-but some of the cities in the high-income countries also had relatively low figures-for instance Toronto, Munich and Stockholm. Three cities had unusually high land conversion multipliers-Oslo with 115 (which went off the scale for Figure 7.2), Amsterdam with 80, Rio de Janeiro with 40. For Amsterdam, this is likely to reflect the strong public controls on the conversion of land from agriculture to urban use to prevent urban sprawl.⁶⁷

Care should be taken in assuming that these figures necessarily reflect the cost of land for housing or of housing itself. For instance, the land conversion multiplier in Dar es Salaam

FIGURE 7.1
The land development multiplier: the premium paid for developed land



might be very low but the availability of legal plots for housing is very restricted; it is not price that is the constraint on obtaining a legal plot for housing but availability.⁶⁸ In several of the cities covered by the Housing Indicators Programme and many others in the South, it is common for much of the land that has been illegally developed for housing to be 'regularized' in the sense of the tenure of the people there being legalized. It might be considerably cheaper (and more common) for relatively low-income households wanting their own home to purchase a plot on agricultural land that has been illegally subdivided or (in some instances) to occupy illegally

agricultural land and then negotiate or lobby for their occupation to be legalized. In several of the cities covered by the Housing Indicators Programme and in many others in the South, there is relatively little risk of eviction or sanctions for most of those who live on or develop illegal subdivisions. Those who illegally occupy land also tend to avoid the more valuable land sites from which they are likely to be evicted. Households who follow this route may save large amounts of money and still end up with a legal house plot-although often with considerable delays and perhaps considerable insecurity while tenure is being negotiated or eviction fought.

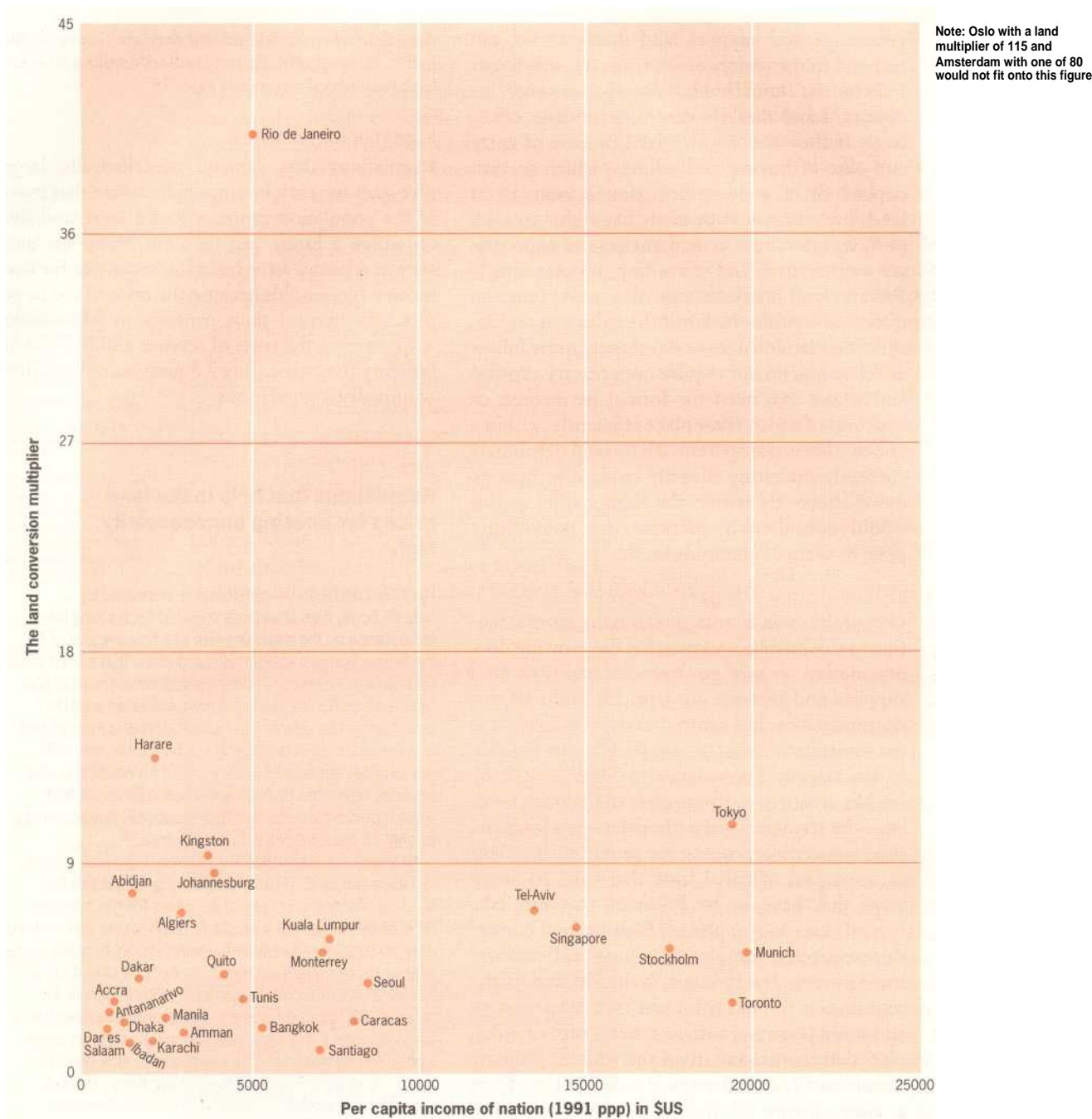


FIGURE 7.2
The land conversion multiplier: the premium paid for a legal house plot when converted from agricultural use

The land conversion multiplier may also have less influence on housing prices in many of the large cities in the North that already have a large housing stock relative to their populations and a relatively small increase in demand for housing. In addition, the number of housing units may increase substantially without requiring more agricultural land-as in residential developments in unused sites for housing or the redevelopment of commercial or industrial sites or buildings with other uses for housing. Many of the cities in Europe and the older commercial and industrial cities in North America have substantial residential developments in central areas that were once predominantly commercial or industrial.

The land conversion multiplier will also have less influence on housing prices in cities in the South with large amounts of undeveloped land within the urban boundaries-as long as that land can be developed for housing.

Constraints on government as an enabler

The growing understanding of how government must act as an 'enabler' rather than a 'provider' of housing also has great relevance to urban land. As in housing, government's role is now increasingly understood as less on controlling the supply and more in setting the framework to

encourage and support land markets that can respond to the variety of demands from different individuals, households, enterprises and investors. Land markets can only function effectively if they are characterized by ease of entry and ease of buying and selling-which in turn depend on a good information system about land, including who owns or has rights to each plot, secure tenure arrangements and appropriate registration and recording mechanisms.⁶⁹ Private land markets can also only function effectively within the law if the rules and regulations that landowners or developers must follow are clear and do not require unnecessary expense and where any need for formal permission or approval of a plan takes place efficiently, within a system that is transparent. Many land developers currently operating illegally could also operate more effectively within the legal system as this would considerably increase the possibilities open to them of obtaining credit.⁷⁰

Inefficient government procedures⁷¹

One of the main factors encouraging more attention to this enabling approach is the growing documentation on how governments constrain land supplies and increase land prices. Some of this documentation has centred on how difficult it is for someone wishing to acquire land for housing to do so legally. For instance, in Ghana, acquiring land in urban areas from either of the main owners-the state or tribal authorities-is a long and time consuming process; for acquiring the right to use a plot of tribal land, there are 20 major steps that have to be followed that can take several years to complete.⁷² Getting land ownership registered can also be a long and cumbersome process. For instance, in the Cameroon, the registration of land titles can take between two and seven years and with less than a fifth of urban plots demarcated and titled and with no properly maintained cadastral maps, it is difficult to obtain a clear picture of the land tenure situation. Although every country is a special case and procedural details vary greatly, the slow pace and complexity of land registration in Cameroon is not untypical of countries in the South.⁷³

Getting approval for development plans, once the land has been acquired, can also be slow and costly. In Lima, subdivision approval takes an average of 28 months and must go through three stages, all of which must be overseen by the city council; it then takes another 12 months to have building permits approved. As one specialist in land legislation has commented:

The sole result of regulatory laws which price legal houses beyond the reach of the urban poor is that the poor are forced to live in accommodation of a quality poorer than they could in fact afford. For quite sensibly, the poor will not spend money on houses likely to be

demolished by officialdom and they are forever at the mercy of venal officials and landlords willing to overlook their illegal status for a price.⁷⁴

Inappropriate standards

Regulations that demand unrealistically large plot sizes for each house simply ensure that most of the population cannot afford a legal land site on which a house can be built. Many site and service schemes have been too expensive for low income households because the price of the large plot was beyond their capacity to pay-along with meeting the costs of services and the cost of building the house. Box 7.3 gives some examples of unrealistic regulations.

BOX 7.3

Regulations that help make land prices for housing unnecessarily high

Housing costs can be considerably increased by unrealistically high standards required for housing sites-for instance on the minimum size of a housing plot or for the proportion of a residential subdivision that can be used for housing. In Serpong (Indonesia), a recent master plan requires that 65 per cent of the total planned area for development be devoted to non-residential purposes and that densities for residential areas be kept to only 100 persons per hectare.⁷⁵ In Seoul, land for housing is also severely restricted through greenbelt regulations and master-plan provisions that limit residential developments to only 25 per cent of the total land area.⁷⁶

Minimum lot sizes that are set very high also greatly increase the cost of the cheapest legal land site for housing. Among a survey of 48 cities for the minimum lot size permitted for a single family-housing unit within a new 50 to 200-unit residential subdivision, in many it was 300 or more square metres.⁷⁷ In Accra it was 445, in Ibadan 558 and in Washington DC 836. Minimum lot sizes of 300 or more square metres imply residential areas for which the density is too low to support public transport. By contrast, the minimum lot size was 30 square metres or less in Tokyo, Hong Kong, Madrid, Bogotá and Delhi.

Few countries have made a concerted effort to revise their building regulations so as to allow more appropriate standards. In some countries and cities, the building regulations are more than 50 years old and are still, in theory, in operation. For instance, in Madras, the refusal to permit cheap and unconventional building materials and practices in site and service schemes ensured that most of the low-income population could not afford to take part.⁷⁸

An insistence on inappropriate standards for, for instance, plot size and infrastructure standards have increased prices to the point where a high proportion of all land developments take place illegally. Many of these standards have their

origins in standards imposed during colonial times that were originally intended only for the high quality residential areas of the colonial rulers in circumstances where demand for urban land was far lower as urban centres were much smaller and in most instances, urban populations kept down by strong restrictions on the rights of the native populations to live there. There are few examples of governments revising standards—although many have permitted particular projects, including government projects, to use more realistic standards.⁷⁹

Other constraints

Governments have often imposed inappropriate legal regimes onto long established traditional land tenure practices that have inhibited the release of land with clear urban titles. In Africa, there are many examples of inappropriate government policies to deal with customary land tenure. In Lesotho, a World Bank inspired land-reform programme failed because of suspicions that it was designed to facilitate foreigners acquiring choice urban plots under a law that only they could understand.⁸⁰

In theory, cities with a high proportion of all land under public ownership are the ones which should achieve a balance between the economic and social needs of all the different actors within the city. These cities should also have a comparative advantage in developing infrastructure and services since acquiring the land to do so should present them with no problems. They should be able to keep down land prices, by releasing land, as demand grows. In practice, in both North and South, the record of cities with a high proportion of land owned by the public authorities is often poor. For instance, in Tanzania and Zambia, a refusal to countenance a market in urban land and a failure to provide a responsive and efficient land-allocation system has simply led to large unofficial markets with all the problems these pose for urban authorities in terms of haphazard development, insecure tenure and lack of records for ownership or tenure. One example of this is provided by Dar es Salaam where the problem is more related to the fact that the demand for legal house sites outstrips the administrative capacity to allocate them—see Box 7.4.

Another example is provided by the Delhi Development Authority. 20,000 hectares of land has been marked for compulsory acquisition while the Authority has failed to substantially increase the supply of land for low-cost residential developments. A substantial part of the land it releases goes to high-income groups with less than 10 per cent going to lower-income groups. Urban development and capital authorities in Pakistan, Nigeria, Tanzania and Brazil also have a

poor record in providing affordable land for the majority of urban dwellers.⁸¹

This adds up to a system that if not designed to facilitate the exploitation of the poor at least is adapted to do so. By being weighed so heavily to those who have the financial or political power—the latter often precedes the former but the two usually go together—the system facilitates the development of the exploitative relationship of landlords and tenants rather than those of owner occupiers. Shelter is a scarce good sold to the highest bidder. The more commercialized the markets, the more the poor are forced to use the least satisfactory land with the fewest rights.

International influences on cities' land markets

Inevitably, many cities worldwide are influenced by the new international division of labour that is organized and managed on a global scale. This new mode of global production is closely related to the growing importance within the world economy of the global corporation that can internalize many specific product markets, allocate capital globally to the most profitable locales and gather, process and communicate information on a global scale to carry out its functions.⁸² The process has been accelerated recently with the development of regional trade blocs such as NAFTA and the European Union⁸³ (which expanded from the original six countries to nine, to twelve, and in 1995 to fifteen, with more hoping to join).

The municipal authorities responsible for managing urban development in these cities are no longer doing so in isolation from global forces. The housing and land markets and demands for infrastructure are influenced by the foreign (often multinational) firms and the firms that service their needs (and all their employees). This influence is evident in what have come to be called the 'world cities' that are the commanding nodes of the global system, with London, New York and Tokyo at the top and a range of other key cities that articulate large national or regional economies into the global system or have a particularly important multinational role.⁸⁴ This influence is also evident in cities or particular zones that are not so much centres of command and control but centres of production for multinational companies or firms contracted by them. In addition, a growing number of cities are also influenced by foreign investment in real estate. Despite the decline and even disintegration of some local and regional real-estate markets, real-estate markets in many cities were so thoroughly globalized during the 1980s boom that this will not be reversed.⁸⁵

Although detailed and accurate information

BOX 7.4

The urban land delivery system in Tanzania

Between 1978/9 and 1991/2, the Dar es Salaam City Council received 261,668 applications for land plots, but was able to produce and allocate only 17,751 plots. In other words, only 7 per cent of the applicants got an allocation. The rest had to look elsewhere for their land needs. Over 70 per cent of Dar es Salaam's population live in unplanned areas, where, invariably, land is obtained through informal means. These findings suggest that the official system of land allocation has been outstripped by the acquisition of land through informal means.

Within the formal land-delivery system, land is allocated administratively. Application for a land plot is made to the district land officer, who submits all applications to an allocation committee which makes the final decision. In view of the numerous conflicts over land allocation powers, the Ministry of Lands issued a directive in 1988 whereby urban councils were empowered to allocate only high density residential plots (and even then, to the exclusion of 'projects' plots like the externally financed sites and services plots). Industrial, commercial, institutional and medium and low density residential land is allocated either by the Ministry of Lands, or by Regional Authorities.

If an applicant's quest for land is successful, they receive a letter of offer outlining the conditions (including land rent, various fees, building covenants, allowed uses, timescale for development, etc) under which land is being allocated. If these are accepted, the applicant meets the preliminary conditions (like paying land rent) and they become the legal possessor of the title to land. Long-term rights of occupancy are granted for periods of 33, 66 or 99 years; while short-term rights are for a duration of 5 or less years. A certificate of title may later on be issued. Typical costs to be met on land allocation include fees for the certificate of occupancy, registration fees, survey fees, fees for deed plans, stamp duty, and one year's land rent-

and these are very low and have no relation to the cost that the government incurs to prepare the land, nor are they related to the value of this land. The rationale behind such a cheap land policy has always been that land was national property to which anybody, particularly low income households, was entitled, and that putting too high a cost on this land, would edge the urban poor out of its acquisition.

In fact, this policy, inherited from the colonial era, has only served to allow the socially powerful members of society to get access to planned land cheaply. Moreover, since the supply of land has been restricted, the open land allocation system has been replaced by 'informal' allocations, usually depending on the economic power or the social influence of the would-be grantee-qualities which the urban poor do not possess. They therefore stand little chance of being allocated planned land.

Land can be obtained informally by way of occupation without permit, allocation by local leaders or landowners, inheritance, and purchase. While spectacular land invasions such as those seen in Latin America have not taken place in urban Tanzania, 'slow' land invasion does take place particularly on marginal land. No systematic study of this process has been made but typical methods of invasion include the use of land for cultivation for several seasons before finally deciding to build; the putting up of a makeshift structure before eventually deciding to go permanent; and the invitation of others by an early settler to create solidarity.

Land can be obtained from acknowledged owners. In some cases, particularly in the case of village-owned peripheral land, the local political (10-cell) leader or the local elders can allocate land to a newcomer, for a token fee. Inheritance is also a major way of getting land especially in the older areas, be they planned or unplanned. A study carried out recently over a sample of landowners in the inner city Kariakoo area in Dar es Salaam found that 55 per cent of those who owned land had got it by way of inheritance, while this

proportion dropped to nil in the new Mbezi area.

But it is more common for land to be purchased from recognized owners in unplanned areas. These subdivide and sell it either as building plots, or as agricultural land (Shamba). Most households with land in Dar es Salaam are likely to have obtained their land in this way. A study carried out in the Mabibo and Manzese unplanned areas of Dar es Salaam indicated that 75 and 79 per cent of the landowners in the respective areas obtained land through purchase. Typically, the land-sellers and the land-buyers are brought together through an intermediary and should a deal be struck, the parties will register the transaction with a 10-cell leader or a local branch of a political party, in front of witnesses, some of whom are usually neighbours or relatives.

Government (planned) land may also be allocated informally through private dealings which involve the exchange of money. Three ways can be identified:

- Land officials 'selling' unallocated or abandoned land, or land where earlier allocations may have been revoked; or new plots (locally known as 'creations') added to an already approved land use scheme.
- Plot allottees selling their undeveloped plots. This is illegal but such transfers are allowed if made 'for love and affection', and this loophole could be invoked to sell land to third parties.
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A survey over a sample of landowners in two planned areas of Dar es Salaam revealed that 12 per cent of the landowners in Kijitonyama and 45 per cent in Mbezi had bought empty plots from the 'owners'; and 15 and 2 per cent respectively had been sold government plots. In the case of Kijitonyama, a further 44 per cent had bought a house or a foundation.

Source: Kironde, J. M. Lusugga, 'The access to land by the poor in Urban Tanzania: some findings from Dar es Salaam', *Environment and Urbanization*, vol. 7, no. 1, April 1995.

about international investments in real-estate are difficult to obtain, it is clear that foreign investment in real-estate is a major influence on real-estate markets in many US and Canadian cities, in Australia (especially Sydney and Melbourne), in South-East Asia and Europe. European investors have long been involved in the property markets of other European nations but the globalization of European real-estate markets in the 1980s brought heightened attention to global property investment and particularly to investment in Europe from Asia.⁸⁶ In the United States,

Canadian investment in real-estate is the largest foreign source of investment followed by the Europeans and the Asians.⁸⁷ The Japanese were very active in real-estate investment in the 1980s but the decline of the Tokyo market in the 1990s dampened their enthusiasm for North American property.

The dominance of the service sector in advanced economies and the relative (and often absolute) decline in goods production is related to the new international division of labour. This is due in part to lower wages in other countries, in

BOX 7.5

Addressing the housing and land implications of globalization: the case of Vancouver

Vancouver on the west coast of Canada has a population of around 1.5 million in its metropolitan area. With a diverse population and a strategic location on the Pacific Rim, it has sought to attract global investment and tourism and, along with the province in which it is located (British Columbia), to reduce its reliance on natural resource exploitation and the US market. In the early 1980s, the provincial economy was largely directed to the United States and dominated by natural resource products such as lumber, pulp, non-ferrous metals and coal. Tourism has now moved ahead of mining as the province's second largest industry with Vancouver having a central role in this. The proportion of exports to Asia and Europe has also increased rapidly. The success in attracting new international business and investment to Vancouver also brought increasing pressure on the housing and land market and necessitated changes in government policy to help expand housing choice, increase densities and maintain supplies to moderate housing price pressures and maintain Vancouver's attractiveness to new investment.

Source: Goldberg, Michael A., *Some Thoughts on The Current and Potential Impacts of the Globalized Economy on Land and Housing Markets* in *World Cities*, background paper for the *Global Report on Human Settlements*, 1994.

part to growing environmental controls, and in part to rapid technological change reducing employment in goods-producing industries. Certain service activities seem to be much less dependent on wages so that locational choice for services will be increasingly driven by quality of life because employees and management of service firms want to locate in high-quality physical settings. This helps explain the increase in income inequality as managerial and professional jobs pay more and unskilled or semi-skilled jobs in the service sector pay less.

7.2 Approaches to Urban Land-Use Planning

Introduction

The main approaches to urban planning in both the North and the South essentially set out to document a finite long term plan which, once legally adopted, forms the basis for public sector infrastructure and services investment and a detailed system of land use regulation and control. A study of urban planning which surveyed and reviewed city planning and city plans in India (Madras and Calcutta), Nigeria (Kano, Abuja), Morocco (Rabat), Iraq (Baghdad), and Mexico, among others, concluded that many urban plans fail in practice because they are over-ambitious, considering the capabilities of the administrative system to enforce their implementation.⁸⁸ The reasons

for this include the lack of a proper legal and administrative framework, inadequate technical skills and financial resources, unrealistic assumptions emanating from the foreign base of the plans and lack of participation by the population. It has also been suggested that traditional land-use systems generally do not adequately control the quality, pace or distributional effects of land development and that, even when a plan exists, development activity is too often disorganized. This is mostly because the stated goals are unrealistic, and because there is lack of co-ordination between planning and financing agencies, or because there is a shortage of trained personnel.

In addition, the institutional capacity of many countries in Africa, Asia and Latin America to absorb change is usually disproportionately small compared with the level of their aspirations. The analogy of the master plan as a building 'blueprint' has often been stressed. Implementation of such plans assumes the involvement of formal organizations in the residential, commercial and industrial sectors through processes of institutional bargaining, where the rules of the game are known and development is meant to conform to set procedures, planning/building applications, development briefs, public hearings, etc.⁸⁹ In the past, this form of urban planning tended to mirror the development model that was widespread in the post-World War II period with considerable state economic planning which relied on central government finance and the technical capacity of public agencies to control most urban activity.⁹⁰ These procedures worked well in many OECD countries with urban conditions characterized by slow growth, high average household incomes and effective enforcement practices, as well as in some countries in Africa and Asia to which they were exported as part of a colonial inheritance, particularly in the 1940s and 1950s, when most urban areas were still relatively small.

Traditional approaches to urban land-use planning

There were two broad traditions of urban planning. One, supplied by French, British and other European practice, grew out of concerns for public health and other urban concerns and involved an often centralised tradition of public urban intervention through strong land-use regulations and public sector investments, often with a strong emphasis on civic design (e.g. Chandigarh in India and Brasilia in Brazil). The other, arising from practice in North America, emphasised land use zoning and land subdivision regulations, in keeping with a strong tradition of private property rights and values.

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BOX 6.9

Homeless people in Europe and North America

Most studies of homeless people draw their information from the people who use public services set up for the homeless. Although population censuses record the condition of homelessness and poor quality housing, they do not catch all homeless people, they are generally only undertaken once every ten years and they usually have limited information about the immediate and underlying causes of homelessness.²¹⁵ But studies on the extent of homelessness and on who is homeless and why that draw on those using public services are only representative of the homeless who use these public services. A survey of those using night shelters cannot be representative of homeless people if most homeless people do not use night shelters.

In recent years, studies of homeless people in the North that use the most restricted definition of homelessness-i.e. people who use public or voluntary services for the homeless-have undermined the idea that it

Sources: Most of the information in this box is based on the first, second and third report of the European Observatory on Homelessness by Mary Daly, the fourth research report by Dragana Avramov, FEANTSA, Brussels, and Burt, Martha R., *Over the Edge; the Growth of Homelessness in the 1980s*, The Urban Institute Press, Washington DC, 1992.

tends to be older, single men who account for most of the homeless.

Women: In both Europe and the United States, a significant and growing proportion of homeless people are women-many with children.²¹⁶ Around 40 per cent of the people receiving services for the homeless within the European Union are women.²¹⁷ A third of the young single homeless people arriving at an emergency shelter in Central London (Centrepoint) each year are female.²¹⁸ Single parent households, most of which are headed by women, are particularly vulnerable to homelessness because of the combination of higher costs than single people and very restricted income-earning possibilities for the single parent, especially if the children are too young to go to school.

Younger age groups: The average age of those who are homeless has also fallen. In the 12 countries that formed the European Union in 1994, over 70 per cent of the homeless were younger than 40 years of age. While the age profile varies from country to country, in general there is a fall in the average age of homeless people. In Denmark, both the 18-24 and the 25-34 age groups doubled as

a proportion of homeless people between 1976 and 1989. In Spain, the proportion of those assisted as homeless under the age of 30 grew from 19 to 32 per cent of the total between 1984 and 1991.²¹⁹ In the United Kingdom, more than 150,000 young people are homeless-and nearly half of them have been in care and nearly half are young women who left home because of sexual abuse.²²⁰

Level of education: Homeless people tend to have below average levels of education and it is generally their difficulties in finding work that makes them homeless. In Germany, 80 per cent of those in shelters had not progressed beyond primary schooling; in Spain, over 70 per cent of homeless people have only basic reading and writing skills and most of the rest have no more than middle-range education.²²¹ Although most homeless people in Europe and the United States rely mostly on subsistence incomes paid by government agencies, a proportion actually have work but the work pays them too little to allow them to find secure accommodation.

nearly tripled-from 41,000 to 117,000.²¹² In the United Kingdom, where provision for homeless people is less oriented to single males and more oriented to parents with young children or pregnant women and other 'priority groups'²¹³, the number of households recognized as 'homeless' by public authorities rose from around 20,000 in 1970 to 117,900 in 1986 to 167,300 in 1992.²¹⁴ Box 6.9 outlines some characteristics of the homeless in the North.

The causes of homelessness

Much of the research on homelessness tends to describe characteristics of the homeless such as those outlined in Box 6.9 or immediate causes that precipitated a person or family being homeless-for instance the loss of a job or a fall in income that meant the rent could no longer be afforded or the break-up of a relationship leaving one parent and often the children homeless. The underlying causes are sometimes not mentioned at all-for instance a decline in the availability of cheap rental accommodation to allow these people to find accommodation without becoming homeless, the decreased emphasis given by most governments to social housing, and changes in the labour market that make it increasingly difficult for substantial sections of the adult population to find employment, or the possibility of earning an income or (in the North) the decline

in the value of the subsistence income available to the unemployed and the limits on its availability for unemployed people.

Most homelessness is the result of people unable to find adequately paid work and it is often exacerbated by housing markets where adequate accommodation is beyond the means of those with low incomes. The clear links between poverty and homelessness were noted in Chapter 3 when describing the scale and nature of poverty.

Although the general causes of homelessness will have common elements in most countries in the North and the South, its scale and the groups most affected by it will vary greatly. It is also likely that the causes of homelessness vary for different groups-for instance comparing men and women and considering the special circumstances that make young groups or older groups or those with physical or mental difficulties more at risk of homelessness. Minority groups and refugees are often more at risk of homelessness because of greater difficulties in finding jobs and because of discrimination against them by landlords and possibly by agencies selling or renting housing or selling mortgages. In many countries, women also face discrimination in job markets, housing markets and access to housing finance.

In regard to gender differences, the European Observatory on Homelessness noted that male and female homelessness tend to be precipitated by different conditions. For women, relationship

Box 7.8

Examples of inappropriate land-use regulations or procedures

Malaysia: A 1989 study suggested that land-use regulations and standards increased housing costs by up to 50 per cent. The area per house provided for roads is up to four times greater in the typical Malaysian subdivision than in comparable North American or West European examples. According to accepted international practices, about 25 per cent of the land set aside is wasted through over-generous standards for street width, setbacks and community facilities. House prices rose at an annual rate of 18.9 per cent in the 1972-82 period, partly because of the above and partly because of overly complex and time-consuming housing-project approval procedures. It can take 5-8 years to obtain necessary permits from 15-20 government agencies for subdivision approval. In Thailand by contrast the figures are 5 months and 5 agencies.

India: In India, the 1976 Urban Land (Ceiling and Regulation) Act imposed a ceiling on vacant land ownership within urban agglomerations, ranging from 2,000 square metres in the smallest towns to only 500 square metres in the metropolitan centres of Delhi, Bombay, Calcutta and Madras. The state governments would then take over the surplus vacant land (at a low price). However, only 1.5 per cent of the land declared as surplus has actually been acquired under the Act since public authorities have been unable to continue acquiring surplus land under existing land-acquisition statutes. Thus not only has this limited the supply of land which can be offered by the public sector, but large amounts of privately owned 'surplus' land have been frozen in administrative procedures and litigation for most of the period since enactment of the Act, precluding the private sector from legally supplying land, except in a limited number of cases where exemptions have been granted. In addition, these problems have had the effect of accelerating land values in inner urban areas for plots exempted under the Act. It has been calculated that at least 300,000 hectares of land have been declared 'excess', and effectively frozen, as a result of the Act.

Sources: World Bank, Malaysia: The Housing Sector-Getting the Incentives Right, Infrastructure Division, Country Department II, Asia Regional Office, Washington DC, 1989; World Bank, India Urban Land Management Study, Washington DC, 1986.

been attached to the Ministry of Lands, Public Works, Housing, Economic Planning or Local Government. This usually leads to the bypassing of urban planning authorities by both infrastructure delivery agencies and private developers. Second, statutory legislation is often not enforceable over the entire country, but only in statutory planning areas. Such a non-comprehensive approach to traditional urban planning contributed to problems of co-ordination and enforcement and reinforced a process whereby planning tended to follow development. Third, the approval process for planning instruments is frequently over-centralized, lengthy and cumbersome, as already noted, and this represents another deterrent to efficient plan-making and plan implementation processes.

The role of public and private sectors

The increasing inability of the comprehensive planning approaches of the 1960s to meet the needs of rapid rates of urban growth in most countries in Africa, Asia and Latin America coupled with the unwillingness of central government to increase the powers and resources needed for cities to manage themselves, led to increasing public/private-sector antagonisms. Thus for example, developers and the community as a whole were increasingly unable to rely on the public sector to provide infrastructure and services and saw only a negative and irrelevant system of land-use regulation. As ever-increasing proportions of urban households relied on informal or illegal land markets, conflicts between planners and local communities grew over critical issues such as land uses.

In many instances, such antagonisms were made worse because community leaders and business interests were not meaningfully involved in the master planning process. Typically, master plans were prepared by professional planners and/or consultants working in agencies cut off from channels of community expression and only at the end of the plan-preparation process was a perfunctory discussion period allowed.

Time horizons and sustainability

While master plans have often looked strategically 20-30 years ahead, they have rarely set out to meet the goals of sustainable development. While the conservation of natural and other resources is a familiar theme for planners, at least in the North, the marrying of sustainable resource use and urban growth has only very recently gained importance. In part, this arises from the institutional fragmentation of the organizations who are responsible for components of sustainable urban development (water, agriculture, forestry, energy, transport, housing, industry). Some of these actors in the process may well have developed their thinking on long term sustainability well ahead of urban planners.

It is important to emphasize, also, that the vilification and criticisms of settlement planning, is largely in the context of countries where the rate of urban growth and development in many cities has been so high as to overwhelm attempts at orderly rational development planning, and where the requisite institutional framework is still relatively weak and in a constant state of flux. In most countries in the North, settlements planning and management has, to substantial degrees been effective. It has been easier to implement as the rate of growth of urban populations has slowed to very low levels, and as appropriate legal and institutional frameworks had been in place for some time and had gained substantial strength and maturity and could therefore more effec-

tively handle the ensuing challenges of settlement planning, development and management. In Australian cities (including Sydney and Perth), for example, strategic urban plans are being prepared directed at the geographic, economic and social structure of the development of the cities over a long time scale, with the main aims to:⁹¹

- Set broad parameters for the direction of future urban growth, taking account of topographical constraints and environmental considerations such as the protection of water catchment areas, places of natural beauty or environmental sensitivity.
- Facilitate the co-ordination of a wide range of future commercial activities and public-services affecting economic development, employment, transport, housing, education and social welfare.
- Provide adequate level of certainty to participants in the land supply and development process.
- Provide for staged urban development within particular areas or growth corridors in order to maximize efficiency in the provision of key infrastructure items such as water, sewerage, electricity and roads.

Such plans establish the conceptual land-use framework for a city or region and identify new areas for future development over a period of 20 years or more. They may also provide guidelines on major urban planning issues such as urban consolidation and regional development.

The planning system in England, as another example, has been judged to have been 'highly successful' in the pursuit of the main planning policy objectives, namely, containment of the growth of major urban areas,⁹² curbing the amount of agricultural land taken for urban development, maintaining greenbelts around major cities and urban agglomerations, allocating sites for new development and sustaining conservation policies.

In spite of the criticism of the perceived ineffectiveness of planning, however, the process is widely acknowledged by all governments as very relevant. Very few countries today, do not have urban settlements planning programme activities in their development agenda. The absence of urban planning in national or local settlement development activities and processes is inconceivable. Settlements planning, with its built-in land-development regulations as a set of rules governing activities that form part of social and economic life currently exists in all countries.

The lessons learnt

From a review of the experiences of urban settlements planning and management in both the

North and the South, the following lessons are apparent:

- Traditional master planning has often been ineffective because too much emphasis is put on plan-making and too little on implementation, and the process has been slow and expensive. In addition, such master-planning has paid little or no attention to the necessary resource-allocation needs and financial feasibility of policies and programmes.
- Inappropriate regulations and standards have often reduced land availability for housing and businesses by imposing unnecessary costs and fuelling the growth of informal land markets. Planners have too often used a two-dimensional approach to land development, viewing it as a matter of zoning, networks and forecasts. A greater understanding of land markets, property rights, affordability and the multi-dimensional character of land will help planners to focus on the day-to-day needs of residents and thereby help to make the urban planning system more relevant to the needs and priorities of citizens and businesses. The planner needs to learn how to utilize the latent resources of the community to manage facilities. They also need to learn how informal employment is generated and sustained and how to reduce negative land-use controls to the minimum required for maintenance of public health and environmental safeguarding-and to ensure that the needs of all groups in the city are addressed.
- A shift in emphasis in the typical planning system is needed. Whatever the scale of plan being considered (metropolitan/sub-regional/city/local), a first question is: what tools are available to implement the plan over the next five years? In many cities, for example, the only effective methods of trying to direct city growth are by the location of new arterial or access roads and the location of public facilities. Other tools, such as land-use zoning or compulsory purchase, may exist on paper or in legislation but are not effective in practice. Plans that recognize the limitations of implementation tools, at least in the short term, are much more likely to be effective policy instruments.
- A shift in emphasis may also be needed in the traditionally hierarchical view of planning. In many instances, local plans are required to fit into the framework of plans and policies emanating from higher levels of government (a 'top-down' view of implementation). As will be seen in Chapter 9, a shift towards 'bottom-up' planning means a greater emphasis on designing plans around available implementation tools, and on 'action planning', co-ordinated at the city government level.

- The increasing complexities and inter-dependencies of urban areas (urban growth dynamics, inter-sectoral choice mechanisms, the role of the private sector and the increasing emphasis on sustainable development) require a re-evaluation of the traditional role of public-sector urban planning in the urban management process.
- Urban-sector interventions characterized by a 'project' approach based on public-sector capital expenditure as the prime means of achieving urban objectives cannot hope to meet the massive need for improved urban services and shelter in cities, let alone contribute significantly to economic growth. Instead, interventions need to address the management of processes. A much greater emphasis on an enabling approach is needed whereby the public sector's main efforts are to support the private sector's role in urban development, through policy measures and sympathetic land regulation systems, i.e. to capitalize on the energies and resources of individuals, households, community groups and commercial enterprises.
- As economic conditions have deteriorated in many countries in Africa, Asia and Latin America, putting more pressures on non-renewable natural resources and the absorp-

tive capacity of the city environment, more integrated approaches to urban development are required. This integration needs to be technical (co-ordination of urban planning with ecological management, energy, transport and other key sectors), equitable (explicit impact on all income groups in both the household and commercial sectors), and institutional (both vertical and horizontal co-ordination of urban planning, sectoral investment, financial resources, cost-recovery and administrative functions).

Thus, in conclusion, planning has to be the fundamental strategic tool of good management. Without planning, there can be no management to speak of, and without management, planning becomes nothing more than a depository of good intentions entirely separate from reality. The change that needs to take place is one from 'planning the city' to 'a city that plans' and from product (i.e. a graphic image of a desirable future produced by specialized technical departments) to process (i.e. consultations, initiatives and actions through which a city collectively maps its present situation, identifies problems and opportunities, develops an inherent vision of the future and translates it into social, economic and physical objectives supported by clear and realistic strategies).⁹³

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8

Infrastructure and Service

8.1 Introduction

Provision for water, sanitation, drainage and the safe disposal of wastes are obviously central to good housing and living conditions and to health. They and certain other forms of infrastructure are also central to prosperous economies—for instance roads, ports and railways, electric power and telecommunications. If consideration is given only to what might be termed 'economic infrastructure' that does not include education and health care, the services associated with it usually account for between 7 and 11 per cent of a country's GDP.¹ The share usually increases with income. Transport and communications generally represents the largest sector in low-, middle- and high-income countries and its share generally increases, the higher the per capita income.² Investment in infrastructure was found to represent around 20 per cent of total investment in a sample of low- and middle-income countries and to account for 40 to 60 per cent of public investment.³

The quality of infrastructure and service provision within any city or country has become increasingly important in attracting new investment. The capacity to attract industries or service enterprises that can operate successfully in international markets is particularly dependent on high quality infrastructure, especially in the rapid and cost-effective handling of freight and sophisticated telecommunications systems.⁴ As the recent World Development Report on *Infrastructure for Development* noted, 'Surveys of prospective foreign investors over a wide range of countries show that the quality of infrastructure is an important factor in ranking potential sites for location of direct investment.'⁵ All the countries or regions that have had the most success in attracting enterprises that have a role within the increasingly globalized world economy have also greatly improved the range and quality of their infrastructure.

In theory, demand for infrastructure accompanies economic growth so the two can support each other. What has proved difficult for most governments is developing the institutional means to ensure that the two go together. This includes the means to raise the funds for infrastructure investment, to ensure sufficient funding for operations and maintenance and to develop the capacity within municipalities, cities and regions to make the best choices over which forms of infrastructure receive priority in each

location and how best to charge those who benefit from such investment. It is also difficult to predict how demand will change for many forms of infrastructure, although large infrastructure investments require many years for their planning and construction. Overestimating future growth in demand can prove very expensive, as in, for instance, new power stations whose full capacity is not needed or industrial estates that remain empty. But there are also large costs from underestimating growth in demand—for instance where power and water shortages hold back the economic growth of a city or region.

There are also the more serious problems for cities and countries that have not enjoyed economic prosperity. As in most cities in the North, cities in the South experienced a deterioration in their infrastructure over the last 10-15 years as little or no new infrastructure was constructed and much of the existing infrastructure deteriorated through inadequate provision for maintenance. Yet these are also cities with the greatest need to improve the quality and coverage of infrastructure and services both to attract new investment and to improve living conditions for their population. But effective demand may be low, the resources available to city and municipal authorities very inadequate (see Chapter 5) and there is a lack of technical and institutional experience in funding, constructing, operating and maintaining infrastructure. In addition, most of the countries in the South that have undergone economic problems during the last 10-15 years also underwent structural adjustment that was often accompanied by a marked deterioration in infrastructure and a cut in provision for its maintenance.⁶ Capital spending on investment is often among the first items to be cut with operations and maintenance not far behind. Despite the long-term economic costs of doing so and the substantial employment benefits from well-organized labour-based approaches, this is less costly politically than cutting incomes or public employment.⁷

This chapter begins by describing the inadequate scale and nature of investment in water supply, sanitation and solid-waste collection and management in Africa, Asia and Latin America. It is in these regions that the deficits in terms of people unserved or inadequately served are concentrated. It then discusses transport and communications in both the North and the South and describes how few wealthy or rapidly growing

cities have managed well the growth in the number of road vehicles. In most cities in both the North and the South, traffic congestion has become a major economic cost, while attempts to resolve it that are based on increasing provision for private automobiles bring a large range of social and environmental costs. The inadequate investments in infrastructure that characterize most countries in the South during the last few decades and the desire by many governments in the North to reduce public expenditure have led to many initiatives to encourage private-sector investment but these will be described in later chapters.

8.2 Water Supply⁸

Despite considerable progress in improving or extending water supplies in the South during the International Drinking Water Supply and Sanitation Decade that began in 1980, by the end of the decade, 245 million urban dwellers and over one billion rural dwellers still had no alternative but to use contaminated water or water whose quality is not assured. Although there has been a considerable increase in the number of people with access to safe drinking water during the early 1990s, the latest estimates (for 1994) suggest the number without suitable water services had increased to about 280 million for urban dwellers while the number of unserved rural dwellers had been reduced to 835 million.⁹

'Access to piped water supplies' does not necessarily mean adequate or safe supplies. For instance, in 1990, close to half the urban population in the South and more than 90 per cent of its rural population still lacked a water supply piped into their home. The quantity of water available to a household and the price that has to be paid can be as important to a family's health as its quality.¹⁰ Thus, while those served by public standpipes, boreholes with handpumps and protected dug wells may have access to uncontaminated water, the difficulties in getting access to it and the distance that the water has to be carried often limit water use so the full health benefits are not enjoyed.

This means that much less was achieved during the 1980s than had been hoped. One of the most important achievements of Habitat I, the first UN Conference on Human Settlements in 1976 had been to highlight the importance of improving water supply and sanitation. This enthusiasm among government representatives and international agencies led finally to the United Nations General Assembly proclaiming the period 1981-90 the International Drinking Water Supply and Sanitation Decade. The primary goal was to ensure full access to water supply and sanitation to all

inhabitants of the South by 1990.¹¹ But in 1990, at least 30 per cent lacked access to safe water and at least 40 per cent were without adequate sanitation.¹² In addition, unless governments and international agencies substantially change their approach and their commitment, the numbers lacking access to safe water and adequate sanitation will grow rapidly during the 1990s.¹³

For urban areas in the South, an assessment in 1991 suggested that around half the population had water piped into their homes while around a quarter were supplied through less convenient means-public standpipes, yard taps, protected dug wells and boreholes/handpumps.¹⁴ The remaining 350 million or so urban dwellers did not have a safe, protected water supply. They usually relied on one of two sources: water from streams or other surface sources that in urban areas are often little more than open sewers; or water purchased from vendors whose quality is not guaranteed-often at prices per litre which are between 4 and 100 times the amount paid by richer households for publicly provided piped water.¹⁵ For instance, pavement dwellers in central Bombay pay twenty times more for water per litre than the municipal rate charged to other residents of the city.¹⁶ Water-vendors probably serve 20 or more per cent of the South's urban population;¹⁷ Box 8.1 illustrates how much those so served often have to pay.

BOX 8.1

Differentials in the cost of water (ratio of price charged by water vendors to prices charged by the public utility)

city	Price ratio of water from private vendors:public utility
Abidjan	5:1
Dhaka	12:1 to 25:1
Istanbul	10:1
Kampala	4:1 to 9:1
Karachi	28:1 to 83:1
Lagos	4:1 to 10:1
Lima	17:1
Lome	7:1 to 10:1
Nairobi	7:1 to 11:1
Port-au-Prince	17:1 to 100:1
Surabaya	20:1 to 60:1
Tegucigalpa	16:1 to 34:1

Source: World Bank, World Development Report 1988, Oxford University Press, Oxford, 1988, 146.

The 1991 assessment found that in rural areas, most households with 'safe' water supplies depended on boreholes and handpumps or protected dug wells; these were the water sources on which over a third of the rural population in the

South relied. Only 10 per cent had water piped into their homes with another 10 per cent served by yard taps or public standpipes. Around a billion people, nearly two-fifths of the total rural population, had no safe water source or at least a water source where some attempt was made to ensure that it was uncontaminated and of reasonable quality. Figure 8.1 shows the number of people with access to functioning, safe water supply in 1991 by region, and the form in which the water was provided.

In Africa, in this year, over half the population was not served with safe drinking water and of those who were served, only a small proportion had a house connection (see Figure 8.1). Most relied on one of three sources: public standpipes, boreholes/handpumps and protected dug wells. Of Africa's 440 million rural inhabitants in 1991, less than 15 million had water piped to their homes. Most of the house connections were in urban areas but only one in three urban dwellers in Africa had water piped to their home. Close to

half of the urban population served with safe drinking water did not have house connections; around 32 million relied on public standpipes while 15 million had taps in the yard with the rest relying on some other source.

For Asia and the Pacific, around a quarter of the population lacked safe water in 1991, although the size of the region's population still meant that around 800 million people lacked access to safe water (see Figure 8.1). Less than a quarter of this region's total population had water piped into the home; boreholes with handpumps, protected dug wells and public standpipes provide water for around half the population that had safe water supplies. The rural population especially relied on borehole/handpumps and protected dug wells, although rainwater collection and public standpipes each supplied around 100 million people. For the urban population with provision for safe water, around two-thirds had house connections with around a fifth relying on public standpipes.

Within Latin America and the Caribbean, a much higher proportion of the population had house connections for water. However, close to 30 per cent of the population still lacked safe water. In urban areas most of the people with safe water had house connections; it was the only region in the South where this was the case. In rural areas, most of the people with safe water were supplied by boreholes/handpumps or protected dug wells.

Table 8.1 shows the increase in the proportion of the population with access to water and sanitation between 1975 and 1990 for low-income and middle-income countries. The figures for 1990 still suggest that more than a third of the population in low-income countries and a quarter of the population in middle-income countries lacked access to water. When broken down by urban and rural areas, more than 80 per cent of the urban population and close to 60 per cent of the rural population was reported to have access to water supply in 1990. Although most of the population in high-income countries are covered, none the less, in the second half of the 1980s, around 20 million people within the European Union lived in a dwelling without a water closet, while around 30 million lived in a dwelling without a bathroom or shower.¹⁸

However, as the United Nations organizations who are responsible for collecting this data state,¹⁹ the statistics given for the proportion of the world's population with safe drinking water are exaggerated. This is for two reasons. The first relates to the definitions used; what is officially considered by governments as an 'adequate' amount of safe drinking water and at a 'convenient distance' from the user's dwelling is often too little water at too great a distance to allow

FIGURE 8.1
The number of people with access to a functioning, safe water supply in 1991

Source: Water Supply and Sanitation Collaborative Council, Water Supply and Sanitation Sector Monitoring Report 1993, World Health Organization and UNICEF, 1993

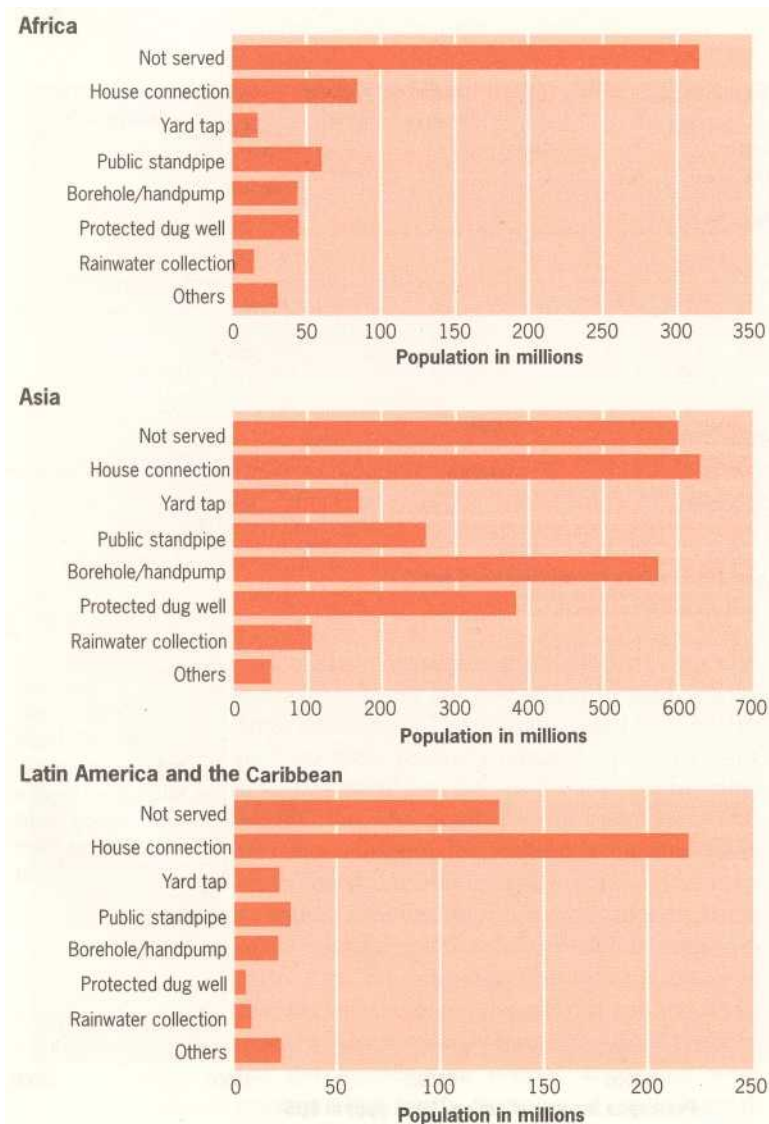


TABLE 8.1 The expansion in water supply and sanitation, 1975-1990
(percentage of population with access)

	Coverage in low-income countries		Coverage in middle-income countries		Coverage in high-income countries
	1975	1990	1975	1990	1990
Water	40	62	54	74	95+
Sanitation	23	42	44	68	95+

Source: World Bank, World Development Report 1994; Infrastructure for Development, Oxford University Press, Oxford and New York, 1994.

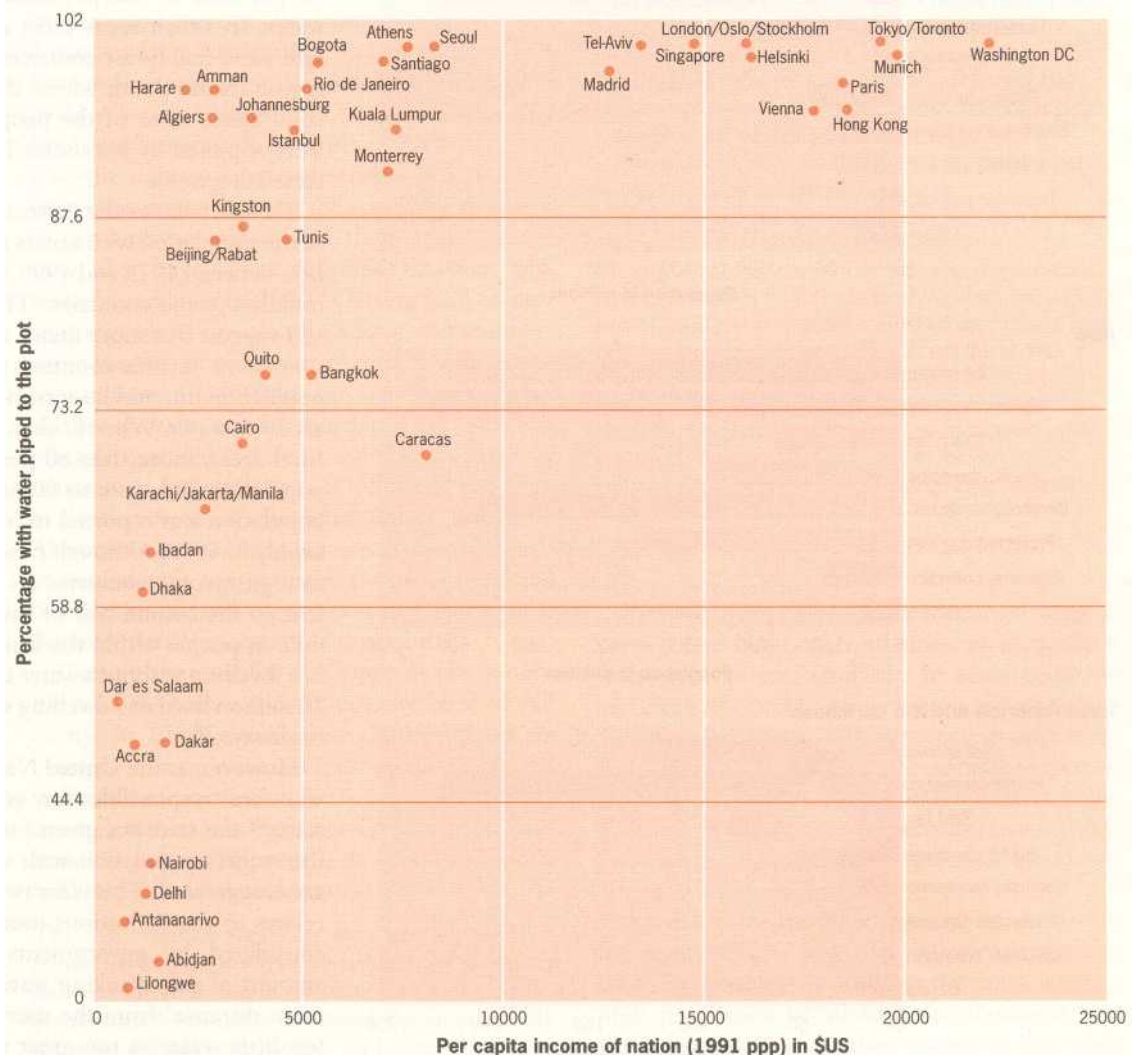
sufficient for washing, laundry, personal hygiene and house cleaning. The second is a tendency for governments to exaggerate the proportion of the population with safe drinking water.²⁰

The Housing Indicators Programme collected statistics on the proportion of dwelling units with a water connection in the plot they occupy for 52 cities. This is a more reliable indicator of adequate and convenient water supply than water available at a 'convenient distance'. The proportion of dwellings with water piped to the plot varied from 30-50 per cent for the cities with the

worst performance (and all cities with under 50 per cent were in sub-Saharan Africa and were among the poorest countries) to 95-100 per cent for cities in countries with per capita incomes that exceeded \$10,000. Given that such a high proportion of these cities are national capitals and the largest and most prosperous cities within their countries, the proportion of their populations with water piped to the house plot are likely to be untypically high when compared to other urban centres within the same country. Figure 8.2 maps the proportion of these cities' population with a water connection to their plot with the per capita income of the country in 1991.

Figure 8.2 shows that in general, the higher the per capita income of the country, the higher the proportion of the city's population with water piped to their plot. It also shows that some cities have a much higher proportion of their population with water piped to their plot, relative to their country's per capita income while others have a much lower proportion. For instance, Caracas has a low proportion, relative to the per capita income of the country. Among cities in low-income coun-

FIGURE 8.2
The proportion of a city's population with water piped to the plot



BOX 8.2**Examples of the inadequacies in provision for water supply in cities**

Dar es Salaam (Tanzania): From a survey of 660 households drawn from all income levels in 1986/87, 47 per cent had no piped water supply either inside or immediately outside their houses while 32 per cent had a shared piped water supply. Of the households without piped water, 67 per cent buy water from neighbours while 26 per cent draw water from public water kiosks or standpipes. Only 7.1 per cent buy water from water-sellers. Average water consumption per person is only 23.6 litres a day.

Khartoum (the Sudan): The water supply system is working beyond its design capacity while demand continues to rise. The coverage is poor, with low-income groups in squatter settlements suffering the cost of all through paying the most for water, often bought from vendors. Breakdown and cuts in the supply system are common.

Kinshasa (Zaire): Around half the urban

population (some 1.5 million people) are not served by a piped water network. High-income areas are often 100 per cent connected while many other areas have 20-30 per cent of houses connected-essentially those along the main roads. The sale of water flourishes in areas far from the network-in these areas water is usually obtained from wells, the river or deep wells.

Calcutta (India): With a total population of around 10 million, some 3 million people live in 'bustees' and refugee settlements which lack potable water, endure serious annual flooding and have no systematic means of disposing of refuse or human wastes. Some 2.5 million others live in similarly blighted and unserved areas. Piped water is only available in the central city and parts of some other municipalities.

Faisalabad (Pakistan): Over half of the population have no piped water and most of those that do not have piped water have to rely on hand-pumps with water of poor quality.

Karachi (Pakistan): In 1988, 66.6 per cent of households had piped water; among the katchi abadis, only 50.3 per cent had piped water-perhaps not surprisingly, only 36 per

cent of the housing in the katchi abadis inhabited by the lowest income quintile had piped water.

Jakarta (Indonesia): Less than a third of the population have direct connections to a piped water system; around 30 per cent depend solely on water vendors whose prices per litre of water are up to fifty times that paid by households served by the municipal water company. Over a third of the population rely on shallow wells (most of which are contaminated), deep wells or nearby river water. Over half of all dwellings have no indoor plumbing and much of the population have to use drainage canals for bathing, laundry and defecation.

Madras (India): Only 2 million of the 3.7 million residential consumers within service area of the local water supply and sewerage board are connected to the system. On average, they receive some 36 litres per capita day per day. The rest within the service area must use public taps which serve about 240 persons per tap. Another million consumers outside the service area must rely on wells-but supplies are inadequate too because of falling groundwater levels.

Sources: See note. 24

tries, the proportion of dwellings with water piped to their plot varies from 86 per cent in Beijing to 31 (Lilongwe), 36 (Antananarivo), 38 (Delhi) and 40 (Nairobi). Among cities in the other income ranges, Harare, Bogotá and Amman have a high proportion of households with piped water to their plot, relative to their country's per capita income with Abidjan and Dakar having a low proportion. In regional terms, cities in sub-Saharan Africa are the worst served-although these are also the cities whose population growth rates have generally been much higher than in Asia or Latin America in recent decades.

Some caution is needed in reading too much into these statistics since a city's performance would also depend on the reliability and quality of the water. In addition, for each city, the proportion of the population with water piped to their plots will also depend on what boundaries were used to define the city. City boundaries that exclude a significant proportion of the peripheral settlements can often mean statistics that appear to show an impressive performance in infrastructure and service provision, as it is in the peripheral settlements that infrastructure and services are most lacking.

Box 8.2 gives some summaries of the inadequacy in water supply provision in cities for which there are recent reports. The extent of the inadequacies are perhaps surprising, given that most of these cities are either capitals or among the most prosperous cities in their countries. Where data is available for a range of urban centres within a

country, the proportion of the population with piped supplies is generally much lower in smaller urban centres. For instance, in Argentina, the smaller the urban centre, the higher the proportion of households lacking piped water (and connection to sewers).²¹ In Bolivia, a much higher proportion of the populations of the two largest and most prosperous cities-La Paz and Santa Cruz-have safe water than in Tarija and Sucre where close to half the population lacked provision for water supply.²² However, this is not always so; for instance, in Ecuador in 1988, many of medium-sized cities in the Sierra had a higher percentage of houses with piped water (and sewerage) than Quito, the largest city in this region (and also the national capital) while in the coastal area, several medium-sized cities had a higher percent of houses with water than Guayaquil, Ecuador's largest city although all had a lower proportion of houses with sewerage.²³

The fact that official statistics are often optimistic on the extent of progress in improving water supplies during the 1980s should not detract from the considerable achievements of many governments in improving water supplies. For instance, it is clear that major progress has been made in Brazil in improving the provision of water supply (and sanitation) during the late 1970s and the 1980s.²⁵ In Sao Paulo, for instance, although there is still a need to improve the quality and reliability of the water supply, especially for low-income groups, the public water supply network reaches some 95 per cent of all house-

holds.²⁶ Similarly, in Chile, the proportion of the urban population with piped water grew from 78 per cent in 1976 to 98 per cent in 1987 although here too, the coverage for the lowest income groups are also particularly low.²⁷

8.3 Sanitation

Official statistics for 1991 suggest that at least a third of the South's urban population and more than half its rural population have no hygienic means of disposing of excreta²⁸ and an even greater number lack adequate means to dispose of waste waters.²⁹ Close to 2 billion people still lacked provision for sanitation in 1991 and for most of those with provision, the simple pit latrine was still the most common method of excreta disposal. Of those that had provision for sanitation, most (1 billion) had a simple latrine; only some 550 million had a house connected to a public sewer with around 220 million having a septic tank system. Estimates for 1994 suggest that the number of people lacking adequate sanitation in the South had increased considerably during the early 1990s, to 588 million in urban areas and 2.28 billion in rural areas, up from 452 million and 2.15 billion respectively in 1990.³⁰ Projections to the year 2000 show that if the present rates of provision for sanitation are maintained, the number of people without adequate sanitation will total 3.31 billion, that is more than half the world's population. This will include 846 million urban dwellers and 2.5 million rural dwellers; most will be in Asia.³¹

There are three obvious criteria by which to judge provision for sanitation. The first is convenience and hygiene for the user; people need a toilet that, if not in their home, is at least very close and available. The second is the extent to which human contact with the excreta can be avoided. The third is the extent to which the facility is easily maintained. Different kinds of provision can meet these criteria, depending on the size, nature and density of the settlement. Thus, a simple pit latrine in a small rural settlement may meet all three criteria-but it rarely does in cities.

Figure 8.3 shows the number of people with provision for sanitation in 1991 by region, and the form of the provision. In Africa, over half of the population had no provision for sanitation in this year. For Africa's rural population, most of those with provision for sanitation had a simple latrine. The simple latrine was also still among the most widely used forms of provision for those with sanitation in urban areas. In 1991, around 20 per cent of Africa's urban population used simple latrines, around 20 per cent had homes connected to public sewers and around 20 per cent were connected to septic tank systems.³²

In Asia, in this same year, close to half the population, a total of 1.5 billion people, did not have provision for sanitation; of those that did, the majority relied on simple latrines (see Figure 8.3). The vast majority of the rural population with provision for sanitation had simple latrines; less than 100 million had the safer pour-flush latrines and less than 50 million had ventilated improved pit latrines. Ten per cent of the region's population was connected to public sewers; virtually all such connections were in urban areas although overall, only a third of the region's urban population was connected to public sewers. Most of the rest of the urban population with provision for sanitation had septic tanks or pour-flush latrines.

Within Latin America and the Caribbean, a much higher proportion of the population had provision for sanitation in 1991. Within urban areas, around three-fifths of the population had house connections to public sewer systems although small-bore sewers and septic tanks each served around 15 million people. In rural areas, most of the people with sanitation used simple latrines. However, around a quarter of the urban population and more than three-fifths of the rural population lacked provision for sanitation.

As with water supply, official figures suggest a considerable improvement in the proportion of the population with access to sanitation between 1975 and 1990-see Table 8.1-although the figures for 1990 still suggest nearly three-fifths of the population in low-income countries and close to a third in middle-income countries lacked access to sanitation. When broken down by urban and rural areas, more than 70 per cent of the urban population and about 40 per cent of the rural population were reported as having access to sanitation. However, as with official figures for water supply, official statistics on provision for sanitation in many nations are also known to overstate the proportion of people with provision that is convenient, accessible and adequate from a health perspective.³³

The problems with sanitation are often most apparent in urban centres where the size and density of settlements make defecation outside difficult or impossible-or for women, often dangerous. There are also the obvious conflicts-as those living or working in and around areas where many defecate in the open object to them doing so.³⁴ High concentrations of people also make the cheaper and easier sanitation solutions such as simple latrines less appropriate. In high-density residential areas, it is generally only sewers or toilets connected to septic tanks that can ensure adequate provision for sanitation. Most cities in Africa and many in Asia have no sewers at all.³⁵ This is not only the smaller cities; many major cities with a million or more inhabitants have no sewers. Most of their inhabitants

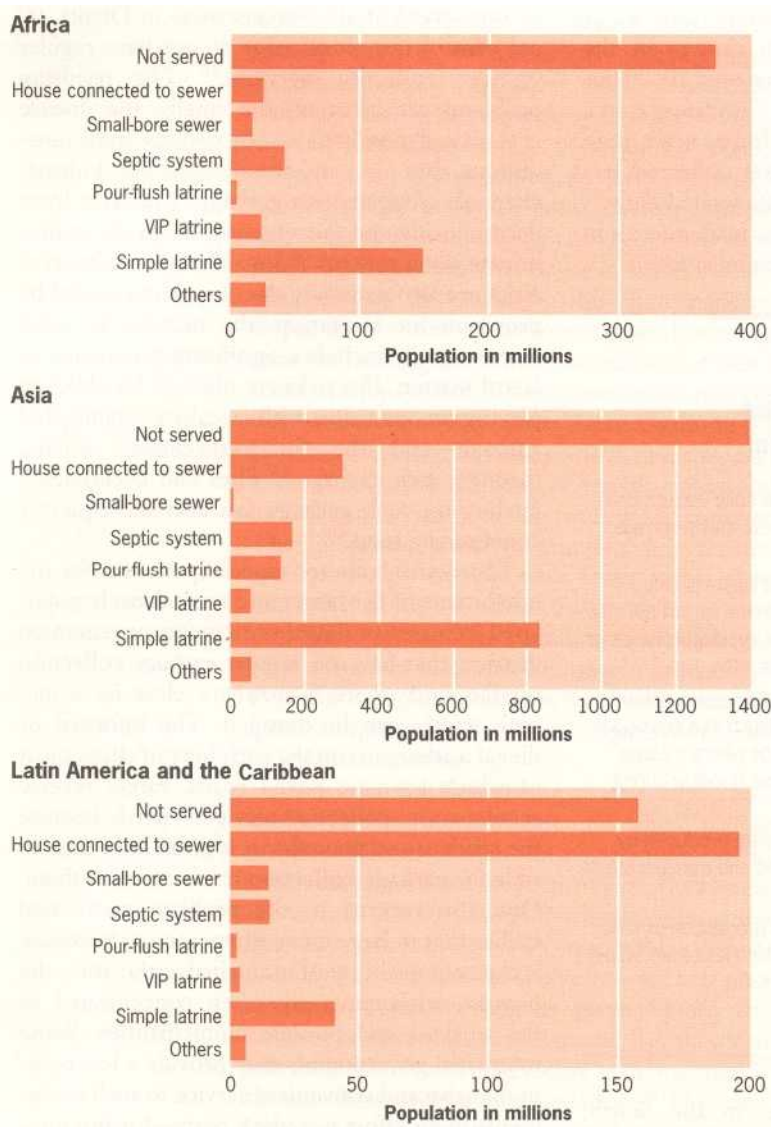


FIGURE 8.3
The number of people with provision for sanitation in 1991

Source: Water Supply and Sanitation Collaborative Council, Water Supply and Sanitation Sector Monitoring Report, 1993, World Health Organization and UNICEF, 1993, 57 pages.

also lack connection to septic tanks. Most human excrement and waste water ends up in rivers, streams, canals, gullies and ditches, untreated. Where there are sewers, rarely do they serve more than a small proportion of the population—typically they are located in the richer residential, government and commercial areas.

Box 8.3 gives some examples of the extent of provision for sanitation in selected cities. These are generally cities which are either capitals or if not capitals among the largest and most prosperous cities within their nations. The provision for sanitation in these is likely to be much better than in most smaller cities and market towns.

8.4 Solid-Waste Collection

Most city governments are facing mounting problems with the collection and disposal of solid wastes. In high-income countries, the problems usually centre on the difficulties (and high costs)

BOX 8.3

Examples of cities with inadequate provision for sanitation

Dar es Salaam (Tanzania): From a survey of 660 households drawn from all income levels in 1986/7, 89 per cent had simple pit latrines. Most households have to share sanitary facilities. Overflowing latrines are a serious problem, especially in the rainy season and provision to empty septic tanks or latrines is very inadequate.

Khartoum (the Sudan): The municipal sewage system serves only about 5 per cent of the Khartoum urban area. Even that system is susceptible to breakdowns when waste is discharged either directly into the river or onto open land. Most of the population rely on pit latrines while a significant proportion of the population has no toilet facility at all.

Calcutta (India): The sewage system is limited to only a third of the area in the urban core. Poor maintenance of open drains and periodic clogging of the system have made flooding an annual feature.

Faisalabad (Pakistan): Two-thirds of the population have no connection to sewers and only 3.2 per cent had connection to a septic tank. The sewer system was built for a population of 300,000 but the city now has more than 2 million inhabitants.

Karachi (Pakistan): 85 per cent of the houses in the planned areas are estimated to have sanitation but only 12 per cent in the *katchi abadis* where most of the population lives.

Jakarta (Indonesia): The city has no central waterborne sewage system. Septic tanks serve about 68 per cent of the population with 17 per cent relying on pit latrines or toilets which discharge directly into ditches or drains, 6 per cent using public toilets (generally with septic tanks) and about 9 per cent with no formal toilet facilities.

Madras (India): The sewage system serves 31 per cent of the metropolitan population.

Kingston (Jamaica): Only 18 per cent of the population are connected to sewers while 27 per cent have soak away pits, 47 per cent use pit latrines and 8 per cent report no sanitary facilities at all. A significant percentage of the population (especially those in low-income communities) defecate in open lots, abandoned buildings or into plastic bags that are then thrown into gullies. The sewage system in the central city area is old and in need of repair. There are also frequent blockages as solid waste is disposed of, down the manholes.

Sources: See note. 36

of disposing of the large quantities of wastes generated by households and businesses. In lower-income countries, the problems are more to do with collection. In most cities in the South, between a third and half of the solid wastes generated within urban centres remains uncollected and such wastes generally accumulate on open spaces, wasteland and streets and bring with them serious health and environmental problems.³⁷ These wastes generally add greatly to water pollution, when it rains, as much of this waste is

organic matter and ends up swept into water bodies. In many of the urban centres in the lowest-income countries, perhaps only 10-20 per cent of solid waste is collected. For instance, in a survey of 34 municipalities in India, more than three-fifths of the municipalities collected less than 40 per cent of the wastes generated daily.³⁸ Box 8.4 includes examples of the inadequacies in garbage collection services in several cities.

BOX 8.4

Examples of cities with inadequate provision for solid-waste collection and disposal

Dar es Salaam: Some two-thirds of all solid wastes from both residential areas and from commercial enterprises remains uncollected.

Kinshasa: The collection of household waste is only undertaken in a few residential areas. In the rest of the city, household waste is put out on the road, on illegal dumps or in storm-water drains or buried on open sites.

Jakarta: Around 40 per cent of the solid wastes generated within Jakarta are not collected; much of it ends up in canals and rivers and along the roadside where it clogs drainage channels and causes extensive flooding during the rainy season.

Karachi: Only two-fifths of the solid waste produced by households in the city is being collected and transported to dump sites.

Faisalabad: The estimated total daily production of solid waste in 1985 was 1,000 tonnes of which less than 50 per cent was collected by the Faisalabad H. C.

Sources: See note.³⁹

Among many municipalities in the South, solid-waste collection and management often consumes as much as 20-40 per cent of municipal revenues and it often suffers more than other municipal services when budget allocations and cuts are made.⁴⁰ The agencies responsible for the collection and disposal of household wastes are often understaffed and underfunded-and since virtually all have to use collection trucks that are imported, there are often serious problems with collection trucks out of use because of a lack of spare parts. Too little attention to servicing and maintenance adds to this problem. One illustration of this is from Tanzania where

Virtually all urban authorities ... have a totally inadequate number of refuse collection vehicles, as compared to the daily amount of refuse produced in urban areas. The refuse collection capacity is low partly because most of the vehicles are either in poor mechanical condition or are not working at all. As a result . . . urban authorities can only collect a small amount (24 per cent) of the estimated refuse produced each day.⁴¹

The poorest areas of any city are generally the worst served by garbage-collection service-

or not served at all. For instance, in Dhaka, 90 per cent of the 'slum' areas do not have regular garbage collection services.⁴² The resulting problems are obvious-the smells, the disease vectors and pests attracted by garbage (rats, mosquitoes, flies etc.) and the overflowing drainage channels clogged with garbage. Leachate from decomposing and putrefying garbage can contaminate water sources.⁴³ Since the poorest areas of cities are also generally the ones worst served by provision for sanitation, the uncollected solid wastes usually include a significant proportion of faecal matter. The risks are obvious for children playing on open sites with faecally contaminated garbage-and also for waste-pickers sorting through such garbage.⁴⁴ Flies and cockroaches feeding on such garbage can also subsequently contaminate food.⁴⁵

These problems are especially serious for the inhabitants of the larger and most densely populated informal or illegal settlements or tenement districts that have no regular garbage collection service since there is nowhere close-by where such wastes can be dumped. The informal or illegal settlements on the periphery of cities, most of which have no paved roads, rarely receive regular waste-collection services-partly because the roads are so poor that it is difficult or impossible for garbage-collection trucks to enter them. One also returns to the problem mentioned earlier that in large cities where service provision is the responsibility of municipal authorities, the poorest settlements are often concentrated in the weakest and poorest municipalities. Some municipal governments may provide a less comprehensive and convenient service to such settlements in an effort to reduce costs-for instance, communal pick-up points or communal garbage skips. But the further away these are from the household, the less frequently people use them and the more garbage is dropped on the way to them.⁴⁶ In addition, collections from such communal points are often irregular and overflowing skips or dumps become a serious health hazard in themselves and also discourage households from using them.

There are also the environmental problems caused by residents who try to reduce their own garbage problems-for instance by burning it. A study of household-level environmental problems in Jakarta in 1991 found that the occurrence of respiratory diseases in children and their mothers was correlated to a problem with uncollected garbage and this may be because households with no collection services burn their garbage.⁴⁷

As countries become wealthier and local authorities become more competent, the proportion of solid wastes collected and the proportion of households served with a regular collection

generally rises. Garbage-collection problems are less extreme in most of the middle-income countries in Asia and Latin America where a higher proportion of the urban populations have regular collections for their household wastes. For instance, in Sao Paulo City, 95 per cent of households have a regular garbage-collection service⁴⁸-although the proportion of the population served in many of the outer municipalities of the wider metropolitan region is lower.⁴⁹ In Bangkok City, by 1990, 80 per cent of the solid wastes generated were being collected.⁵⁰ In the world's wealthiest countries, regular garbage-collection services-like piped water and connection to main sewers-are even extended to much of the rural population.

The volume of waste per person also tends to rise with per capita incomes, so the authorities in the larger and more prosperous cities are faced with very large waste volumes. This is especially so in cities with a rapid growth in prosperity since this generally coincides with a rapid growth in population and a growth in the volume of wastes generated per person-and there is usually a considerable backlog of people who are not served by garbage-collection services that the authorities have to address. Thus, the volume of wastes that the municipal authority should collect may be growing three to four times more rapidly than the growth in population. As the city area expands, so too does the distance that the wastes must be carried before disposal and this adds greatly to disposal costs. In Bangkok, the transport of refuse to one of the present dump sites is responsible for 70 per cent of the total waste-management opera-

tional budget; in Manila, with the closing of the 'Smoky Mountain' dump site, the budget of the Metro Manila Authority responsible for waste management had to be increased by around 30 per cent because of increased haulage costs.⁵¹ The more heavily populated the city and its wider region, the more difficult it becomes to find sites for solid-waste disposal-not least because no one wants solid-waste disposal sites and the large traffic in heavy lorries they imply located close to their homes.

Table 8.2 shows how the quantity and composition of municipal wastes vary, depending on the per capita income of the country. In low-income countries, average municipal waste levels per person per year can be as low as 100 kg; in high-income countries they can be close to 1,000 kg although in most wealthy European countries, they average between 300 and 500.⁵² In a recent study of five Asian cities (Karachi, Manila, Kanpur, Bangkok and Jakarta), the average for domestic solid waste was 216 kg per person per year.⁵³ Per capita figures tend to rise with income, although there is a considerable range of per capita figures among the wealthiest countries. For instance, the per capita figures for Sweden and France are only 40 per cent that of the United States and less than half those of Canada and Australia.⁵⁴ The limited data that is available on municipal refuse volumes per person from cities in the South also suggests considerable variation for cities with comparable levels of per capita income-although here too, this may reflect different production bases (for instance a heavily industrialized city against an important administrative and commercial city) or different methods for measuring municipal wastes which may or may not include industrial wastes or construction wastes. For instance, in Karachi, different sources give the waste generation per person per year as only 128 kg per person per year or as 365 kg per person per year-with the latter figure including construction wastes and street-sweeping.⁵⁵

The figures in Table 8.2 are for municipal wastes and so include not only domestic wastes but also commercial and institutional refuse, street-sweepings and construction and demolition debris. They may also include industrial wastes. Residential wastes generally account for between 60 and 80 per cent of total solid wastes in cities in the South-but generally rather less in the North. For instance, in the Netherlands in 1986, household waste accounted for only a fifth of total solid wastes-with construction and demolition wastes accounting for 32 per cent, industrial wastes for 23 per cent and wastes from streets, markets, offices and shops accounting for most of the rest.⁵⁶ In the USA, industrial refuse is not considered as part of municipal refuse and its quantity is about 3 times that of municipal refuse.⁵⁷

TABLE 8.2 Municipal wastes-quantities and characteristics for low-, middle-and high-income countries

	Low-income countries	Middle-income countries	High-income countries
Waste generation (kg per person per year)	100-220	180-330	300-1,000
Moisture content (% net weight at the point of generation)	40-80	40-60	20-40
Composition (% by wet weight)			
Paper	1 to 10	15 to 40	15 to 50
Glass, ceramics	1 to 10	1 to 10	4 to 12
Metals	1 to 5	1 to 5	3 to 13
Plastics	1 to 5	2 to 6	2 to 10
Leather, rubber	1 to 5	-	-
Wood, bones, straw	1 to 5	-	-
Textiles	1 to 5	2 to 10	2 to 10
Vegetables/putrescible	40 to 85	20 to 65	20 to 50
Miscellaneous inerts	1 to 40	1 to 30	1 to 20

Source: Drawn from Cointreau, Sandra, *Environmental Management of Urban Solid Waste in Developing Countries*, Urban Development Technical Paper No 5, The World Bank, Washington DC, 1982. The ranges of waste generation in low-and high-income countries have been extended, reflecting new data on municipal waste generation in different cities.

A table similar to Table 8.2 could also be constructed for any city to contrast the differences in the scale and composition of the wastes of high-, middle- and low-income households. Many high-income households in cities in Africa, Asia and Latin America may have waste levels per person similar to those in Europe and North America; it is only the fact that they represent a smaller proportion of the city population that keeps down city averages. For instance, in the municipality of Olinda in Brazil the inhabitants of an illegal settlement (favela) produce only 100 kilograms per person per year while the middle- and higher-income groups produce between 180 and 550.⁵⁸ Part of the reason is that low-income households are more inclined to separate out and reuse or sell paper, tins, glass containers and other wastes. Waste-pickers particularly value domestic waste from middle- or upper-income residential areas because it has far more material that can be recovered and sold. Another illustration of the diversity within nations is provided by figures for urban areas in Argentina-where the average level of solid-waste production per person per year is around 240 kg but in Buenos Aires it is 400 kg.⁵⁹ If figures were available for waste levels per person per year by income group in Buenos Aires, very considerable differences are likely.

However, this view of solid-waste collection systems that are inadequate or breaking down or facing serious cost problems misses the large and complex 'waste economy' that exists in most cities in the South. The reclamation and reuse of materials may be so intensive that only a small proportion of the solid wastes generated may need to be disposed of. For instance, in Bangalore, one of India's largest and most prosperous cities (with more than 4 million inhabitants within the municipality), the municipal corporation only has to dispose of around 335 tonnes of solid wastes a day because around 2,700 are recycled or reused-see Box 8.5. Thus, the annual average solid waste generation per person in Bangalore may be around 270 kilograms but the amount that is unused and has to be disposed of is around 30 kilograms.

The 'waste economy' also provides a livelihood for tens of thousands of people in many large cities. The scale and nature of this 'waste economy' is now much better understood.⁶⁰ Box 8.5 describes its dimensions in Bangalore in India where over 40,000 people earn their living from waste recovery and recycling. Many other Asian cities have 'extensive "waste economies"', structured through itinerant waste buyers, waste pickers, small waste shops, second hand markets, dealers, transporters and a range of recycling industries.⁶¹ In Calcutta, around 40,000 people make a living from waste-picking and many

thousands more from farming or fishing that are based on the solid (composted) or liquid wastes from the city.⁶² In Manila, some 30,000 people are involved in informal waste recycling.⁶³ This large and complex 'waste economy' is not restricted to Asia; in Bogotá (Colombia), between 30,000 and 50,000 people have the reclamation and recycling of waste as their principal income-earning activity⁶⁴ while in Cairo (Egypt), some 20,000 people rely on collecting and sorting waste for their livelihood.⁶⁵ Chapter 12 discusses the integration of those involved in the waste economy into official solid-waste management systems so cities can retain the immense ecological and economic advantages that their operations provide while also improving solid-waste collection, especially to the poorer and more peripheral settlements, and reducing health risks and improving incomes for the lower-income groups engaged in the waste economy.

8.5 Transport*

Introduction

The last 10-15 years brought a continuing rise in the number of motorized road vehicles worldwide and continued growth in air traffic. For instance, road traffic in the European Union grew by 70 per cent between 1970 and 1985 and is expected to increase by a further 50 per cent between 1985 and 2000.⁶⁶ The growth in automobile use and in air travel has been a major factor in growing levels of fossil fuel use and in greenhouse-gas emissions. In most nations in the North, by the early 1990s, transport accounts for around 30 per cent of total energy consumption-although with considerable variation between countries. For instance, in the United States, it accounted for 37 per cent while in Japan it was 27 per cent and in the Netherlands 22 per cent;⁶⁷ since all three are among the world's wealthiest nations, it is clear that the variation is not simply due to differences in per capita income. The average share in the South was estimated at 22 per cent in 1985,⁶⁸ although there are also large variations between countries-for instance, in Mexico in the early 1990s, transport represented 35 per cent of total energy consumption.⁶⁹ Virtually all motorized transport uses oil-based fuels and most of this consumption is for road vehicles.

Nearly all cities have been transformed by motorized road vehicles. This is obvious in cities

* This section draws on Newman, Peter, *Transport And Cities. Resolving The Dilemma Of Automobile Dependence*, Background Paper for the Global Report on Human Settlements, 1995.

BOX 8.5**The scale and nature of the waste economy in Bangalore, India**

In Bangalore, India's sixth largest city (with 4.1 million inhabitants within the municipality), between 40,000 and 50,000 people make a living by waste recovery or recycling. This represents between 1.6 and 2.0 per cent of the workforce. The waste economy also means that Bangalore recovers and recycles most of the solid wastes that are generated.

The recovery and trading network consists of: c.25,000 waste-pickers (predominantly women and children); 3,000-4,000 itinerant waste-buyers of newspapers, plastics, glass, metals, clothes and other materials; c.800 small dealers, 50 medium-size dealers and 50 wholesalers in wastes; a great variety of enterprises using recycling materials including two glass- and four paper-recycling plants, eight aluminium recyclers, 350-500 plastic factories using waste materials and an uncounted number of small recycling enterprises; householders, household servants and around 7,600 municipal street-sweeping and garbage-collection workers, shop cleaners and office caretakers; piggery and poultry workers who collect food wastes from hotels and institutions; and farmers who collect compost from the garbage dumps or persuade garbage truck drivers to deliver wastes direct to their farms

Street pickers are estimated to retrieve

about 15 per cent of wastes put out on the streets and from over 12,000 street bins-amounting to perhaps 300 tonnes of materials per day within the city. Municipal collectors and sweepers are estimated to take out 37 tonnes per day, in addition to the wastes removed by pickers. Itinerant buyers recover about 40 kg of material per day and this implies a recovery of between 400,000 and 500,000 tonnes of materials per year. Middle- and lower middle-income households are their main residential customers although they also buy wastes from offices and shops. High-income households with their own motor vehicles often store their own waste materials such as newspapers and plastics and take them directly to a dealer or even a wholesaler although they will sell old clothes to itinerant buyers.

The fact that so much material is recovered from wastes by residents and shopkeepers or by waste-pickers allows the remaining wastes that are largely composed of organic wastes to be taken directly to farms and for natural composting to take place on garbage dumps. At one dump in 1990 about 15 truck-loads (each with around five tonnes of fresh wastes) are delivered per day and about 12 farmers' truck-loads of compost are removed. There is also a semi-mechanical compost plant that processes 50-100 tonnes of market wastes per day, producing about 20 tonnes of compost. About 210 tonnes of cow dung is collected each day from the roads for use as fuel by low-income people. A considerable amount of kitchen wastes, leaves, and tree

trimmings are eaten by stray dogs, cows and pigs from street bins, amounting to perhaps 5 per cent by weight of garbage put in bins. Recently, some citizen groups have been experimenting with decentralized composting and vermicomposting so a small amount of further household organic waste is being recycled.

No study has been done of industrial wastes (metals, wiring, batteries, plastics, rubber, leather scraps etc.) diverted by waste-exchange or trading, nor of bones sent to fertilizer factories and food wastes used by pig and poultry farms. None of the major industrial recyclables reach the dumps. Food wastes generated by restaurants and hotels are traded. Construction wastes are used for filling low-lying land.

Largely due to these varied activities of recovery and reuse, only about 335 tonnes of solid waste per day is handled by the corporation.

Although not all Indian cities have the capacity to recover and recycle as thoroughly as Bangalore, this study demonstrates that where convenient markets exist, traditions of separation and informal-waste trading thrive. It suggests that frugal habits are well established across a spectrum of household classes and that financial incentives reinforce these habits in lower-income groups, shops and factories. Such waste-reducing practices are found in other Third World countries, although the proportions of materials taken by itinerant waste-buyers and waste-pickers and the patterns of control in the trade may vary.

Sources: Furedy, Christine, 'Socio-environmental initiatives in solid waste management in Southern cities: developing international comparisons', in M. Huysman, B. Raman and A. Rosario (eds.), *Proceedings of the Workshop on Linkages in Urban Solid Waste Management*, Karnataka State Council for Science and Technology, Bangalore, 1994; and Huysman, Marijk, 'The position of women-waste pickers in Bangalore', in Ida Baud and Hans Schenk (eds.), *Solid Waste Management: Bangalore, Manohar, Delhi*, 1994.

with high levels of automobile ownership but **there are** also many cities which still have relatively few passenger cars relative to their population but where the use of cars, trucks, buses and other forms of motorized vehicle has greatly increased the size of the urban area. In addition, most major cities throughout the world developed before the widespread use of automobiles⁷⁰ and were thus 'pedestrian cities' with small streets, high densities and a great mix of commercial and residential activities. All such city centres have difficulty coping with automobile traffic. Moreover, many cities have faced 'explosive' growth in the number of road vehicles-for instance, in Bangkok, the number of road vehicles grew more than sevenfold between 1970 and 1990.⁷¹ Many of the Asian cities within the more prosperous economies are likely to have had a tripling or quadrupling in the number of passenger cars over the last 10-15 years. For instance, the number in Seoul more than doubled in just five years between 1980 and 1985 while the

number in Karachi and Jakarta also grew very rapidly in this period.⁷² This section reviews first the growth in the number of road vehicles in countries and in cities. Then it considers the costs and benefits of the increasing dependence on automobiles.

The number of road vehicles

The growth in the number of cars worldwide in recent decades has been far more rapid than the growth in the urban population. For instance, in 1950, there were around 53 million cars on the world's roads, three-quarters of them in the United States; by 1990, there were more than 400 million and another 100 million trucks, buses and commercial vehicles. Around one-third of these were in Europe, another third were in North America and the final third divided between the rest of the world.⁷³

Although in Africa, Asia and Latin America, the number of road vehicles per person remains

far below the level in Europe and North America, certain countries in these regions have had the most rapid growth in the number of road vehicles-and a few of the wealthiest countries in these regions have levels of car ownership comparable to those of Europe. Table 8.3 shows the number of passenger cars per 1000 inhabitants for selected countries. It reveals the very large contrasts between some of the world's poorest countries with 1 or 2 passenger cars per 1,000 inhabitants in 1985 and some of the wealthiest countries with 400 or more. In the United States, by 1985, there were more than one passenger car for every two persons; by 1991, several other countries had reached or were close to reaching this ratio-including Italy, Switzerland, Canada, Australia and New Zealand.⁷⁴

This Table also shows how the number of passenger cars per person still remains relatively low in some of the most prosperous Asian nations. In 1985, Hong Kong had a tenth of the ratio of passenger cars to people of the wealthiest countries while Singapore had a fifth of this ratio-although these are unusual instances as both are essentially city-states with high population densities and with governments prepared to take highly effective economic and regulatory actions to control car populations. But this table also indicates that it is difficult to generalize the relationship between per capita income and the number of private automobiles per person. Japan and Denmark were among the world's most wealthy nations in 1985 but had much fewer passenger cars per 1,000 inhabitants than other nations with comparable per capita incomes. As will be described in more detail below, the number of passenger cars per person in any society is often influenced by factors such as the extent and quality of provision for alternatives to private automobiles and by the density of urban areas.

In many countries, the number of passenger cars per 1,000 inhabitants doubled between 1975 and 1985-for instance in Botswana, Mexico, Colombia and Ecuador. In Malaysia, Greece and Thailand, the numbers per person tripled between 1975 and 1987. But Table 8.3 also shows many countries with no increase in the number of passenger cars per 1,000 inhabitants and some such as Zambia and Burkina Faso with an overall decline.

The number of automobiles and other forms of transport in cities

The convenience of private automobiles for those able to afford them and the extent to which many developments in retailing (drive-in stores, hypermarkets, out-of-town shopping malls), in the concentrations of job opportunities and in new residential developments encourage (or necessitate) their use suggests that it may be difficult to

shift car-users to other transport modes. An increasing reliance on private automobile use has been built into much of the urban landscape and this is not easily changed. In many cities in the North, a significant proportion of the population now live in low-density suburbs within which no public transport can operate cost-effectively⁷⁵ and in which at least two private cars per household are almost a necessity.⁷⁶ Even in a small, compact country such as Denmark where gasoline consumption per person was found to be relatively low in relation to per capita income in its major city,⁷⁷ each person (including children and the elderly) travel an average of 40 kilometres a day with this average projected to rise to 55 kilometres a day by the year 2010.⁷⁸ As one paper commented:

In the postwar era falling energy prices and rising car ownership have transformed cities, allowing the increased physical separation of activities and the progressive spread of urban hinterland at lower densities. The dispersal of employment, retailing and service facilities creates an equivalently dispersed pattern of trips that is anathema to public transport operation. Lower average densities mean a decline in pedestrian accessibility, longer trip lengths and reduced catchment populations for public transport routes. The result is increased car dependence, profligate energy use and global pollution.⁷⁹

However, the extent to which a city's population has become dependent on the use of private automobiles varies greatly, even for cities where the inhabitants have comparable levels of income. A detailed study of thirty-two major cities in North America, Europe, Australia and Asia that looked at the extent of automobile dependence and the factors that helped explain this found that the cities could be divided into five categories of automobile dependence.⁸⁰ Most US and Australian cities were within categories 1 and 2 which have a high or very high automobile dependence and at most a minor role for public transport, walking and cycling. Most European cities fell into categories 3 and 4 which had moderate or low automobile dependence and an important role for public transport. However, Munich and Paris, both among the most prosperous cities in Europe, along with three of the most prosperous Asian cities (Tokyo, Singapore, Hong Kong) had a very low automobile dependence with public transport, walking and cycling more important than cars.

Figure 8.4 plots fuel consumption per person in these 32 cities against urban density (persons per hectare). It shows not only the very large differences in fuel consumption per person between cities but emphasizes the fact that wealthy, prosperous and desirable cities can have relatively low levels of fuel consumption per person. For instance, cities such as Vienna, Copenhagen and Stockholm are among the most wealthy and

TABLE 8.3 The number of passenger cars per 1,000 inhabitants; selected countries

	1975	1980	1985 or latest year	Comment
Africa				
Botswana	5	7	13	Numbers per person up 3fold, 1975-85
Burkina Faso	2	2	1	Overall decline in number per person, 1975-85
Cameroun		24	39	
Congo	15	15	15	
Cote D'Ivoire	11	14	18	Numbers per person more than doubled, 1975-85
Ethiopia	1	1	1	
Gabon		15	16	
Malawi	2	2	2	
Nigeria	4	4	9(1991)	
South Africa	84	74	93	
Tunisia	17	23	40 (1991)	Numbers more than doubling, 1975-91
Zambia	19	10	10	Substantial decrease in number, 1975-87
Zimbabwe		26	31	The figure for 1991 (18.5) implies a sharp fall
North America				
Canada	382	404	476(1991)	
United States	491	495	588 (1991)	
Central America and the Caribbean				
Costa Rica	30	33		
Cuba	15	16	21	
Dominican Rep.	14	15	16	
Haiti	4	4		
Mexico	39	53	83 (1991)	Numbers per person more than doubled, 1975-91
Trinidad & Tobago	100	133	204	Numbers per person more than doubled, 1975-85
South America				
Argentina	89	99	126	Highest number of autos/person in region
Bolivia	6	5	5	
Brazil		45	83 (1991)	
Chile	25	37	52	Numbers per person up 144 percent, 1975-85
Colombia	16	18	28	Numbers per person more than doubled, 1975-85
Ecuador	7	7	15	Total number more than doubled, 1975-85
Peru	17	16	19	
Uruguay		73	102	
Venezuela	75	87	92	
Asia				
Bangladesh	less than 1.0 for all three dates			
Hong Kong	27	33	29	
India	1	1	1	
Indonesia	3	4	6	
Japan	155	196	303 (1991)	Number per person almost doubled, 1975-91
Kuwait	202	233	244	
Malaysia	39	56	90	Number per person increased 3fold, 1975-87
Pakistan	3	3	4	
Philippines	9	8	7	Decline in number per person, 1975-85
Singapore	66	64	92	
Thailand	6	8	14	Number per person nearly tripled, 1975-85
Europe				
Austria	229	300	337	
Denmark	257	273	295	
France	290	334	382	
Germany ^a	289	380	424	
Greece	48	87	127	Number per person more than tripled, 1975-87
Hungary	55	95	135	Number per person nearly tripled, 1975-87
Italy	272	310	394	
Netherlands	249	314	338	
Poland	32	64	99	Total number nearly quadrupled, 1975-87
Spain	135	196	240	Total number more than doubled, 1975-87
Switzerland	280	347	404	
United Kingdom	254	276	313	
Oceania				
Australia	357	368	434	
New Zealand	369	401	460	
Papua New Guinea	7	5	5	

^a Statistic for former West Germany.

Source: Table 29 in United Nations, Compendium of Social Statistics and Indicators 1988, New York, 1991-with statistics for 1991 drawn from AAMA, World Motor Vehicle Data: 1993 Edition, Washington DC, 1993, quoted in WRI, World Resources Report 1996-7, World Resources Institute, Washington DC, 1996.

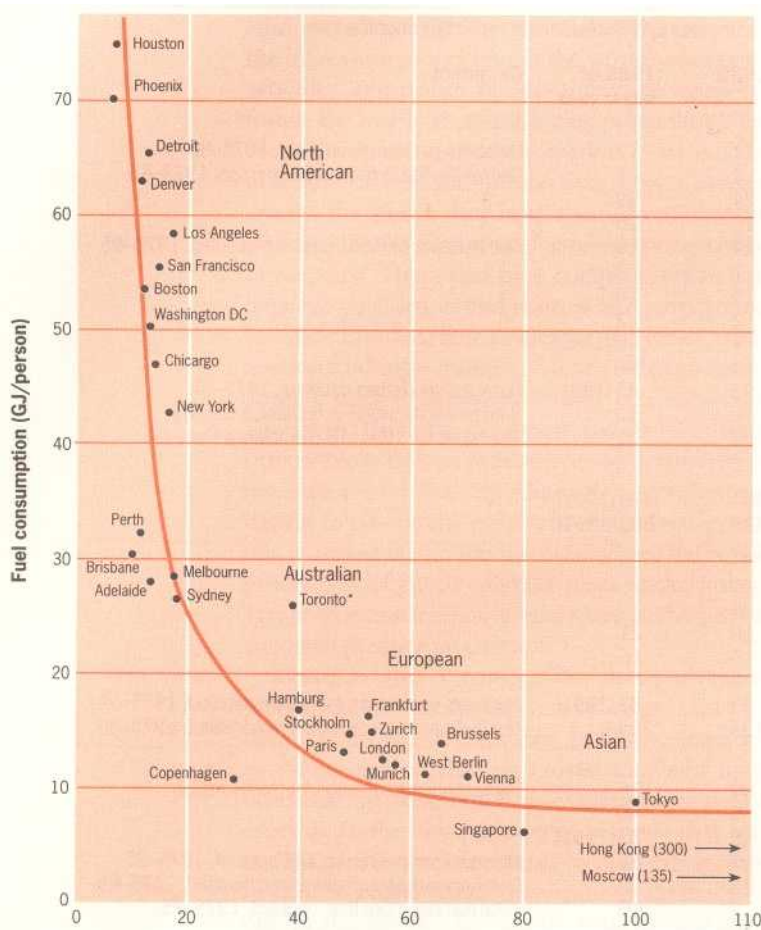


FIGURE 8.4
Population density
against gasoline
consumption per
person for 32
cities (data for
1980)

Source: Newman, Peter
W. G. and Jeffrey R.
Kenworthy, *Cities and
Automobile Dependence:
an International
Sourcebook*, Gower
Technical, Aldershot, 1989.
Toronto falls within the
'Australian' rather than the
'North American' norm.

desirable cities in which to live yet they have a fifth to a tenth of the fuel consumption of US cities. Many European cities have per capita incomes higher than Australian cities and yet have two to three times less use of automobiles.

The relatively low levels of automobile dependence in the Asian and some of the European cities are associated with higher population densities, a more efficient public transport system and effective demand management measures. In the three Asian cities in Table 8.4, nearly two-thirds of all travelling in terms of passenger-km was undertaken on public transport. Many other large cities in Asia also have most passenger movements undertaken by public transport—for instance, in the mid-1980s, over two-thirds of all motorized trips in Seoul, Bombay, Shanghai, Manila⁸¹ and Calcutta as well as Tokyo and Hong Kong were made by bus, rail or subway.⁸²

Table 8.4 also shows large contrasts between the cities in terms of the proportion of workers walking or cycling. Cities in China such as Shanghai and Tianjin have among the highest rates of bicycle use in the world,⁸³ although in both, these rates may be declining rapidly, with the rapid growth in the number of automobiles and with transport plans oriented towards increasing automobile use. Most cities in the

South also have a high proportion of trips made by walking. But it is not only cities in relatively low-income countries that have a high proportion of trips made by walking or bicycling. For instance, in cities in West Germany in 1989, 27 per cent of trips were made by walking with 10 per cent by bicycle.⁸⁴ In many cities in Denmark, France, Sweden, Germany and the Netherlands, a high proportion of all trips are made by bicycle; in Delft (the Netherlands) where special attention has been given to encouraging bicycle use, 43 per cent of trips are made by bicycle with 26 per cent made by walking.⁸⁵

The differences in the average densities of inner and outer areas and in the overall metropolitan densities in Table 8.4 are particularly notable. Figure 8.5 shows the differences between the traditional 'walking' city that generally has between 100 and 200 persons per hectare to the 'transit city' with 70-100 persons per hectare to the 'automobile dependent city' with densities of 10-20 persons per hectare.

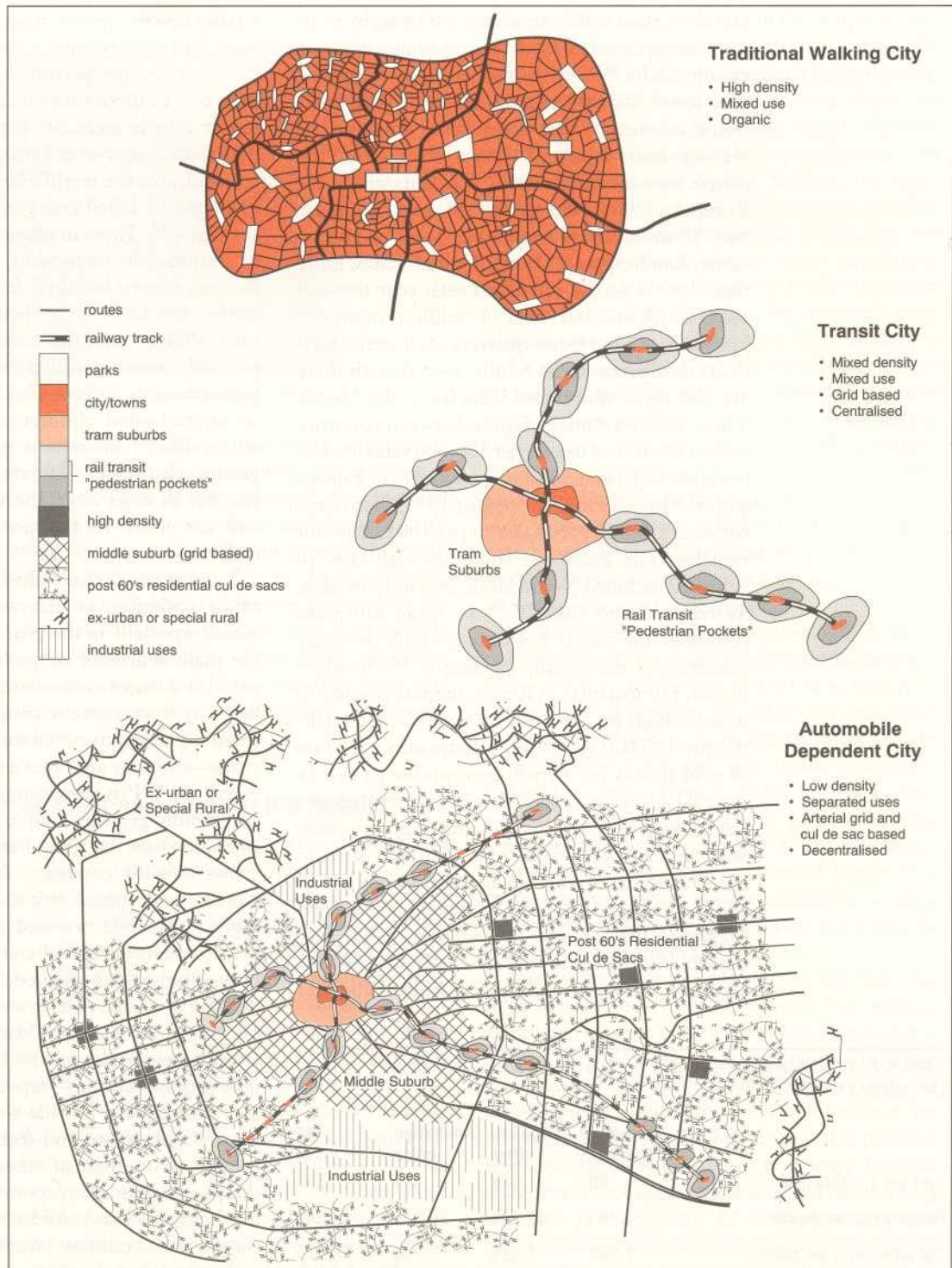
These same kind of relationships are found within cities as some areas—especially between outer suburbs and historic areas, central business districts and residential and commercial areas that developed before it was common for households to have their own automobiles. Figure 8.6 shows how gasoline use per person remains relatively low for those in central New York but is nearly twice as high for those in the inner city area and some five times higher for those in the outer areas.

Comparable contrasts were found in a study in Toronto in 1986 where those living in the dense city core travelled on average 9.4 kilometres a day by automobile compared to 13.4 by those in less dense inner suburbs and 21.7 for those in low density outer suburbs.⁸⁶ Many cities have a small *walking city* centre and a distinctive *transit city* with higher density and very different transport patterns, surrounded by an *automobile dependent city* with uniformly low density suburbs and high car use.⁸⁷ In most cities, there are also large variations in rates of car ownership and use between high-, middle- and low-income areas.

Although the general trend has been for increasing car dependence and decreasing density, as cities become more prosperous, there are many instances of wealthy cities in which densities have increased in recent years—for instance in many historic urban cores or in new urban villages in Europe—and in which public transport and walking or cycling have grown at the expense of car travel.⁸⁸ The section in Chapter 9 on responses to transport problems has several examples of cities in which high quality public transport and other measures to support inner city development have encouraged more people to live in central areas.

FIGURE 8.5
Different city forms according to dominant mode of transport

Source: Newman, Peter, Jeff Kenworthy and Peter Vintila, *Housing, Transport and Urban Form*, Institute for Science and Technology Policy, Murdoch University, Australia, 1992.



The costs and benefits of automobile dependence

Few cities have been successful in coping with the rapid growth in the number of road vehicles. The economic costs of congestion in many major cities are estimated in terms of billions of US dollars a year and any city with serious congestion is likely to lose new investments to other, less congested areas. Congested roads and a lack of an efficient public transit system also means high costs for low-income households. In large cities

lacking effective public transport systems, it is common for low-income households to spend 20 or more per cent of their incomes on transport and for those living in peripheral areas to spend 3-4 hours a day travelling to and from work.⁸⁹

Those who own and use road vehicles rarely pay for the full range of social and environmental costs they directly or indirectly generate.⁹⁰ For instance, there are the very considerable health costs associated with road vehicles, much of which are borne by those not using motor vehicles.

Globally, road traffic accidents are thought to be the leading cause of death among adolescents and young adults.⁹¹ One recent estimate suggested that some 885,000 people die each year from traffic accidents⁹² and many times this number are seriously injured.⁹³ More than a million people have died from traffic accidents within the European Union over the last 20 years, and more than 30 million have been injured and/or permanently handicapped.⁹⁴ In the United States, more than 40,000 people are killed each year through road accidents and over 3 million injured.⁹⁵ However, around three-quarters of all traffic accidents now occur in the South, even though there are still many more road vehicles in the North. There are enormous variations between countries in the rate of road deaths per 100,000 vehicles. For instance, in Japan and among countries in Europe with the lowest rates, in 1990 or 1991, there were between 18 and 22 road deaths per 100,000 motor vehicles. The European countries with rates of below 22 included Netherlands, Norway, Sweden, Switzerland and the UK.⁹⁶ In some European countries, the rate is 3-4 times as high. In many countries in the South, the rate is 15-30 times higher. For instance, in Kenya, the rate is some 30 times as high (in 1991 there were 580 road fatalities per 100,000 vehicles).⁹⁷ Kenya also has a rate of road deaths per person comparable to that in several European nations, despite having far fewer road vehicles per person. In India, there are more fatalities each year from road accidents than in the United States yet it has less than a twentieth of the road vehicles.⁹⁸ One estimate for Thailand suggested that around half of the 20,000 lives that are lost each year to accidents are from traffic accidents,⁹⁹ which would give Thailand a higher

fatality rate per person from traffic accidents than most European countries, despite having far fewer road vehicles per person. Kuwait and Venezuela have two to three times more people dying from motor vehicle accidents per 100,000 inhabitants than most countries in Europe.¹⁰⁰

In some of the world's largest cities, thousands of people are killed each year through automobile accidents.¹⁰¹ Even in cities with very low levels of automobile ownership, such as Delhi and Beijing, several hundred fatalities per year from traffic accidents were being reported in the early 1980s¹⁰² and the number of fatalities have probably risen considerably since then. It is pedestrians or cyclists who are most often killed or injured and children who are particularly vulnerable.¹⁰³ Since it is generally low-income groups who walk or bicycle most, there is also a transfer of costs from the wealthier car owners and car users to the poorer pedestrians and cyclists.

In most cities, road vehicles are a major source of air pollution, as described in Chapter 4; in many, especially in the North, they have become the main source of air pollution in cities. They are also a major source of noise while road and highway construction programmes are among the most disruptive construction projects within cities and they are often a major cause of forced evictions.¹⁰⁴ Private automobiles are also a major and rapidly growing source of greenhouse gases, as their share in total fossil-fuel consumption grows in most countries. And as city transport systems and spatial structures become increasingly automobile oriented, so those who cannot drive or cannot afford motor vehicles become increasingly disadvantaged. This affects in particular the poor, the elderly who do not drive or can no longer drive and children and youth. There are often particular gender biases as public transport services decline—especially as they become more infrequent outside the 'rush hours' when most people go to and from work. This affects those who use them at other times—for instance the people who are responsible for looking after the household and children (usually women) or those who combine domestic responsibilities with part-time work (usually women) whose journeys to and from work are outside the conventional rush hours.

It has also become clear that building ever more highways and freeways is no solution. Even if traffic congestion is reduced (which is rarely the case), the level of resource use and greenhouse-gas emissions increases greatly. What is perhaps most dramatic about Table 8.3 is the scale of the differences in passenger vehicles per 1,000 inhabitants. Most of the most populous Asian and African countries have less than one-hundredth of the passenger cars per person of the world's

TABLE 8.4 Comparing cities in terms of use of cars and public transport
(All statistics for 1980)

	Wealthy Asian cities	European cities	Australian cities	US cities
Cars per 1,000 people	88	328	453	533
Gasoline use per person	5,493	13,820	29,829	58,541
Car vehicle-kms per person	1,067	3,485	5,794	8,715
The share of public transit in total passenger-kms	64	25	8	4
Public transport vehicle-km of service per person	103	79	56	30
Proportion of workers walking or cycling	25	21	5	5
Metropolitan population density	160	54	14	14
Inner area population density	464	91	24	45
Outer area population density	115	43	13	11

Source: Sustainable Urban Transport Systems Project, ISTP. The Asian cities were Tokyo, Singapore and Hong Kong.

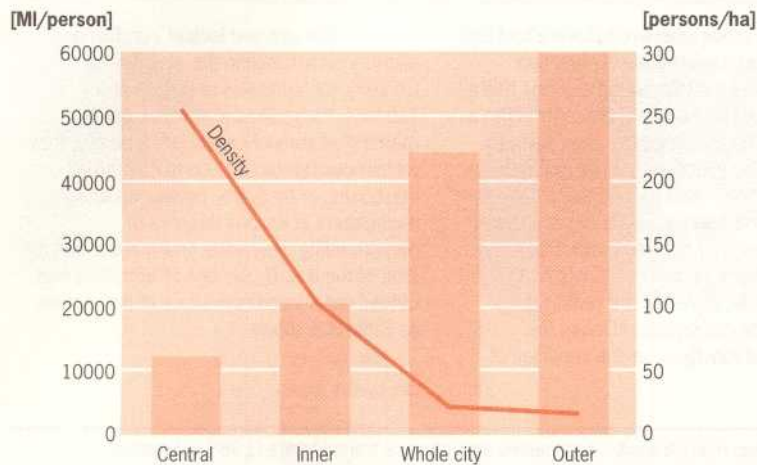


FIGURE 8.6
Gasoline use and urban density in New York's centre and its inner and outer area

Source: Based on data drawn from Newman, Peter W. G and Jeffrey R. Kenworthy, *Cities and Automobile Dependence: an International Sourcebook*, Gower Technical, Aldershot, 1989.

wealthiest nations. Even with major advances in the fuel efficiency of automobiles and in resource conservation (for instance through high levels of recycling for automobile parts and through automobiles that lasted longer), the increase in fossil-fuel use and resource use if these countries sought to reach levels of private automobile use comparable to those that are now common in the wealthiest countries would place enormous strains on the world's finite resource base and finite capacity to absorb greenhouse gases without major climatic change.

Transport and cities in the South ¹⁰⁵

Most city and municipal authorities in the South face great difficulties in improving what are currently grossly inadequate public transport systems—to the point where they not only meet the needs of low-income groups but also encourage many middle- and upper-income groups to use them, instead of private automobiles. Many major cities in the South face comparable problems to Northern cities in regard to traffic congestion and air pollution arising from road vehicles.¹⁰⁶ Within the richer cities, rates of automobile ownership per capita can be as high as in cities in the North. Even where they are much lower, less provision for roads in cities, poor road maintenance and poorly functioning traffic management systems often ensure high levels of congestion. Congestion combined with less efficient and poorly maintained engines and higher levels of lead-based additives in gasoline can also mean comparable or higher levels of automobile-related air pollution, even when the number of road vehicles in use is substantially less.¹⁰⁷

In many if not most cities in the South, the quality of public transport is poor and, in recent years, has been falling further and further behind demand. In most cities in Africa, Asia and Latin America, the growth in the supply of public transport by the formal sector is slower than popula-

tion growth—and the deficit in the supply of services is further widened because the larger the city grows, the larger the average length of travel. In several sub-Saharan African cities, there has even been a major decline in the supply of public transport, despite growing populations. In others, such as Nairobi and Abidjan, the main public transport operators increased the number of vehicle kilometres during the 1980s, but at a rate that was much slower than population growth. In India, the supply of public transport services stagnated in Bombay, did not match population growth in Bangalore and only in Madras did it increase faster than the population. There are usually too few vehicles relative to demand and a serious problem of maintenance as existing vehicles are over-used and too little attention is given to maintenance. For many nations, there is also the problem of the high import costs of oil and public transport vehicles (and of all spare parts); only a minority of nations produce automobiles, buses and trucks and most that do simply assemble imported components.

In many cities, a high proportion of all trips on public transport are provided by informal private-sector services. By the end of the 1980s, the informal sector had between 40 and 80 per cent share in public transport in most capital cities of sub-Saharan Africa—see Box 8.6. It also dominates public transport in many cities in South Asia, except the large ones where institutionalized transport usually has the lead. Where routes and timetables are not defined, informal transport is more expensive than regular transport, is often hardly affordable by the urban poor and it may be dangerous—see Box 8.6.

One other common problem is the fact that revenues for most publicly owned bus, railway and metro systems do not cover the costs so there are no revenues on which to draw to improve maintenance and the quality of the service and to invest in expanding the service. Politicians are reluctant to raise fares because of the political protests this would cause, not least because many low-income households would be seriously affected. But a failure to address this simply means a continuous deterioration in the quality of the service while unmet demands continue to grow.

There is also the problem of the spatial incoherence of the built-up area within and around the city. In most cities, there are many districts into which no buses can go. These include historic city centres where roads and lanes are too narrow for buses and all the illegal or informal settlements that have developed on sites which are often flooded or waterlogged or on steep slopes with no motorable roads or at a considerable distance from paved roads. In addition, most cities have developed and expanded with such a spatial incoherence that it

BOX 8.6

Public transport by private companies in Africa

As the large, generally publicly owned bus companies in Africa began to falter in the economically depressed 1980s and 1990s (see Chapter 2 for more details), private transport became increasingly important, especially for the low-income groups. Often the service was more direct, faster, and certainly more accessible, particularly to and

from outlying areas where roads were bad and the large buses could not easily function. These smaller, privately owned vehicles had a variety of local names, derived according to a number of different principles, according to the location: for example, the Nairobi matatus, the Dar es Salaam data-dalas, the Bamako duru-duruni and the Brazzaville cent cent are based on the coins, or fares that were charged for the service when it was first initiated; and the speed of the vehicle is reflected in the car rapide of Dakar, the kimalu-malu of Kinshasa, or the zemidjan of

Cotonou; the age and lack of comfort and security is indicated in the alakabon of Conakry, the congelés of Douala and Yaounde, the gbakas of Abidjan, and the mammy-wagons of Lagos.¹⁰⁸ Typically, they were reconstituted pick-up trucks, small minibuses, or minivans, holding up to 36 passengers in various degrees of overcrowding depending on the route and the time of the day. By the late 1980s, they had carved out a significant share of the market, as Table 8.5 shows.

TABLE 8.5 Division of market between mass transit-companies and informal transporters (1989 estimates)

City	Company		Informal transport	
Conakry	SOGETRAG	40%	Ala Kabons	60%
Nairobi	KBS NBSC	40% 3%	Matatus	57%
Dar es Salaam	UDA	10%	Dala-dalas	90%
Abidjan	SOTRA	75%	Gbakas	25%
Dakar	SOTRAC	32%	Cars rapides	68%
Kinshasa	SOTRAZ All companies together	30% 56%	Fulas-fulas	44%
Lagos	LSTC	2%	Molue/Danfoe	98%
Bamako	SPGA/CTUB	2%	Durunis/Sotrama	98%
Douala & Yaounde	SOTUC	20%	Taxis collectifs	80%
Brazzaville	STB/STUB RATB	5%	Fulas fulas Taxis collectifs	95%

Sources: For Table 8.5, Xavier Godard et Pierre Teurnier, *Les Transports urbains en Afrique à l'heure de l'ajustement*, Karthala, Paris, 1992, 51. For the text, Stren, Richard and Christie Gombay, *The Governance of Human Settlements, Background paper for the Global Report, 1995*.

is very difficult to organize cost-effective public transport. In the absence of land-use planning, and where illegal settlements become the only viable source of housing for most low-income groups, cities expand in a haphazard manner, with very densely populated settlements of different sizes interspersed with large areas with little or no development and often low density suburban developments for middle and upper-income groups.¹⁰⁹ This greatly increases the cost of providing public transport.

8.6 Communications

The growth in the communications industry

The world is in the midst of what is often termed an 'Information Revolution', in which advances in computers and telecommunications technology

have transformed the way that many people work, shop, learn, and communicate, and, increasingly, where they live and work. These technological advances have also changed the way that many goods are made, many services provided and most companies or corporations are organized. They are affecting settlement patterns all round the world-and the scale of their influence is likely to increase. The scale and nature of the changes that they are bringing-or could bring-should be of concern to every policy-maker and every city authority.

The growth in the telecommunications industry has been dramatic. There are more than 500 million connections to telephone main lines,¹¹⁰ and in 1994, more than 38 million new subscribers were connected.¹¹¹ Between 1975 and 1990, the number of telephone connections grew rapidly in most countries in the South. For instance, to take only examples from some of the

more populous countries, the number of connections more than doubled in China, Mexico, Peru, Iran and the Philippines in this 15-year period while it more than tripled in India, Colombia, Brazil and Pakistan and more than quadrupled in Egypt, Thailand, Republic of Korea and Indonesia. In Turkey and Saudi Arabia, it increased more than ninefold. The rate of increase was less dramatic in the wealthiest nations, as they already had high ratios of connections to people in 1975. By 1990, there was more than one telephone line for every two persons in many of the world's wealthiest countries.¹¹² There is also the dramatic increase in the number of people with cellular phones; the cellular phone networks had some 50 million subscribers in 1994 and worldwide, one new telephone subscriber in six gets a mobile phone.¹¹³ The twenty-five leading telecommunications companies had revenues of \$400 billion in 1994 and in this same year, the ten largest of these made bigger profits than the twenty-five largest commercial banks.¹¹⁴ With a world average of around one telephone connection for every ten persons compared to one connection to two persons in high-income countries, the potential for expansion is obvious.

The implications for settlements

What is perhaps more important for settlements is not the size of the industry but the implications of two factors. The first that a computer, a modem (for sending data from the computer down the telephone line) and a telephone connection in a remote, small village allows just as much connection to other users and information services that are 'on-line' as one in the centre of a large city. The cost of the computer and the modem has fallen rapidly; in many countries, the two together cost only a few hundred dollars.¹¹⁵ The second is the growth in the scale and nature of data transmission that is possible through the telephone line, and the fall in costs. While telephone lines were once considered only as the means by which people can talk to each other, now they can do far more. Faxes can transmit 'facsimiles' of both text and graphics. Electronic mail connects computer users through telephone lines-and allows the transmission of any form of data (text, statistics, graphics). Cables made of fibre optics enormously increase the capacity of phone lines and lower the cost of data transmission-and allow, for instance, the transmission of television pictures between those with connections. Meanwhile, digital telephone exchanges and digital connections between telephones or computers plus computer-controlled communications systems make connections between users easier and cheaper. A review of telecommunications in *The Economist* in 1995 was

entitled 'the death of distance' as international telephone calls become as cheap for telephone companies as local telephone calls-even if their pricing structure does not reflect this.

The fall in the cost of communications and the dramatic increase in the scale and nature of communications that is possible through telecommunications systems introduces new uncertainties for all cities, as these undermine one of their main comparative advantages as centres which promote information-exchange. This link between telecommunications systems and computers certainly allows a new division of labour and new patterns of urban economic specialization within nations and internationally,¹¹⁶ but it seems more likely to change the location of many of the world's most prosperous cities rather than to undermine the economic dominance of cities. The role of the city may not be so much as a centre of communications but a centre for the control of communications and access to information.¹¹⁷ Telecommunications networks and most of the information services that they can tap are not public goods but privately owned and only available to those who pay for them. They certainly increase access to information for those who live outside the large cities and are able to pay for this access, but much of this information and equipment is produced in cities by companies or corporations that are based in cities. The combination of rapid advances in telecommunications and computers has reinforced the comparative advantage of transnational corporations in three aspects: (1) as the producers of the computers, telecommunications networks and telecommunications equipment; (2) as the owners of most of the information services and entertainment to which they provide access; and (3) as the enterprises who can utilize computer networks in planning and organizing production in different locations around the world. This boosted the economy of many cities (and other settlements) where the multinational corporations invested or subcontracted and fewer cities where they concentrated their own offices-while at the same time contributing to the decline of many cities that had enterprises that lost their market to the multinationals. As Chapter 1 described, a few of the largest and most long-established cities have had their role reinforced by their role within the world economy-especially the three main 'command and control' centres of the multinational corporations-London, New York and Tokyo.

Much-improved telecommunications systems and computers have been an important facet in several of the changes in the world economy noted in Chapter 1-for instance, the much increased importance of the service sector within the world economy, the rapid growth in financial services

(and speculation in international currencies) and the increasing proportion of the world's economic activities controlled by multinational corporations. By much increasing the possibilities for communication and co-ordination between the different offices and production sites scattered around the world, they have also separated many of the activities that were formerly concentrated in one city. There can be a complete separation between production and control as a corporation based in London, San Francisco or Sydney commissions a design studio in Milan to design a new good, a bank in Tokyo to finance it, a factory in Shenzhen (China) to produce it, and an advertising firm in New York to promote it with the corporate office (and the city where it is based) never having to handle the good whose production and sale it organized. So it is not clear where the actual production of goods will take place in the future, except that much less will take place in the largest and most prosperous cities.

There is also a comparable move of many service-sector enterprises out of major cities or the more expensive countries. At first, companies in the wealthiest nations moved much of their office staff to cheaper locations outside the major cities or to the city periphery—a move that was encouraged in some instances by high crime rates in central cities. Many government agencies or offices also moved, for similar reasons (and also, in some instances, to push jobs to poorer, high unemployment areas). Now, it is possible to move a large part of office work to cheaper countries as telecommunications systems allow companies with headquarters in Europe and North America to have much of the 'information processing' in their accounting, payroll, invoicing or sales done in nations in Asia and the Caribbean, where wage rates are much lower. Airline companies were among the first to move part of their office operations to cheaper countries in the South where there was the telecommunications infrastructure and the workforce to do this. Publishing companies have long had branches, subsidiaries or subcontractors in low-wage countries that undertook much of the typesetting and printing of books and advanced telecommunications systems simply make this transfer easier and more rapid. This subcontracting of work to lower-wage countries can include highly skilled tasks—as in software development or in animation; many of the children's cartoons on US television are largely drawn by animators in low-wage Asian countries. Information and entertainment services that are available through the telephone can also be located in lower-cost countries—for instance those provided by computer companies and computer software companies. It was even possible to 'export' part of a security firm's work as the pictures from television cameras monitor-

ing buildings in Europe or North America go directly to televisions in low-wage countries—with the people monitoring them being able to alert the police or other security staff in the original country, if there is any suspicious activity.¹¹⁸ Not only does this mean much lower wages for the staff supervising the cameras but because this monitoring is done on the other side of the world, much of the night-time surveillance in Europe can be done as a daytime job in Asia.

Although the most advanced computer networks which allow the largest and most rapid transmission of data and the possibility of permanent electronic connection between distant sites are privately owned, with access to them strictly controlled to those who pay for them, much improved telecommunications systems and computers have also increased the possibilities for smaller firms or for individuals. Small companies or individuals can also send business overseas—for instance commissioning typing or data inputting into records or translation to businesses in countries with lower wages—with electronic mail, faxes and telephone lines providing the links. Of particular importance is the Internet which provides electronic connections between subscribers at a low cost—and allows subscribers to send each other letters and data through their computer and modem with the cost of sending 'e-mail' letters being little more than the cost of the local telephone call needed to send the data to their local e-mail network. There are some 30 million users within the Internet on 50,000 different networks in 65 countries and around 1 million new users are joining the system each year.¹¹⁹ The range of information services available to Internet subscribers has also increased considerably and an increasing number of international agencies, companies and voluntary organizations make information available to those who are connected to Internet.

There are also the many ways in which computer networks reduce the necessity to work in or visit cities. For instance, 'teleshopping' allows people to purchase goods from their homes, choosing either from the television or from catalogues; with no need to visit a shop and with the people who take their order and package and send the goods also not needing to be in a city. Such teleshopping depends on the use of credit cards or charge cards and the staff responsible for managing the purchase of goods by these cards also need not be located in cities. Home-shopping sales in the United States and the major European Union Countries grew rapidly in the late 1980s and early 1990s.¹²⁰ The possibilities for teleshopping are further increased where consumers can receive full details of companies' products through computer information systems and use these systems to order the goods or ser-

vices they want. 'Telebanking' is also growing and this allows many transactions formerly done by visiting one's bank to be done over the telephone-and, of course, the bank staff who answer the telephone and organize the transaction also need not be in major cities. 'Telecommuting' or 'teleworking' is also made much easier, through a computer in the home connected through the telephone system to the computer system at work. One report suggested that about 25 per cent of all jobs in the Netherlands could be done in telework¹²¹ while one estimate suggested that there could be as many as 33 million teleworkers in the USA and 10 million in the UK by the year 2010.¹²² Advanced telecommunications systems also allow many activities to be done through a telephone line rather than through face-to-face contact-including 'teleteaching,' 'teleconferencing' and 'teleconsulting' and each can reduce the demand for service activities that are usually concentrated in cities (i.e. schools, universities, conference centres and consultants). Many information services accessed over the telephone such as telephone directory enquiries or computer hardware or software 'help-lines' have the staff who answer the calls located outside the larger and more expensive cities. 'Telemetry' can be used to monitor any building's consumption of water, electricity and gas and allow accurate billing without anyone needing to visit the building to read the water, electricity or gas meter.

In theory, this substitution of telecommunications for people's journeys should considerably reduce energy use in transport. The substitution of telecommunications links for visits to work, conferences, shops, banks, schools, and other places reduces the need for transport and implies a considerable reduction in energy use for transport. But these may also increase energy use by allowing a more dispersed pattern of settlements which implies longer journeys and often more reliance of the use of the private automobile.¹²³

Thus, the possibilities for changing the location of economic activities and of where people live within countries and internationally are very large. Nations, regions and cities which have good-quality telecommunications infrastructure are clearly at a great advantage to those that do not. Countries with a well-educated workforce that are also able to use computers are also, obviously, at an advantage, although to attract business from the wealthier countries also implies that this workforce must speak the language of the wealthier countries. It is no coincidence that most of the examples of countries in the South which have attracted information-processing jobs from the North are countries in which English is the first language or a language widely spoken among middle- and upper-income groups. However, the actual form of the rearrangement of economic activities

within nations and internationally remains unclear. As one commentator notes, 'contrary to early, simplistic expectations that telecommunications would "eliminate space", rendering geography meaningless through the effortless conquest of distance, such systems in fact produce new rounds of unevenness, forming new geographies that are imposed upon the relics of the past'.¹²⁴ But the underlying trend will be that the cost of transport is unlikely to fall and will probably rise while the cost of communications is likely to continue falling-and this implies a tendency towards spatial diffusion.¹²⁵

The implications for city authorities¹²⁶

The two critical questions for city authorities are first, what these advances imply for the prosperity of their city and what steps they can take to promote this prosperity and secondly what they imply for the spatial distribution of people and economic activities within their jurisdiction. Far-sighted policies on telecommunications can considerably enhance a city's economy but unrealistic assumptions about the potential of a city to attract new enterprises that then underpin large public investments in 'wiring the city' and in improving the communications links between the city and outside can also prove expensive and ineffective.

The growing economic importance of what is often termed the 'information economy' has meant increased competition between cities for the jobs and investments associated with it. The information economy is very large, if taken to include all economic activities and employment primarily associated with the production, processing and distribution of information.¹²⁷ Using such a broad definition, by 1981, between 40 and 50 per cent of the labour force in OECD nations worked in the information economy, with the proportion being considerably higher in certain major metropolitan centres.¹²⁸ But this definition includes teachers and lecturers and the media (who are included within 'information distributors') and the administrative and managerial staff of private firms and the public sector ('information processors') as well as those who produce information (including researchers and consultant services) and those who build and run the information infrastructure (for instance the staff of postal and telecommunications services).¹²⁹ In this broad definition, the information economy has long been central to most city economies as for centuries, most large cities have concentrated government bureaucracies, legal services, the headquarters of merchant organizations and banks and schools and universities. What is new is the much increased economic value of the information and the extent to which many of those

working within the information economy need not be in the largest, wealthiest cities.

The competition between cities can be seen in two aspects. The first is in the buildings and high technology estates where the buildings incorporate the latest information technology-or in a more widespread development to 'wire the city' so all businesses have access to an optic-fibre cable network. The second is in improving the quality and capacity of the city's telecommunications links with the outside-for instance through teleports. Teleports are to the transport of information what seaports and airports are to freight and passenger transport: a consolidated point of entry into (or out of) a region from which information is distributed to their final destinations or collected from their origins.¹³⁰

The first teleport in the United States was the teleport of New York, a satellite communication centre and office park built on 142 hectares of Staten Island and opening in 1985.¹³¹ The city of New York was an active financial and management partner in the venture (which also included Merrill Lynch and the Port Authority of New York and New Jersey), and its main motivation was to stem business movement out of New York. The telecommunications infrastructure in downtown Manhattan had become extremely congested-and this was solved by connecting the teleport to a fibre-optic network serving Manhattan. The teleport site itself also offered business location opportunities within the city.¹³² Many other teleports have been built since then, not only in the United States but also in Europe, Japan and other locations.¹³³ Even where the teleport had been funded entirely by the private sector-as was the Harbor Bay Teleport near Oakland, California, across the Bay from San Francisco where real-estate development was linked with high-capacity telecommunications infrastructure-this had major implications for the local authority. And the urban planners who approved the project certainly hoped that it would produce substantial economic benefits for the city.

The examples of New York and Oakland illustrate two, somewhat distinct functions a teleport can serve: as a regional provider of telecommunications capacity and competitive service, and as a local magnet for business. The economic development potential of the first function seems to be more important than that of the second. Among the seventy or more teleports in the United States, most appear to be primarily 'antenna' or 'dish farms', serving a collector-distributor role for the telecommunications of the region, without generating much new business opportunities on site. Nearly all are privately owned-and few were initiated by local policy-makers.¹³⁴ Businesses need not locate at a teleport to enjoy

its services, but the absence of the advanced communications capabilities offered by such a facility may put a region at a competitive disadvantage in terms of attracting or retaining firms with such advanced communication needs.

Many city authorities have become involved in improving telecommunications cabling within their city or within particular zones in the city. This is generally in the hope that this will attract new business or keep existing ones but there can also be other important objectives. For instance, other objectives might be to keep down the growth in private automobile use or to encourage new jobs in poorer or more run-down areas within the city. Advanced telecommunications systems also bring many other possibilities-for instance increasing access to information in schools or allowing local cable television channels through which the city authorities make their workings more open and accountable by televising meetings. City authorities can also maintain up-to-date computer bulletin boards about decisions and ensure that comprehensive information about the work of the city authorities and the services they provide is available 'on line'. There are also many possibilities for improving access to information for the people who have the most difficulty moving around the city-older people, children, those with physical handicaps and low-income groups in general.

Thus, telecommunications technologies present a number of challenges and opportunities for city authorities. Cities must avoid unrealistic investment and promotion policies on communications infrastructure but must continually monitor the changing technological landscape as they explore policy and planning alternatives. City authorities should also be aware of the social polarization that they can exacerbate, both in labour markets and in terms of who has access to valuable information and who has not. One specialist suggested the following:

A city should also be interested in promoting diversity in its telecommunications infrastructure and in the use of that infrastructure, rather than looking for a technological fix for whatever economic ills it may be undergoing. In the 1960s, many cities [in the US] thought cable television could solve the urban problems of poverty and political participation; in the 1980s, teleports and smart buildings have been regarded as high-technology solutions to economic development problems. City leaders must realize that telecommunications can no longer be taken for granted but should be considered an important strategic component of the community's infrastructure. While telecommunications is not, in and of itself, a sufficient condition for economic development, it appears to be a necessary one. Increasingly, cities that can effectively use telecommunications as a development and service delivery tool will enjoy a competitive advantage over cities that are oblivious to the opportunities at hand.¹³⁵

Box 8.7 summaries some of the key issues in regard to telecommunications planning.

8.7 Concluding Comments

The first few sections of this chapter concentrated on describing the lack of infrastructure and services that underlie many of the most serious health problems evident in urban areas in Africa, Asia and Latin America. But a broader view is also needed in assessing how improved infrastructure and services makes a good living environment—for instance what makes particular inner-city areas, suburbs, neighbourhoods or villages and shelters more pleasant, safe and valued by their inhabitants—and thus more healthy.¹³⁶ Improvements in the quality of housing, water, sanitation, drainage, roads and paths not only reduces disease but also makes life more pleasant—perhaps most especially for those people within households (usually women) who are responsible for looking after the children and for managing the household. So too does a

good public transport system, especially for low-income groups as it increases their access to family and friends and also to open space and social activities. Provision within each city neighbourhood for well-designed and managed open space and space and facilities for safe and stimulating play for children of different ages is also important, as is minimum noise and a lack of violence.¹³⁷ Telephones are not only invaluable for their role in rapidly calling on emergency services when needed but also for many aspects of urban life linked to work, domestic life and pleasure. The relative importance given to each of these will vary greatly from person to person—and it is difficult to be precise about how pleasant environments contribute to a greater sense of wellbeing and lessen stress. But it is clear that they do. The reverse is also true as many psychosocial disorders are associated with poor quality housing, infrastructure and services.¹³⁸ One of the themes that consistently emerges in discussions with people about what influences wellbeing is the importance of being able to command events that control their lives.¹³⁹ This includes being able to avoid all the injuries and diseases associated with a lack of provision for water, sanitation and drainage and to have a reliable and regular public transport system.

Increasing income generally brings improvements in infrastructure and service provision. This is both the case within cities, if the environmental quality of the homes of high and low income groups are compared, and between cities. Recent World Bank publications have stressed how the scale and relative importance of different environmental problems change, as a country's economy becomes more prosperous and as more investments can be made in infrastructure and services.¹⁴⁰ In general, the higher a country's per capita income:

- The higher the proportion of rural and urban population with safe water.
- The higher the proportion of urban population with adequate sanitation.
- The larger the municipal wastes but also the more comprehensive the service to regularly collect such wastes.

However, certain other environmental problems also increase with per capita income including:

- Fossil-fuel consumption (especially through rising electricity demand and use of motor vehicles) and thus carbon dioxide emissions per capita.
- Concentrations of particulate matter in the air in urban areas, until a certain per capita income is reached—and this concentration then declines.

BOX 8.7

Some of the main issues relating to cities' telecommunications planning

- Improving telecommunications infrastructure can encourage a loss of jobs from a city or region as well as bringing them in. Telecommunications facilitates the closure of small branch banks, insurance offices and other service enterprises. It facilitates the entry of large national chain stores at the expense of small and diverse local shops and other enterprises.
- High-quality telecommunications infrastructure may bring jobs to a depressed region (urban or rural), but it may also lock the economy of that region into low-wage, low-skill information-processing jobs such as back-office processing.
- Isolated attention to various demonstration projects may result in a region having certain communication 'hot spots' within which novel services may be available, but which are not linked to the rest of the region. Uneven access to the technology and its benefits may be the result.
- Cities should take care that attention to high-technology attractions do not divert them from the provision of conventional services. 'Investment at the expense of other, more traditional priorities in times of local financial stringency may not even produce the best economic results for the area. It could be argued that investment in more traditional infrastructure is more likely to produce more immediate economic development benefits. Indeed, telematics strategies may increase social polarization within cities unless specific steps are taken to counteract this.'

Source: Drawn mainly from Gibbs, David, 'Telematics and urban economic development policies: time for caution?', *Telecommunications Policy*, vol. 17, no. 4, 1993, 250-6

- Concentrations of sulphur dioxide in the air in urban areas until a certain per capita income is reached and then a rapid decrease.¹⁴¹

This is an identifiable tendency, even if there are large variations in these indicators for cities in countries with comparable per capita incomes. One should recall the large variations between cities in the proportion of people with water piped to their plots in nations with comparable per capita incomes-or the very large differences in per capita gasoline use among the world's wealthiest cities.¹⁴² But this tendency is largely a result of increased capacity to invest in and to manage infrastructure and services.

This tendency for improved environmental quality to be associated with higher income was demonstrated by a study of household-level environmental problems in three cities: Sao Paulo (the largest city in Brazil and one of the wealthiest cities in the South); Accra (the largest city in Ghana, a relatively low-income country); and Jakarta (the largest city in Indonesia, a middle-income country). With surveys covering 1,000 or more households in each city, the environmental problems associated with water, sanitation, solid waste, indoor air quality and pests were found to lessen with the per capita income of the country-see Table 8.6. But as importantly, most household level environmental problems also tended to lessen within each of these cities, the wealthier the household.¹⁴³

The fact that the scale and relative importance of environmental problems change, the higher

the per capita income of the city or nation, allows a classification of urban centres, according to which set of environmental problems is likely to be most pressing-see Table 8.7. In the cities in category 1, many households are still struggling with a lack of provision for water and sanitation; by category 4, the main environmental problems are no longer within the city but are the collective impact of the consumption and waste produced by city inhabitants and city businesses on regional and global resource bases and systems. Most urban centres will never fit neatly into one of these categories-but this table helps to stress the dynamic and changing nature of environmental problems in cities with growing economies.

The initial environmental problems for all urban centres are those caused by the absence of infrastructure-the environmental health problems that arise from a concentration of people and enterprises when there is a lack of provision for piped water supplies, sanitation and drainage, solid-waste collection and health care. Increased prosperity brings with it increased potential to invest in the needed infrastructure and services. For those with rising incomes, this also means rising capacity to pay for these and if provided efficiently, most or all costs of provision can be recouped from the users. As these initial 'environmental health' problems are addressed, and as the city's economic base grows, so chemical and physical hazards grow, many of them originating in enterprises.¹⁴⁴ If growing economic prosperity is based on rapid industrialization, this can mean serious air and water pollution and growing problems with hazardous wastes. In cities with rapid industrial growth, there are often strong pressures brought by industrial and commercial concerns to limit pollution control. Rapid industrial growth in the absence of pollution control can produce very unhealthy cities-of which Cubatao in Brazil is one of the best known examples, although environmental quality in this city has improved greatly since it was known as 'the Valley of Death'.¹⁴⁵

As chemical and physical hazards are addressed, through much improved pollution control, waste management and attention to occupational health and safety, they usually give way to environmental problems linked to high-consumption lifestyles and an increasing number of private automobiles. Problems of industrial pollution are often lessened too, through the deindustrialization of cities or more effective pollution control. The mix of air pollutants also changes, reflecting the increased role of automobile emissions and the reduced role of industry and power stations. And the large cities also have an increasing impact on their wider regions.

This movement through the four different categories in Table 8.7 can also be interpreted as

TABLE 8.6 Incidence of household environmental problems in Accra, Jakarta and Sao Paulo

Environmental indicator	Incidence of problem (percentage of all households surveyed)		
	Accra	Jakarta	Sao Paulo
Water			
No water source at residence	46	13	5
No drinking-water source at residence	46	33	5
Sanitation			
Toilets shared with more than 10 households	48	14-20	<3
Solid waste			
No home garbage collection	89	37	5
Waste stored indoors in open container	40	27	14
Indoor air quality			
Wood or charcoal is main cooking fuel	76	2	0
Mosquito coils used	45	28	8
Pests			
Flies observed in the kitchen	82	38	17
Rats/mice often seen in the home	61	82	25

Source: McGranahan, Gordon and Jacob Songso, 'Wealth, health and the urban household; weighing environmental burdens in Accra, Jakarta and Sao Paulo', *Environment*, vol. 36, no. 6, July/Aug. 1994, 9. Data drawn from surveys conducted by the Stockholm Environment Institute in collaboration with a local research team in each of these cities in late 1991 and early 1992. Sample sizes were 1,000 for Accra and Sao Paulo and 1,055 for Jakarta.

TABLE 8.7 Typical environmental problems for urban centres of different sizes and within nations with different levels of per capita income

Environmental problems and influences	Category 1: Most urban centres in most low-income nations and many middle-income nations	Category 2: More prosperous cities in low-and middle-income countries-including many that have developed as industrial centres	Category 3: Prosperous major cities/metropolitan areas in middle-and upper-income countries	Category 4: Cities in upper-income countries
<p>Access to basic infrastructure and services</p> <ul style="list-style-type: none"> -water supply and sanitation -drainage -solid-waste collection -primary health care 	<p>Many or most of the urban population lacking water piped into the home and adequate sanitation. Also many or most residential areas lacking drainage so such areas often having mud and stagnant pools. Many residential areas at risk from flooding. Many or most residential areas also lacking services for solid-waste collection and health care, especially the poorer and more peripheral areas.</p>	<p>Piped water supplies and sanitation systems reaching a considerable proportion of the population but a large proportion of low-income households not reached, especially those in illegal or informal settlements on the city periphery. Typically, solid-waste collection and health care reaching a higher proportion of the population than in category 1 but still with between one-and two-thirds of the population unserved.</p>	<p>Generally acceptable water supplies for most of the population. Provision for sanitation, solid-waste collection and primary health care also much improved, although 10-30 per cent of the population still lacking provision (or adequate provision). The proportion of people lacking adequate services generally smaller than in category 2 but in very large cities, this can still mean millions who lack basic services. In large metropolitan areas, service provision often least adequate in weakest, peripheral municipalities.</p>	<p>Provision of all four services for virtually all the population.</p>
<p>Pollution & waste</p> <ul style="list-style-type: none"> -water pollution -air pollution -solid-waste disposal -hazardous waste management 	<p>The main water 'pollution' problems arise from a lack of provision for sanitation and garbage collection.</p> <p>Often serious indoor air pollution, where soft coal or biomass fuels used as domestic fuels specially where indoor heating is needed.</p> <p>Open dumping of the solid wastes that are collected.</p> <p>No capacity but also volumes generally small.</p>	<p>Most local rivers and other water bodies polluted from industrial and urban discharges and storm and surface run-off.</p> <p>Often severe problems from industrial and residential emissions. Indoor air pollution in households lessened as households with higher incomes switch to cleaner fuels.</p> <p>Mostly uncontrolled landfills; mixed wastes.</p> <p>Severe problems; limited capacities to deal with it.</p>	<p>Severe problems from untreated or inadequately treated industrial and municipal liquid wastes that are usually dumped without treatment in local water bodies.</p> <p>Increasingly important contribution to air pollution from motor vehicles. Perhaps less from industry as city's economic base becomes less pollution intensive and as measures begin to be taken to control industrial emissions.</p> <p>A proportion of landfills controlled or semi-controlled.</p> <p>Growing capacity but often still a serious problem.</p>	<p>Much improved levels of treatment for liquid wastes from homes and productive activities. Concern with amenity values and toxic wastes.</p> <p>Motor vehicles becoming the major source of air pollution. Little or no heavy industry remains in the city and the control of air pollution becomes a greater priority for citizens.</p> <p>Controlled sanitary landfills, incineration, some recovery.</p> <p>Moving from remediation to prevention.</p>
<p>Physical and chemical hazards in the home and workplace</p>	<p>The main physical hazards associated with poor-quality living and working environments-especially domestic and workplace accidents. There may be serious occupational hazards among certain small-scale and household enterprises.</p>	<p>A great increase in the problems with occupational health and safety at all levels and scales of industry. Government often not giving occupational health and safety adequate priority. A high proportion of low-income households living in illegal or informal settlements with high risks of accidental injuries-especially if they settle on dangerous sites.</p>	<p>Improved government supervision or worker organization to ensure improved occupational health and safety. Often, a decline in the proportion of the population working in hazardous jobs. A rise in the contribution of traffic accidents to premature death and injury. Improved provision of water, sanitation, drainage and health care lessening physical hazards in residential areas.</p>	<p>A high level of occupational health and safety and active programmes promoting injury reduction for homes and on the roads.</p>

TABLE 8.7 continued

Environmental problems and influences	Category 1: Most urban centres in most low-income nations and many middle-income nations	Category 2: More prosperous cities in low- and middle-income countries-including many that have developed as industrial centres	Category 3: Prosperous major cities/metropolitan areas in middle- and upper-income countries	Category 4: Cities in upper-income countries
Land	Urban expansion taking place with few or no controls-or where controls exist, they are largely ignored.	Urban expansion continuing to take place with few or no controls; uncontrolled or ineffective land use controls; often rapid growth in illegal or informal settlements, including illegal land subdivisions for wealthier groups; loss of farmland to expanding urban areas and to demand for building materials and aggregate.	More controls imposed on urban expansion but these often prove ineffective as illegal residential developments continue, in the face of a considerable section of the population unable to afford to buy or rent the cheapest 'legal' land site or house. Different groups often in conflict over use of best located undeveloped land sites or of use of agricultural land for urban purposes.	Land use tightly regulated-perhaps to the point where house prices begin to rise as land supplies for new housing become constrained.
Other environmental hazards	No provision by the public authorities for disaster preparedness; disasters (floods, storms) often common with severe damage and loss of life. In cities with an industrial base, inadequate provision to guard against industrial disasters and to act to limit the damage and loss of life, when they occur.		No provision by the public authorities for disaster preparedness; disasters (floods, storms) often common with severe damage and loss of life. In cities with an	industrial base, inadequate provision to guard against industrial disasters and to act to limit the damage and loss of life, when they occur.

Source: Based on a table in Bartone, Carl, Janis Bernstein, Josef Leitmann and Jochen Eigen, *Towards Environmental Strategies for Cities; Policy Considerations for Urban Environmental Management in Developing Countries*, UNDP/UNCHS/World Bank Urban Management Program, 18, World Bank, Washington DC, 1994.

an increasing capacity for individuals and households to pass on the environmental costs and the responsibilities for environmental management to higher levels.¹⁴⁶ As a recent paper noted:

many environmental services such as piped water, sewerage connections, electricity and door to door garbage collection not only export pollution (from the household to the city) but also shift both the intellectual and practical burdens of environmental management from the household to the government or utility.¹⁴⁷

Thus, connection to a sewer allows a household to get rid of excreta and waste waters with no hazard to the household itself and with great convenience-but the aggregation of all households' liquid wastes within a city when disposed of untreated can seriously damage regional water bodies. The same is true for solid wastes. If coal- or wood-fuelled stoves are replaced with electric cookers, the air pollution burden may be transferred from the home and the settlement to the power station.¹⁴⁸

But cities do not have to successively undergo the four different phases summarized in Table 8.7. In most urban centres in relatively low-income countries, far more could be done to improve water supply, sanitation, drainage and health care using existing resources-to the point where it matches the performance of urban centres in category 2 or 3-through using existing resources allocated in different ways. This

also brings other important advantages-for instance the stimulus that infrastructure improvement in residential areas brings to household investment in improving or extending housing that also creates employment.¹⁴⁹

Similarly, no city has to 'wait' until a certain per capita income is reached before action is taken. It is not necessary for cities to undergo a 'dirty industry' phase as part of their development-as most of the older North American and European cities have undergone and as many industrial centres in the South are also undergoing. The costs of pollution control are often less important in the total costs of an industry than industrialists like to claim, especially when new industries are set up and 'clean' industrial technology can be installed. In addition, a clean, well-managed city is in itself an important asset in attracting many kinds of new enterprise. Similarly, the problems of pollution and traffic congestion associated with many of the world's wealthiest cities today, most of which are 'post-industrial' cities as they have very little industry, are also problems that can be avoided or much reduced with foresight. It is the way that cities expand and new settlements develop on their periphery and the spatial form of these new developments that will strongly influence the extent of private automobile use and the scale of rural land loss to urbanization.

The extent to which urban centres in low-

income nations can address the deficiencies in infrastructure and services and in so doing address also the most serious life-threatening and health-threatening environmental problems will be much influenced by local political and economic circumstances. The uniqueness of each city must be stressed again-not least in the form of its political economy. Each city has within it a great range of actors and institutions that contribute to the city's economy and built form and that are also seeking changes in policy and approach from all agencies in government. Most are in competition with each other for scarce public resources and political favours. Many are seeking official approval for land developments that can multiply one hundredfold or more the value of land. Evidence of this competition is evident in every city's local newspaper and often in national or regional newspapers as citizen groups demand action against polluters or castigate the performance of utility companies or as those illegally settled in the city's watershed try to avoid eviction. It is the outcome of this process that largely determines what investments are made in infrastructure, which environmental problems receive priority and who benefits (and who does

not). In political systems that inhibit organized action by low-income groups or that are undemocratic, most investments in infrastructure and services may end up serving middle- and upper-income groups.

One possible way to greatly improve the quality and range of infrastructure and services in relatively low-income countries is to draw on the knowledge and resources of low-income communities.¹⁵⁰ There are precedents that show how much can be achieved with modest resources.¹⁵¹ But achieving this will require more resources and powers devolved to community level-and not just more responsibilities.¹⁵² It should also be remembered that most low-income individuals and households have limited 'free time' to devote to community initiatives, as most adult members have to work long hours. In addition, no assumptions should be made by external agencies as to how much community participation the inhabitants of a particular settlement want; low-income households may prefer to spend a larger proportion of their income to obtain provision for water, sanitation, garbage collection and environmental management that does not involve community management.

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