# GLOBAL URBAN INDICATORS DATABASE

*Version 2*

**Global Urban Observatory**
**United Nations Human Settlements Programme (UN - Habitat)**

NOTE

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# LIST OF ACRONYMS

| | | |
|---|---|---|
| **CDI** | **-** | **City Development Index** |
| **GDP** | **-** | **Gross Domestic Product** |
| **GUID1** | **-** | **Global Urban Indicators Database Version 1** |
| **GUID2** | **-** | **Global Urban Indicators Database Version 2** |
| **GUO** | **-** | **Global Urban Observatory** |
| **HH** | **-** | **Household** |
| **HIC** | **-** | **Highly Industrialised Countries** |
| **LAC** | **-** | **Latin America and the Caribbean** |

# 1. INTRODUCTION

### *Overview*

The Urban Indicators Programme of the United Nations Human Settlements Programme (UN- Habitat) was established in 1988, as the Housing Indicators Programme, to address the urgent global need to improve the base of urban knowledge by helping countries and cities design, collect and apply policy-oriented indicators data. Following the success of the Housing Indicators Programme, in 1993 the programme moved towards the broader issue of sustainable urban development, as the Urban Indicators Programme, in preparation for the Habitat II Conference in 1996.

The Habitat Agenda is the principal policy document that resulted from the Habitat II conference. Resolutions 15/6 and 17/1 of the United Nations Commission on Human Settlements called for a mechanism to monitor global progress in the implementation of the Habitat Agenda. The Global Urban Observatory (GUO) was established to monitor global progress in the implementation of the Habitat Agenda.

To achieve the above the GUO developed a system of indicators composed of twenty-three key urban indicators and a list of nine qualitative data subsets. These form the minimum data required for reporting on shelter and urban development consistent with the twenty key areas of commitment of the Istanbul+5 Universal Reporting Format. Consequently, the urban indicators provide a comprehensive means for monitoring, evaluating and reviewing global urban conditions, trends and issues through a gender perspective and an adequate tool for evaluating the implementation of the Habitat Agenda.

### *Databases*

The first Global urban indicators database namely Global Urban Indicators Database Version 1 (GUID1) was launched following the Habitat II conference in 1996. Key indicators used in this database were endorsed by the commission on Human Settlements in May 1995 and were collected in 237 cities, the year of reference being 1993. This database was one of the successful attempts in representing urban indicators in a truly global perspective. During the statistical analysis of the ensuing data, a City Development Index (CDI) was derived to assist in ranking cities along their level of development and as a baseline for comparative display of indicators depicting urban conditions.

In the mean time, the urban indicators used in the GUID1 were reviewed to enhance the assessment of urban conditions during the Istanbul+5 conference in 2001. Consequently, a survey was carried out in 1998, five years after the 1993 survey, to collect data on urban indicators based on the Istanbul+5 Universal Reporting Format. The resulting database is the Global Urban Indicators Database version 2 (GUID2).

GUID2 database has captured key indicators from 232 cities in 113 countries. The database is aimed at assessing and evaluating urban conditions and trends between 1993 and 1998. Indicators were received from 6 regions as shown in Table 1.

*Table 1. Indicators received, cities and countries, by Region.*

| Region | Cities | Countries |
|---|---|---|
| Africa | 55 | 32 |
| Arab states | 16 | 14 |
| Asia | 28 | 15 |
| Highly Industrialised | 38 | 10 |
| Latin America & Caribbean | 53 | 20 |
| Transition | 42 | 22 |
| **Total** | 232 | 113 |

As for the 1993 collection, there is a substantial under-sampling of the highly industrialised countries, where for many indicators there are not enough cities to be statistically representative. There are also no cities from the largest countries, India and China. The LAC region has been over-sampled, with a number of small cities surveyed, and also Africa.

### *Data collection*

Data collection for the compilation of the GUID2 was collected through a collaborative effort between UN-Habitat, governmental and non-governmental organizations and consultants at the city and country levels. Ten GUO partners, under the close supervision of UN-Habitat, facilitated data collection. These partners are:

- Arab Towns Organization (ATO)
- Asian Institute of Technology AIT)
- City-Region-Household (CRH)
- Ecole Africaine des Métiers de l'Architecture et de l'Urbanisme (EAMAU)
- Environnement et Développement du Tiers-monde (ENDA)
- International Council on Local Environmental Initiatives (ICLEI)
- Metropolitan Research Institute (MRI)
- Society for Development Studies (SDS)
- Urban Management Programme, Eastern and Southern Africa (UMP-SA)
- Urban Management Programme, Latin America and the Caribbean (UMP-LAC)

Data collection was guided by the principle that data collected should be the best available, the latest available and fully documented. Therefore, data collectors were asked to make use of latest available secondary data for indicators, wherever possible, and to document their sources. In absence of this, data collectors were advised to apply other estimation techniques to obtain best estimates and provide footnotes if data provided was for anything other than the stated definition. Further, data collectors were asked to follow guidelines provided by the International Statistics Yearbook 1998, International Monetary Fund, in the conversion of local currencies to United States dollars.

## 2. THE CITY DEVELOPMENT INDEX

The City Development Index (CDI), originally developed in 1997, has been modified based on the improved data collected in the present survey and on experience in calculating and using the Index for the Asian Development Bank, carried out in 1999 in 18 Asian cities, Cities Data Book and on the latest version of the United Nations Development Programme (UNDP) Human Development Index. The CDI continues to be the best single measure of the level of development in cities. Details on the calculation of the modified index are presented in the *Annex*. The annex also shows CDI values and for a sample of 162 cities.

As previously, the CDI is based on five subindices namely City Product, Infrastructure, Waste, Health and Education. The average values of each subindex for the different regions are shown in Table 2a and are plotted in Figure 1.

***Table 2a. Components of the City Development Index, by region***

| Region | CDI | City Product | Infrastructure | Waste | Health | Education |
|---|---|---|---|---|---|---|
| Africa | 42.85 | 49.69 | 36.17 | 26.04 | 50.39 | 51.96 |
| Arab States | 64.55 | 66.52 | 69.79 | 45.87 | 77.18 | 63.39 |
| Asia-Pacific | 65.35 | 62.9 | 67.75 | 44.4 | 78.27 | 73.43 |
| HIC | 96.23 | 90.6 | 99.21 | 100 | 94.26 | 97.1 |
| LAC | 66.25 | 62.93 | 70.42 | 39.5 | 82.71 | 75.68 |
| Transitional | 78.59 | 71.62 | 90.64 | 55.93 | 85.8 | 88.94 |

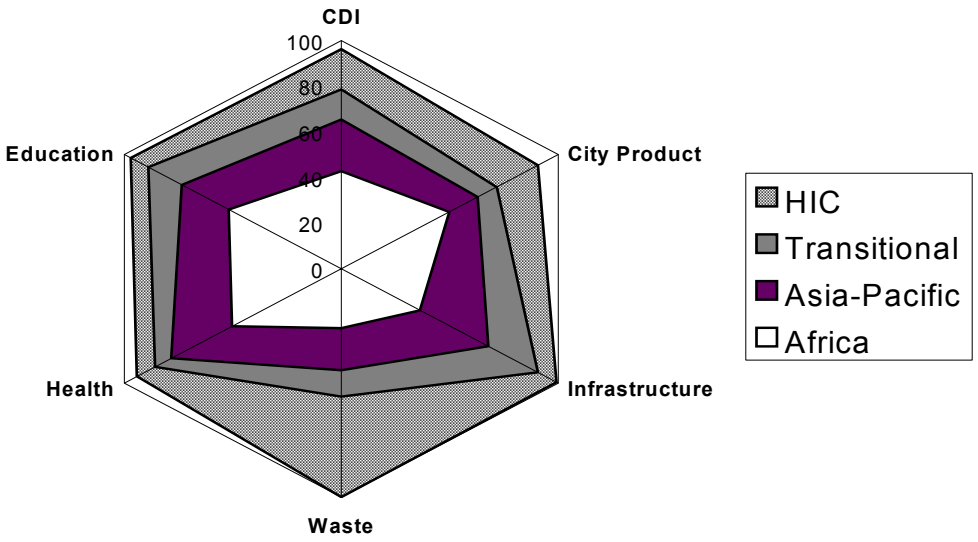


**Figure 1. Components of the City Development Index**

Figure1 shows the comparative size of the various components of the City Development Index for four regions. Although the regions are generally ordered from least developed to most developed, there are also particular areas in which regions are relatively weak. Overall, the transitional cities are good in most social and physical infrastructure categories but are weak in incomes and economic product. Africa has a particular weakness in physical infrastructure. Waste disposal is a problem throughout the developing world.

## 3. REGIONAL DATA ANALYSIS

For analysis purposes, indicators received from cities in the 6 regions were classified as shown in Table 3a. The table also shows the total population and urban populations of these regions. Regional analysis was performed in April 2001 based on reports received from cities. More data has since been received hence the complete database contains 232 cities as indicated by Table 1.

***Table 3a. Sample size by region compared with total national and urban populations.***

| Region | Cities* | Sample | Countries | Regional Population | | Urban population | |
|---|---|---|---|---|---|---|---|
| Africa | 29 | 17.70% | 45 | 568 | 9.90% | 186 | 7.00% |
| Arab States | 14 | 8.50% | 17 | 256 | 4.50% | 144 | 5.40% |
| Asia-Pacific | 28 | 21.30% | 34 | 1884 | 32.90% | 657 | 24.70% |
| HIC | 9 | 3.70% | 17 | 784 | 13.70% | 607 | 22.80% |
| LAC | 48 | 29.30% | 33 | 496 | 8.70% | 370 | 13.90% |
| Transitional | 36 | 19.50% | 24 | 1747 | 30.50% | 696 | 26.20% |
| **TOTAL** | **164** | **100%** | **170** | **5735** | **100%** | **2660** | **100%** |

* This number includes 13 cities from the Asian Development Bank *Cities Data Book*, which had data collected on the same basis. These are included in the CDI analysis but not in other tables.

### TENURE

#### *Housing tenure*

Housing tenure tends to be institutional in nature and therefore will differ strongly between otherwise similar countries according to the regulatory framework, subsidies or controls applied to various sectors, the existence of mortgage finance, income distribution, urban growth, and land use planning controls. It therefore shows different patterns both between and within the broad regions of the world as depicted by Table 3b.

***Table 3b. Housing tenure***

| Region[1] | Owned | Mortgaged | Private rent | Social | Sub-tenant | Squatter | Homeless | Other |
|---|---|---|---|---|---|---|---|---|
| Africa | 40.8% | 3.4% | 31.3% | 5.2% | 4.5% | 9.3% | 1.0% | 4.5% |
| Asia-Pacific | 61.4% | 3.6% | 23.4% | 0.9% | 0.3% | 2.1% | 1.5% | 6.8% |
| LAC | 60.6% | 5.5% | 19.2% | 3.1% | 0.9% | 6.6% | 2.9% | 1.2% |
| Transitional | 60.7% | 2.6% | 4.4% | 25.0% | 0.3% | 2.9% | 1.2% | 2.9% |
| **All developing** | **57.1%** | **4.0%** | **17.2%** | **10.3%** | **1.4%** | **5.1%** | **1.6%** | **4.3%** |

Note 1. No tenure information was provided in the Arab States (except Algiers) or in HIC

### *Privatisation*

The major change in housing tenure is in the Transitional countries, where social housing has fallen from 44% to 25% of the total. Overall, the ownership level has risen from around 40% to almost 60%in these cities. As Table 4 shows, this has been due to wholesale privatisation in some countries like Estonia, Armenia, Yugoslavia and Moldova, rapid privatisation in Croatia, Latvia and the Russian Federation, where ownership has doubled, and slower or more uneven changes in Poland, Mongolia, Laos and the Czech Republic.

Private rental and mortgages have increased somewhat in the region (from 3.5% to 4.5%, and from 1.2% to 3.1% respectively), and homelessness has also increased (from 0.35% to 1.2%). Those countries which privatised early, such as Bulgaria and Slovenia, have seen a slight fall in ownership as new entrants to the housing market find it difficult to locate affordable housing. This trend can be expected to accelerate throughout the region.

***Table 4. Privatisation of public housing, transitional cities***

| City | Country | 1993 | | 1998 | |
|---|---|---|---|---|---|
| | | Owner-ship | Social housing | Owner-ship | Social housing |
| Sofia | Bulgaria | 84.3% | 83.2% | 13.7% | 12.8% |
| Ljubljana | Slovenia | 80.0% | 14.0% | 77.0% | 15.0% |
| Vilnius | Lithuania | 70.0% | 19.0% | 84.4% | 3.6% |
| Gdansk | Poland | 52.9% | 0.0% | 63.0% | 37.0% |
| Zagreb | Croatia | 44.0% | 34.5% | 89.5% | 2.5% |
| Belgrad | Yugoslavia | 39.2% | 53.9% | 84.7% | 3.6% |
| Omsk | Russian Federation | 30.0% | 70.0% | 63.0% | 36.7% |
| Tallinn | Estonia | 25.0% | 75.0% | 91.8% | 0.3% |
| Astrakhan | Russian Federation | 25.0% | 75.0% | 51.5% | 48.5% |
| Kostroma | Russian Federation | 19.0% | 81.0% | 60.5% | 39.5% |
| Nizhny Novgorod | Russian Federation | 19.0% | 81.0% | 46.0% | 54.0% |
| Chisinau | Moldova | 17.9% | 54.2% | 75.0% | 20.0% |
| Yerevan | Armenia | 13.7% | 86.3% | 97.5% | 2.5% |
| Riga | Latvia | 13.4% | 77.3% | 24.7% | 52.9% |
| Prague | Czech Republic | 10.3% | 71.1% | 13.6% | 52.4% |
| Veliky Novgorod | Russian Federation | 7.0% | 93.0% | 37.4% | 62.6% |
| Ulaanbaatar | Mongolia | 0.0% | 54.6% | 18.2% | 33.4% |

### *Mortgage finance*

The development of mortgage finance has been patchy as demonstrated by Table 5. It has fallen away in parts of Latin America such as Brazil, Chile, Colombia, Ecuador, Nicaragua, Paraguay and San Salvador, where it had been established to different degrees. It has also diminished in Thailand, where a strong system has weakened, and in a few African countries subject to unrest, such as the Congo. Some countries such as Bangladesh, Indonesia, the Czech Republic, Lithuania, Croatia and Cuba have been able to

introduce housing finance or extend it to smaller cities, while others like Ghana, Uganda, Zimbabwe and Jordan have been able to expand their mortgage system.

***Table 5. Proportion of dwellings with mortgages***

| City | Country | Region | 1993 | 1998 |
|---|---|---|---|---|
| Zagreb | Croatia | Transitional | 1.0% | 17.0% |
| Entebbe | Uganda | Africa | 4.0% | 14.0% |
| Vilnius | Lithuania | Transitional | 0.0% | 6.0% |
| Ljubljana | Slovenia | Transitional | 20.0% | 25.0% |
| Cienfuegos | Cuba | LAC | 0.0% | 4.0% |
| Amman | Jordan | Arab States | 6.8% | 10.1% |
| Gweru | Zimbabwe | Africa | 10.0% | 13.0% |
| Kumasi | Ghana | Africa | 1.2% | 3.2% |
| Tangail | Bangladesh | Asia-Pacific | 0.0% | 1.2% |
| Jakarta | Indonesia | Asia-Pacific | 0.0% | 1.1% |
| Prague | Czech Republic | Transitional | 0.0% | 1.0% |
| Cajamarca | Peru | LAC | 2.3% | 2.7% |
| Lima | Peru | LAC | 0.5% | 0.6% |
| Armenia | Colombia | LAC | 4.0% | 3.8% |
| Asuncion | Paraguay | LAC | 1.2% | 0.1% |
| Guayaquil | Ecuador | LAC | 9.9% | 8.6% |
| Leon | Nicaragua | LAC | 3.3% | 1.7% |
| Santo Andre | Brazil | LAC | 11.3% | 9.2% |
| Recife | Brazil | LAC | 8.9% | 6.7% |
| Vina del mar | Chile | LAC | 13.3% | 10.9% |
| Quito | Ecuador | LAC | 12.9% | 9.5% |
| San Salvador | El Salvador | LAC | 30.9% | 26.2% |
| Brazzaville | Congo | Africa | 10.5% | 5.7% |
| Chiang Mai | Thailand | Asia-Pacific | 24.0% | 17.0% |
| Kinshasa | Dem. Rep. of Congo | Africa | 11.2% | 2.3% |

### *Private rental*

Private rental is the main alternative to home ownership throughout much of the world. A viable private rental sector provides formal sector accommodation not only to those with transient lifestyles, but also to those with limited resources who would not otherwise be able to afford formal sector housing. The viability of the sector is limited in many countries by the existence of rent control regimes that discourage supply increases.

Private rental is dominant in cities in a diverse group of countries, including Germany, France, Denmark, many cities in Canada and USA; the Republic of Korea, Indonesia, Bangladesh and parts of India in Asia; Belize, Columbia and Jamaica in LAC; and in most African countries.

The subtenant category continues to be significant largely in sub-Saharan Africa, particularly in Southern Africa, Uganda and Guinea, and has probably been underestimated by some cities in the present sample. Backyard shacks and other forms of subletting are commonplace throughout much of sub-Saharan Africa. Some German and Venezuelan

cities, Trinidad and Kuwait, also have significant proportions of subtenants. Subletting appears also to be on the increase in transitional countries.

### *Squatter housing and homelessness*

Squatter housing generally divides into housing of poor quality or impermanent materials, and more established housing which may have been in place for a long period but has no official title to the land. In some countries such as Indonesia, Bangladesh, Kenya or parts of India, most squatter housing is rented from informal sector landlords, while in other places such as Latin America, it is typically occupied without cost.

Data on squatter housing is often unreliable, since by definition informal housing is not recorded. However, the incidence of squatter housing does appear to be rising, with 25 cities (10 in LAC, 8 transitional) reporting an increase and 14 cities (7 in LAC, 5 in Africa) a decrease.

There may also have been an increase in homelessness, with 14 cities reporting an increase (6 of which are Transitional) and 5 cities a decrease in numbers.

## House and Land Price

Housing and land prices both reflect the availability of land compared with demand. The house price to income ratio and land development multipliers are notoriously dependent on restrictions on land and housing markets, taking high values in places where land use is restricted or markets undeveloped. The rent to income ratio usually depends on various forms of rent control.

### *House price to income*

The house price to income ratio is the quotient of median house value (including land) divided by median annual income. It is intended that all housing in the city should be included, both formal and informal; however it is often difficult to establish price ranges for the latter.

***Table 6. House price comparison of 1993 values for Habitat II and Istanbul +5 surveys.***

| Region | Habitat II 1993 | | Istanbul +5 1993 | |
|---|---|---|---|---|
| | House price to income ratio | House Rent to Income ratio | House price to income ratio | House Rent to Income ratio |
| Africa | 6.9 | 27.3% | 10.6 | 30.3% |
| Arab States | 9.7 | 17.8% | *14.4 | *24.0% |
| Asia Pacific | 9.4 | 23.7% | 8.7 | **82.0% |
| HIC | 4.4 | 18.9% | *5.1 | *24.5% |
| LAC | 3.8 | 20.2% | 5.8 | 32.1% |
| Transitional | 12.2 | 4.4% | 9.2 | 9.6% |

Note: * = not significant.
** = Asian figures include several cities in Korea, where most rent payments involve very substantial “key moneys” which may be a significant proportion

of the price of the dwelling.

Table 6 shows that the current survey has obtained significantly higher values for housing costs in 1993 in most regions, compared with the earlier Habitat II survey. This appears to be due to the different cities in the sample, and to undocumented changes in methodology, especially with regard to the treatment of informal housing. In particular, the present survey has obtained higher average values for African cities than are usual.

### *House price to income.*

The house price to income ratio is generally regarded as the best measure of pressure on housing markets, and ratios of 3 to 5 are regarded as "normal" or satisfactory. Variations in the house price-to-income ratio may be due either to changes in house prices or in incomes. Overall, 66 cities reported rising house prices and 33 reported stationary/falling prices. In Africa, generally rising house prices as a result of population pressure and the removal of informal dwellings from the stock have been accompanied by falling incomes in three quarters of cities. Incomes have been falling in most transitional countries also, but this has been accompanied in a majority of cases by falling house prices as populations decline and housing markets begin to develop as shown in Table 7. However, the fall in house prices has not matched the decline in incomes and overall, prices have become less affordable.

***Table 7: Number of cities by change in median house price and median household income, 1993-98.***

| **House price** | increase | increase | decrease | decrease |
|---|---|---|---|---|
| **Income** | Increase | decrease | increase | decrease |
| Africa | 5 | 12 | 1 | 3 |
| Arab States | 2 | 1 | 2 | 1 |
| Asia Pacific | 8 | 3 | 3 | 3 |
| HIC | 2 | 1 | 2 | 0 |
| LAC | 17 | 1 | 6 | 0 |
| Transitional | 6 | 8 | 0 | 12 |

***Table 8. Change in house prices and rents, 1993-1998.***

| | **Median house price** | | **Household income** | | **Price to income** | |
|---|---|---|---|---|---|---|
| **Region** | **1993** | **1998** | **1993** | **1998** | **1993** | **1998** |
| Africa[1] | $13,029.67 | $15,832.20 | $1,419.33 | $1,385.24 | 10.6 | 13.3 |
| Arab States* | $54,731.63 | $55,675.70 | $5,013.38 | $5,177.64 | 14.4 | 13.4 |
| Asia-Pacific | $30,481.91 | $39,650.06 | $7,354.04 | $9,048.50 | 8.7 | 7.0 |
| HIC* | $143,102.17 | $134,337.88 | $22,384.26 | $23,381.78 | 5.1 | 4.8 |
| LAC | $26,873.62 | $29,578.60 | $4,851.12 | $5,278.15 | 5.8 | 5.8 |
| Transitional | $22,094.38 | $24,004.55 | $3,850.82 | $3,453.20 | 9.2 | 10.7 |

Note: * = sample not significant

1. African countries are recording higher values of house price to income than in previous samples, and it is likely that informal housing has not been handled correctly.

Conversely, despite a speculative period in some Asian countries in the early 1990s, incomes in the Asia-Pacific rose faster than house prices up to 1998, with the house price to income ratio falling from 8.7 to 7 on average. In LAC, both incomes and house prices rose in balance in the majority of cities, and the ratio was unchanged as shown in Table 8.

### *House rent to income*

The general trend in rents by region is similar to that of house prices, except that rents have tended to rise more rapidly than prices as indicated by Table 9.

***Table 9: Number of cities by change in median rent and median household income of renters, 1993-98***

| ***Rent*** | increase | increase | decrease | decrease |
|---|---|---|---|---|
| ***Income*** | increase | decrease | increase | decrease |
| Africa | 3 | 9 | 1 | 1 |
| Arab States | 2 | 1 | 0 | 1 |
| Asia Pacific | 3 | 0 | 2 | 0 |
| HIC | 1 | 0 | 1 | 1 |
| LAC | 14 | 1 | 4 | 0 |
| Transitional | 6 | 16 | 1 | 1 |

***Table 10. Changes in rent and household income of renters, 1993-1998[1].***

| Region | Median rent | | Household income renters | | Rent to income ratio | |
|---|---|---|---|---|---|---|
| | **1993** | **1998** | **1993** | **1998** | **1993** | **1998** |
| Africa | $293 | $455 | $971 | $940 | 30.3% | 50.3% |
| Arab States* | $1,869 | $1,955 | $5,683 | $6,044 | 24.0% | 24.9% |
| Asia-Pacific[2] | $4,664 | $4,792 | $3,543 | $4,237 | 82.0% | 71.7% |
| HIC* | $4,736 | $4,661 | $17,458 | $17,531 | 24.5% | 27.7% |
| LAC | $881 | $1,390 | $3,098 | $3,378 | 32.1% | 38.4% |
| Transitional | $325 | $500 | $3,126 | $2,816 | 9.6% | 17.9% |

Note:* = sample not significant

1. Includes only those 69 cities for which all numbers were available or could be estimated.
2. Includes a number of Korean cities. In Korea, rents are mostly paid in a lump sum.

In Africa, with increasing pressure on housing markets, rents have risen while incomes have fallen somewhat as depicted in Table 10. Rents are now absorbing a very high proportion of income in many cities. In LAC, rents have also been rising rapidly and are at a high level relative to incomes.

As with all previous collections, the transitional countries have the most unusual values, with very low, subsidized rentals, and high dwelling prices because of undeveloped house and land markets. However, housing markets are in the process of normalizing, with falling prices and rising rents. The increasing rents charged for social housing have led to a

near-doubling of the rent to income ratio in Transitional cities, though rents remain at a moderate level.

Once again, the figures are considerably higher than in the Habitat II survey. This may reflect genuine increases in the ratio, as in the case of Africa and the Transitional countries, but is more likely to be due to inadequacies in the estimation of rents and incomes in either or both surveys.

***Table 11. House and land price***

| Region | House price to income[a] | House rent to income[a] | Median price of 1 square meter, per median monthly income | | |
|---|---|---|---|---|---|
| | | | Highly developed land | Developed land | Undeveloped land |
| Africa | 12.5 | 39.50% | $0.15 | $0.07 | $0.03 |
| Arab States | 10.9 | 45.40% | $0.81 | $0.33 | $0.08 |
| Asia-Pacific | 11.3 | 34.40% | $3.02 | $1.04 | $0.31 |
| HIC | 5.8 | 19.10% | $0.07 | .. | .. |
| LAC | 5.4 | 31.40% | $1.45 | $0.31 | $0.09 |
| Transitional | 6.8 | 18.20% | $0.41 | $0.26 | $0.06 |
| All developing | 8.3 | 30.40% | $1.13 | $0.39 | $0.11 |
| **CDI quintile** | | | | | |
| 1 | 16.3 | 41.60% | $1.21 | $0.53 | $0.11 |
| 2 | 6.7 | 36.80% | $0.40 | $0.22 | $0.09 |
| 3 | 6.4 | 26.00% | $2.12 | $0.40 | $0.17 |
| 4 | 6.5 | 23.30% | $0.47 | $0.23 | $0.06 |
| 5 | 6 | 25.90% | $1.51 | $0.51 | $0.12 |

Note (a). Averages are different than in earlier tables because they include all cities for which data are available in 1998, not just cities with data in both 1993 and 1998.

### *Land price*

Even when adjusted for local variations in income, residential land prices vary a great deal by region. They tend to reflect investment pressure on land resources, which in the developing world is lowest in Africa and highest in Asia-Pacific. Relative land prices are 10-20 times as high in Asia as in Africa, while the Transitional countries are placed somewhere near the geometric mean of the two

In the highly industrialized countries, where incomes are much higher, land prices are not all that different from Asia in absolute terms (and far lower in relative terms). The implication is that to some extent, absolute levels of land price in cities around the world are being driven in part by Western income levels and the attractiveness of cities for Western investment.

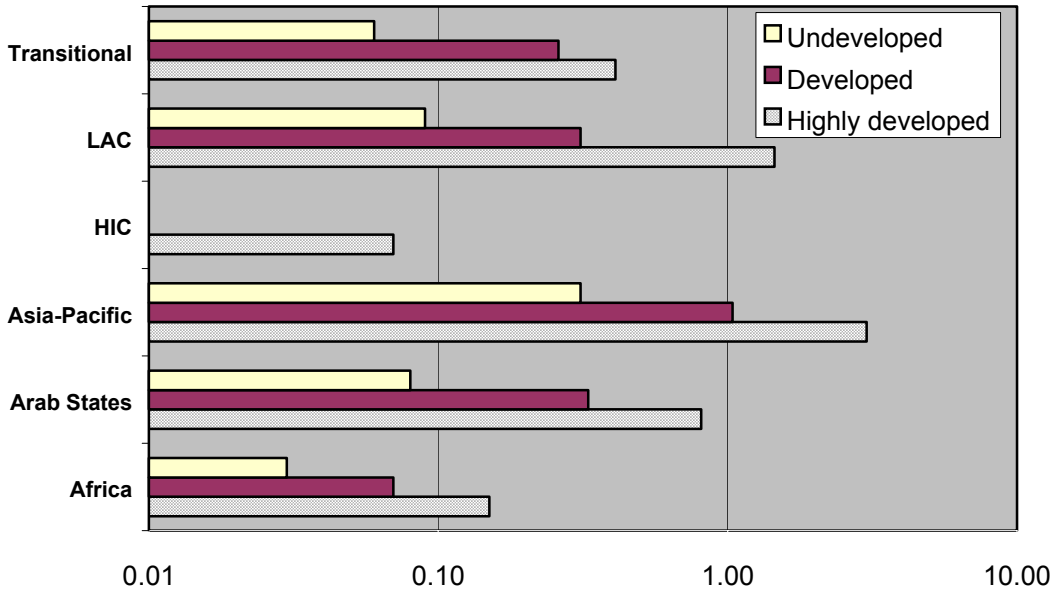


***Figure 3. Median land price of a square metre of urban land of various development levels, divided by average annual household income.***

### *Housing rights*

Table 12 shows the presence or absence of various kinds of housing rights throughout the world. Some 77% of cities in the sample are in countries having constitutions or national laws that promote the full and progressive realisation of the right to adequate housing. This is particularly strong in the Asia-Pacific region (94%), and somewhat weaker in the HIC (67%). In addition, 64% of cities have laws that include protections against evictions. This is fairly evenly distributed between regions, but slightly lower in Africa and LAC.

***Table 12. Housing rights***

| Region | Housing rights | Eviction protection | Women owning impedi-ments | Women mortgage impedi-ments | Impedi-ments to women own name | Impedi-ments to groups owning | Impedi-ments to groups inheriting | Impedi-ments to groups mortgage |
|---|---|---|---|---|---|---|---|---|
| Africa | 79% | 55% | 41% | 70% | 31% | 56% | 44% | 37% |
| Arab States | 79% | 79% | 29% | 29% | 21% | 36% | 29% | 36% |
| Asia-Pacific | 94% | 76% | 24% | 24% | 24% | 24% | 24% | 24% |
| HIC | 67% | 67% | 11% | 0% | 0% | 11% | 0% | 0% |
| LAC | 75% | 56% | 24% | 11% | 34% | 32% | 27% | 38% |
| Transitional | 71% | 74% | 9% | 6% | 9% | 27% | 21% | 22% |
| All developing | 77% | 65% | 24% | 26% | 24% | 35% | 29% | 32% |
| **CDI quintile** | | | | | | | | |
| 1 | 80% | 63% | 34% | 59% | 43% | 52% | 52% | 34% |
| 2 | 70% | 53% | 39% | 22% | 26% | 30% | 22% | 26% |
| 3 | 74% | 74% | 17% | 17% | 17% | 40% | 33% | 31% |
| 4 | 83% | 73% | 11% | 11% | 15% | 11% | 4% | 27% |
| 5 | 77% | 60% | 17% | 10% | 14% | 31% | 21% | 28% |

Twenty-nine countries have impediments against women owning property, as shown in Table 13, while thirty-five countries have impediments for other groups.

***Table 13. Countries with impediments against owning, inheriting or taking mortgages on property.***

| | Strong impediments | Some impediments | |
|---|---|---|---|
| **Women** | Burundi | Belize | Lithuania |
| | Central African Republic | Cambodia | Malawi |
| | Congo Brazzaville | Chile | Morocco |
| | Congo, Dem. Rep. | Colombia | Niger |
| | El Salvador | Côte d'Ivoire | Panama |
| | Moldova | Ecuador | Paraguay |
| | Palestine | Guinea | Switzerland |
| | Peru | Guatemala | Thailand |
| | Rwanda | Kenya | Zimbabwe |
| | Uganda | Korea, Rep. Of | |
| **Other groups** | Central African Republic | Algeria | Korea, Rep. Of |
| | Côte d'Ivoire | Belize | Kuwait |
| | El Salvador | Bolivia | Liberia |
| | Kyrgyzstan | Brazil | Malawi |
| | Latvia | Burundi | Malaysia |
| | Lithuania | Cambodia | Moldova |
| | Peru | Chile | Morocco |
| | | Colombia | Palestine |
| | | Congo | Slovenia |
| | | Congo, Dem. Rep. | Switzerland |
| | | Ecuador | Syria |
| | | Georgia | Togo |
| | | Guatemala | Uganda |
| | | Guinea | Zimbabwe |

These restrictions tend to diminish with increasing levels of development, as Figure 4. shows for gender impediments.

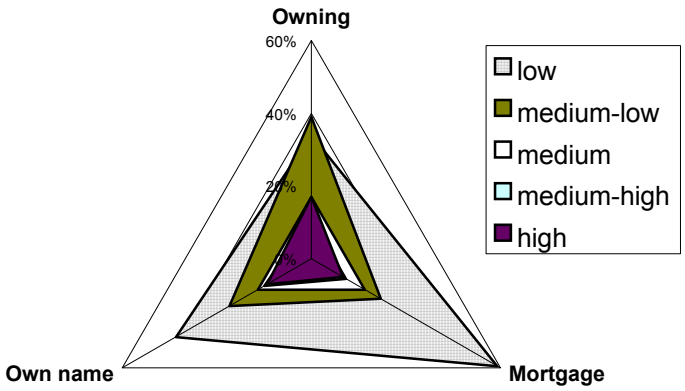


***Figure 4. Gender impediments to owning property, by level of development***

## INFRASTRUCTURE

The levels of household connection to networked infrastructure are major indicators of the level of city development. The level of connection of each type of infrastructure tends to reflect the relative cost per household of providing the service and the relative importance to lower income households, so that access to potable water (which can be arranged fairly cheaply using communal standpipes) and electricity connections tend to advance most rapidly with development level, as Figure 5 and Table 14a show. Sewerage (which is the most expensive) and telephone connections (which are something of a luxury item) increase more slowly.

***Table 14a. Connections to infrastructure***

| Region | Water[1] | Sewerage | Electricity | Telephone | Access to water[1] |
|---|---|---|---|---|---|
| Africa | 48.4% | 30.9% | 53.9% | 15.5% | 73.5% |
| Arab States | 79.1% | 65.9% | 91.8% | 42.0% | 88.0% |
| Asia-Pacific | 65.9% | 58.0% | 94.4% | 57.1% | 94.8% |
| HIC | 99.6% | 99.7% | 100.0% | 99.5% | 99.7% |
| LAC | 83.7% | 63.5% | 91.2% | 51.7% | 89.1% |
| Transitional | 91.1% | 89.6% | 99.2% | 73.5% | 97.3% |
| All developing | 75.8% | 64.0% | 86.5% | 52.1% | 88.9% |
| **CDI quintile** | | | | | |
| 1 | 40.6% | 19.7% | 61.6% | 17.4% | 71.8% |
| 2 | 67.2% | 44.1% | 83.2% | 40.1% | 85.0% |
| 3 | 86.8% | 77.5% | 97.1% | 55.6% | 92.9% |
| 4 | 92.8% | 84.4% | 97.3% | 61.1% | 98.0% |
| 5 | 97.4% | 90.6% | 96.2% | 87.6% | 97.8% |

Note: 1. *Water connections* refer to percentage of households with piped water connection. *Access to water* means having potable water within 200 meters of the household (e.g., standpipes, wells etc), and includes water connections (since most countries presume piped water is potable).

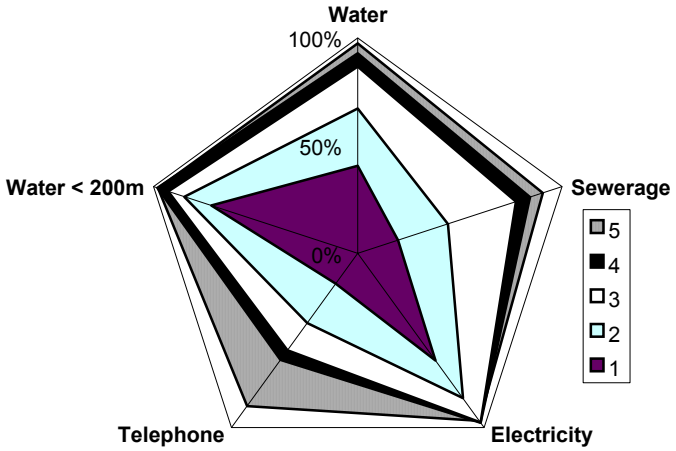


***Figure 5. Access to networked infrastructure, by CDI quintile***

Connections to informal settlements are substantially lower than to cities as a whole, as Table 14b shows.

***Table 14b. Connections to infrastructure - informal settlements****

| Region | Water | Sewerage | Electricity | Telephone | Access to water (<200m) |
|---|---|---|---|---|---|
| Africa | 19.1% | 7.4% | 20.3% | 2.9% | 40.0% |
| Arab States | 35.7% | 21.5% | 35.9% | 30.0% | 42.7% |
| Asia-Pacific | 38.3% | 7.4% | 75.7% | 25.4% | 89.1% |
| LAC | 57.9% | 30.3% | 84.7% | 32.0% | 66.8% |
| Transitional | 33.6% | 28.8% | 60.7% | 29.7% | 57.5% |
| All developing | 37.2% | 19.8% | 59.1% | 25.4% | 57.6% |
| **CDI quintile** | | | | | |
| 1 | 17.2% | 7.1% | 33.4% | 5.7% | 45.3% |
| 2 | 43.7% | 11.9% | 63.3% | 41.3% | 64.1% |
| 3 | 51.9% | 27.6% | 87.4% | 28.6% | 62.0% |
| 4 | 49.3% | 36.4% | 67.5% | 23.6% | 68.5% |
| 5 | 61.2% | | 92.9% | 77.7% | 81.2% |

Note *. These data may contain inaccuracies as sample sizes are small and measurement is uncertain.

From Figure 6, on average there is about half the level of connections to networked infrastructure in all categories (with higher relative levels for the cheaper classes of connections).

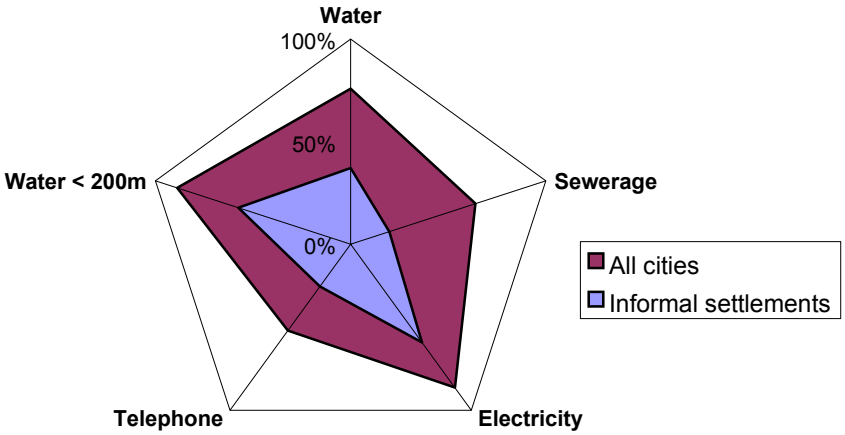


***Figure 6. Connections to networked infrastructure, informal settlements and all developing cities.***

The differences between informal and formal settlements become more pronounced at lower levels of development, especially for the more expensive services. The relative proportions of connections are much lower in Africa, as Figure 7 shows, and in less developed regions more generally.

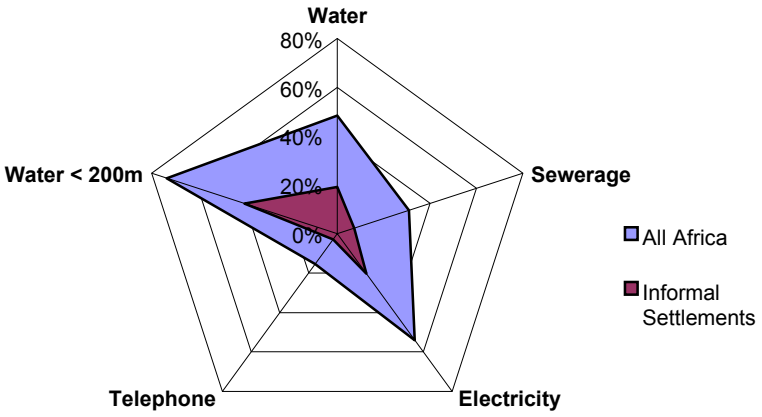


***Figure 7. Networked services in Africa, formal and informal settlements***

## HEALTH AND EDUCATION

As well as networked services, health and education are also major components of the City Development Index, providing subindices that represent outcomes from investment in health and education services. Both sectors are also major contributors to measures of capability poverty, it being argued that poor health and lack of education are major impediments to individuals improving their circumstances and moving out of poverty.

UNDP have recorded consistent improvements in health and education at national levels throughout the 1990s. This is largely the case with the current sample (with the exception of African cities). Figure 8 shows improvements in child mortality since 1993 for each quintile, with the greatest improvements in the second quintile.

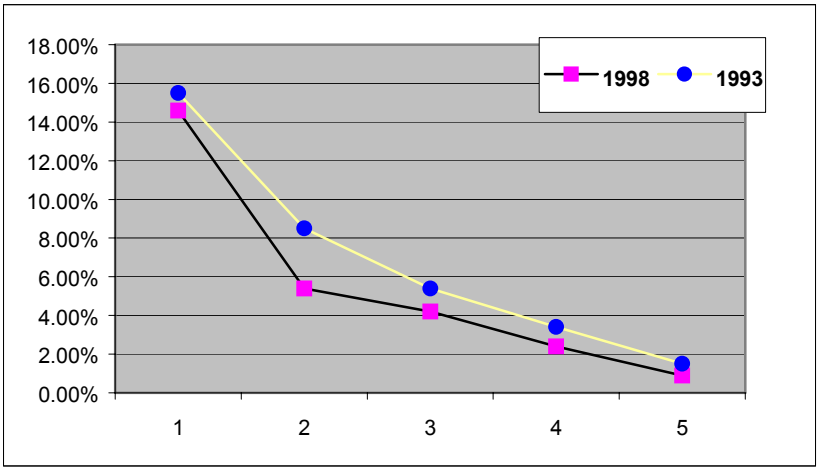


***Figure 8. Child mortality by CDI quintile, 1993 and 1998.***

The health and education indicators are more extensive than in the 1993 sample, and match those commonly collected by UNDP. As part of the CDI, they are more dependent on levels of development than on regional differences. Almost 15% of children die in the lowest quintile (and in Africa) before reaching their 5th birthday, which is 16 times the death rate of those in the top quintile. In the lowest quintile, over half the population are illiterate, 60% of children do not attend school, and life expectancy is only three quarters that of the top quintile.

***Table 15. Health and education***

| Region | Under 5 mortality | Life expectancy | Literacy | Combined enrolment |
|---|---|---|---|---|
| Africa | 14.6% | 52.7 | 58.8% | 45.1% |
| Arab States | 5.7% | 68.2 | 69.1% | 57.7% |
| Asia-Pacific | 4.4% | 67.4 | 82.5% | 71.2% |
| HIC | 0.9% | 77.6 | 97.6% | 88.4% |
| LAC | 3.6% | 70.9 | 82.1% | 69.6% |
| Transitional | 2.4% | 67.3 | 95.2% | 79.1% |
| All developing | 5.8% | 65.6 | 79.2% | 65.9% |
| **CDI quintile** | | | | |
| 1 | 14.6% | 56.0 | 47.2% | 41.1% |
| 2 | 5.4% | 65.2 | 76.1% | 63.4% |
| 3 | 4.2% | 66.5 | 88.0% | 70.6% |
| 4 | 2.4% | 69.7 | 93.4% | 76.8% |
| 5 | 0.9% | 74.3 | 96.6% | 84.1% |

## GENDER GAPS

Table 16a and 16b show gender gaps for most human development indicators.

***Table 16a. Gender gaps - section a***

| | Child mortality | | Primary enrollment | | Secondary enrollment | | Tertiary enrollment | |
|---|---|---|---|---|---|---|---|---|
| Region | Female | Male | Female | Male | Female | Male | Female | Male |
| Africa | 12.6% | 15.3% | 59.5% | 67.8% | 29.9% | 30.9% | 11.4% | 14.5% |
| Arab States | 7.0% | 9.0% | 56.4% | 58.1% | 42.7% | 42.1% | 17.5% | 18.1% |
| Asia-Pacific | 1.6% | 1.6% | 94.6% | 94.2% | 87.0% | 86.9% | 62.8% | 64.5% |
| HIC | 0.4% | 0.6% | 100.0% | 100.0% | 92.9% | 93.1% | 61.3% | 50.2% |
| LAC | 2.8% | 3.1% | 81.1% | 74.7% | 65.2% | 57.9% | 26.0% | 23.2% |
| Transitional | 1.5% | 2.0% | 101.2% | 100.9% | 95.4% | 93.1% | 59.1% | 50.0% |
| All developing | 4.5% | 5.5% | 86.9% | 86.8% | 74.3% | 71.9% | 42.7% | 39.6% |
| **CDI quintile** | | | | | | | | |
| 1 | 13.0% | 16.0% | 59.5% | 65.2% | 30.5% | 31.5% | 11.9% | 14.7% |
| 2 | 2.8% | 3.2% | 86.3% | 86.0% | 73.2% | 73.2% | 29.5% | 33.9% |
| 3 | 3.9% | 4.7% | 93.5% | 85.1% | 77.3% | 69.1% | 56.9% | 45.4% |
| 4 | 2.0% | 2.1% | 100.8% | 100.7% | 97.7% | 94.1% | 51.6% | 43.2% |
| 5 | 0.8% | 0.9% | 99.7% | 99.7% | 99.1% | 98.1% | 67.5% | 65.8% |

*Table 16b. Gender gaps - section b*

| | Literacy | | Life expectancy | | Unemployment | | Council members | |
|---|---|---|---|---|---|---|---|---|
| **Region** | **Female** | **Male** | **Female** | **Male** | **Female** | **Male** | **Female** | **Male** |
| Africa | 47.3% | 62.0% | 55.5 | 52.9 | 25% | 26% | 9.2% | 90.8% |
| Arab States | 77.1% | 89.0% | 64.5 | 61.9 | 22% | 12% | 14.2% | 85.8% |
| Asia-Pacific | 88.1% | 91.8% | 70 | 70.5 | 6% | 6% | 16.7% | 83.3% |
| HIC | 98.7% | 99.5% | 80.8 | 76.8 | 9% | 7% | 43.9% | 56.1% |
| LAC | 70.6% | 71.5% | 69.6 | 65.6 | 15% | 13% | 23.0% | 77.0% |
| Transitional | 94.1% | 95.5% | 69.8 | 61.4 | 10% | 9% | 50.6% | 49.4% |
| All developing | 77.6% | 82.7% | 66.3 | 61.9 | 14% | 12% | 24.4% | 75.6% |
| **CDI quintile** | | | | | | | | |
| 1 | 45.1% | 58.0% | 51.4 | 49 | 23% | 20% | 6.5% | 93.5% |
| 2 | 69.9% | 73.9% | 68.1 | 65.6 | 19% | 19% | 15.7% | 84.3% |
| 3 | 89.1% | 90.6% | 69.9 | 64 | 13% | 9% | 23.6% | 76.4% |
| 4 | 93.1% | 96.1% | 69.7 | 62.8 | 13% | 10% | 33.7% | 66.3% |
| 5 | 96.6% | 98.2% | 76.3 | 72.4 | 7% | 7% | 23.0% | 77.0% |

The principal conclusions that can be drawn from these tables are that:

- Females are healthier than males, typically having a child mortality rate of around 80% of the male level, and living 4 to 5 years longer on average.
- Females have poorer access to education in some regions, particularly Africa and the Arab States. However, in LAC the female enrolment rates are considerably higher than for males, so that overall more females are attending school than males (this would change if more South Asian cities were in the sample).
- Literacy levels for women are considerably lower due to poor school attendance in the past. Overall, 22.5% of women and 17.3% of men are illiterate in urban areas in the developing world. The gender gap is particularly high in Africa, where 53% of women are illiterate compared with 38% of men.
- Women participate more in the informal sector and their earnings are less and unemployment rates are slightly higher in most places
- Access of females to senior positions is considerably less and they are less well represented in legislative bodies, except in the transitional countries. Less than a quarter of all councilors are women, with only 6% are coming from the least developed cities.

## CRIME

The basic data on numbers of crimes have too many inaccuracies and cannot be used for future analysis. However, the general conclusions from Habitat II hold. These are:

- The incidence of reported crime however is not related to the level of development, but more to social conditions and controls, institutional responses and to the perceived efficiency of crime prevention strategies;
- Murder levels tend to be fairly constant in most places in the world, with lower figures in the HIC and much higher figures in LAC and a few other places where social disruption or drugs are commonplace;

- Reported theft rates are far higher in the HIC and are under-reported in many developing cities. The indicator reflects confidence in the police force as much as the actual crime level;
- Asia shows low theft levels, whereas those in Africa are quite high.

***Table 17. Crime controls***

| Region | Dangerous areas | School violence | Domestic violence policy | Crime prevention policy | Weapons control policy | Victim of violence assistance |
|---|---|---|---|---|---|---|
| Africa | 17% | 30% | 62% | 83% | 86% | 72% |
| Arab States | 7% | 0% | 57% | 86% | 86% | 71% |
| Asia-Pacific | 12% | 50% | 59% | 94% | 100% | 82% |
| HIC | 0% | 70% | 100% | 100% | 100% | 100% |
| LAC | 48% | 50% | 69% | 67% | 69% | 60% |
| Transitional | 29% | 30% | 71% | 88% | 94% | 35% |
| All developing | 29% | 40% | 65% | 80% | 84% | 61% |

Table 17, which shows the percent of cities having crime controls, supports some of these observations. LAC cities have a much higher proportion of dangerous areas at 48%. Transitional cities also show a high proportion of dangerous areas – which may be due to social disturbances following the change of economic system. School violence is reported in more than half the cities in the HIC, Asia Pacific and LAC.

Two thirds of all cities have a domestic violence policy, and over 80% have crime prevention and weapons control policies; the figure is lower in LAC. Only a third of transitional cities have assistance for victims of violence, and 60% of LAC cities; elsewhere the figure is over 70%.

## REGIONAL DISPARITY OF URBAN POOR HOUSEHOLDS

The reduction of poverty is a major aim of most governments, and poverty impacts heavily on urban conditions. Urban poverty is often manifested most severely in cities where the poor are compelled to live together in squatter areas or informal settlements, and where the option to fall back on own production of food is limited or impossible.

Poverty measurement is difficult. UNDP, the World Bank and others have put a lot of effort into ascertaining poverty levels. This survey makes use of local poverty lines, which are relatively easy to collect but which are not comparable between countries.

Overall, 114 cities provided figures on poverty. Missing data was disproportionately in small LAC cities, Arab States and Africa. There were also few cities from South Asia (where poverty is very high) in the sample. Table 18 shows population and poverty related averages by level of development between 1993 and 1998.

*Table 18. Poor households and poor woman-headed households by region, 1993 and 1998.*

| Region | Poor households | | Poor women headed households | |
|---|---|---|---|---|
| | 1993 | 1998 | 1993 | 1998 |
| Africa | 37.5% | 40.9% | 32.2% | 40.0% |
| Arab States | 8.1% | 15.4% | 4.0%* | 14.0%* |
| Asia-Pacific | 14.7% | 14.2% | 3.5%* | 16.3%* |
| HIC | 11.9% | 8.0% | 1.5%* | 8.8%* |
| LAC | 26.9% | 25.4% | 38.4% | 36.7% |
| Transitional | 18.3% | 22.2% | 13.7% | 18.1% |
| All developing | 23.4% | 25.2% | 25.5% | 29.8% |

Note. * = Not significant

There is quite a pronounced sub-regional distribution of urban poverty, as Table 19 shows (the table covers cities that reported both 1993 and 1998 data). The most important observations from the sample are:

- Poverty has increased over the period, particularly in Africa and Transitional countries;
- Africa has the highest level of poverty;
- Smaller cities in LAC are showing high poverty levels;
- All Eastern African cities and Western African cities, excluding Banjul, show poverty increase;
- All Russian cities, and a few Polish and Czech cities, show an increase in poverty;
- Cities in Asia (pre-crisis) show a substantial decrease in poverty, as do Central American and Middle African cities on average – but in fact cities divide fairly evenly between gains and losses.

*Table 19. Poverty data by sub-region, 1993 and 1998.*

| UN sub-region | Total cities | Cities with data | Poor households | | Poor women headed | |
|---|---|---|---|---|---|---|
| | | | 1993 | 1998 | 1993 | 1998 |
| Caribbean | 8 | 3 | 25.4% | 21.2% | 75.6% | 51.6% |
| Central America | 6 | 4 | 43.9% | 36.1% | 37.6% | 25.1% |
| Eastern Africa | 13 | 7 | 43.7% | 59.7% | 47.5% | 70.2% |
| Eastern Asia | 4 | 4 | 4.7% | 8.7% | 1.7% | 3.1% |
| Eastern Europe | 21 | 19 | 14.5% | 16.9% | 1.1% | 6.7% |
| Middle Africa | 5 | 5 | 35.6% | 28.7% | 25.3% | 14.5% |
| Northern Africa | 5 | 2 | 7.8% | 11.8% | 10.0% | 12.9% |
| Northern Europe | 6 | 2 | 9.8% | 10.3% | .. | .. |
| Polynesia | 1 | 1 | 32.9% | 38.9% | .. | 34.5% |
| South America | 34 | 19 | 24.6% | 25.2% | 35.5% | 35.9% |
| South-central Asia | 5 | 5 | 31.1% | 30.3% | 15.8% | 26.3% |
| South-eastern Asia | 11 | 7 | 11.1% | 11.9% | 5.3% | 14.3% |
| Southern Europe | 7 | 3 | 20.6% | 18.7% | 1.7% | 21.5% |
| Western Africa | 11 | 7 | 32.1% | 35.2% | 25.4% | 37.4% |
| Western Asia | 12 | 4 | 22.4% | 21.8% | 15.7% | 38.6% |
| Western Europe | 1 | 1 | 4.2% | 7.1% | .. | .. |

Table 20 shows poverty by level of development. Clearly, poverty decreases by level of development, declining from 36% in the least developed cities to 10.5% in the top quintile.

***Table 20. Poverty and demographic averages, 1998, for levels of development.***

| CDI quintile | City population average (-000) | Population growth | Household size | Woman headed | Poor households | Poor woman headed HH |
|---|---|---|---|---|---|---|
| 1 | 1822.8 | 4.4% | 5.9 | 18.8% | 35.9% | 42.1% |
| 2 | 1031.6 | 4.4% | 4.6 | 25.2% | 25.1% | 30.5% |
| 3 | 1751.1 | 2.0% | 3.8 | 20.8% | 31.4% | 32.2% |
| 4 | 1176.4 | 1.8% | 3.7 | 24.8% | 21.2% | 23.9% |
| 5 | 1992.1 | 1.2% | 3.1 | 25.4% | 10.5% | 7.3% |
| All developing | 1599.1 | 2.7% | 4.3 | 22.7% | 25.2% | 29.3% |

### *Woman headed households in poverty*

On average, 57 cities provided data on women headed households (HH) in poverty[1]. Of these, 34 cities had more a higher incidence of poverty among women headed households in poverty than the average, against 23 with less. The differences for a selection of cities are shown in Table 21.

At Habitat II, it was strongly suggested that women headed households had more poverty in HIC and Transitional cities and less in Asia and Arab States while cities were equally divided in LAC and Africa (but with somewhat higher overall averages because of some extreme cases of poverty among women).

It is shown in Table 18, as it has been found in previous samples, that Asia and the Arab States have a lesser proportion of woman-headed households, with about 15% compared with 25% elsewhere. On a regional basis, only LAC has a significantly higher incidence of poverty among women headed households than general households (36% against 25% average). This is particularly pronounced in the Caribbean, as Tables 17 and 19 showed.

The present sample shows that:

a) There are higher proportions of women headed households in poverty in most LAC and Transitional cities;
b) North Africa is showing a different pattern than the other Arab States, with more woman headed households in poverty;
c) Poverty incidence is higher in woman headed households in most Asian cities;
d) East African women headed households appear to have been hard-hit by increasing poverty.

[1] Only LAC, Africa and Transitional regions have a sufficient sample for statistical significance.

*Table 21. Comparison of general poverty incidence and poverty among women headed households (local poverty definition)*

| City | Region | HH in poverty | Woman-headed HH in poverty | Difference |
|---|---|---|---|---|
| Montego Bay | LAC | 13.4% | 71.80% | 58.40% |
| Kingston | LAC | 10.1% | 67.70% | 57.60% |
| Marinilla | LAC | 31.3% | 70.10% | 38.80% |
| Guayaquil | LAC | 48.0% | 73.70% | 25.70% |
| Bishkek | Transitional | 7.2% | 28.70% | 21.50% |
| Cajamarca | LAC | 60.0% | 80.00% | 20.00% |
| Conakry | Africa | 9.0% | 29.00% | 20.00% |
| Tacna | LAC | 14.7% | 33.30% | 18.60% |
| Bujumbura | Africa | 66.5% | 84.10% | 17.60% |
| Tbilisi | Transitional | 47.5% | 60.00% | 12.51% |
| Nouakchott | Africa | 25.0% | 36.00% | 11.00% |
| Belize | LAC | 18.8% | 29.50% | 10.70% |
| Santo Andre | LAC | 6.5% | 16.00% | 9.50% |
| Banjul | Africa | 40.0% | 48.00% | 8.00% |
| Algiers | Arab States | 5.9% | 13.00% | 7.10% |
| Poznan | Transitional | 5.9% | 12.30% | 6.40% |
| Bridgetown | LAC | 9.0% | 15.20% | 6.20% |
| Ibadan | Africa | 53.0% | 58.50% | 5.50% |
| Lagos | Africa | 53.0% | 58.50% | 5.50% |
| Prague | Transitional | 1.1% | 6.20% | 5.10% |
| Kigali | Africa | 65.0% | 70.00% | 5.00% |
| Bourgas | Transitional | 1.2% | 6.00% | 4.80% |
| Chiang Mai | Asia-Pacific | 9.7% | 14.30% | 4.57% |
| Rio de Janeiro | LAC | 17.0% | 20.00% | 3.00% |
| | | | | |
| Quito | LAC | 11.5% | 8.08% | -3.42% |
| Montevideo | LAC | 15.4% | 11.80% | -3.60% |
| Kisumu | Africa | 58.2% | 53.90% | -4.30% |
| Apia | Asia-Pacific | 38.9% | 34.50% | -4.40% |
| Ulaanbaatar | Transitional | 34.1% | 28.70% | -5.40% |
| Leon | LAC | 28.3% | 22.10% | -6.20% |
| Brazzaville | Africa | 21.7% | 12.50% | -9.20% |
| Douala | Africa | 19.7% | 8.30% | -11.40% |
| Lome | Africa | 20.00% | 6.15% | -13.85% |
| Jinja | Africa | 89.80% | 72.70% | -17.10% |
| Yaounde | Africa | 30.00% | 12.90% | -17.10% |
| Sarajevo | Transitional | 85.80% | 67.00% | -18.80% |

## WATER

Water is one of the great necessities of human life that is taken for granted in the developed world. A supply of clean water is absolutely necessary for life and health, yet many people of the world do not have access to clean water or can only obtain it at high prices. Many cities do not have a constant, potable water supply. Even in cities which are supplied with clean water, households in some informal areas which are not connected to the network can only buy water from vendors at up to 200 times the tap price, so that much of family income is spent on water.

Availability of potable water in urban areas increases rapidly with development. Around 30 per cent of households do not have access to clean water in the least developed cities, and 60% of households in informal settlements, as Tables 16 and 17 showed, while almost everyone in developed cities has access. Accordingly, water consumption is much higher in cities with higher incomes, as with most other forms of consumption. Typically people in developed cities use about 220 litres per day while the average in Africa is 50 litres per day, less than a quarter. However, water price generally falls with the level of development (as Table 22 shows with the exception of the highest group, which is poorly sampled).

Households in informal settlements use less than half the amount of water as the average in the same cities, due to less availability and greater costs. The median water price in informal settlements is almost 5 times the average price in developing cities. This is mostly due to the high price of water in African informal areas.

***Table 22. Water***

| Region | Water used (l/person/day) | Water used, informal settlements- | Highest water price ($/cu.m.) | Median water price | Lowest water price | Median price, informal settlements |
|---|---|---|---|---|---|---|
| Africa | 50 | 23 | $6.85 | $1.42 | $0.76 | $6.10 |
| Arab States | 190 | 66 | $0.75 | $0.54 | $0.34 | $0.67 |
| Asia-Pacific | 224 | 56 | $1.08 | $0.33 | $0.19 | $0.09* |
| HIC | 215 | | $1.79* | $1.34 | $1.38* | $1.71* |
| LAC | 178 | 84 | $12.27 | $0.44 | $0.38 | $0.78 |
| Transitional | 186 | 27 | $0.50 | $0.28 | $0.30 | $0.39 |
| All developing | 158 | 45 | $6.21 | $0.56 | $0.41 | $2.38 |
| **CDI quintile** | | | | | | |
| 1 | 69 | 30 | $3.72 | $1.11 | $0.68 | $4.65 |
| 2 | 106 | 52 | $1.32 | $0.66 | $0.31 | $1.36 |
| 3 | 192 | 54 | $20.95 | $0.37 | $0.32 | $0.32 |
| 4 | 205 | 98 | $0.68 | $0.29 | $0.26 | $0.27 |
| 5 | 218 | .. | $0.94 | $0.70 | $0.60 | $1.51 |

Note: * = Not significant

## WASTE MANAGEMENT

Waste management is the final component of the City Development Index - the component that advances most slowly and is most difficult to improve with increasing development. While there are many advantages in urban living, mostly involving the cheaper provision of physical and social infrastructure and the greater availability of employment, the major disadvantages relate to congestion and to the problems of disposal of solid and liquid wastes of people living at high densities, and the local environmental degradation and propensity for health risks that this causes.

As with networked infrastructure, the effectiveness of environmental management increases rapidly with the level of development as Table 23 shows, with only 8 per cent of wastewater treated and 12.5% of garbage disposed formally in the least developed cities.

Less than 35% of cities in the developing world have their wastewater treated. In only one out of every five African and Latin American cities and in one out of every three Asian cities is wastewater undergoing some form of treatment.

In cities of highly developed countries, 95% of solid wastes are formally disposed and 19% is formally recycled. As shown on figure 9, in Transitional countries, 75% of solid wastes are going to open dump.

***Table 23. Waste management***

| Region | Waste water treatment | Formal solid waste disposal | Formally recycled |
|---|---|---|---|
| Africa | 21.70% | 31.40% | 1.50% |
| Arab States | 32.00% | 44.30% | 4.00% |
| Asia-Pacific | 33.70% | 58.90% | 7.70% |
| HIC | 94.30% | 78.00% | 18.90% |
| LAC | 19.80% | 66.30% | 2.60% |
| Transitional | 64.80% | 24.50% | 4.60% |
| All developing | 34.60% | 46.40% | 3.70% |
| **CDI quintile** | | | |
| 1 | 7.80% | 12.50% | 1.20% |
| 2 | 13.00% | 40.50% | 1.40% |
| 3 | 30.90% | 43.00% | 3.20% |
| 4 | 65.50% | 54.50% | 3.60% |
| 5 | 82.40% | 85.20% | 13.00% |

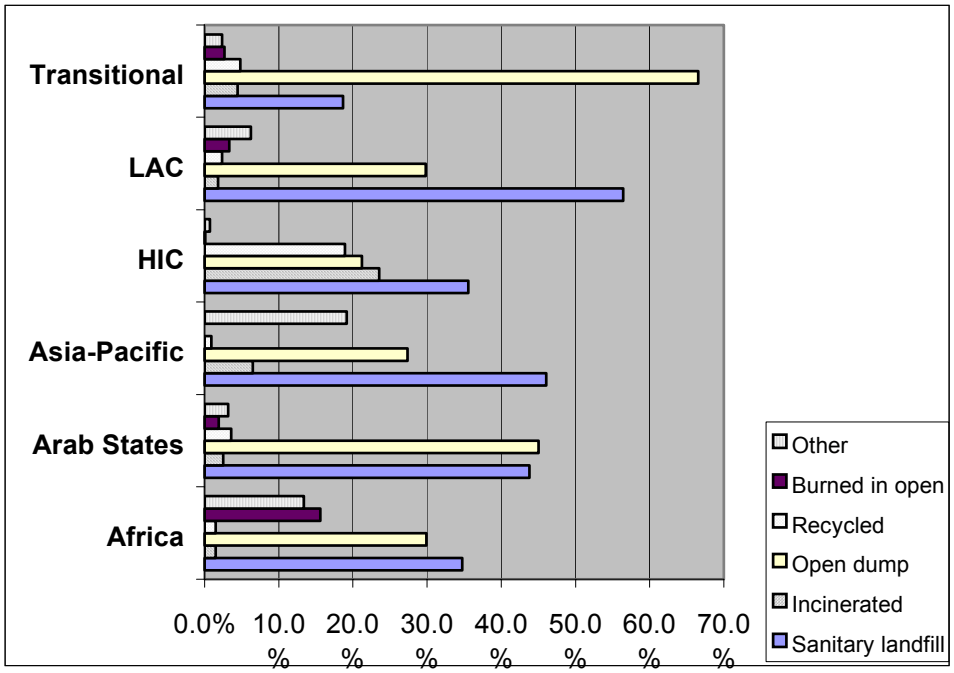


***Figure 9. Waste disposal methods by region***

Information has been collected in the current sample on environmental and hazard management. Some 70% of cities have accounted for risk in their building codes, indulge in strategic planning for sustainability or have a hazard map. As shown in Table 24, about 60% have forms of disaster insurance (though this is not often compulsory). In general, developing countries have not adopted prescriptive or technical methods such as building codes, hazard mapping and insurance to quite the same extent as developed countries. Particularly in the Asia-Pacific or Transitional countries, strategic and environmental planning is more often adopted.

***Table 24. Cities with disaster management and environmental planning***

| Region | Building controls[1] | Hazard mapping[2] | Disaster insurance | Compulsory insurance[3] | Strategic planning[4] | Environ-mental plan |
|---|---|---|---|---|---|---|
| Africa | 69% | 48% | 69% | 24% | 79% | 48% |
| Arab States | 86% | 71% | 36% | 21% | 50% | 43% |
| Asia-Pacific | 65% | 65% | 53% | 29% | 88% | 82% |
| HIC | 100% | 89% | 78% | 67% | 67% | 67% |
| LAC | 65% | 75% | 59% | 17% | 58% | 33% |
| Transitional | 79% | 76% | 71% | 18% | 88% | 79% |
| All developing | 71% | 68% | 61% | 21% | 73% | 54% |

Note 1. Cities with building control codes containing anti-cyclone and seismic code regulations.
2. Mapping and recording hazards
3. Insurance compulsory for public buildings
4. Strategic planning for sustainable development involving key partners.

## ECONOMIC AND WORKFORCE ISSUES

Ultimately, the reason why people come together in cities is for wealth and job creation, and the creation of income has been considered to be the prime measure of urban success, until fairly recently when quality of life concerns became more evident. In general, incomes and productivity are higher in urban areas, and this is borne out in the comparison of national GDP and average city product in Table 25.

It remains clear however than the largest gaps between developed and developing countries are in incomes, product and capital, and in the forms of consumption and investment that this permits. Household income is about 17 times as great in the HIC as in the bottom quintile of cities, and city product and GDP per person are 37 times as large.

The informal employment sector tends to vary strongly with city development levels, ranging from about 54% of all employment in Africa to 3% or less in the HIC (although informal employment figures tend to be underestimated and concealed in developed countries because of compliance requirements). Unemployment rates tend to be rather meaningless in countries with high levels of informal employment, but unemployment also falls away with increasing development levels.

***Table 25. Economic and workforce issues***

| Region | GDP per Capita | City product | Household income | Informal employment[1] | Unemploy-ment rate[1] |
|---|---|---|---|---|---|
| Africa | $441 | $729 | $1,637 | 54% | 23% |
| Arab States | $2,752 | $3,170 | $5,850 | 65% | 11% |
| Asia Pacific | $4,742 | $6,182 | $9,101 | 33% | 8% |
| HIC | $22,501 | $22,103 | $26,273 | 3%* | 8% |
| LAC | $3,350 | $3,226 | $5,623 | 39% | 13% |
| Transitional | $2,541 | $2,905 | $3,591 | 21% | 9% |
| All developing | $2,670 | $2,988 | $4,761 | 37% | 12% |
| **CDI quintile** | | | | | |
| 1 | $606 | $571 | $1,512 | 49% | 15% |
| 2 | $1,571 | $1,329 | $2,593 | 51% | 16% |
| 3 | $2,087 | $2,409 | $3,917 | 40% | 12% |
| 4 | $3,230 | $3,539 | $5,521 | 26% | 12% |
| 5 | $11,822 | $12,842 | $16,743 | 19% | 7% |

Note: *=not significant

1. There has been some confusion in the distinction between informally employed (employed in unregistered enterprises) and unemployed, which relates to those actively seeking work in the formal sector. Quite often, formally unemployed people will work in the informal sector, so there may be double counting.

## TRANSPORT

Transport is an important indicator in urban centers. About 42% of people in urban centres in the developing world travel to work by bus or minibus, and 16% on foot. Only about 17.5% use cars, compared with over 50% in the HIC. Train travel is used more commonly

in the transitional countries, and bicycles are more common in Asia. This is shown in Table 26 and further demonstrated in Figure 10.

***Table 26. Transport***

| Region | Travel time | Cars | Motorcycle | Train/tram | Bus/minibus | Bicycle | Walking | Other |
|---|---|---|---|---|---|---|---|---|
| Africa | 34.1 | 13.6% | 2.8% | 2.1% | 47.4% | 6.4% | 17.4% | 7.0% |
| Arab States | 28 | 41.0% | 1.6% | 0.0% | 41.2% | 0.2% | 7.7% | 8.7% |
| Asia-Pacific | 42.1 | 16.0% | 15.2% | 4.9% | 27.1% | 0.7% | 21.9% | 13.1% |
| HIC | 27 | 50.3% | 0.0% | 8.2% | 20.6% | 6.5% | 10.6% | 0.8% |
| LAC | 30.7 | 21.2% | 4.3% | 3.0% | 43.8% | 4.7% | 15.0% | 11.0% |
| Transitional | 29.8 | 15.1% | 4.3% | 17.3% | 41.7% | 1.9% | 15.4% | 1.5% |
| All developing | 32.3 | 17.5% | 5.0% | 7.5% | 41.8% | 3.4% | 16.1% | 7.1% |
| **CDI quintile** | | | | | | | | |
| 1 | 35 | 11.5% | 7.0% | 2.1% | 38.5% | 5.5% | 20.2% | 13.3% |
| 2 | 27.5 | 16.9% | 10.5% | 0.5% | 44.3% | 7.8% | 17.4% | 6.2% |
| 3 | 33.7 | 17.9% | 2.2% | 10.6% | 45.5% | 2.9% | 16.0% | 5.7% |
| 4 | 31 | 22.5% | 3.4% | 8.9% | 45.1% | 0.3% | 12.5% | 2.9% |
| 5 | 33.1 | 31.5% | 1.6% | 13.1% | 30.9% | 2.7% | 12.9% | 4.9% |

Some cities make use of alternative transport modes: motorcycles take over 70% of commuters in Phnom Penh and Surabaya, and over 60% in Chiang Mai. Private cars are used most commonly in the Arab States and HIC cities with poor transit systems or which are at low density. Average travel time to work across all cities is about 32 minutes, which does not vary much by development level or region. However some larger cities such as Bangkok, Seoul, Lagos, Nairobi, Kinshasa and Moscow have an average travel time of 60 minutes, while Cuban cities, which suffer from fuel shortages due to a US embargo, have a travel time of 80 minutes.

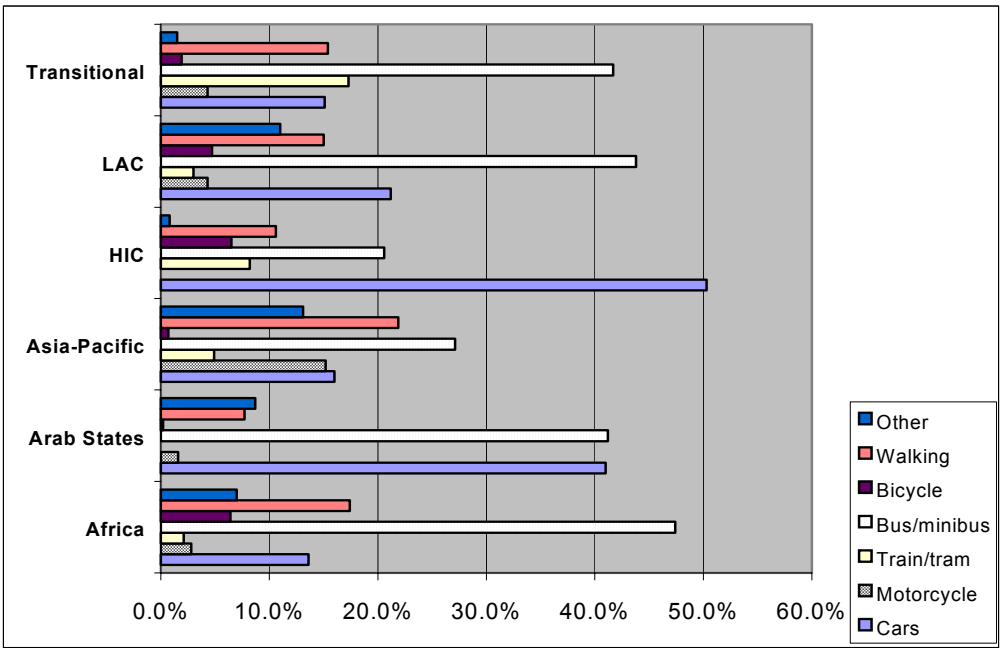


***Figure 10. Mode of transport to work***

## LOCAL GOVERNMENT

### *City partnerships and participation*

City partnerships have been strongly encouraged by development agencies in recent years in an attempt to reduce development stagnation and encourage transparency, and some 63% of cities have formed public-private partnerships, as Table 27 shows. The highest proportions have been in Africa where more than 80% of cities are involved. There are somewhat lower levels in LAC, where aid agencies have withdrawn somewhat in recent years. Partnerships are slightly more common at the city level than at the national level.

Cities in virtually all regions belong to associations of local authorities, and conduct inter-city cooperation. The weakest region in this regard is LAC, where cities seem more reluctant to engage in partnerships. This may be due to the relative strength and high capacity of individual city governments in Latin America. Cities in Africa and the Transitional countries, which have the weakest local governments, are also more prone to engage in cooperative action.

***Table 27. Partnerships.***

| Region | City public/private partnerships | National public/private partnerships | Received aid | Association of local authorities | City to city cooperation |
|---|---|---|---|---|---|
| Africa | 83% | 76% | 7% | 83% | 83% |
| Arab States | 71% | 71% | 0% | 71% | 64% |
| Asia-Pacific | 59% | 59% | 18% | 59% | 71% |
| HIC | 67% | 67% | 0% | 78% | 67% |
| LAC | 46% | 38% | 17% | 52% | 54% |
| Transitional | 71% | 74% | 21% | 79% | 85% |
| All developing | 63% | 60% | 14% | 68% | 70% |
| **CDI quintile** | | | | | |
| 1 | 73% | 70% | 13% | 67% | 70% |
| 2 | 53% | 47% | 13% | 67% | 73% |
| 3 | 64% | 68% | 19% | 71% | 68% |
| 4 | 70% | 60% | 13% | 67% | 70% |
| 5 | 56% | 57% | 7% | 70% | 70% |

From Table 28a, around 60% of cities consult with civil society in most activities, including road proposals, zoning alterations, and major public projects. Numbers are higher at around 80% in HIC cities, and in general tend to increase with development level.

### *Transparency and accountability*

Table 28a also shows that a good percentage of cities are engaging in various practices designed to improve accountability. 73% of developing cities have independent auditing (compared with 90% in HIC), 84% publish tenders (100% in HIC), 83% have sanctions against fault by office holders, and 53% require disclosure of interest (78% in HIC). Cities engaging in these practices are not particularly distinguished by region or development level.

*Table 28a. Local government - section a*

| Region | Transfers known in advance | Civil society involved in | | | Local government has | | | |
|---|---|---|---|---|---|---|---|---|
| | | New road proposals | Zoning altera-tions | Major public projects | Inde-pendent auditing | Publi-shed tenders | Sanctions against fault | Disclo-sure of interest |
| Africa | 52% | 52% | 59% | 52% | 69% | 90% | 90% | 69% |
| Arab States | 64% | 50% | 50% | 36% | 86% | 86% | 86% | 71% |
| Asia-Pacific | 59% | 59% | 88% | 71% | 82% | 82% | 71% | 59% |
| HIC | 67% | 78% | 78% | 78% | 89% | 100% | 89% | 78% |
| LAC | 60% | 50% | 48% | 60% | 67% | 79% | 85% | 48% |
| Transitional | 85% | 74% | 68% | 85% | 76% | 85% | 79% | 76% |
| All developing | 65% | 57% | 60% | 63% | 73% | 84% | 83% | 63% |
| **CDI quintile** | | | | | | | | |
| 1 | 53% | 43% | 47% | 43% | 73% | 87% | 83% | 53% |
| 2 | 53% | 37% | 53% | 53% | 60% | 80% | 83% | 67% |
| 3 | 77% | 68% | 61% | 81% | 68% | 84% | 84% | 61% |
| 4 | 73% | 70% | 67% | 63% | 80% | 77% | 77% | 60% |
| 5 | 67% | 73% | 77% | 80% | 90% | 97% | 90% | 77% |

### *Autonomy*

Figure 11 and Table 28b, show the extent to which local governments are relatively independent from national governments, by region, according to four indicator measures. On average, cities in the Arab States are the most constrained, followed by African cities and cities in the Asia Pacific region. Cities in the transitional economies are less likely to be able to set taxes and charges than cities in Latin America, but are often able to borrow funds independently. Cities in the Highly Industrialized countries are largely independent on all these counts.

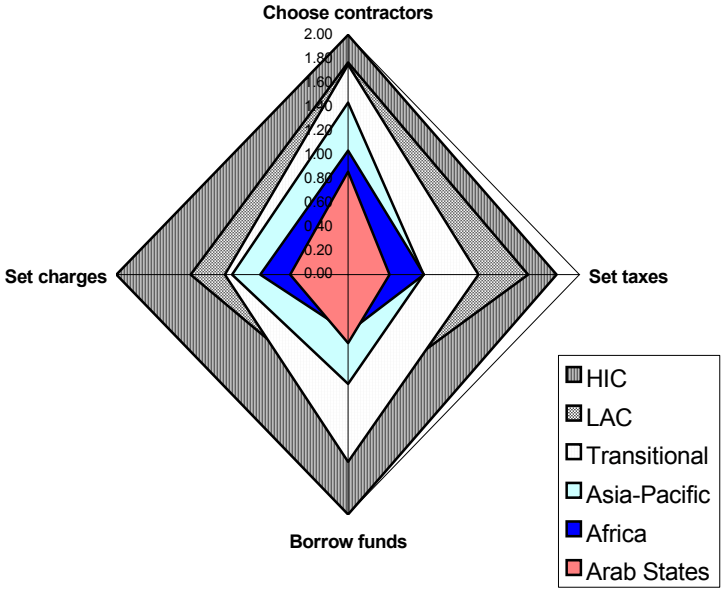


*Figure 11. Independence of local government*

*Table 28b. Local government - section b*

| Region | Local government (3 year av.) | | Higher government can | | Local government can independently (max value 2) | | | |
|---|---|---|---|---|---|---|---|---|
| | Reve-nue | Expendi-ture | Close local govt. | Remove councillors | Set taxes | Set charges | Borrow funds | Hire contractors |
| Africa | $58 | $53 | 72% | 45% | 0.66 | 0.76 | 0.48 | 1.03 |
| Arab States | $483 | $66 | 64% | 57% | 0.36 | 0.5 | 0.57 | 0.86 |
| Asia-Pacific | $591 | $465 | 35% | 18% | 0.65 | 0.88 | 0.76 | 1.29 |
| HIC | $2,280 | $2,270 | 22% | 22% | 1.33 | 1.56 | 1.67 | 1.89 |
| LAC | $129 | $83 | 17% | 23% | 1.55 | 1.36 | 1.1 | 1.77 |
| Transitional | $276 | $173 | 26% | 21% | 1.09 | 1.12 | 1.56 | 1.76 |
| All developing | $248 | $158 | 37% | 30% | 0.99 | 1.02 | 0.98 | 1.45 |
| **CDI quintile** | | | | | | | | |
| 1 | $245 | $42 | 70% | 43% | 0.57 | 0.67 | 0.5 | 1.03 |
| 2 | $50 | $35 | 33% | 20% | 0.92 | 1.04 | 1 | 1.4 |
| 3 | $171 | $133 | 23% | 35% | 1.59 | 1.14 | 1.14 | 1.76 |
| 4 | $225 | $116 | 27% | 27% | 0.96 | 1.11 | 1.21 | 1.68 |
| 5 | $1,146 | $1,078 | 30% | 20% | 1.03 | 1.3 | 1.3 | 1.53 |

### *Revenue and expenditure*

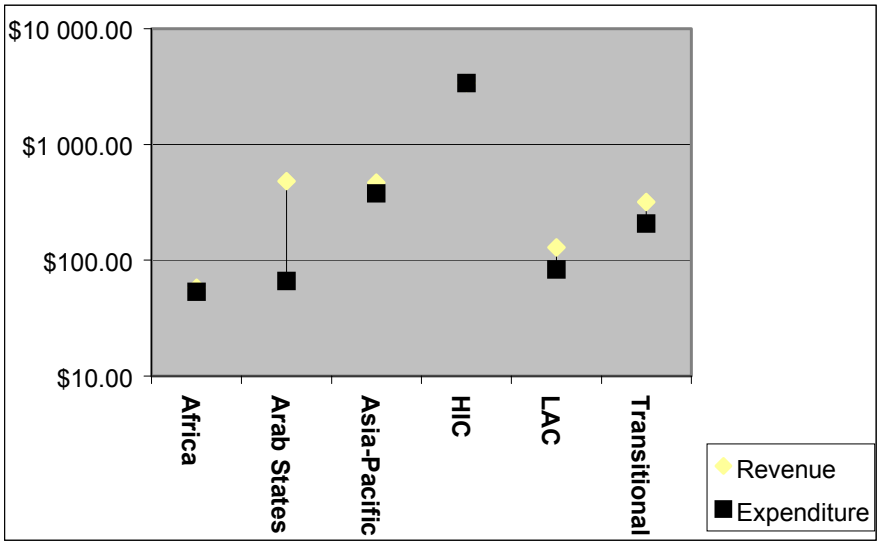


*Figure 12. Local government average revenue and expenditure*

It is relatively commonplace for cities in the developing world to be unable to spend their budgets, due to human resource and capacity constraints. Although the budgets may be very low, a fiftieth of those in highly developed countries, they are unable to mobilise programs and staff in order to spend the budgets, because of low capacity to develop and introduce new programmes, or to expand and monitor existing programmes. Table 28b and Figure 12 shows the biggest discrepancies are in the Arab States, but most other developing regions show the same situation.

## ANNEX: Calculating the City Development Index

Since indicators have been collected under approximately the same definitions, it is possible to use a rage of statistical techniques to determine correlation between variables. This annex explains procedures used in calculating the City Development Index (CDI), which is instrumental in ranking cities in order to evaluate their levels of development.

The CDI is calculated according to the formulae in the Table A. It has separate sub-indices for Infrastructure, Waste Management, Health, Education and City Product, which are averaged to form the CDI. Each sub-index is a combination of several indicators that have been normalized to give a value between 0 and 1.

***Table A. City Index formulas***

| **Index** | ***Formula*** |
|---|---|
| Infrastructure | *25 x Water connections + 25 x Sewerage + 25 x Electricity + 25 x Telephone* |
| Waste | *Wastewater treated x 50 + Formal solid waste disposal x 50* |
| Health | *(Life expectancy - 25) x 50/60 +(32 - Child mortality) x 50/31.92* |
| Education | *Literacy x 25 + Combined enrolment x 25* |
| Product | *(log City Product - 4.61) x 100/5.99* |
| **City Development** | ***(Infrastructure index + Waste index + Education index + Health index + City Product index) / 5*** |

Because the variables used to make up the CDI are strongly related to each other, there are a number of ways to calculate the CDI that give almost identical results. For analysis purposes, the weightings given to each indicator have been initially calculated by a statistical process called Principal Components Analysis and then simplified. This formulation of the index uses the same formulae as in UNDP Human Development Report (1999), for the Health, Education and City product sub-indices.

For meaningful ranking of cities, the index requires data that are essentially complete, robust and precise hence not many variables are suitable. All the underlying data had to be checked for accuracy and completeness. Where there was missing data or very inaccurate estimates, they were either replaced by data from another national city of similar size, by country-wide figures (or national urban data, if available) or by figures for a nearby city or place at a similar level of development (but only if absolutely necessary).

Also, *Formal waste disposal* or *Wastewater treated* is taken as zero if not provided. Where City Product was not provided, it was calculated so that *City Product x Household size = 0.45 x Mean Household Income* (which is similar to the main estimation formula). For most transitional countries, *0.35 x Household Income* is used since, in Transitional economies, much GDP goes into indirect services and subsidies. The resultant city products must be somewhere in the vicinity of the National GDP per person, otherwise household incomes are presumed incorrect and adjusted.

CDI values and their component subindices are provided for 167 cities in Table B.

## *Table B. CDI and component subindices*

| No. | City | Country | Region | CDI | Components | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | City Product | Infrast-ructure | Waste | Health | Education |
| 1 | Abidjan | Côte d'Ivoire | Africa | 39.7 | 56.6 | 21.7 | 29.0 | 94.6 | 42.4 |
| 2 | Accra | Ghana | Africa | 46.6 | 49.4 | 50.0 | 0.0 | 94.0 | 62.0 |
| 3 | Antananarivo | Madagascar | Africa | 34.5 | 44.4 | 22.5 | 0.0 | 92.7 | 52.5 |
| 4 | Bangui | Central African Republic | Africa | 27.5 | 42.0 | 14.9 | 0.1 | 90.2 | 36.8 |
| 5 | Banjul | Gambia | Africa | 40.5 | 46.0 | 16.0 | 48.0 | 87.8 | 37.8 |
| 6 | Brazzaville | Congo | Africa | 27.1 | 30.7 | 31.6 | 0.4 | 86.4 | 18.5 |
| 7 | Bujumbura | Burundi | Africa | 43.1 | 50.3 | 32.8 | 18.2 | 82.6 | 57.7 |
| 8 | Bulawayo | Zimbabwe | Africa | 74.6 | 67.5 | 84.5 | 75.5 | 78.4 | 77.6 |
| 9 | Chegutu | Zimbabwe | Africa | 55.4 | 55.1 | 45.0 | 38.5 | 84.1 | 77.6 |
| 10 | Conakry | Guinea | Africa | 37.1 | 50.8 | 30.4 | 40.0 | 85.2 | 29.5 |
| 11 | Douala | Cameroon | Africa | 48.2 | 46.6 | 34.9 | 39.5 | 87.5 | 59.8 |
| 12 | Entebbe | Uganda | Africa | 39.7 | 42.7 | 29.5 | 16.0 | 81.1 | 68.2 |
| 13 | Gweru | Zimbabwe | Africa | 68.5 | 58.9 | 83.8 | 70.5 | 67.7 | 77.6 |
| 14 | Harare | Zimbabwe | Africa | 70.2 | 68.1 | 82.5 | 96.5 | 80.6 | 77.6 |
| 15 | Ibadan | Nigeria | Africa | 27.3 | 39.8 | 21.1 | 2.5 | 86.6 | 29.1 |
| 16 | Jinja | Uganda | Africa | 42.7 | 41.8 | 42.0 | 34.0 | 86.6 | 63.1 |
| 17 | Kigali | Rwanda | Africa | 31.9 | 45.9 | 29.8 | 10.0 | 81.2 | 44.8 |
| 18 | Kinshasa | Congo, Dem. Rep. | Africa | 35.3 | 64.6 | 34.9 | 13.3 | 81.6 | 22.8 |
| 19 | Kisumu | Kenya | Africa | 53.5 | 60.0 | 42.0 | 32.5 | 80.5 | 68.3 |
| 20 | Kumasi | Ghana | Africa | 57.1 | 42.8 | 47.5 | 49.0 | 80.7 | 62.0 |
| 21 | Lagos | Nigeria | Africa | 29.3 | 42.1 | 29.5 | 2.0 | 26.4 | 29.1 |
| 22 | Lilongwe | Malawi | Africa | 31.5 | 34.4 | 33.0 | 0.0 | 76.0 | 58.3 |
| 23 | Lome | Togo | Africa | 40.9 | 55.4 | 21.8 | 0.0 | 81.0 | 73.3 |
| 24 | Mombasa | Kenya | Africa | 53.4 | 54.6 | 41.3 | 52.3 | 83.8 | 65.3 |
| 25 | Monrovia | Liberia | Africa | 28.1 | 46.6 | 4.7 | 0.0 | 78.8 | 36.5 |
| 26 | Nairobi | Kenya | Africa | 56.1 | 63.2 | 52.5 | 39.0 | 84.6 | 65.3 |
| 27 | Niamey | Niger | Africa | 21.7 | 40.0 | 22.0 | 0.0 | 78.3 | 14.9 |
| 28 | Nouakchott | Mauritania | Africa | 30.8 | 50.0 | 12.3 | 2.0 | 74.1 | 39.0 |
| 29 | Aden | Yemen | Arab States | 42.5 | 42.3 | 40.2 | 17.5 | 94.5 | 46.6 |
| 30 | Algiers | Algeria | Arab States | 76.1 | 69.2 | 75.0 | 80.0 | 88.8 | 75.2 |
| 31 | Amman | Jordan | Arab States | 77.0 | 65.1 | 84.9 | 77.2 | 94.9 | 75.0 |
| 32 | Baghdad | Iraq | Arab States | 47.2 | 65.1 | 56.3 | 0.0 | 88.8 | 51.9 |
| 33 | Casablanca | Morocco | Arab States | 57.2 | 64.5 | 81.8 | 5.0 | 88.9 | 48.6 |
| 34 | Damascus | Syria | Arab States | 64.3 | 57.9 | 68.6 | 37.0 | 85.9 | 75.8 |
| 35 | Doha | Qatar | Arab States | 82.6 | 89.6 | 90.0 | 70.0 | 82.0 | 77.2 |
| 36 | Gaza | Palestine | Arab States | 44.5 | 63.7 | 65.0 | 0.0 | 80.9 | 51.6 |
| 37 | Kuwait | Kuwait | Arab States | 88.3 | 92.8 | 99.0 | 93.0 | 82.9 | 70.0 |
| 38 | Muscat | Oman | Arab States | 76.7 | 77.5 | 78.0 | 80.0 | 77.9 | 63.4 |
| 39 | Rabat | Morocco | Arab States | 63.1 | 62.7 | 65.5 | 52.5 | 83.6 | 48.6 |
| 40 | Sana'a | Yemen | Arab States | 41.8 | 40.0 | 39.0 | 17.5 | 76.3 | 46.6 |
| 41 | Tripoli | Libya | Arab States | 67.7 | 70.2 | 73.1 | 27.5 | 70.2 | 86.6 |
| 42 | Tunis | Tunisia | Arab States | 74.6 | 70.6 | 61.0 | 85.0 | 42.4 | 70.8 |
| 43 | Apia | Samoa, Western | Asia-Pacific | 59.0 | 65.3 | 63.5 | 0.0 | 94.1 | 82.7 |
| 44 | Bangalore | India | Asia-Pacific | 58.0 | 51.1 | 82.7 | 31.3 | 42.2 | 48.5 |
| 45 | Bangkok | Thailand | Asia-Pacific | 82.6 | 77.7 | 89.6 | 74.5 | 90.6 | 78.9 |
| 47 | Cebu | Philippines | Asia-Pacific | 67.0 | 70.2 | 42.3 | 66.0 | 59.1 | 78.7 |
| 48 | Chiang Mai | Thailand | Asia-Pacific | 78.5 | 68.0 | 82.5 | 85.0 | 90.0 | 76.3 |
| 49 | Chittagong | Bangladesh | Asia-Pacific | 39.3 | 55.4 | 41.0 | 0.3 | 83.1 | 38.1 |
| 50 | Colombo | Sri Lanka | Asia-Pacific | 58.4 | 46.9 | 68.6 | 45.0 | 61.5 | 45.3 |

## *Table B. CDI and component subindices*

| No. | City | Country | Region | CDI | Components | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | City Product | Infrast-ructure | Waste | Health | Education |
| 51 | Dhaka | Bangladesh | Asia-Pacific | 47.1 | 57.5 | 48.8 | 0.0 | 84.6 | 59.2 |
| 52 | Hanam | Korea, Rep. Of | Asia-Pacific | 89.9 | 87.9 | 84.8 | 90.4 | 80.2 | 97.7 |
| 53 | Hanoi | Vietnam | Asia-Pacific | 74.2 | 59.6 | 72.0 | 90.0 | 35.0 | 69.0 |
| 54 | Hohhot | China | Asia-Pacific | 65.8 | 60.0 | 67.9 | 50.1 | 75.7 | 69.5 |
| 55 | Hong Kong | China | Asia-Pacific | 92.0 | 89.4 | 99.3 | 99.0 | 61.5 | 81.3 |
| 56 | Jakarta | Indonesia | Asia-Pacific | 69.2 | 66.2 | 57.3 | 46.7 | 79.0 | 95.7 |
| 57 | Kathmandu | Nepal | Asia-Pacific | 62.0 | 60.4 | 76.3 | 37.5 | 40.7 | 64.8 |
| 58 | Lahore | Pakistan | Asia-Pacific | 61.1 | 71.1 | 78.5 | 50.0 | 52.9 | 40.8 |
| 59 | Mandaluyong | Philippines | Asia-Pacific | 70.8 | 69.6 | 66.4 | 45.9 | 29.0 | 89.3 |
| 60 | Medan | Indonesia | Asia-Pacific | 58.0 | 40.8 | 54.6 | 42.6 | 31.8 | 72.7 |
| 61 | Naga | Philippines | Asia-Pacific | 66.7 | 70.3 | 55.4 | 43.0 | 44.0 | 80.2 |
| 62 | Penang | Malaysia | Asia-Pacific | 67.3 | 73.4 | 79.3 | 20.0 | 82.3 | 75.8 |
| 63 | Phnom Penh | Cambodia | Asia-Pacific | 39.2 | 40.1 | 40.1 | 0.0 | 86.3 | 49.0 |
| 64 | Port Moresby | Papua New Guinea | Asia-Pacific | 39.3 | 69.0 | 18.1 | 10.0 | 43.9 | 40.2 |
| 65 | Pusan | Korea, Rep. Of | Asia-Pacific | 88.6 | 83.1 | 89.3 | 84.7 | 71.0 | 97.9 |
| 66 | Semarang | Indonesia | Asia-Pacific | 58.1 | 47.0 | 34.8 | 37.2 | 69.6 | 93.5 |
| 67 | Seoul | Korea, Rep. Of | Asia-Pacific | 95.8 | 94.7 | 98.4 | 99.3 | 81.8 | 97.7 |
| 68 | Singapore | Singapore | Asia-Pacific | 94.5 | 91.6 | 99.5 | 100.0 | 64.8 | 88.6 |
| 69 | Surabaya | Indonesia | Asia-Pacific | 62.2 | 58.6 | 64.2 | 35.0 | 78.5 | 75.4 |
| 70 | Suva | Fiji | Asia-Pacific | 69.3 | 73.5 | 79.3 | 37.5 | 54.5 | 75.5 |
| 71 | Sylhet | Bangladesh | Asia-Pacific | 40.6 | 51.4 | 40.4 | 0.3 | 77.5 | 49.3 |
| 72 | Tangail | Bangladesh | Asia-Pacific | 35.3 | 48.7 | 28.3 | 0.0 | 80.5 | 38.1 |
| 73 | Ulaanbaatar | Mongolia | Asia-Pacific | 66.0 | 49.9 | 60.8 | 53.0 | 47.2 | 92.0 |
| 74 | Vientiane | Laos | Asia-Pacific | 47.1 | 44.0 | 58.0 | 0.0 | 65.9 | 71.3 |
| 75 | Yangon | Myanmar | Asia-Pacific | 51.3 | 47.4 | 65.3 | 0.0 | 54.7 | 73.4 |
| 76 | Amal | Sweden | HIC | 94.7 | 81.2 | 98.8 | 100.0 | 93.7 | 99.8 |
| 77 | Ankara | Turkey | HIC | 72.0 | 73.0 | 93.9 | 40.4 | 93.9 | 72.5 |
| 78 | Aversa | Italy | HIC | 81.7 | 82.2 | 96.3 | 45.6 | 93.3 | 90.7 |
| 79 | Basel | Switzerland | HIC | 95.2 | 91.5 | 99.7 | 100.0 | 86.8 | 89.8 |
| 80 | Hull | Canada | HIC | 98.0 | 97.2 | 98.8 | 100.0 | 82.9 | 99.5 |
| 81 | Madrid | Spain | HIC | 94.4 | 87.9 | 98.8 | 100.0 | 80.2 | 91.3 |
| 82 | Melbourne | Australia | HIC | 95.5 | 90.0 | 99.8 | 100.0 | 50.5 | 94.1 |
| 83 | Pamplona | Spain | HIC | 90.2 | 84.0 | 93.5 | 89.5 | 74.2 | 90.6 |
| 84 | Stockholm | Sweden | HIC | 97.3 | 93.5 | 99.5 | 100.0 | 75.6 | 99.8 |
| 85 | Umea | Sweden | HIC | 95.8 | 85.9 | 98.8 | 100.0 | 56.5 | 99.8 |
| 86 | Armenia | Colombia | LAC | 54.0 | 63.6 | 84.0 | 0.0 | 90.9 | 40.5 |
| 87 | Asuncion | Paraguay | LAC | 55.7 | 75.7 | 39.5 | 2.0 | 83.8 | 78.1 |
| 88 | Belem | Brazil | LAC | 53.0 | 51.6 | 50.5 | 0.0 | 90.2 | 84.3 |
| 89 | Belize | Belize | LAC | 63.0 | 64.3 | 58.8 | 45.0 | 87.2 | 64.7 |
| 90 | Bridgetown | Barbados | LAC | 77.9 | 87.1 | 69.9 | 53.5 | 89.3 | 88.6 |
| 91 | Buenos Aires | Argentina | LAC | 79.4 | 82.2 | 92.1 | 50.0 | 93.6 | 88.4 |
| 92 | Cajamarca | Peru | LAC | 72.5 | 58.4 | 62.8 | 78.5 | 89.9 | 84.1 |
| 93 | Cienfuegos | Cuba | LAC | 69.6 | 62.6 | 70.4 | 41.1 | 80.9 | 84.7 |
| 94 | Ciudad Habana | Cuba | LAC | 71.0 | 64.9 | 74.8 | 50.0 | 90.7 | 84.7 |
| 95 | Ciudad Juarez | Mexico | LAC | 72.6 | 75.4 | 76.8 | 48.5 | 84.3 | 80.4 |
| 96 | Colon | Panama | LAC | 66.2 | 58.4 | 58.8 | 45.0 | 89.2 | 82.2 |
| 97 | Cordoba | Argentina | LAC | 81.9 | 77.6 | 79.5 | 74.6 | 83.0 | 88.4 |
| 98 | Cuenca | Ecuador | LAC | 76.5 | 50.5 | 83.5 | 87.5 | 80.3 | 79.3 |
| 99 | Gran Concepcion | Chile | LAC | 79.9 | 81.5 | 88.6 | 52.9 | 82.3 | 86.7 |
| 100 | Guayaquil | Ecuador | LAC | 69.0 | 61.1 | 63.8 | 51.7 | 85.4 | 83.3 |

## *Table B. CDI and component subindices*

| No. | City | Country | Region | CDI | Components | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | City Product | Infrast-ructure | Waste | Health | Education |
| 101 | Huanuco | Peru | LAC | 59.5 | 36.2 | 49.3 | 50.0 | 83.4 | 84.1 |
| 102 | Huaras | Peru | LAC | 41.9 | 43.6 | 30.0 | 0.0 | 81.3 | 48.8 |
| 103 | Icapui | Brazil | LAC | 35.9 | 40.1 | 52.8 | 0.0 | 82.0 | 11.0 |
| 104 | Iquitos | Peru | LAC | 53.2 | 51.2 | 69.4 | 32.0 | 86.3 | 37.7 |
| 105 | Kingston | Jamaica | LAC | 62.7 | 63.0 | 66.2 | 20.0 | 80.5 | 74.5 |
| 106 | Leon | Nicaragua | LAC | 48.9 | 52.8 | 45.7 | 0.0 | 84.6 | 65.5 |
| 107 | Lima | Peru | LAC | 67.2 | 64.4 | 67.7 | 34.0 | 89.3 | 84.1 |
| 108 | Manta | Ecuador | LAC | 52.1 | 35.1 | 65.0 | 0.0 | 85.4 | 82.8 |
| 109 | Maranguape | Brazil | LAC | 62.1 | 51.6 | 47.0 | 49.0 | 82.0 | 84.3 |
| 110 | Marinilla | Colombia | LAC | 66.4 | 62.0 | 88.9 | 50.0 | 51.6 | 52.7 |
| 111 | Medellin | Colombia | LAC | 73.0 | 61.6 | 96.2 | 42.5 | 72.5 | 81.8 |
| 112 | Montego Bay | Jamaica | LAC | 60.1 | 61.2 | 59.8 | 15.0 | 81.4 | 74.5 |
| 113 | Montevideo | Uruguay | LAC | 72.5 | 81.5 | 87.9 | 17.1 | 88.3 | 89.4 |
| 114 | Port of Spain | Trinidad and Tobago | LAC | 72.9 | 73.4 | 87.5 | 40.0 | 82.3 | 76.9 |
| 115 | Porto Alegre | Brazil | LAC | 68.5 | 74.8 | 77.8 | 49.8 | 90.1 | 58.2 |
| 116 | Puyo | Ecuador | LAC | 55.2 | 58.8 | 65.0 | 0.0 | 78.4 | 82.8 |
| 117 | Quetzaltenango | Guatemala | LAC | 57.8 | 64.3 | 58.8 | 32.5 | 90.1 | 57.2 |
| 118 | Quito | Ecuador | LAC | 60.2 | 57.6 | 76.6 | 0.0 | 77.8 | 88.3 |
| 119 | Recife | Brazil | LAC | 69.9 | 68.2 | 64.8 | 54.5 | 86.1 | 86.1 |
| 120 | Rio de Janeiro | Brazil | LAC | 79.4 | 82.3 | 86.2 | 62.6 | 76.5 | 84.3 |
| 121 | Rosario | Argentina | LAC | 72.6 | 70.0 | 83.3 | 36.3 | 79.2 | 87.0 |
| 122 | San Salvador | El Salvador | LAC | 70.2 | 72.5 | 82.3 | 40.6 | 68.8 | 70.9 |
| 123 | Santa Clara | Cuba | LAC | 72.2 | 82.2 | 70.0 | 35.0 | 86.5 | 84.7 |
| 124 | Santa Cruz de la Sierra | Bolivia | LAC | 64.3 | 55.8 | 60.7 | 58.5 | 84.1 | 72.4 |
| 125 | Santiago de Chile | Chile | LAC | 79.2 | 74.9 | 92.8 | 51.7 | 60.3 | 86.7 |
| 126 | Santiago de los Caballeros | Dominican Republic | LAC | 68.0 | 65.7 | 79.0 | 40.0 | 78.4 | 76.4 |
| 127 | Santo Andre | Brazil | LAC | 76.8 | 51.4 | 93.0 | 65.0 | 83.4 | 88.7 |
| 128 | Tacna | Peru | LAC | 57.9 | 50.0 | 53.1 | 32.0 | 70.1 | 85.5 |
| 129 | Tena | Ecuador | LAC | 52.6 | 35.1 | 69.0 | 2.5 | 60.4 | 82.8 |
| 130 | Tome | Chile | LAC | 80.3 | 74.8 | 74.8 | 75.4 | 62.9 | 86.7 |
| 131 | Tumbes | Peru | LAC | 50.5 | 40.4 | 50.0 | 35.0 | 71.4 | 41.3 |
| 132 | Valparaiso | Chile | LAC | 87.8 | 74.8 | 87.3 | 100.0 | 32.5 | 86.7 |
| 133 | Vina del mar | Chile | LAC | 87.4 | 74.2 | 89.3 | 95.0 | 61.5 | 88.2 |
| 134 | Astrakhan | Russian Federation | Transitional | 71.2 | 59.3 | 77.8 | 46.0 | 90.6 | 92.4 |
| 135 | Belgorod | Russian Federation | Transitional | 77.3 | 69.7 | 82.5 | 50.5 | 90.3 | 98.7 |
| 136 | Belgrad | Yugoslavia | Transitional | 69.6 | 69.0 | 91.7 | 10.4 | 88.7 | 90.1 |
| 137 | Bishkek | Kyrgyzstan | Transitional | 55.8 | 64.0 | 42.9 | 7.5 | 87.3 | 86.2 |
| 138 | Bourgas | Bulgaria | Transitional | 85.4 | 61.6 | 95.8 | 96.5 | 92.5 | 86.0 |
| 139 | Brno | Czech Republic | Transitional | 89.6 | 79.9 | 90.9 | 100.0 | 84.7 | 86.8 |
| 140 | Bydgoszcz | Poland | Transitional | 71.0 | 72.3 | 91.7 | 14.3 | 90.0 | 89.3 |
| 141 | Chisinau | Moldova | Transitional | 76.9 | 54.0 | 94.5 | 71.2 | 86.2 | 84.3 |
| 142 | Gdansk | Poland | Transitional | 77.4 | 73.8 | 87.1 | 51.8 | 85.6 | 85.2 |
| 143 | Katowice | Poland | Transitional | 76.4 | 79.0 | 92.2 | 34.3 | 89.3 | 88.9 |
| 144 | Kostroma | Russian Federation | Transitional | 75.1 | 64.5 | 79.6 | 54.9 | 87.6 | 94.2 |
| 145 | Ljubljana | Slovenia | Transitional | 91.7 | 83.4 | 99.3 | 99.0 | 86.9 | 86.2 |
| 146 | Moscow | Russian Federation | Transitional | 89.9 | 81.0 | 98.7 | 86.8 | 85.6 | 99.3 |
| 147 | Nizhny Novgorod | Russian Federation | Transitional | 78.6 | 69.1 | 90.0 | 53.7 | 86.4 | 97.3 |
| 148 | Novomoscowsk | Russian Federation | Transitional | 74.5 | 59.1 | 88.5 | 50.0 | 81.5 | 94.8 |
| 149 | Omsk | Russian Federation | Transitional | 73.8 | 67.7 | 78.8 | 44.5 | 80.5 | 94.4 |

## *Table B. CDI and component subindices*

| No. | City | Country | Region | CDI | Components | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | City Product | Infrast-ructure | Waste | Health | Education |
| 150 | Poznan | Poland | Transitional | 79.8 | 79.1 | 94.2 | 48.2 | 77.8 | 88.6 |
| 151 | Prague | Czech Republic | Transitional | 89.6 | 83.0 | 98.4 | 88.5 | 78.5 | 87.4 |
| 152 | Pushkin | Russian Federation | Transitional | 81.1 | 69.5 | 96.8 | 55.0 | 64.9 | 99.8 |
| 153 | Riga | Latvia | Transitional | 75.8 | 71.8 | 89.5 | 45.0 | 77.8 | 87.2 |
| 154 | Sarajevo | Bosnia and Herzegovina | Transitional | 68.1 | 56.1 | 78.8 | 75.0 | 61.0 | 47.0 |
| 155 | Sofia | Bulgaria | Transitional | 79.1 | 70.9 | 93.7 | 58.5 | 53.7 | 86.3 |
| 156 | Surgut | Russian Federation | Transitional | 77.6 | 82.0 | 86.7 | 46.6 | 73.8 | 88.3 |
| 157 | Tallinn | Estonia | Transitional | 81.5 | 78.0 | 95.4 | 61.8 | 86.0 | 89.8 |
| 158 | Tbilisi | Georgia | Transitional | 72.2 | 58.6 | 88.2 | 47.5 | 64.6 | 85.5 |
| 159 | Troyan | Bulgaria | Transitional | 64.8 | 66.9 | 81.5 | 4.5 | 62.3 | 90.5 |
| 160 | Veliko Tarnovo | Bulgaria | Transitional | 71.5 | 64.2 | 98.0 | 28.0 | 65.9 | 85.6 |
| 161 | Veliky Novgorod | Russian Federation | Transitional | 76.2 | 67.5 | 86.2 | 49.0 | 87.0 | 97.5 |
| 162 | Vilnius | Lithuania | Transitional | 83.3 | 75.2 | 88.9 | 77.0 | 53.9 | 88.3 |

# Global Urban Indicators Database

## *Version 2*

The Global Urban Indicators Database version 2 contains urban data and indicators collected by the Urban Indicators Programme. Key indicators were collected in 232 cities. Values have been provided by cities and countries and were reported for the reference year 1998.
Definitions are included at the end of this book. Comprehensive guidelines on significance, definitions and methodologies of indices are contained in the Istanbul+5 Guide to Urban Indicators available upon request from UN-Habitat and its website (www.unhsp.org/guo).

# INDEX TO TABLES