

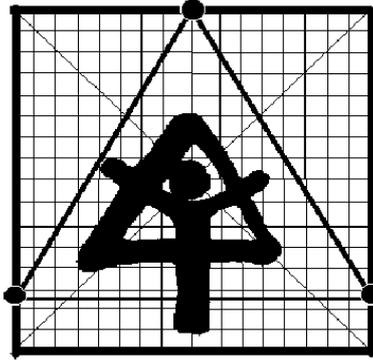
INDICATORS PROGRAMME

MONITORING HUMAN SETTLEMENTS

VOL 1. INTRODUCTION

Background and rationale

**A JOINT PROGRAMME OF THE UNITED NATIONS CENTRE FOR HUMAN SETTLEMENTS AND THE
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THE INDICATORS PROGRAMME

VOLUME I. INTRODUCTION

Section 1. Overview introduces the Indicators Programme, discussing objectives, background, goals, schedule and outputs, and the relationship of the Indicators Programme to the Habitat II Conference.

Section 2. Developing and using indicators gives a literature review of past and present developments, the criteria for selecting indicators, and the general philosophy for data collection, before discussing the various uses of indicators by different stakeholders.

Section 3. The indicators system discusses the conceptual framework for the Programme, including the development of norms on behalf of different stakeholders, and presents the modules and indicators in the context of policy goals and instruments.

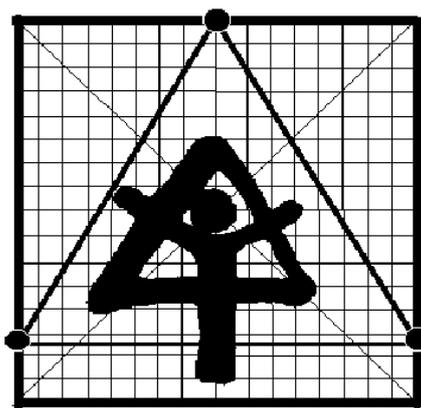
Section 4. Conclusions summarises the Programme and provides a number of suggestions for future policy studies in the context of indicators.

VOLUME II. URBAN INDICATORS

presents the six modules for preliminary reporting on urban indicators, together with instructions and a detailed description of how to collect the indicators. Countries are encouraged to provide a description of national urban problems and to comment on the policy relevance, applicability and ease of collection of these indicators.

VOL III. SHELTER INDICATORS

is the final instrument for collection of shelter-sector indicators, following a process of development which has taken four years. It is aimed to institutionalise a world-wide collection of housing and land indicators using this instrument, which is a major focus for Habitat II reporting.



THE INDICATORS PROGRAMME

OVERVIEW

This section discusses the aims and objectives of the Indicators Programme, the background to the programme, and the outputs and communications mechanisms which are expected for the Programme. It discusses the Habitat II Conference and provides an overview of the literature and a summary of recent developments in the field.

The need for urban and shelter sector tools

Increasingly, **the world's problems are urban problems**. Urban growth is the major issue in the transformation of human settlements. Cities are currently absorbing some two thirds of total population increase in developing countries. Urban areas will shelter 50 per cent of the world's population by the year 2000. During the period 1990 to 2030, the population of urban areas will grow by about 3.3 billion, largely in human settlements in developing countries. The bulk of the world's population growth and economic growth will be located in urban areas.

Cities are synonymous with growth and they are more and more subject to dramatic crisis, especially in developing countries. Poverty, environmental decline, lack of urban services, deterioration of existing services, and access to land and shelter are the main areas of concern.

Existing tools for managing the city in both developing and developed countries have been largely inadequate in providing an overall picture of the city and its health. Most management tools have been sectoral in nature, restricted to one part of the city economy. Rarely do they provide means for understanding the relationship between policy and urban outcomes, nor do they provide an indication of the relationships between the performance of individual sectors and broader social and economic development outcomes.

Cities also form the major locus of economic investment. Most of the world's investment takes place in cities, and huge future infrastructure programmes are proposed in the developing world, particularly in East and South-East Asia. The past experience with large infrastructure

investment programmes is that they have not always been helpful to the poor and in fact have displaced large numbers of people. Where investment is changing the face of the city, indicators can monitor who are the winners and the losers are and whether social progress is occurring.

A serious problem in conducting urban policy in both developed and developing countries has been the lack of appropriate data at the city level. Most major economic aggregates which might measure the health of the urban economy, such as city product, investment or trade, are not available. Other data which might measure the condition of the population, of infrastructure and the environment, are available in some places but not others, and are seldom collected in a consistent international framework. Data which measure the internal spatial structure of the city, its economy and the distribution of opportunities, are not collected in many parts of the world.

The positive side of urban development is that it is the engine of social development and economic growth. However, urban concentration can produce growth and break the cycle of poverty and deterioration only if the problems generated by dense concentrations of population and activities are rectified or limited. In determining the causes of the current urban crisis and monitor the progress toward achieving sustainable urban development, it is increasingly necessary to rely on effective tools to analyse the performance of cities, within countries and on a world-wide basis. It is also necessary to have accurate and timely data on key policy variables at the city level, and performance indicators which measure conditions and changes at the city level. It is this gap at the interface between policy and data that the Indicators Programme addresses.

Programme objectives: developing tools for managing the city

The objectives of the Indicators Programme are:

- to identify a set of key urban indicators for measuring performance of the city as a whole and for the development of city policy, and to test, collect and analyse these indicators worldwide;
- to establish the collection of shelter indicators in all countries on a regular basis, improving in-country capability for housing policy development and data collection as part of an enabling strategy for the housing sector, and providing a precise and defined basis for each country to analyse its own housing market and housing performance;
- to implement a permanent data-collection facility and database that will permit regular analysis of the status of human settlements and the effects of policies in the different urban sectors;

INDICATORS

A pertinent and realistic tool to measure urban performance

- An accurate diagnostic tool for urban managers;
- Regular performance review of urban subsectors;
- Comparable indicators at the international scale to evaluate the impact of urban policies and regulations;
- Simple and easily used indicators on identified problem areas;
- Policy-sensitive indicators to indicate urban decision making.

- to assist countries in the preparation of country reports for Habitat II using a general indicator framework;
- to assist in national and regional efforts to develop indicators through training programmes, survey design, and data definition and assembly.

The United Nations Conference on Human Settlements

The United Nations Conference on Human Settlements (Habitat II or the City Summit) will be held in Istanbul in April 1996. A special feature of this major conference will include the direct involvement of cities and city administrations in the conference, as well as national governments and NGOs. Another innovation will be the use of indicators as the major 'currency' which will help countries establish standards of performance, permitting comparisons of policy outcomes over time and space. Indicators are therefore an integral part of Habitat II preparations, and the presentation of selected indicators will form the underlying structure of country reports for Habitat II (UNCHS 1994b).

The First Preparatory Committee for Habitat II in Geneva, April 1994, strongly endorsed the decision to use indicators for country reporting for Habitat II, including as one of the two national objectives 'to strengthen the capacity of institutions at all levels to monitor shelter conditions and urbanisation processes using a minimum set of substantially uniform and consistent indicators'. A major country activity for Habitat II is to produce a factual description and analysis of the quality, quantity, availability, accessibility and affordability of shelter and diagnose urban and human settlements conditions through a minimum set of indicators.

The indicators in these volumes, particularly the key indicators, are part of the response to this request. The indicator system is designed for collection at the city level; however it is possible to collect them for a selection of cities which would provide a suitable national urban overview. Alternatively, many of the indicators can be collected nationally at the urban/rural level of disaggregation, and in fact a number of indicators, particularly those depending on national surveys or the census, are more readily available in this form than at the city level. Either of these formats will be suitable for country reporting, and examples are becoming available as countries begin their preparatory work.

HABITAT II REPORTING

Country action plans for Habitat II should include a section or attached report or reports which describe the urban and shelter sector conditions in the country, the major policies and problems in these sectors, and development of national strategies. Progress towards meeting national objectives should be outlined, together with setbacks or obstacles which have limited progress and the strategies employed to deal with these problems. These conditions and changes should be illustrated where possible by the use of indicators selected from Volume II and III of this series, or other indicators.

As well, the values of at least the key indicators should be submitted to the Indicators Programme for inclusion in the Indicators Database. For urban indicators, the key indicators should be collected for one or more cities. Housing indicators should be collected at the national or at the urban/rural level of aggregation.

Although countries may choose which indicators to use from the menu of indicators in these volumes, or indeed may choose to use other indicators, the Indicators Programme will seek to obtain concordance in definitions of indicators, and will provide advice and assistance on a country-by-country basis. In particular, it is intended that all countries should collect the key indicators at least, and that these should be used in national reporting.

Institutional background to the Indicators Programme

The Shelter Sector Performance Indicator Programme was established following the adoption in 1988 of the Global Shelter Strategy to the Year 2000 and the Commission for Human Settlements Resolution 12/1 of 1989, in which UNCHS was requested to provide cost-effective national monitoring of progress towards realising the goals of the Strategy (UNCHS 1991). During the period 1989-93, the first phase of the Housing Indicators Programme was carried out under the terms of a Memorandum of Understanding with the World Bank. An Extensive Survey was carried out by consultants in 53 cities, who collected approximately 55 indicators (World Bank/UNCHS 1991, 1992, 1993). A final monograph on the development phase of the Housing Indicators Programme is in preparation.

The 14th Session of the Commission for Human Settlements (Resolution 14/13) confirmed the value of the programme and recommended an acceleration of the globalisation phase, in which ten 'key' housing indicators were to be collected in all countries and in a number of cities in each country. As well, it recommended that countries should use the indicators to measure progress towards meeting the objectives of the Global Shelter Strategy, and in particular that the indicators should provide the basis for country reports in the course of the preparatory process for the United Nations Conference on Human Settlements (Habitat II) to be held in Istanbul in 1996.

In late 1993 it was decided to extend the Shelter Sector Indicators to include a broader set of urban indicators which would monitor the city as a whole. UNCHS and the World Bank signed a memorandum of understanding to develop urban indicators covering the major themes proposed for the 1996 Conference, "Sustainable Human Settlements in an Urbanising World" and "Shelter for All". At an Expert Group Meeting in Nairobi in January 1994, indicators for a whole range of urban concerns including poverty, employment, productivity, social development, infrastructure, transport, the environment and local government were suggested (UNCHS 1994a). These have subsequently been refined following an examination of the literature, and testing for policy relevance and feasibility of collection in eight countries.

Methodology for indicator development

Indicators are not data, rather they are 'models' simplifying a complex subject to a few numbers which can be easily grasped and understood by policy makers and the general public. They are required to be user driven, and are generally highly aggregated, so that changes or differences in value of an indicator may be more important than its absolute level. The method of calculation of important indicators such as GNP or even the unemployment rate is not necessarily required to be transparent to most users, as long as they are calculated in a consistent way, and have a meaning which is relevant to policy.

The basic methodology for indicator development used by the Indicators Programme has been described in the reports of the Housing Indicators Programme (World Bank/UNCHS 1991,1992,1993) and the Expert Group Meeting on Urban Indicators report (UNCHS 1994a) (and also described in the paper Flood (1993)). The method developed in these reports is a

general process whereby indicators can be established for virtually any broad policy area at any geographical scale. It can be summarised by asking the question, 'What would a well-functioning sector look like, from the point of view of each of the key stakeholders or players in the arena?'

The answers to this question form a set of qualitative norms for a well-functioning policy sector. From these norms, a limited set of policy goals or objectives may be derived which will enable these norms to be met. In turn, a set of indicators may be established which will permit evaluation of the objectives or of policies designed to meet these objectives. By further consultation and experience, the indicators are narrowed down into primary and secondary measures, with the primary indicators comprising the 'minimum set' required for Habitat II.

The underlying philosophy is then, that each indicator must be attached to a policy or norm, and each policy should have indicators attached.

For example, 'population' is not an indicator, except in the broadest sense, as the government cannot normally affect population levels directly. However, 'fertility rate' may be an indicator, as it can be affected by birth control programmes and by the education level of women. The take-up of birth control programmes, and education for women, are clearly indicators as they are direct outcomes of policy.

This procedure is explained in more detail in Sections 3 and 4, where the detailed norms and objectives are described for each of the major policy areas of the Urban and Shelter Indicators.

Indicator strategies

Indicators and policy

The Indicators Programme is not primarily a data collection programme. It is a policy and strategy development and technical co-operation programme, which aims to build in-country and local capacity to collect and use indicators as an integral part of the national and local policy and development framework. Wherever possible, the indicators are intended to be part of an enabling process, measuring sector-wide progress of all actors towards achieving social goals, rather than as a narrow measure of government activity. The indicators of government activity emphasise sustainability and efficiency goals rather than simple production goals that have been a feature of government performance indicators in the past.

The major emphasis of the Programme is on developing sustainable in-country capacity in establishing indicators that will help national and local policy review and implementation and which will be collected regularly. The aim is to develop commitment and expertise and to establish a routine for collecting data in all countries.

Important characteristics of these indicators are that they should be:

- easily understood by all stakeholders;
- related to the interests of one or more groups of stakeholders;
- measurable using immediately available data at the city or national level;
- clearly related to urban policy goals and capable of being changed by the use of policy instruments;

- linked where possible to the three themes of economic, social and environmental sustainability.

The indicators should be readily available, easily collected or estimated, and should not normally require special surveys or studies. The level of country resources spent on collecting these indicators is expected to be small.

A country-based, participatory approach.

It is intended that the indicators should be based on perceived issues, problems and resources *at the country and city level*. The Programme does not assume a preordained, normative, view of optimal city development; any such view should be the prerogative of country and city governments. It follows that the rise or fall of an indicator does not necessarily have a normative significance; in fact, changes in an indicator may have opposite interpretations depending on government objectives. For example, in a country where the government is trying to increase public housing in response to expressed needs, an increase in the level of public housing will be seen as positive; whereas another government which is trying to reduce dependence on the public sector as a provider of housing may see a fall in the proportion of public housing as helpful.

In many cases however, the norms and objectives associated with a particular indicator will be the same in all countries. As the Programme extends worldwide, there will be increasing opportunities to develop comparative norms which are valuable for analysing the causes of variations in urban outcomes. For example, the Housing Indicators Programme showed the house price to income ratio was very different in otherwise comparable countries, and much of the price difference could be traced to differences in land development policies.

Given the emphasis on demand-driven approaches to urban indicators and the increasing emphasis on community involvement in urban affairs, countries should be able to make their own choices on priority urban or shelter problem areas, and on indicators to measure these. Indicators chosen by countries may later turn out to be valuable for other countries, and may eventually form part of an extended international indicator set.

Because of the emphasis of a country-based approach and the desire for a continued revision of the indicators, it is recommended that countries should include in each module in Volume II or III, a list of the most important issues in their city or country, which can be used by the Indicators Programme to further develop the indicators and to rank them in importance.

The agenda for further development of the Programme should be defined by individual countries and will incorporate successive extension in the coverage and depth of the Programme. Progress will vary by country according to the nature of the urban systems, the resources available at the country level for research, data collection and synthesis, and the evolving understanding of the relationship between indicators and urban systems. In turn, external support agencies can help those using indicators at the country level by dissemination of comparative data, best practice, etc. related to particular urban issues and problems.

Placing urban and housing issues on the policy agenda

A major long-term aim of the programme is to engage the UN member countries in a lasting process which will place urban and housing issues on the national policy agenda. The member countries should not just collect data on indicators, but should use them as a tool to monitor and

analyse the housing situation in the country, at first in the major urban areas, and as a tool to monitor the effects of their own policies on urban and housing conditions.

The major intention is to give every country a precise and defined basis to analyse its own urban and housing performance. Spatial comparisons between the performance of different cities, and temporal comparisons which show changing urban conditions, may also be valuable in determining which kinds of policies are to be preferred and which have the best outcomes.

The aim, however, is not just to provide indicators for governments, but to develop an enabling process, building up a knowledge of and interest in urban conditions by all stakeholders: national, local and private.

In the case of housing, national housing strategies have tended to take two often complementary directions. The first is to support low-income housing through targeted housing subsidies or construction, for example through social housing. The other is to enable the housing market to develop into a well-functioning market, which will provide adequate and affordable housing for all citizens and which will be unsubsidised for middle and higher income earners.

The Indicators Programme can help in achieving these goals, by placing housing on the political agenda, by focusing on housing for the poor and by enabling the housing market to work. A particular contribution will be to examine the regulatory framework, since regulatory instruments of government can have major effects on markets and outcomes that are entirely different from what was intended.

As well as directing attention to the policy agenda, the Indicators Programme will develop in-country capacity both in policy analysis and in improved data acquisition. The development phase of the Programme revealed that many developing countries do not have the appropriate capacity to collect, analyse, interpret and disseminate data, and often only unreliable secondary sources and inferential aggregates have been used to estimate indicators. Even in developed countries which are well served by statistical offices, a number of important indicators, particularly relating to land, have not been routinely collected, and the Indicators Programme will encourage data collection in these areas.

The global phase of the programme will aim to build up capacity to utilise the indicators within governments and metropolitan areas in all member countries within a few years. Depending on the interest in each country, the programme will be extended to cover all major cities and, as soon as possible, the rural areas.

Comparative data and research

A secondary concern of the Programme is to provide indicators that will permit comparisons of urban and shelter sector conditions over time and space. Temporal comparisons are essential in order to measure progress towards objectives, whereas spatial comparisons between cities and countries can measure relative conditions and relative progress towards meeting global goals. As well, an international database of indicators provides information for analysis which may lead to a better understanding of the underlying forces at work in city economies, the way in which indicators interrelate, and the use of indicators as diagnostic tools.

As already mentioned, theory in urban indicators is poorly developed and a considerable amount of research and analysis may be necessary to determine the most significant indicators. Much of this analysis can be undertaken by interested parties such as international agencies, academics,

consultants and the private sector. It is intended that this involvement will be sought through conference presentations, journal publications and similar activities, and publicity material through media including the Internet, to enhance knowledge and encourage further research studies.

Programme outputs

The major outputs will be the country activities on behalf of the Indicators Programme, to be conducted by the countries themselves, aided where available by bilateral and multilateral sources of funds, and with technical support from UNCHS and from other regional and multilateral bodies.

These country activities will involve:

- collection urban indicators for one or more cities, and housing indicators at the national or urban/rural level. Countries will be encouraged to collect the key indicators for a selection of cities and as part of country preparation for Habitat II. Assistance will be provided to participating countries in the form of worksheets, training and guidance, and through regional seminars. The programme will have an overall monitoring role in maintaining standards and assembling complete sets of indicators on a comparable basis;
- country reports for Habitat II, which will be based on shelter and other indicators. These reports may take a variety of forms, but should use wherever possible the indicators from the Indicators Programme as a means for monitoring progress;
- development of shelter and urban sector enabling strategies for which indicators will measure performance and provide a consistent underlying structure.

Support to countries from UNCHS will include advice, publicity and training materials. Training manuals, work sheets, software and publicity materials including brochures will be produced for these purposes.

Reports will be produced at stages during the Indicators Programme describing the methodology, the indicators, the development of in-country capability, and analysis of results. The final report of the Indicators Programme will include a full analysis of the Programme, and will stress experience in developing in-country capacity for policy analysis and data acquisition, and the role of indicators in developing national enabling strategies.

International collections of the indicators will be presented in a variety of formats including charts, software and academic publications.

International communications in the urban indicators field will be provided through a regular Indicators Newsletter and an Internet bulletin board or newsgroup which will list major documents and events.

Schedule

The programme must follow the timetable required for proper development of the indicators through country-by-country technical assistance, while at the same time meeting the stringent time requirements for the Habitat II preparatory process. The housing indicators have been extensively developed and tested over three years, while the urban indicators have required an

extensive period of testing which will continue into the future. These indicators are supplied in Volume II and Volume III. An abridged version containing only the key indicators is available as a separate document. Examples or instructions for using the indicators as part of country reporting for Habitat II will be provided separately as they become available.

The schedule is outlined in Table 1.1.

TABLE 1.1 SCHEDULE FOR INDICATORS PROGRAMME, 1994-1996.

April-May 1994	Establish support for programme at PrepCom I and with multilateral and bilateral agencies
May 1994	Preliminary letters to governments and to mayors of principal cities/State governments where these can be located, advising them of existence of programme, progress, relationship to Habitat II, support available, key contacts etc.
June-July 1994	Select preliminary urban indicators and produce preliminary worksheet Trial worksheet in eight countries for relevance and data availability. Develop publicity material for programme
August-September 1994	Revise worksheets. Begin organisation of regional meetings. Establish contacts with representatives of urban and housing authorities, private sector interest groups and if necessary with private consultants, to monitor the programme
October -December 1994	Distribute worksheets to participating countries Distribute information on use of indicators in Habitat II country preparations. Receive first data from participating countries. First regional seminars in Arab countries and in Eastern Europe
Jan-April 1995	Check for inconsistencies Revise indicator set and worksheets Prepare and distribute abridged key indicators worksheet Establish Email conference Regional seminars in remaining regions First data received Begin analysis
April 1995	PrepCom II, Nairobi
May-October 1995	Receive data from remaining countries, develop full city and rural coverage programme through country representatives. Support countries with Habitat II presentations Analyse data Prepare preliminary report
November 1995-March 1996	Produce reports and other output.
January 1996	Prepcom III, New York
June 1996	Habitat II Conference
August-October 1996	Prepare final publication for development phase of urban indicators Institutionalise general collection

DATA COLLECTION AND INDICATOR USAGE

This section provides a literature review of past and present initiatives in indicators. It looks at the issues of data collection, precision and timing; indicator usage and abuses; and how, when and where indicators may be used by different stakeholders to meet their organisational or individual aims.

Progress in indicator development

Indicators have been used informally for a very long time, particularly in economics, to assess the state of the nation and progress towards national objectives. The modern social indicators movement, however, stems from the time of Bauer's (1966) *Social Indicators*, which developed the idea of 'statistics that enable us to assess where we stand and are going with respect to our values and goals'. Biderman (1966) and Sheldon and Moore (1968) nominated indicators as a means by which progress towards a whole system of national goals could be measured, by developing a balance sheet of social progress and setting national goals and priorities. The US Department of Health, Education and Welfare (1969, p xii) argued

'social indicators could not only satisfy our curiosity about how well we are doing, but it could also improve public policy making in at least two ways. First, it could give social problems more visibility and thus make possible more informed judgments about national priorities. Second, by providing insight into how different measures of national well-being are changing, it might ultimately make possible a better evaluation of what public programs are accomplishing' .

During the 1970s, a large literature on social indicators appeared, and very substantial bibliographies comprising some hundreds of publications were compiled (Young 1977, Gilmartin *et al* 1979, Horowitz 1986). Much of this literature concentrated on the development of subjective indicators of quality of life (Andrews and Withey 1976, Andrews 1986, Vinson and Homel 1976), and on social accounting and general social statistics (Cohen 1968, Carley 1981, ABS 1980-84, Henderson 1974, Murphy 1980, UNSD 1988).

Increasingly, the relative progress of nations towards meeting a range of social norms or goals has been monitored through series of international comparisons (Kurian 1979, Estes 1988) which gave 'ratings' of different countries measured against various indicator yardsticks. This has also permitted statistical analysis of the relationships between various indicators; as demonstrated in the editions of the World Handbook of Political and Social Indicators (Taylor and Jodine 1983).

During the 1970s and 1980s the Organisation for European Cooperation and Development (OECD) began a program of identifying social concerns common to all nations and compiling a set of indicators for these concerns (OECD 1973, 1982). During 1974 to 1976 the OECD conducted a Social Indicators Programme with the objective of proposing a basic set of indicators describing the quality of urban environments, developing a set of 19 indicators describing housing, services, employment and environmental concerns, and intended as a tool for urban policy makers (OECD 1978).

Even more ambitious has been the World Order Models Project, which in the 1970s attempted to establish a set of global values which could be accepted by all nations. An eight-year study by Sullivan (1991) evaluated more than 100 indicators in 162 countries for each of five global values: peace, economic well being, ecological balance, social justice, and political participation, providing a very detailed picture of the relative performance of each country.

In urban affairs too, a 'competitive' approach to measuring the quality of life in different cities arose (Stuart 1972, Flax 1972, 1978). The growth and development of cities was spanned by Hughes (1974) using indicators as the measure of progress or decline. This has continued with extensive comparisons such as the World Resources Institute (1992, 1993) and Zero Population Growth (1990, 1991) which compare American cities, and the Population Crisis Committee (1990) which examines life in the world's 100 largest metropolitan areas.

The importance of indicators to housing policy has also been recognised for a long time, and fairly extensive bibliographies of contributions in the field have been produced (Horowitz 1980, 1986). Generally these contributions have related to particular parts of housing policy, such as housing needs or housing and neighbourhood quality (US Bureau of the Census 1976, Toronto Planning Board 1974, Goedert and Goodman 1977, Ingels 1980) rather than to the housing sector as a whole. The United Nations has taken an interest in shelter and its adequacy since the early 1960s (UNSO 1962, 1983) and in the 1970s the UN Ad Hoc Group of Experts on Social Indicators for Housing and Urban Development (UN 1973) sustained this concern. A series of statistical publications has continued relating to shelter and urbanisation (UNSD 1993a, 1993b, UNCHS Information Centre 1994).

During the late 1970s and early 1980s interest in urban and housing indicators waned since early developmental efforts were not followed up by sustained collection and monitoring. In the late 1980s however, there was a resurgence of interest as it became apparent that sectoral, government based approaches to solving urban and housing problems had not worked and that a multisector, enabling strategy was the preferred approach to achieving improvements. This was underlined by a rapidly emerging interest in sustainability issues, which stressed the interrelatedness of all aspects of human activity with the natural environment.

In the environmental area, the recommendations of the Rio Earth Summit and Agenda 21 (UN 1993), which called for the elaboration of indicators of sustainable development, have led to a surge of activity, as Corson (1993) describes. Some of the main international initiatives have included the activities of UNSTAT/UNEP including the *State of the World Environment* and *Environmental Data Report* series (UNEP 1994), the development of an Earthwatch database, and the beginnings of development of a series of environmental indicators (UNSD 1993c). The UN Commission for Sustainable Development has commissioned review activity such as NEF (1994), WWF/NEF (1994) and the recently commenced SCOPE project on Indicators of Sustainable Development (SCOPE 1994). The work of the World Resources Institute (WRI 1992, 1993, 1994, Linares *et al.* 1993) has been closely linked with UNEP and UNDP. Environmental accounting work such as that developed by the CEC Working Group (1991) has endeavoured to find a consistent basis for environmental reporting, while the sectoral indicator work of the OECD (1993a,b,c) has introduced an important conceptual framework through use of a pressure/state/response framework. The Rapid Urban Environmental Assessment Procedure from the Urban Management Programme (UMP 1992) has provided a quick and relatively cheap indicator approach to assessing urban environmental conditions.

Detailed national work such as that of the Netherlands Environmental Policy Performance Indicators (Adriaanse 1993), the Environment Canada State of the Environment Reporting

(Indicators Task Force 1991, Environment Canada 1993-4, Campbell *et al.* 1994), and Moriguchi (1992) in Japan, have made important contributions. City level conceptual frameworks such as those constructed generally by the Global Cities Project (1992), and specifically by the Center for Neighborhood Technology (1993) in Chicago, City of Toronto (1991), the National Civic League (1990) in Denver, the Jacksonville Community Council (1992) in Jacksonville Florida, SSI Project (1993) in Seattle, and Dominski *et al.* (1992) in Santa Barbara, provide important guides to action.

In the area of human development, the work of the UNDP in publishing a series of human development indicators in their *Human Development Reports* (1991-94) has had an enormous impact on thinking on the outcomes of investment in education, health and economic development. The World Bank *World Development Reports*, the 1993 *Poverty Reduction Handbook* and the *Social Indicators of Development* report (World Bank 1993a,b,c) have made major contributions to an awareness of the role of indicators in comparative development. The World Health Organisation has instituted a Healthy City Project which has used indicators to determine the condition of cities (Hancock and Duhl 1988, City of Toronto 1991), while monitoring health strategies more generally (WHO 1981, 1993).

Recently, interest has rekindled in a range of detailed sectoral indicators for infrastructure (World Bank 1994), and water and sanitation (Whittington 1993). This reflects a desire of donors to monitor aid projects, as well as providing useful measures of national progress. Local governments also (as well as higher levels of government) have been keen to develop indicators to monitor their own performance (Gailit 1989, MAV 1993).

In housing, the International Year of Shelter for the Homeless saw a resurgence of interest in housing, and in 1988 the Global Shelter Strategy for the Year 2000 was endorsed by the United Nations General Assembly (UNCHS 1991). This strategy calls for a fundamental shift in government policy away from the direct provision of housing towards an enabling role which 'facilitates, energises, and supports the activities of the private sector'. This wider role requires governments to obtain a broader overview of the housing sector as a whole, and to have operational tools for measuring sector performance (World Bank 1993d).

Towards this end, the Housing Indicators Programme was initiated jointly by the World Bank and the United Nations Centre for Human Settlement (Habitat) in October 1990. The program resulted in a detailed comparison of the housing sectors in major cities in 52 countries through the collection of about 40 key indicators on a comparable basis (World Bank/UNCHS 1991, 1992, 1993). As well, intensive surveys of about 150 indicators were undertaken in several countries.

In urban indicators which aim to cover most aspects of the urban condition, a wide range of initiatives is under way, especially the City Data Program of UNCHS (Habitat) which aims to collect data for some 3000 large cities, the present Urban Indicators Programme, the European Urban Observatory Project, the Commission of European Communities, the Economic Commission for Europe, the Network on Urban Research in the ECE, the OECD and Eurostat. Most of these activities are partially completed or at an early stage of development.

Criteria for selecting indicators

An important step in developing indicators has been to establish the criteria by which alternative indicators may be evaluated. The selection of indicators has been based above all on policy requirements. However, there are often a number of other reasons why particular indicators

might be used, and in determining the preferred set of indicators, the following criteria were used.

- Importance for policy Indicators should be directly relevant to existing or proposed urban or shelter policy, and should directly measure outcomes.
- Comprehensive The indicator "package" should be capable of providing an immediate broad overview of the economic, social and environmental "health" of the city understandable by residents and using primarily existing data sources.
- Priority Indicators are based on two levels of priority. The highest priority or 'key' indicators require only immediately available data, and all countries are encouraged to provide these data. The second priority contains indicators of a lower policy relevance or which are more difficult to collect or define, and indicators which might possibly be regarded as controversial.
- Easily understood Simple indicators that can be understood by those without specialist knowledge are likely to have a far wider currency and interest and to be used more accurately and readily. Complex indicators are likely to be misquoted and accused of unreliability.
- Cost-effective and timely Indicators should be able to be collected in a cost-effective way and on a regular basis which reflects the rate at which the indicator is expected to change. The level of detail and comprehensiveness of the data collection required should at any one time be within the resources of the collecting agency.
- Measurable Indicators should be capable of showing the magnitude of problems, and should be capable of being measured on a preferably dimensionless and time-independent scale.
- Includes most disadvantaged Where equity is a concern, indicators should focus on the most disadvantaged rather than the whole income distribution.
- Reliable Indicators should provide a convincing demonstration that objectives are being met, should be based on sound observation, and not be too subject to statistical 'noise'.
- Sensitive Should change as conditions change - a measure which stays constant for many years is likely to have little value. On the other hand, indicators that are too volatile will be hard to interpret or collect.
- Unambiguous Indicators should have a clear definition and refer to a specific objective.
- Independence Separate indicators should measure different outcomes.
- Available for geographical areas or social groups Indicators which can be disaggregated are likely to be of greater interest and are likely to be used in a wider variety of circumstances.

Finally, due to resource limitations, key indicators have been limited in practice to refer mostly to issues which directly concern UNCHS (Habitat) rather than being the primary concern of other UN agencies.

Constraints and problems in data collection

A major constraint on the implementation of the Indicators Programme is the frequent absence of up to date data available at the city and/or urban level. Many indicators can be enumerated directly from existing surveys or from administrative city records, and in fact most of the key indicators have been selected with this in mind. Other indicators can be readily extrapolated from national figures or updated by a variety of approximation methods, and these techniques are generally sufficient for the policy purposes of the Indicators Programme.

Nevertheless, typical sources such as a ten yearly census, income and expenditure surveys, etc. are frequently not tabulated by urban/city categories, and a few other indicators have not typically been collected at all. Questions immediately arise of whether it is feasible or worthwhile setting up special surveys, whether the costs of such surveys can be shared among departments or organisations with common interests in the results, and whether it is feasible to convert them to a regular data collection instrument at the city or urban level. However, it is not intended that this should happen during the development phase of the present Programme.

Part of the task of the Indicators Programme is to identify difficult indicators and suggest ways they can be collected or approximated from existing data. For indicators which might eventually require detailed household or other surveys, we generally suggest obtaining an estimate or an “educated guess” from a group of expert observers in the field. This activity is the first step in what is intended to be an iterative learning experience.

Data comparability and precision

In compiling an international database which is to be used for comparisons or for research purposes, data of high quality and comparability may be difficult to obtain. Different countries collect their data using different categories or at different time periods, and collect it at different geographical levels.

The commitment of individual countries to urban and shelter indicators has already been determined through the process for national reporting for Habitat II, in which participating countries are expected to use the indicators as a framework for their presentations. This process ensures that indicators will be collected at least once and placed within the national policy context. However, the collection by governments is likely to raise a whole new series of problems regarding comparability and integrity of data.

In the development phase of the Housing Indicators Programme, independent consultants were instructed to obtain estimates of indicators according to strict procedural rules. While in many cases the estimates were necessarily ‘rubbery’, they were at least broadly consistent and comparable.

Once countries start collecting the indicators independently however, problems of comparability immediately arise. Most countries have in place an official system of data collection which is often organised according to categories completely different to their neighbours. For example, the publication *Housing in the World* (UNSD 1993) shows that virtually every country collects data on the stock of dwellings in a different way. Accordingly, it will be necessary to provide

technical support and aid to countries to ensure that the existing statistics are modified in an appropriate way to provide reasonable comparability.

In some ways it may be easier to establish a data collection programme in developing countries than in developed countries, because the latter are heavily committed to the collection of data in country-specific formats. Changing their collections to match the requirements of the programme may involve a greater investment of time and resources than in countries who are just beginning their collection. Some effort will be required to co-ordinate the harmonisation effort in developed countries.

A major task of the Programme is to provide internationally consistent and harmonised definitions which can be used in future data collection activities. In the meantime, the worksheets deal with this problem by explaining, in general terms, the information which a particular indicator is intended to reveal, and rather than attempting to present an exhaustive list of specific collection methods, the emphasis here is on revealing the value of each indicator in explaining urban performance. Some specific methodologies are given, but these are intended as suggestions.

For all data collected, the guiding principles are that they should be the best available, the latest available, and that they should be fully documented. In most cases though, an approximate result is very much preferred over no result, and may give guidance to improved future collection methods.

It is necessary to keep in mind the multivariate characterisation of the indicators. The total picture of each sector and of the city as a whole is more important than a highly accurate value for any one variable, and highly inaccurate values for all others. Data which might be insufficiently accurate for a detailed study of a single indicator, or for examining short-term variations in a single indicator, may be accurate enough for sector-wide evaluations. Precision may be less critical for a broad, cross-city or cross-country analysis than it would first appear because the error in measurement will usually be much smaller than the variations between cities.

In many countries, only national data are available for some of the indicators and city data tend to be extrapolated from the national level. As an important part of the Programme is to identify differences within the country, it will be necessary to find methods which will accurately differentiate between cities, possibly involving direct data collection.

The major differences in collecting urban indicators from the earlier Housing Indicators will be the larger number of government agencies holding the data. Each sector, e.g. transport, water etc. tends to be handled by a different authority, and consequently collecting the indicators is likely to require a larger number of contacts and to take rather longer than the collection of housing indicators, which typically involved only a few data sources.

Another problem will be the different arrangements for the provision of urban services in different countries, particularly those with a federal system. In these countries, many typical local government functions including education, housing, police, water and planning are often undertaken by state governments, and methodology to maintain comparability with cities where these functions are carried out by local governments will need to be developed. As well, there are often a number of municipalities in any city (for example, Melbourne Australia has 52 local governments), and unless local government statistics are collected centrally in a consistent way, there may be a good deal of difficulty involved in assembling local government data for the whole city.

Distributional data

The simplest indicators will represent average or median data and provide a crude measure of comparison over space or time. However such data often will not highlight a common concern for policy makers - the range of values for the urban component being analysed. A number of indicators have attempted to compensate for the flat picture provided by simple averages.

Incomes in particular are the major distributional concern. An attempt has been made in Volume II to collect some household income distributional data and to obtain a few simple distributional indicators such as the ratio of income of the top 20% of the population to the bottom 20%, and the Gini index. Also as a critical need is to obtain information on the incidence, depth and severity of poverty, an indicator calculating the mean income of the poor has been included.

Simple average measures of housing or urban sector performance may not be sufficient to address key issues. For example, in a number of developed and developing countries, housing for middle and upper income groups is performing well, but low income earners are poorly housed. Many countries already collect distributional housing statistics, and developed countries should aim at building capacity to measure the distribution of housing opportunities as soon as possible. Developing countries already have an interest in the distribution of housing among the population, and the Programme will build up resources to support such investigations.

Another major concern about which information is poor is the spatial distribution of opportunities within the city, although the spatial structure of the city is often the key to understanding how the city works. The distribution of job opportunities relative to the location of residences, the spatial distribution or segregation of different income or ethnic groups, the distribution of facilities, of the informal economy and of different industries are vital concerns for equity and for efficiency.

A number of statistics are in common use for measuring distributional effects, including indices of segregation, concentration and dissimilarity, or simple indicators like the mean distance of employment or residences from the city centre. All these statistics however require reasonably detailed information at the sub-city level, and in many countries this is simply not collected. For the present, indicators of spatial distribution are not included, but the Programme ultimately aims to assist and encourage cities in developing and analysing this spatial information.

Uses of indicators

The structure of the Indicators Programme is devised around different classes of stakeholders and the types of information they will find valuable in addressing the issues that concern them. The most important of these are the residents or consumers in the city, but in addition there are the producers of services, infrastructure and utility agencies, local governments, financial organisations, private sector businesses and many others.

The major groups of stakeholders who may benefit from the use of indicators are

- residents
- city managers
- commercial and business organisations
- national government agencies
- sectoral agencies

- NGOs or CBOs.
- external support agencies

Each of these users will have a wide or narrow focus on the urban sector, but all will be involved directly or indirectly in developing policies, programmes and projects for urban development and can use indicators to help measure progress within their interest areas and to compare such progress with other cities or countries.

Residents

Residents are very commonly exposed to indicators through the media and often see indicators as a measure of the health of society and the success of government policy. Residents typically use such indicators as a guide to voting, in deciding which organisations or activities to support, in moving to other places, or in making investment, education, health or other major life decisions.

Residents can also expect to benefit from the better governance that a comprehensive indicators programme will encourage, and will generally support the transparency in government that indicators help to guarantee.

The information needs of residents are for simple and easily understood indicators presented in easy-to-follow formats without technical detail, and which are relevant to their daily lives.

National governments

Virtually all modern governments see value in indicators and other objective measures as part of the business of effective government and a means of measuring progress towards desired ends. Indicators are thus a part of 'meta-policy' or the process by which different policies are normally set or accepted.

For national government agencies seeking to set national urban goals as part of national policy, indicators can be an invaluable tool for strategy development and in determining progress towards national objectives. They may help in determining which urban problems to attack in which cities, or what city level investments to make, in accordance with goals of urban development. Indicators also help to focus national and international attention on the role, importance, interactions and resource needs of the urban and shelter sectors within national economies.

The regular collection of indicators gives governments at central and local level a powerful tool to monitor if and by how much particular urban sector problems are being overcome and how changes in policy are influencing outcomes over time. It also allows comparison between countries and cities as to the relative speed at which problem areas are being addressed and clues as to why there are inter-city and inter-country differences in dealing with the problems.

Another important usage of indicators is in the development and exposition of national sectoral strategies or city action and development plans. National sectoral reports, too, often make use of indicators as a major expository tool; a good example is Ministry of Public Construction and National Housing, Zimbabwe (1990). Most housing and urban strategy documents are structured around examples of indicators as measures of conditions or of past successes and failures, and improvements resulting from such strategies are generally anticipated in terms of indicators. The

Indicators Programme has been devised by UNCHS largely in terms of the contributions of this kind it may make to country governance and capacity-building programmes.;

Finally, indicators can be used as a diagnostic tool by new governments, by consultants or agencies who wish to identify problems and possible courses of action. The analogy with doctors who use indicators such as temperature, blood pressure, or a description of symptoms as the major guide to diagnosis and treatment is apt; indicators may show from the example of other cities and other solutions, exactly what the problem is and how it might be solved. An example of this approach is found in Mayo (1983a, b), who used housing indicators as a means of encompassing the problems and distortions of the South African housing sector, and to make recommendations for policies to improve the situation.

City managers

Indicators are typically used as guides to which policies to follow and in monitoring the progress of existing policies. They are also used to monitor performance of the internal programmes of governments and as measures of whether funds are being properly used by their own units or other organisations which they are funding.

The Indicators Programme will help city managers and local agencies to prioritise needs and actions in line with urban objectives or strategy plans. A critical role for indicators is to influence future policy, programme and project initiatives, Major investment decisions can be monitored through indicators to ensure that desirable outcomes are being achieved, that target groups are being reached, and that there are not undesirable or unanticipated side-effects of development.

Indicators should become a regular part of assessment of the urban condition on behalf of all stakeholders, identifying problem areas for action, and successful areas of investment for further development. A wide range of benefits to stakeholders can be expected through improved assessments and better use of ratepayers' money, and major political "payoffs" to local governments may ensue. Indicators encourage transparency and accountability in government and provide opportunities for citizen involvement through indicator development and monitoring.

Private sector

A vast majority of decisions on city development and economic activity are made by private investors and developers. Most such decisions are made after investigation and some market analysis. Consequently, organisations representing private sector interests are often involved in presenting national housing data series, particularly those relating to prices and market conditions. Private sector interests are also instrumental in maintaining the commitment of participating and donor governments. The Indicators Programme aims to develop the interest and support of the private sector in helping to collect indicators and to help establish networks of interested private-sector parties.

The private sector needs timely information for investment and sales purposes, on economic conditions in cities, on government performance, on supply/demand imbalances, and on the consumption requirements of residents.

Non-government and community organisations

Non-government organisations have a major stake in developing successful indicators, partly for their own activities, but particularly because through indicators they can monitor the performance of governments, in their watchdog role of ensuring that governments are honest and that policies for their constituencies are working.

NGOs commonly use indicators in funding applications, since in this way they can establish their *bona fides* and analytical capacity as well as demonstrating their organisational success, responsiveness and accountability. Many successful applications for funding have made use of indicators as a preamble or as a means of laying out the extent of proposed activities.

The Indicators Programme strongly encourages the involvement of NGOs as support for the Programme, in collecting or helping to collect indicators, in establishing which indicators are valuable, in using indicators as part of their own policy development system, and through direct involvement in the Habitat II preparatory process.

International and external support agencies

International agencies are beginning to make extensive use of indicators as formats for country reporting on a variety of issues. For example, the National Economic Forum (1994) suggests that there has been widespread disappointment in country reports to the Commission on Sustainable Development, because of the lack of indicators and targets against which performance can be assessed and compared. Information urgently needed for evaluation of progress and rational decision-making is not being provided, they suggest, which directly contributes to the perpetuation of unsustainable practices.

Country reporting which details minuscule successes, or policy changes which in fact may be having little real effect or undesirable consequences, is a common experience in international fora. It is partly the perceived inadequacy of conventional reporting procedures which has led the Habitat II Preparatory Committee to take the unusual step of recommending country reports based on indicators.

External support agencies, also, have a very great stake in establishing consistent indicator series. As with all funding agencies, indicators can be a major tool in determining the success of programmes, the diligence of executing agencies, and the most valuable new initiatives. Indicators may be used to determine the most needy areas and population sectors for assistance, or to determine which areas are making the most successful use of aid funding.

From the viewpoint of external support agencies implementing sectoral rather than project by project assistance, the Indicators Programme will be invaluable in helping measure system-wide impacts of policies and programmes.

2.5 Use and abuse of indicators

Indicators form one important input to the policy process, but only one input of many that will lead to the usual negotiated process of policy setting. They have the advantage of objectivity (in that they are measurable) and impartiality (in that they have usually been set prior to any anticipation of a desired outcome and can show either progress or lack of progress towards alternative ends).

It is important to recognise the limitations of simple indicators with respect to their links to policy instruments. Even if there is a good connection between a specific policy instrument and an indicator, there are normally other policy actions - some of which are initiated at the national level - which will influence significantly a particular outcome measured by one indicator. If an indicator changes, it is not necessarily because of the success of the associated policy.

Also, the multidimensional nature of most policies is significant, and it is unlikely in most cases that a single indicator will express every desired outcome of a particular policy. Where distributional effects are important, a simple mean is unlikely to provide useful information and alternative needs or threshold indicators must be employed.

A parallel constraint on formulating urban indicators is the frequent long gaps (5 or 10 years) in the timing of government census and other surveys, as well as the delay in processing and publishing the data. Such time periods may not be appropriate for measuring many aspects of urban interdependencies and dynamics such as land prices and housing affordability. Again the Indicators Programme may be more effective in the longer term if focused on a narrower range of items where it is possible to provide more regular (annual or bi-annual) data collection.

Another disadvantage of using indicators occurs when they are 'fetishised' and assume an importance beyond their simple meaning, which is inevitable for the most successful indicators. There are some cases where an indicator (such as unemployment rates) becomes so important that alternative means of measurement are seized upon by governments when they show a more favourable result. It is important therefore that indicators should be unambiguous and a standardised method of collection established.

Some people may assume that because an indicator is established and shows a positive result or improvement, then no more needs to be done. Others may disguise bad outcomes by quoting indicators which are not really relevant while other important indicators which do not show a positive result are conveniently forgotten. The comprehensiveness of the indicator set is vital in preventing this kind of abuse.

Finally, while some continuity is desirable, it is also important that indicators should be at least as flexible as the policy base that supports them. Accordingly, a regular process of review should be built into all indicator collections, to keep them abreast of changing government priorities.

It is not necessarily the case, however, that a change of government will require a substantial review of the indicator collection. Many indicators are neutral to all expected changes in government, as they represent values that the community strongly endorses (for example, the relief of homelessness). Other indicators are likely to remain as important measures regardless of policy, since changes in an indicator which are regarded as favourable by one government may be seen as unfavourable by another (for example, the proportion of public housing).

THE INDICATORS SYSTEM

This section discusses the system of indicators used in the Programme, and its development through establishing a series of issues and norms for each sector which are expected to cover most of the major policy concerns. A table of major policy goals for each module, the indicators which are expected to measure progress towards meeting these goals, and a list of possible policy instruments, is developed for each sector.

The Indicator system has been developed following the extensive experience gained in both methodology and implementation during the Housing Indicators Programme, from a wide consultation process, particularly that of the Expert Group Meeting in Nairobi (UNCHS 1994), an examination of the literature and a testing process in a number of countries. Based on this experience, the following groupings are proposed for the Indicators:

The first module contains important background data which are indicators only in the broadest sense, but which are very important for planning and for constructing other indicators. This module is contained in whole in Volume II, and in part in Volume III.

0. Background Data

The Urban Indicators include the following modules:

1. Socioeconomic development;
2. Infrastructure;
3. Transportation;
4. Environmental management;
5. Local government.

The Housing Indicators include modules on:

6. Housing affordability and appropriateness;
7. Housing provision.

These cover the major concerns of the housing and land sectors.

The rationale for selecting these policy areas and the major issues anticipated in each of these areas are explained in the relevant modules in Volumes II and III. However, these issues are briefly summarised in the following sections, and the norms that have guided the selection of indicators are explained. The attached tables 3.0 to 3.7 associate the indicators with appropriate policy goals and sub-goals, and with policy instruments which might help to meet the stated objectives.

3.0 Background data

This module contains data which are extremely important for planning and policy, and which serve as important inputs to other indicators, but which are not indicators in the strong sense used in these volumes, in that they cannot be easily changed by policy, but they are indirectly affected by the whole range of sectoral policy. These indicators give a broad structural picture of the city.

The indicators are shown in Table A.0 of the Appendix. They cover diverse issues including land use, population, household size, formation and composition, household income, city product and employment by industry sector, housing tenure and dwelling type.

Socioeconomic development

This module covers the whole range of issues surrounding social and economic development, including poverty issues, the city economy, employment, health, education and welfare. These issues are at the heart of what makes a city function; however as only some of these issues are of primary concern to UNCHS (Habitat), only the most important issues are canvassed.

This module looks at how cities have developed economically and whether inequality is widespread, poverty and employment, whether cities have invested in human development through health and education, and whether they have been successful in achieving social cohesiveness and harmony.

As explained in Section 1.5, the indicators have been developed by deciding what is a well-functioning sector and establishing norms on behalf of each of the major stakeholder groups. The norms chosen for this module are:

Poverty

- every person should have income sufficient to purchase adequate food and a minimum basket of other goods necessary for urban living;
- woman-headed households and other vulnerable groups should be targetted for assistance;
- children in particular should receive sufficient nutrition to prevent malnourishment and its associated diseases;
- income should be distributed equitably without too great a gap between richer and poorer households;
- support should be provided to the poor in the form of expenditure on human resource development or through social security safety nets;

Employment

- employment opportunities in the city should be increasing or at least sufficient to provide work of some kind to those who wish to do so;
- protection should be provided to employees in terms of minimum wages, job tenure, or union coverage;
- children should not be exploited in work for profit;

Productivity

- the interaction of the city economy with the outside world should be substantial, and balance-of-payments should be maintained;
- new businesses should have few impediments to market entry;
- Enterprises should have access to finance for expansion and investment in new technology

Health and education

- the early death of infants through childhood illness, malnutrition or accident should be reduced;

- expenditure on social services should be sufficient to improve the condition of the population;
- school classrooms and hospitals should not be overcrowded;
- people should be educated to the level to which they aspire and of which they are capable;
- education should be affordable to all;
- higher education opportunities and employment positions for graduates should be available;
- medical care should be affordable;

Social cohesion

- crimes should be at a minimum and citizens should be able to live safely;
- violence and civil discord should be limited as far as possible;

The expression of these norms in policy goals with associated indicators and policy instruments is undertaken in Table A.1, in the Appendix at the at the end of this Volume.

One indicator, informal employment, may have different norms according as whether government policy is to encourage employment for citizens where possible in formal, tax-paying enterprises with labour regulation, or whether the government prefers to encourage all forms of legitimate income-earning activity as a means of improving the city economy, and to facilitate development through the informal sector.

This module is of great importance in understanding the dynamics of the city. Other important indicators in understanding urban dynamics include investment, trade, remittances from abroad, remittances to rural areas, and measures of the spatial distribution of population, employment, land prices, business activity, and spatial inequality. Unfortunately these data are rarely available at the city or sub-city level and must await future research and collection.

Infrastructure

The provision of networked infrastructure services (water supply, sanitation, electricity and telephone), along with solid waste disposal which is included in Module 4, is perhaps the most telling justification for the use of indicators. Failure to provide these services adequately results in many of the most well known costs of rapid urbanisation: threats to health, urban productivity and environmental quality. Lack of adequate infrastructure services results in a critical equity problem, in that many of the resulting costs impact most heavily on the urban poor in terms of poor health, low productivity, reduced income and poorer quality of life.

Deficiencies in infrastructure services manifest themselves most obviously in the form of pollution, disease and economic stagnation. The most common benefits arising from improvements in infrastructure provision are better health, improved quality of life, time savings (e.g. reduction in the time spent on hauling water) which can be reallocated to other activities; reduced production costs by firms, and other benefits.

The provision of infrastructure is notoriously subject to problems of efficiency and management, and the Habitat II preparation process will aim to provide information as to best practices worldwide.

The norms for this sector are:

- as many urban households as possible should be connected to affordable networked quality infrastructure services, particularly to clean water supply;
- all households should have potable water available at an affordable price;
- consumption of water should be adequate and not excessive;

- forecasts of water requirements should be available for future planning;
- water supply should be reliable and not subject to interruptions or to excessive prices during dry seasons;
- leakage should be minimised from the water reticulation system
- households should have access to sanitary sewage disposal systems which do not pollute the environment;
- latrines should be available to limit fouling of public places;
- interruptions to and overloading of the electrical power network should be reduced;
- losses of power in the distribution network should be kept to a minimum;
- telephone calls should connect and be completed without interruption.

Table A.2 explains the policy goals, indicators and instruments relating to infrastructure.

Transportation

Transport is an important issue in its own right although it interacts with many other parts of the urban system. The amount of space devoted to all forms of road, rail, footpath and other transport space is often the largest in the urban area after residential land uses.

Transport planning can play a key role in efficient city development where the interactions of traffic generation and land use are carefully integrated. The impact of poor transport planning often leads to some of the most obvious signs of urban dysfunction, such as severe traffic congestion with uncontrolled mixes of traffic types, long journey to work times and costs, poorly operating public transport networks, lack of local traffic management, accidents, air/noise pollution, and high costs for the internal movement of goods.

Other issues include: land use and transport planning co-ordination, policies for transport for all income groups, including pricing policies for public transport; traffic management schemes and traffic calming, pollution; accidents; and macro level policies on fuel and vehicle pricing.

The norms for the sector are:

- suitable forms of affordable transport should be available for all income groups, and vulnerable groups such as the poor, women, children, the elderly etc.;
- average travel time in the city should not be excessive;
- transport accidents should be reduced;
- freight costs should be at a minimum;
- the road network should be in good repair and roads should not be congested;
- vehicles should comply with emission regulations, and should be fuel-efficient;
- sufficient public or mass transport seats should be available to meet demand;
- fares should reflect economic costs, to permit sustainable operations.

The policy goals, indicators and instruments for transport are in Table A.2.

Environmental management

All the sectors in this report contribute to effective urban environmental strategies. Environmental management in the present context is limited to water/ground/air quality, solid waste disposal, resources depletion, disaster mitigation and enhancement of the urban environment.

Rapid urbanisation or industrial development creates a variety of problems for the atmosphere, in the hydrological cycle, in land degradation and resource depletion, for waste disposal, and in the vulnerability of the population to disasters. Air quality is affected, often severely, through industrial and transport emissions and the burning of fuel. Water resources, both surface and ground, are depleted, costs of new more remote sources and downstream treatment increase rapidly and other costs begin to emerge such as subsidence, falling ground water levels, salination and flooding risk. Uncontrolled disposal of waste water can cause contamination to adjoining ground, freshwater and seawater resources with health, economic activity and amenity costs.

Rapid urbanisation also creates a variety of problems of land degradation, e.g. loss of forests, agricultural, wetland, wilderness and other land resources, occupation of hazard prone lands, etc. Solid waste disposal becomes an increasing problem as less suitable or more remote sites must be found for landfill. In some parts of cities waste collection systems do not operate at all, with hazards of disease, amenity decline, and in extreme cases even the blocking of roads.

The borderline between environmental management and infrastructure provision is blurred; in the present context the provision of networked services is included in Module 3 while resource management and pollution control is included in this module.

The stakeholder method of developing indicators is particularly suitable for environmental systems, as often producers, consumers, commuters and governments have divergent interests which may be reconciled through indicators which allow for objective evaluation, rather than confrontation through entrenched attitudes. The norms associated with environmental management are taken to be:

- air pollution should be kept to a minimum subject to reasonable costs of abatement;
- wastewater should be treated to the maximum affordable extent, and should be recycled where economically feasible;
- fresh water supply should be free of contamination;
- solid waste should be regularly and hygienically disposed at minimum cost with minimum environmental damage;
- predictions of solid waste generation should be available for urban planning;
- the full costs of disposal should be recovered if possible to provide investment resources for future demand;
- the use of non-renewable resources such as energy and fuelwood should be minimised. Renewable resources should increasingly be brought to bear;
- incursions of housing onto land at risk should be discouraged through the provision of alternative sites for development;
- deaths and property damage due to natural disasters should be minimised;

- workplaces should be safe and accidents should be limited;
- the urban environment should be enhanced through retaining green space and historical buildings.

The policy goals, indicators and instruments for environmental management are in Table A.4.

Local government

Local government is a prime focus for urban indicators since:

- (i) most local governments are multi-purpose units that deliver multiple services, highlighting the need to examine the whole activity of local governments in an enabling framework;
- ii) sectoral development efforts often fail because of institutional shortcomings rather than technical problems, and these may be measured by indicators;
- (iii) current trends towards decentralisation of service delivery from central governments are increasing the need for improved governance at the local level.

The overall performance of local government is examined in the Programme in terms of who delivers local services; financial management, community involvement, independence and productivity. Norms for local government performance are:

- the level of capital expenditure should be sufficient to meet local needs;
- the debt burden is manageable;
- the revenue base should be improving, particularly from own sources;
- the electorate should be adequately represented;
- service providers should be accountable to the local community;
- citizens and NGOs should be involved in major decisions;
- independence from higher levels of government , particularly in setting financial goals;
- efficient operations with high productivity per employee;
- involvement of private sector through contracted activity.

There is no norm, consensus or best practice defined at present for provision of local services by different levels of government, parastatals or private suppliers, and indicators may reveal which of these alternatives has the best outcomes for costs and service provision.

The policy goals, indicators and instruments for local government are in Table A.5.

Affordable and adequate housing

Housing affordability has become a major concern of governments in recent years. Accelerating urbanisation pressures, the disappearance of public land holdings and the lack of stable alternatives for investment in many developing countries have led to rapid price increases in these sectors. The lack of land for affordable housing has led to the uncontrolled growth of squatter settlements surrounding many of the world's largest cities. In transitional economies, the privatisation of public stock has not been accompanied by the growth of private sector involvement in construction and finance provision, and this may have a severe impact on affordability in the future.

The indicators for this module express a concern with housing outcomes for consumers. The norms for the sector are:

- all citizens should have access to affordable adequate housing;
- house prices and rents on basic dwellings should be at affordable levels for the majority of the population, and households should not have to spend an excessive proportion of their income on housing;
- households should not live in cramped or overcrowded quarters;
- an appropriate range of stock should be available to meet the needs of the population;
- ownership should be a major tenure option, and females should have equal access;
- housing should be durable and built of permanent materials;
- housing should be in a good state of repair and should meet occupancy standards;
- housing should have adequate facilities, such as indoor plumbing;

- transaction costs on purchased dwellings, or establishment costs on rental leases, should not be so high as to hinder purchase or discourage mobility.

House price appreciation is an ambiguous indicator, since a good rate of appreciation encourages investment in housing and shows an active market, whereas higher prices exclude many from home ownership. Vacant dwellings, also, show opportunities for mobility and redistribution of the stock; however they may show rigidities in the market or inequities which prevent these properties being turned to active use.

Table A.6 explores the policy aims and instruments associated with housing affordability and quality.

Housing provision

The system of housing provision is the overall approach a country or society has in providing housing to its citizens. This will involve the construction, finance, land development and real estate industries; systems of regulation, standards and property law; public housing and other tenure systems, and systems of taxation and subsidy. As Ball (1988) and the World Bank (1993c) have pointed out, otherwise similar countries may have very different systems of housing provision and the housing outcomes accordingly may be radically different. To a fair extent, indicators of demand are indicators of housing outcomes rather than of performance, and the true business of governments is to facilitate systems of housing provision which may improve these outcomes.

Policies for the sectors must recognise that housing provision is a single system in which policies are interdependent and which may respond in unexpected ways to well-meaning interventions. Supply of housing is affected by the availability of resource inputs such as residential land, infrastructure, construction materials and the organisation of the construction industry. Demand is determined by demographic conditions and macro-economic conditions such as the availability of housing finance, subsidies and taxation policies. Both supply and demand are affected by the regulatory, institutional and policy environment.

Shelter sector policies need to be looked at from the perspectives of all the players; housing consumers, housing producers, housing finance institutions, local and central governments. By doing so, a broad normative view of a well functioning housing sector can be derived. As with any private market, the interests of all players are not identical, and a fundamental task of housing policy is resolving such conflicting interests.

The ability of the urban land market to meet the various land uses of an expanding city has been found to be of critical importance in determining prices and the effective functioning of the market. The provision of land is invariably encumbered by a range of regulations and zoning practices. Powerful interests often have a stake in the rezoning of land, and outcomes may not always be in the best interests of an efficient market. As well as satisfying property and agricultural interests, a range of environmental issues becomes important in determining whether to expand the city or rebuild to higher densities within the existing boundary.

The broad norms for housing provision may be taken as:

Land

- sufficient land is available for development and redevelopment;
- the land registration system has broad coverage;

- urban planning requirements allow a broad range of development options and flexibly respond to changing market conditions;
- regularised tenure and affordable infrastructure should be provided to squatter settlements, limiting evictions and ensuring that adequate land is available for new affordable housing.
- investment in infrastructure should be sufficient to ensure adequate levels of service and improvement in housing quality;

Finance

- the financial system should be able to provide mortgage finance to all those willing and able to meet the costs of repayment;
- different financial institutions should be available to serve all sectors of the population, including low income groups and minorities;
- financial institutions should show flexibility in providing a range of instruments which meet the needs of different population groups;
- deposit requirements for loans should not be excessive and interest rates should be moderate;
- regulations ensure the solvency of financial institutions;
- the number of households in mortgage arrears should be limited as far as possible.

Construction

- sufficient housing should be supplied to meet demand as closely as possible;
- investment in housing should be sufficient to improve and upgrade the stock and to increase it in line with household formation;
- low priced housing can be built in compliance with codes which impose low bureaucratic costs and little delay;
- the building industry should be competitive, innovative and have high productivity;
- a trained labour force and good quality materials at competitive prices should be available;
- the best and highest economic use should be made of land and buildings.

Subsidies and taxes

- taxation and subsidy systems and public assistance should redistribute benefits to the more needy and should not necessarily favour particular tenures;
- taxes and contributions should recapture value derived from public effort, particularly from developments for higher income groups.

Public housing

- public housing should provide an alternative for households in need, and should help to reduce poverty among vulnerable or low income groups;
- public housing should be operated efficiently and allow tenant participation in management.

Regulation

- individuals have a broad set of rights to own land and housing and there are mechanisms to transfer these rights through enforceable agreements;
- landlord-tenant legislation should protect tenant rights but not at the cost of limiting supply and investment;
- women and minority groups should have equal rights of property ownership.

Indicators which may be interpreted differently by different actors include house price appreciation, which may be taken as a sign of a healthy, expanding property market and increased investment by some, but which may be regarded as reducing affordability and preventing entry of new households by others; and mortgage foreclosures, evictions and foreclosure time, which may be taken as a sign of adequate ownership rights, efficient security or collateral systems and control of marginal or unreliable purchasers or renters by some, but as an abuse of basic human rights or a sign of economic instability and lack of effective social safety nets by others.

The policy aims and instruments associated with housing provision are contained in Table A.7.

CONCLUSIONS

This section summarises the Indicators Programme and discusses future issues in city dynamics, policy and management that may need to be tackled in the context of indicators.

The Indicators Programme is an ambitious policy development, technical co-operation and data collection exercise which aims to provide governments with a set of indicator tools for measuring progress towards achieving urban and shelter sector objectives. The Programme will also provide an internationally comparable data set which may permit an evaluation of the effects of different policies and practices on urban and shelter conditions.

The indicators have been developed through an innovative procedure which attempts to ascertain what a 'well-functioning' city would look like from the perspective of the actors or stakeholders in the urban arena. These norms are associated with policy goals, with indicators to measure progress towards achieving the goals, and with policy instruments designed to help meet the goals.

The indicators are a prime component of country preparations for the Habitat II conference, and country reports should make reference to these and to other indicators in documenting progress towards and setbacks in reaching national objectives. The indicators can provide a neutral medium for establishing what real change is occurring, as opposed to cosmetic changes resulting from ineffective or marginal urban and shelter sector policies.

The Indicators Programme aims to respond to the requirements of governments in developing performance indicators, and generally adopts a country-based participatory approach. However, this study presents indicators which may be used in respect of many of the most common urban problems, and most of the indicators may find ready application in most cities.

Overall, the indicators provide a picture of what life is really like in a given city, and descriptive analysis may be combined with a demonstration of values and changes of indicators to give a factual city profile. It should be possible to construct 'livability' or 'urban development' indices of the style of the UNDP social development index, or the WRI or ZPG indices of liveability and urban stress.

It is intended that development of the indicators should continue beyond the present stage to include indicators that are more difficult to collect but which are vital for policy. Surveys and analysis will be necessary in countries desiring to pursue indicator development further, and countries can begin to consider their priorities for longer term research into important urban issues where there are few indicators which can be identified at present. Examples of common areas for more fundamental research are as follows:

- definition of informal sector employment and activities and their importance to the prosperity of the formal sector and the city economy overall;
- effects of city trade and investment on the city economy;

- the value to the national economy of increasing urbanisation, and the costs of too-rapid expansion;
- priority interventions to benefit households living below the poverty line;
- the role of remittances in the city and the national economy, from nationals working abroad and to the rural hinterland from urban dwellers;
- spatial inequality and its effect on equity, access to services and city efficiency;
- the spatial distribution of business activities and its effect on urban economic growth;
- institutional improvements needed to achieve better integration of transport and land use planning;
- significance of the various contributions to improved community health (nutrition, water supply, sanitation, education, etc.) and resulting policy intervention priorities;
- cost-benefit analysis of the private or public provision of city level services;
- effective tools for implementing "polluter pays" policies;
- full costing of land and infrastructure provision: precisely what should be included?
- effectiveness of physical, economic, financial, legal and cultural tools in policies to promote improved social integration;
- impact of delays in land and property transactions on individual and city-level income and identification of tools to address delays such as improved cadastral and registration procedures.

It is hoped that the indicators will provide insights into some of these problems and lead the way towards identifying solutions. The development of an internationally comparable set of indicators is a vital first step in establishing which policies really work in the world's expanding urban areas.

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APPENDIX

THE INDICATORS SYSTEM

Tables of indicators in each module, together with policy goals and subgoals, and policy instruments to meet the goals.

TABLE A.0. BACKGROUND DATA

POLICY GOALS/SUB-GOALS	INDICATORS	POLICY INSTRUMENTS
<p>Promote efficient land use</p> <ul style="list-style-type: none"> • 	<p>Indicator D1: Land use</p>	<ul style="list-style-type: none"> • Land use planning •
<p>Promote sustainable population growth</p> <ul style="list-style-type: none"> • 	<p>Indicator D2: City population Indicator D3: Population growth rate</p> <p>Indicator DA1: Birth and death rates Indicator DA2: Migration rates</p>	<ul style="list-style-type: none"> • Birth control measures • Immigration control • Economic growth •
<p>Plan for household formation and range of household types</p> <ul style="list-style-type: none"> • Services for woman headed households 	<p>Indicator D4: Woman headed households Indicator D5: Average household size Indicator D6: Household formation rate</p> <p>Indicator DA3: Household type</p>	<ul style="list-style-type: none"> • Housing policy • Gender policies • •
<p>Plan for household demand and range of incomes</p> <ul style="list-style-type: none"> • Limit income inequality • Plan for household expenditures 	<p>Indicator D7: Household income distribution</p> <p>Indicator DA4: Household expenditures</p>	<ul style="list-style-type: none"> • Taxation policy • Planning for household demand • Social policy
<p>Increase city productivity</p> <ul style="list-style-type: none"> • Develop city economy • Increase diversity of industrial base • 	<p>Indicator D8: City product per person</p>	<ul style="list-style-type: none"> • Industry policy • Employment policy
<p>Improve distribution of housing opportunities</p>	<p>Indicator D9: Housing tenure type</p> <p>Indicator DA5: Dwelling type</p>	<ul style="list-style-type: none"> • Housing policy • Financial policy

TABLE A.1. SOCIOECONOMIC DEVELOPMENT

POLICY GOALS/SUB-GOALS	INDICATORS	POLICY INSTRUMENTS
<p>Alleviate urban poverty</p> <ul style="list-style-type: none"> • Reduce extent of poverty • Achieve equitable distribution of income and reduce income disparities to acceptable level • Reduce hunger and child malnutrition • Sustainable poverty alleviation 	<p>Indicator 1: Households below poverty line</p> <p>Indicator A1: Illiteracy of poor Indicator A2: Daily kilojoule supply of poor Indicator A3: Malnourished children under five Indicator A4: Social safety net</p>	<ul style="list-style-type: none"> • Poverty alleviation programmes, including country self-help schemes • Transfer resources in favour of poor • Social insurance • Involve poor in programme design
<p>Increase employment opportunities</p> <ul style="list-style-type: none"> • Stimulate creation of new jobs • Provide full employment • Establish and maintain good working conditions 	<p>Indicator 2: Informal employment</p> <p>Indicator A5: Unemployment rates by sex Indicator A6: Employment growth Indicator A7: Child labour Indicator A8: Minimum wage coverage</p>	<ul style="list-style-type: none"> • Support to functioning of informal sector • National training strategy • Labor force regulation
<p>Increase urban productivity</p> <ul style="list-style-type: none"> • Facilitate expansion of demand for urban goods and services • Improve interaction of city economy with external world • Encourage expansion of new industries 	<p>Indicator A9: City investment Indicator A10: Airport activity</p>	<ul style="list-style-type: none"> • Encourage economic growth • Improve economic stability and security to provide conditions for safe investment • Facilitate trade and tourism
<p>Promote health and education for all</p> <ul style="list-style-type: none"> • Improve access to basic education and health services • Provide city social services • Improve quality and quantity of training services 	<p>Indicator 3: Hospital beds Indicator 4: Child mortality Indicator 5: School classrooms</p> <p>Indicator A11: Expenditure on social services Indicator A12: Life expectancy at birth Indicator A13: Infectious diseases mortality Indicator A14: School enrollment rates Indicator A15: Adult literacy rate Indicator A16: Tertiary graduates</p>	<ul style="list-style-type: none"> • Investment in primary health care and education • Nutrition and health awareness programmes • Social security system • Provide higher educational opportunities and job opportunities for graduates
<p>Promote social integration</p> <ul style="list-style-type: none"> • Increase public safety • Direct programmes to vulnerable groups 	<p>Indicator 6: Crime rates</p> <p>Indicator A17: Refugees Indicator A18: Deaths due to violence</p>	<ul style="list-style-type: none"> • Investment in public safety services • Reduction of civil violence • Social integration programmes

TABLE A.2. INFRASTRUCTURE

POLICY GOALS/SUB-GOALS	INDICATORS	POLICY INSTRUMENTS
<p>Improve access to and affordability of services</p> <ul style="list-style-type: none"> • Improve access to services • Improve affordability of services • 	<p>Indicator 7: Household connection levels</p> <p>Indicator A19: Cost to income ratios</p>	<ul style="list-style-type: none"> • Reduce inefficiencies in provision and connection • Roles for public and private sector • Pricing policies and subsidies • Cost-effective technologies •
<p>Ensure quality and sustainability of water delivery systems</p> <ul style="list-style-type: none"> • Improve access to clean water • Improve quality and reliability of water supply • Ensure water supply meets projected demand • Encourage sustainable consumption • Promote efficiency and affordability in informal water supply 	<p>Indicator 8: Access to potable water Indicator 9: Consumption of water Indicator 10: Median price of water, scarce season</p> <p>Indicator A20: Sources of water Indicator A21: Piped water supply reliability Indicator A22: Water leakage</p>	<ul style="list-style-type: none"> • Extend water supply network • Pricing policy • Information and incentives to households to reduce consumption • Counter profiteering through supply • Repair and maintenance strategy
<p>Improve provision of sanitation services</p> <ul style="list-style-type: none"> • Improve quality, convenience, and reliability of sanitation services • 	<p>Indicator A23: Sewage disposal Indicator A24: Public latrines</p>	<ul style="list-style-type: none"> • Extend network • Improve informal facilities • Provide public conveniences •
<p>Improve provision of electricity service</p> <ul style="list-style-type: none"> • Improve access to and affordability of electricity • Improve reliability of electricity provision • 	<p>Indicator A25: Electricity price Indicator A26: Line losses Indicator A27: Capacity to load ratio</p>	<ul style="list-style-type: none"> • Extend and upgrade network • Improve service reliability
<p>Improve provision of telephone service</p> <ul style="list-style-type: none"> • Improve reliability of telecommunications provision • 	<p>Indicator A28: Call completion rate</p>	<p>(As above)</p>
<p>Promote efficiency and ensure sustainability of services</p> <ul style="list-style-type: none"> • Improve financial viability of utilities and parastatals • Improve operational efficiency of service provision • Promote cost recovery 	<p>Indicator A29: Operating to staff ratios Indicator A30: New connections to staff ratios Indicator A31: Revenue to operating cost ratios.</p>	<ul style="list-style-type: none"> • Reduce staff to international best practice levels • Invest in equipment • Eliminate poor management and corruption • Price for full cost recovery •

TABLE A.3. TRANSPORTATION

POLICY GOALS/SUB-GOALS	INDICATORS	POLICY INSTRUMENTS
<p>Improve performance and sustainability of urban transportation systems</p> <ul style="list-style-type: none"> • Increase transport opportunities in different modes • Reduce congestion, improve safety • Improve transport affordability • Maintain efficiency of urban freight services • Improve quality, reliability, and convenience of transport services • Reduce fuel usage • Minimise adverse environmental consequences of urban transportation systems • 	<p>Indicator 11: Modal split Indicator 12: Travel time</p> <p>Indicator A32: Transport fatalities Indicator A33: Fuel price Indicator A34: Transport household budget share Indicator A35: Transport fuel consumption</p>	<ul style="list-style-type: none"> • Better integration of spatial and transport planning • Capital investment/maintenance expenditure • Traffic management and enforcement of driving standards • Public/private allocation of road space • Vehicle regulations • Licensing/taxation/subsidies
<p>Improve road network and reduce congestion</p> <ul style="list-style-type: none"> • Improve quality of road network use • Reduce congestion 	<p>Indicator 13: Expenditure on road infrastructure</p> <p>Indicator A36: Length of road per vehicle Indicator A37: Road congestion</p>	<ul style="list-style-type: none"> • Land use planning • Investment in road repairs and upgrading
<p>Promote sustainable usage of private vehicles</p> <ul style="list-style-type: none"> • Base transport policy on predictions of future usage • Reduce pollution from road vehicles • Minimise fuel consumption • 	<p>Indicator 14: Automobile ownership</p> <p>Indicator A38: Vehicles failing emission standards Indicator A39: Automobile fuel consumption Indicator A40: Pedestrians killed</p>	<ul style="list-style-type: none"> • Transport planning • Emissions and fuel economy regulation and licensing • Fuel pricing • Regular vehicle testing and enforcement of standards
<p>Improve and facilitate public and mass transport services</p> <ul style="list-style-type: none"> • Improve financial viability and operational efficiency of public transportation enterprises • Promote efficiency among private and informal transport operators 	<p>Indicator A41: Public and mass transport seats Indicator A42: Cost recovery from fares</p>	<ul style="list-style-type: none"> • Investment in public transport • Fare pricing policy

TABLE A.4. ENVIRONMENTAL MANAGEMENT

POLICY GOALS/SUB-GOALS	INDICATORS	POLICY INSTRUMENTS
<p>Improve urban air quality</p> <ul style="list-style-type: none"> • Achieve target environmental quality standards • Limit emissions • Reduce respiratory disease • Minimise indoor and outdoor air pollution 	<p>Indicator A43: Air pollution concentrations Indicator A44: Emissions per capita Indicator A45: Acute respiratory deaths</p>	<ul style="list-style-type: none"> • Standards/regulations/enforcement • "Polluter pays" strategy • Infrastructure investment • Quality monitoring frequency • Public information and health measures
<p>Improve urban water quality</p> <ul style="list-style-type: none"> • Improve extent and effectiveness of wastewater treatment • Reduce costs and promote efficiency • Improve recycling of 'grey' water • Improve sustainability of water supply system 	<p>Indicator 15: Percentage of wastewater treated</p> <p>Indicator A46: Percent of BOD removed Indicator A47: Cost of wastewater treatment Indicator A48: Lowering of groundwater table Indicator A49: Waste water recycled Indicator A50: Level of treatment</p>	<ul style="list-style-type: none"> • Water resource planning • Investment in improved water treatment technology • Investment in improving and repairing the reticulation network • Use of recycling technologies
<p>Improve provision of solid waste collection and disposal service</p> <ul style="list-style-type: none"> • Improve access to solid waste collection and disposal • Improve affordability of solid waste collection and disposal • Improve convenience and reliability of solid waste collection and disposal • Improve recycling of waste • Ensure sustainability of solid waste collection service 	<p>Indicator 16: Solid waste generated Indicator 17: Disposal methods for solid waste Indicator 18: Regular solid-waste collection</p> <p>Indicator A51: Biodegradable waste Indicator A52: Recycling rate Indicator A53: Average cost of waste disposal Indicator A54: Cost recovery Indicator A55: Industrial waste generation</p>	<ul style="list-style-type: none"> • Investment in solid waste disposal systems and collection services • Planning for future waste collection • Encouraging provision of recycling facilities • Full cost recovery pricing • Regulation of industrial waste disposal
<p>Ensure sustainability of resource usage</p> <ul style="list-style-type: none"> • Manage usage of natural resources on a sustainable basis • Reduce usage of non-renewable resources and emissions of carbon dioxide • Encourage food consumption at sustainable levels which preserve good health 	<p>Indicator A56: Energy usage per person Indicator A57: Fuelwood usage Indicator A58: Renewable energy usage Indicator A59: Food consumption</p>	<ul style="list-style-type: none"> • Encouraging reduced energy usage through consumer information • Full cost energy pricing • Husbanding of forest resources • Improved health education and diet advice
<p>Reduce effects of natural and man-made disasters</p> <ul style="list-style-type: none"> • Ensure housing is safely located • Reduce deaths and property damage from natural disasters • Improve industrial safety 	<p>Indicator 19: Housing destroyed</p> <p>Indicator A60: Disaster mortality Indicator A61: Housing on fragile land Indicator A62: Fatal industrial accidents</p>	<ul style="list-style-type: none"> • Releasing safe land for affordable housing • Regulation of dwelling standards • Provision of emergency services • Disaster planning • Enforcement of safety regulation in industry
<p>Improve urban natural and built environment</p> <ul style="list-style-type: none"> • Provide adequate green space for recreation, amenity and environmental enhancement • Minimise destruction of historic buildings 	<p>Indicator A63: Green space Indicator A64: Monument list</p>	<ul style="list-style-type: none"> • Land use planning • Protection of heritage sites

TABLE A.5. LOCAL GOVERNMENT

POLICY GOALS/SUB-GOALS	INDICATORS	POLICY INSTRUMENTS
<p>Improve financial viability of local governments</p> <ul style="list-style-type: none"> • Improve linkages between service flows and payment for those services • Achieve adequate financial base • Provide adequate levels of capital expenditure and services • Limit debt • Maximise cost recovery 	<p>Indicator 20: Major sources of income Indicator 21: Per-capita capital expenditure Indicator 22: Debt service charge</p> <p>Indicator A65: Change in real per capita total revenue Indicator A66: Change in real per capita own-source revenues</p>	<ul style="list-style-type: none"> • Adequate pricing policies • Transparency and financial accountability in local government operations • Taxes and charges • Facilitating economic growth • Promotion of community awareness • Local government land cadastral/registration/collection efficiency
<p>Enhance effective use of public resources</p> <ul style="list-style-type: none"> • Improve productivity of staff • Facilitate optimal expenditure on maintenance activities • Ensure efficient balance of local government and contractual services 	<p>Indicator 23: Local government employees Indicator 24: Personnel expenditure ratio Indicator 25: Contracted recurrent expenditure ratio</p>	<ul style="list-style-type: none"> • Budgetary/accounting efficiency • Use of project management intermediaries • Privatisation policy
<p>Promote democratic participation in local government decision-making</p> <ul style="list-style-type: none"> • Ensure adequate local representation in local decision-making • Increase accountability of city officials to residents • Promote participation of citizens and groups in local decision-making • Improve public awareness of legal democratic rights <p>Improve intergovernmental institutional arrangements</p> <ul style="list-style-type: none"> • Ensure full delivery of services assigned to local governments • Ensure clear allocation of responsibilities among tiers of governments and parastatal agencies 	<p>Indicator A67: Elected and nominated councillors Indicator A68: Voter participation rates, by sex Indicator A69: Number of associations Indicator A70: Citizen involvement in major planning decisions Indicator A71: Decentralised district units</p> <p>Indicator 26: Government level providing services</p>	<ul style="list-style-type: none"> • Modify electoral regulations • Voter and community education • Give greater autonomy to lower levels • Allow access of associations and citizens to major decisions through consultative processes • Decentralise provision of services and electoral accountability • Legislation/regulations governing powers and responsibilities of each level of government
<p>Increase local independence in decision making</p> <ul style="list-style-type: none"> • Promote greater financial autonomy at local government level • Promote certainty in inter-governmental transfers 	<p>Indicator 27: Control by higher levels of government</p>	<ul style="list-style-type: none"> • Legislative changes to allow for greater autonomy • Integrated financial planning between levels of government • Long-term or formula-driven funding from higher levels of government

TABLE A.6. HOUSING AFFORDABILITY AND ADEQUACY

POLICY GOALS/SUB-GOALS	INDICATORS	POLICY INSTRUMENTS
<p>Access to affordable housing</p> <ul style="list-style-type: none"> • Improve affordability of housing • Improve access to housing opportunities • Encourage housing investment 	<p>Indicator H1: House price to income ratio Indicator H2: House rent to income ratio</p> <p>Indicator HA1: Mortgage affordability Indicator HA2: Excessive housing expenditure Indicator HA3: Contribution of housing to economy Indicator HA4: Transaction costs Indicator HA5: House price appreciation</p>	<ul style="list-style-type: none"> • Formal and informal housing credit mechanisms • Finance market regulation • Reducing and targetting taxes • Subsidy systems • Alternative investment opportunities • Release of land • Landlord-tenant legislation • Simplifying approval systems
<p>Adequate housing for all</p> <ul style="list-style-type: none"> • Improve quality of housing • Improve durability of stock • Improve basic services • Improve security of tenure • Eliminate homelessness 	<p>Indicator H3: Floor area per person Indicator H4: Permanent structures Indicator H5: Housing in compliance</p> <p>Indicator HA6: Overcrowding Indicator HA7: Households per dwelling Indicator HA8: Inadequate housing Indicator HA9: Indoor plumbing Indicator HA10: Squatter housing Indicator HA11: Homelessness Indicator HA12: Owner-occupancy (by sex) Indicator HA13: Vacant dwellings</p>	<ul style="list-style-type: none"> • Supply of affordable housing and land • Housing credit • Materials supply • Enforcement of regulations • Encourage conversions and improvement • Improve incomes • Provide shelters for homeless
<p>Rural housing</p> <ul style="list-style-type: none"> • Encourage adequate affordable housing in rural areas • Encourage ownership and security of tenure • Provide access to services in rural areas 	<p>Indicator HA14: Rural water/electricity connection Indicator HA15: Permanent rural housing Indicator HA16: Rural home ownership Indicator HA17: Rural house price to income</p>	<ul style="list-style-type: none"> • Provide rural infrastructure • Rural self-help programmes

TABLE A.7. HOUSING PROVISION

POLICY GOALS/SUB-GOALS	INDICATORS	POLICY INSTRUMENTS
<p>Ensure adequate supplies of affordable land for residential development</p> <ul style="list-style-type: none"> • Facilitate efficient urban land markets • Improve procedures for land development, planning and zoning • Improve land registration systems • Assist in provision of residential land in response to demand • Provide infrastructure to subdivisions • Regulate for environmental amenity and quality • Sustainable operation of residential infrastructure provision 	<p>Indicator H6 Land development multiplier Indicator H7: Infrastructure expenditure</p> <p>Indicator HA18: Land availability Indicator HA19: Planning permission multiplier Indicator HA20: Formal land transactions Indicator HA21: Development time Indicator HA22: Cost recovery Indicator HA23: Minimum lot size Indicator HA24: Land development controls</p> <p>Indicator HB1: Land price gradient:</p>	<ul style="list-style-type: none"> • Land development techniques • Land market information systems • Land registration • Lessening restrictive zoning practices • Improving land development procedures • Full-cost infrastructure pricing
<p>Improve access to housing finance</p> <ul style="list-style-type: none"> • Facilitate direction of capital funds to housing • Provide range of mortgage lending institutions • Improve affordability of housing • Improve range of mortgage instruments • Ensure equality of access 	<p>Indicator H8: Mortgage to credit ratio</p> <p>Indicator HA25: Credit to value ratio Indicator HA26: Housing loans Indicator HA27: Mortgage-to-prime difference Indicator HA28: Mortgage-to-deposit difference Indicator HA29: Arrears rate Indicator HA30: Mortgage loans for women</p>	<ul style="list-style-type: none"> • Formal and informal housing credit mechanisms • Finance market deregulation • Housing banks and community financing • Interest rate subsidies or controls • Alternative mortgage instruments • Finance wholesale institutions • Loan guarantees or loan insurance • Equal opportunity legislation
<p>Encourage efficient production systems for housing</p> <ul style="list-style-type: none"> • Facilitate production of housing in response to demand • Encourage investment in new housing • Encourage efficient operation of industry • Encourage innovative practices and productivity • Ensure sufficient supply of tradesmen • Encourage best use of land and buildings 	<p>Indicator H9: House production Indicator H10: Housing investment</p> <p>Indicator HA31: Construction cost Indicator HA32: Construction time Indicator HA33: On-site productivity Indicator HA34: Industry concentration Indicator HA35: Employment Indicator HA36: Wage labour</p> <p>Indicator HB2: Housing starts</p>	<ul style="list-style-type: none"> • Supply of basic construction materials • Performance-based housing construction regulations • Subcontract labour systems • Ease of entry/ builder regulation • Planning restrictions • Training and best practice • Alternative construction technologies

TABLE A.7. HOUSING PROVISION (Continued)

<p>Ensure effective and equitable housing taxation and subsidy systems</p> <ul style="list-style-type: none"> • Rationalise subsidy systems • Direct assistance to most needy • Efficient and equitable systems of property taxation 	<p>Indicator HA37: Effective taxation rate by tenure Indicator HA38: Nett housing outlays by government Indicator HA39: Property tax rate</p>	<ul style="list-style-type: none"> • Income taxation policy • Housing budget outlays • Property taxation
<p>Provide affordable public housing as a housing option</p> <ul style="list-style-type: none"> • Supply public housing in response to need • Provide affordable housing • Sustainable operation of public housing authorities • Encourage tenant management • 	<p>Indicator HA40: Public housing stock Indicator HA41: Privatised public stock Indicator HA42: Public housing production Indicator HA43: Social rent to income Indicator HA44: Waiting time Indicator HA45: Operating subsidies Indicator HA46: Administrative costs Indicator HA47: Tenant management</p>	<ul style="list-style-type: none"> • Public housing production • Rent policy • Sales policy • Allocation procedures (including priority allocation) • Eligibility criteria • Tenant management • Stock and asset management
<p>Provide adequate legal and regulatory frameworks for housing</p> <ul style="list-style-type: none"> • Rationalise systems of regulation and property rights • Encourage security of tenure • 	<p>Indicator HA48: Rent control Indicator HA49: Rental eviction delay Indicator HA50: Lease security Indicator HA51: Evictions Indicator HA52: Mortgage foreclosures Indicator HA53: Female property rights</p>	<ul style="list-style-type: none"> • Tenure security legislation • Guaranteed access of women • Mortgage and rent relief schemes • Regularisation of squatting tenure •