PART III

# Responses to Conditions and Trends

# 9 Settlements Planning and Management

## 9.1 Introduction

Various new approaches to settlements planning and management have been developed over the last 10-15 years-or innovations dating from earlier years applied more widely. This can be seen in settlement planning, land use control, the management of infrastructure and transport planning and management. In each, there is a greater stress on public authorities working with the private sector and community organizations and in many aspects of their work, moving from control to enablement. Planning is seen less as `development control' and more as encouraging and supporting the multiplicity of private initiatives from citizen groups, NGOs and local, national and international enterprises that make a settlement prosper. There is also a much greater stress placed on integrating social, economic and environmental goals. One other important change over the last ten to fifteen years is the extent to which many international agencies are also giving a higher priority to increasing the capacity of city and local authorities in settlements planning and management.

This chapter reviews seven areas. The first and second are new directions in settlement planning and land development and management where public authorities place a greater stress on enablement-including more actively supporting the initiatives of the private sector and of community-based organizations. The third is the management of environmental infrastructure where private-sector institutions have a greater role, including non-profit institutions and NGOs. The fourth is in transport where city and municipal authorities seek to ensure the efficient movement of people and goods within their boundaries but with less automobile-dependent models than in the past and with more attention to meeting the transport needs of those unable to use private automobiles. The fifth and sixth areas reviewed in this chapter are about means. The first describes new participatory tools and methods through which public authorities (and international agencies) can fully involve the citizens in each locality in development projects.  The second describes new approaches to training and education. The final area reviewed is the  increased international assistance  given to settlements planning and management.

## 9.2  New Directions in Settlements Planning[1]

### The role of planning

Settlement planning is central to ensuring that urban development and management meets sustainable development goals-and is still widely recognized and used by both national and local governments. But as Chapter 7 noted, there are serious shortcomings within many current approaches. In light of the increasingly pressing urban problems described in earlier chapters, the traditional  approaches to planning and the use of planning instruments have been critically reviewed and revised with a view to making them more effective.

The need to reappraise the urban planning process was given added urgency by the social and environmental impacts of rapid urbanization in the South and the heightened concern for sustainable development promoted by the action plan of the Earth Summit, Agenda 21. The Human Settlements chapter of Agenda 21 (Chapter 7) urges, among other things:

- The promotion of understanding among policy-makers of the adverse consequences of unplanned settlements in environmentally vulnerable areas and of the appropriate national and local land use and settlements policies required for this purpose.

- The promotion of sustainable land-use planning and management, with the objective of providing for the land requirements of human settlements   development through environmentally sound physical planning and land use.

- That all countries, as appropriate, and in accordance with their national plans, objectives and priorities ... adopt innovative city planning strategies to address environmental and social issues.

- The creating as appropriate, of national legislation to guide the implementation of public policies for environmentally sound urban development, land utilization, housing and for the improved management of urban expansion.

- The development of fiscal incentives and land use control measures, including land use planning solutions for a more rational and environmentally sound use of limited land resources.

● The development and support of the implementation of improved land management practices which deal comprehensively with potentially competing land requirements for agriculture, industry, transport, urban development, open spaces, preserves and other vital needs.

The challenge of planning is not only how to contain urban growth but also how to marshall human, financial and technical resources to ensure that social, economic and environmental needs are addressed within urban growth. Within this, issues of sustainable urban development are now of increasing concern, signposted by Our Common Future, the 1987 Brundtland Commission Report[2] and the 1992 Earth Summit. The challenge of planning is to make the activity be seen as a process that ensures that social, environmental and economic goals are met, rather than as an `end state' activity.

## Improved planning and implementation processes and approaches

As a reaction to the shortcomings of traditional master planning, and more recently to address the needs of sustainable development, various countries have adopted new processes and approaches to urban plans, including Malaysia, Indonesia, Tanzania, China, Sri Lanka and the UK. These approaches can be grouped under Structure Planning, Action Planning and Strategic Planning, These are outlined below,

with examples given in boxes. Box 9.1 describes the use of structure planning in Malaysia.

## Action planning

Action Planning is generally defined as an implementation-orientated process to solve problems at a local level. It has a short term perspective, resolving issues in the most direct manner with a minimum of data collection and traditional planning procedures. The problems to be remedied may be physical, social, or economic and local community participation in decision-making is a key to success. Action planning also draws on the local adaption of experiences that proved successful in other contexts-a `learning by doing' approach. Box 9.2 outlines how in Sri Lanka, local upgrading initiatives are prepared through workshops that bring together representatives from the community, the local authority and the national agency responsible for this work-the National Housing Development Authority.

The action planning approach fits well with the view of planning as `process' rather than `product' and with the parallel emphasis on community involvement at an early stage in the planning process. However, overemphasis on an action planning approach may run the risk of producing a number of uncoordinated projects or programmes which do not deal with underlying problems. For this reason, it is generally agreed that action planning should be implemented within the framework of a city-wide strategic planning approach.

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BOX 9.1
## Structure Planning in Malaysia

Malaysia's Town and Country Planning Act 1976 introduced a system of structure planning modelled very closely on the equivalent British legislation of 1971, including much of the procedure for preparation and approval of structure plans. As in Britain, the aim was to introduce a framework of strategic planning and policies to guide the social, economic and physical development of urban areas. According to the Act, structure plans consist of written statements accompanied by diagrams and illustrations, and provide the basis for the preparation of detailed local plans. In Malaysia, structure planning replaced the previous system of map-based plans, prepared under the Town Board Enactment, which had come to be seen as rigid and

unable to cope with the rapid pace of urban development.

The first structure plan was for Kuala Lumpur and this was approved in 1984. In the decade following the Act, only two other structure plans were completed and approved, with a further eleven in preparation. The structure planning system in Malaysia has considerable advantages over the previous system; it is much more comprehensive in terms of its consideration of the various factors which influence development; it is much more flexible to allow for changing circumstances; it is much better able to respond to community needs and aspirations; and it distinguishes between the broad goals and strategies on the one hand and the detailed physical development involved in local plans on the other.

However, it has also revealed serious shortcomings. The process of plan preparation has taken too long, with the risk

that plans are out of date before they are approved. The delay in preparation has been due partly to a shortage of skilled planning staff, but also to a tendency to be too comprehensive, to collect too many data, and to involve too many committee stages. The legislation itself imposes heavy obligations in terms of survey, often in areas where information is not readily available, and of time-consuming procedures which if not carried out precisely as prescribed could render the plan null and void.

Whilst it is clear that there is a need in Malaysia for some form of development strategy planning for the urban areas, and that the present system of structure planning represents a considerable improvement over what was there before, there must be questions about the appropriateness to Malaysia's current situations of the model of structure planning imported virtually wholesale from Britain.

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**BOX 9.2**
**Action Planning in Sri Lanka**

In Sri Lanka, the preparation of the Community Upgrading Plan is one of the main events of the Community Action Planning Cycle. When a settlement is identified for upgrading, a 2-day workshop is conducted by a representative group from the community, the National Housing Development Authority and Local Authority officials. The objective of this exercise is for the community to prepare a development programme for the settlement in partnership with the technical and health officials. The workshop has six main stages:

1. Identification: What are the Problems?
2. Strategies: What are the Approaches?
3. Options and Tradeoffs: What are the Actions?
4. Planning for Implementation: Who does What When and How?
5. Monitoring: What is the Performance and What Have we Learned?
6. Presentation of Community Action Plan to the community.

Source: National Housing Development Authority, Sri Lanka, 1988. See also Box 9.23 for more details of Community Action Planning.

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## Strategic planning

The key characteristics of strategic planning are:

• cross-sectoral coordination and integration

• financial feasibility

• agreement on comparative advantage of public and private sectors in urban development and management

• enabling role of public sector in support of private sector

• inter- and intea-sectoral choice mechanisms

• linkages to and from national policy issues

• concern with rural-urban relationships

• resolution of conflicts among participants

• regular monitoring and evaluation

Strategic planning is increasingly seen as a participatory approach to integrated urban development to achieve growth management and remedial actions at both the city-wide and local scales. The output of the process is not just a physical development plan for the city but a set of inter-related strategies for city development (including land, infrastructure, finance and institutions). These strategies aim at enabling all public and private initiatives to promote economic growth, provide basic urban services and enhance the quality of the environment. At the city-wide scale the process involves multi-sectoral co-ordination of spatial planning, sectoral investment plans, financial resources and institutional frameworks to meet inter-sectoral city development objectives over a longer time period of say 10-15 years-strategic

planning. At the local scale, the process involves co-ordinated processes of intensive change for a limited area over a short time period (2-5 years)-action planning. At both scales, techniques of multi-sectoral investment planning can be used to prioritize and define a capital plan. The particular form of integrated urban development will vary according to the country and city context. The critical variables will include the degree of decentralization of decision-making and financial autonomy, the relative roles of the public and private sector and the health of the macro-level and local economies. Box 9.3 outlines the strategic planning approach used in the Jakarta city region and how this sought to move beyond a previous over-concentration on physical objectives to an integration of economic, financial and institutional aspects and increased attention to ensuring co-ordination between different sectoral programmes.

## Improved standards and regulations

The most common techniques for land use regulations and control are: building regulations, infrastructure regulations (on- and off-site) and zoning. Underlying all three is the question of standards. The correct application of standards will make a crucial impact on the effectiveness of land use regulations as a whole. Where existing standards are unsatisfactory the choices are to do nothing, reduce standards to a level affordable by low income groups or reduce standards for selective areas where low-income groups are or will be encouraged to locate. By modifying existing standards to a level which is affordable by low-income groups, existing settlements can become `legal' and standards can be enforced. Low-income households can also use new rights to land as security for obtaining loans and they will have more incentives to improve their living conditions. The disadvantages may include the need strictly to enforce environmental controls to avoid standards dropping too low in poor districts, social and political resistance in general and a resistance by city officials to implementing the reduced standards. Box 9.4 describes recent proposals to upgrade planning and building regulations in Dhaka, the capital of Bangladesh.

In some countries it may be appropriate to use a performance standard approach. Performance standards allow a number of ways and means of satisfying objectives for land use rather than the traditional `prescriptive' approach. In theory, the approach allows objectives for land uses to be met within community priorities and capabilities over time. However, they do present certain difficulties of operation which limit their application. Prescriptive regulations, which may be highly

BOX 9.3
## Strategic Planning in Indonesia

A strategic planning approach was used in the Jakarta city region (Jabotabek) in the early 1980s. The new approach followed a period in the 1960s and early 1970s in which planning for the city and region was dominated by physical objectives and the concept of a 'closed city'. During the 1970s there had been a move to sectoral project approaches in water supply, sewerage, railways, toll routes etc. with no coordination. The new strategic approach aimed to ensure linkages between the different issues involved, i.e. economic objectives, urban growth dynamics, inter- and intea-sectoral choices, financial resources, the role of the community and implementation capabilities.

The critical elements of the Jabotabek strategic planning approach were:

• Agreement on key inter-sectoral objectives (e.g. upgrade defined inner-city areas using infrastructure, socio-economic and land-readjustment mechanisms) between departments and agencies at local, regional and, where relevant, national levels.

•  Development of a city-wide structure plan with inputs by sectoral, financial, and institutional 'actors' in the public and private sectors. This plan emphasized the formulation of policies, plans and sectoral

investment programmes according to income groups, i.e. giving the opportunity for a more rigorous assessment of poverty impact. Thus, where city objectives stress the distributional impact of policies and programmes, compromises between sectors may be made by delaying implementation in some areas and giving priority to those likely to achieve the greatest equity. Compromises within sectors may be made by designing for lower standards initially, to be improved incrementally as individual or city resources permit. Given that planning controls were very weak, the structure plan emphasised, for example, infrastructure development and limited land reservations rather than detailed land-use zoning allocations.

Agreement on the main roles of the public and private sectors in implementing the plan.

Development of improved techniques for forecasting city revenues, co-ordinating central government allocations to local government, and prioritizing sectoral investments in relation to financial feasibility.

Development of a capital investment programme incorporating, a 3-5 year 'rolling programme' within a 10 year forecast of financial resources.

The co-ordination and synchronisation of

structure plan policies and the capital investment programme in a form which could be used as an agreed point of reference by central and local government departments and by external support agencies who wished to coordinate their work in the city and sub-region.

The capacity to monitor both the progress of planned activity and changes in the external environment. In the former, monitoring was necessary to ensure that action was taken on time or that, pending this, corrective action was put in hand. In relation to the external environment, monitoring had to check constantly that the structure plan/capital investment programme remained relevant to its environment.

To implement a strategic planning approach, a modified institutional structure was established in the city government. The department previously concerned only with city finances, expanded its role to co-ordinate both the formulation and implementation of the spatial planning/capital investment programme. To improve efficiency, seven inter-sectoral groups were established which brought the sectoral and spatial planning teams together for the first time, with direct access to the Governor of Jakarta.

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inhibitive in terms of development, are never the less exact and easily understood. Consequently, such regulations can be applied by staff with low skill levels. Performance standards which relate to the effect of development, rather than to the form or content, pose questions of measurements and of interpretation  which require much higher levels of skill.

In mixed-use zoning, for example, a commercial or industrial use may be permissible in proximity to residential uses, as long as it does not cause a nuisance by the emission of dust, smoke or fumes, by strong lights, heavy traffic or other environmental impairment. However, the measurement of these environmental impacts must be made in respect of degree, duration and occasion and therefore depend for their effectiveness on systems of monitoring.

### Improved zoning techniques

Zoning of urban land use by ordinances and codes is the most common form of land regulation. Traditionally, zoning has often been applied rigidly, involving single or limited use of land parcels for housing, commercial, industrial, community and other activities and geared to the development of one parcel at a time.

Recent improvements in zoning techniques used mostly in OECD countries include: *mixed*

*use zoning,* a technique for incorporating integrated project components within a coherent plan that stipulates the type and scale of uses, permitted densities and related items; *floating zoning,* in which a district is described in the zoning ordinances but not located on the zoning map until the need arises (i.e. the city in effect sets a development performance standard for a district); and *conditional or contract zoning,* under which the city bargains with a developer for certain social benefits such as park land to be provided in return for permission to develop commercial land uses (i.e. 'Planning gain'). *Phased zoning is* another technique whereby a permit is required before development can occur. Such permission may be granted when adequate infrastructure to service the site is agreed to and installed by the city government.

A related issue in many countries is that of plot and sub-division standards which assume individual house construction. Some countries have provided for more efficient layouts in the form of semi-detached or terrace housing layouts. Box 9.5 describes a  modification of land sub-division regulations that encouraged the development of housing on vacant plots around Amman that had been serviced and the advantages that this brought.

BOX 9.4
## Improved standards and regulations in Bangladesh

In Dhaka, Bangladesh, planning and building rules have been based on the Building Construction Rules 1984 and the Town Improvement Act 1953. However planning provisions are contained in building codes and vice versa- a confusing situation. Recently proposals have been made for a comprehensive updating in parallel with the introduction of a new strategic/structure planning process for the city. Proposals address the following:

- a clear distinction between planning, infrastructure and building standards and regulations.
- a range of standards for infrastructure and building appropriate to different income levels and capable of incremental upgrading.
- reduced minimum plot sizes.
- more appropriate standards for floor-area ratio and density limits.
- interim measures for areas not yet covered by local plans.
- a simpler and more effective system of development control.

Dhaka now has the tools to implement appropriate land use regulations which respect local socio-economic conditions, household income levels, and the limited resources of the city to implement and enforce regulations.

Source: Asian Development Bank and Government of Bangladesh, Dhaka Land Development Project, 1993.

## Choices in development control systems

Country choices in development control systems to implement land use regulations and standards can be grouped under a `policing' model or an `enabling' model.

The policing model presupposes that all or nearly all land development projects from the individual plot level to large development projects require the developer to meet a detailed schedule of planning, environmental and building standards, obtain numerous permissions and often pay numerous fees, with the end objective of obtaining a building permit for construction. The model assumes the availability of skilled and plentiful staff to enforce the system. The policing model puts a responsibility not only on the development control department but on other government departments such as the city engineers, public health, water, drainage, sanitation, utilities and others, to carry out detailed analysis and the processing of the application.

The alternative `enabling' model of development control assumes that (a) the physical planning department, or whichever department is responsible for land regulations, needs a positive, innovative, relationship with the private sector

BOX 9.5
## Improved subdivision of land in Jordan

Large areas on the fringe of Amman, Jordan have been subdivided and serviced but remain vacant since (a) the plots are mostly laid out at too high a standard for prevailing demand and (b) there is no disincentive for holding land in an undeveloped state. The 1987 Jordan National Housing Strategy recommended that vacant plot owners should be allowed to apply for the redivision of their plot, resulting in clear ownership titles for each sub-plot. Buildings on the sub-plots would have to be entirely within the envelope as defined by the zoning regulations applying to the original plot, and sub-plot titles would have to specify access rights to back-plots should the plot configuration require it. Minimum sub-plot areas would be specified and each new plot would have to have access to the street to conform with the existing planning law. The resulting semi-detached built form would not vary appreciably from what is allowed under present building regulations. Since existing building regulations would be respected, maximum densities would not be increased, nor would the quality of air, light and open space be affected.

There were numerous advantages of this modification to the original subdivision. The landowner could probably gain more by selling subdivided plots than by selling the original plot, and the developer could provide a greater variety of infill and semi-detached row house opportunities to the much larger lower income housing market. Owners of buildings on plots adjacent to vacant plots may perceive that this will 'lower the quality of the neighbourhood' but since building standards would not be lowered in the area, such objections should not be a major constraint. Lastly, there would be a financial gain to the local government. Since it is currently obliged to issue building permits and provide infrastructure connections to any development taking place on planned and subdivided land, this in effect means it provides a significant subsidy in sparsely settled subdivisions. The costs of providing these connections will be less per unit with a more intensive development of the subdivision and the returns from taxes and user charges will be higher.

and wishes to play a full role in promoting land development policies to support city development objectives; (b) staff shortages and other resource constraints will continue to afflict city governments in most countries in Africa, Asia and Latin America; and (c) controls on development can only be introduced incrementally as resources and, more importantly, political and social consensus, permit.

Certain key components of this enabling model can be identified:

- The objective of the development control system using planning and/or building permission procedures is that the system should be permissive in character, i.e. the initial assumption by the planning authority is that the individual or business developer should be allowed to proceed with the particular residential, commercial, mixed use, industrial, social or other project subject to the minimum of restrictions.

- In view of continuing staff shortages the development control system is concentrated in critical areas, only at a later stage being extended city-wide.

- Whenever possible, development control decisions are taken at the lower level in the city hierarchy where staffing allows, with referral upwards to the city level only for large and/or disputed cases.

- Whenever possible the functions of planning/zoning/subdivision and buil&ng control should be located in a single local government department.

- The system of planning controls is concerned with matters such as land use, densities, planning and design standards. Building controls are concerned with the structure and safety of buildings.

- There is a choice of development control systems where there are severe staff shortages. Either there can be exemptions in the types of development for which planning permission is needed or a system of automatic grants of permission. The exemption system relies on developers being knowledgeable about which classes of development require permission and they may knowingly or otherwise claim that they did not realize permission was needed. A system of automatic grants of permission would avoid that situation by requiring most or all development to be notified to the planning authority, but using junior staff to give routine planning approval for certain classes of development. Even with this simplified system it is likely that not all development categories could be controlled. Thus, for example, small additions to existing buildings, simple changes of land use and temporary structures could be omitted from the system.

Permitted use development can (a) specify the kind of development not needing planning permission (mainly small-scale development) and (b) allow change of use within specified land use categories, requiring permission only for changing from one category to another. Box 9.6 describes the use of Enterprise Zones in the United Kingdom to encourage the development of particular land sizes with the incentives including a greatly simplified planning regime that allowed developers to begin developments more quickly.

### Improved tools

There are a number of technical `tools of the trade' which are now becoming widely used as part of more effective urban planning approaches. Space does not allow a full review of such innovative tools but two should be highlighted; Geographic Information Systems and Land Market Surveys.

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BOX 9.6
**Enterprise Zones in the United Kingdom**

**The UK Government set up a number of Enterprise Zones (EZs) in the UK in the early 1980s. The individual sites vary widely from 50 to 500 acres, but all contain land ripe for development. The benefits are available for a 10-year period from the date on which each zone is designated and include:**

- **Exemption from rates on industrial and commercial property.**

- **Exemption from Development Land Tax.**

- **100 percent allowances for corporation and income tax purposes for capital expenditure on industrial and commercial buildings.**

- **A greatly simplified planning regime; developments that conform to the published scheme for each zone will not require individual planning permission.**

- **Applications from firms in EZs for certain customs facilities will be processed as a matter of priority and certain criteria relaxed.**

**Overall, however, it seems most new development would have occurred anyway, though not necessarily in the designated areas. Simplified planning controls have not proved a major incentive and the need for negotiation with developers and local authorities remains. In many cases, planning controls are retained along boundaries, special industrial uses are still subject to control and on occasion environmental regulations are written into the declaration. The positive advantage of EZs is that they can help the developer to get on site more quickly. EZs have conditions that are set out and known from the beginning. EZs offer substantial financial benefits which are much more important than any change in 'planning'.**

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Geographical Information Systems

Geographical information systems (GIS) are gaining increasing importance as a tool for decision-making in planning. Such systems enable speedy and easy access to large volumes of data and allow the data to be manipulated in order to select, update, combine, model `what if' uestions and display the information on maps and diagrams or as lists of addresses. The essence of any GIS is the ability to link together different data sets and present them clearly and concisely in a variety of ways. In any planning office there is a great reservoir of such information which is costly to collect, even more so if this process is repeated unnecessarily. GIS offers the tool to manage and present this information.

Start-up costs can be expensive but as a tool to the planner GIS is a very useful addition especially when requirements as to its end use have been thought through and are `programmed in' at an early stage. Its application and development to full potential must include changing the culture in which people and planners work. GIS systems can also aid short-staffed local governments in better managing rapid urban growth.

GIS systems are now common in planning departments in OECD countries and are starting to be used in other countries. For instance in Dhaka, Bangladesh, a GIS system has been installed in the city planning office as part of the reorganization of the department and an introduction of a new typology of plans (with assistance by UNCHS). It is anticipated that the system will not only benefit the day to day work of the planning department (e.g. development control, local and action planning etc.) but will also benefit the city council as a whole by providing the hardware and software for updating property valuation, land transactions and other land-related responsibilities of the government.

In Sri Lanka, the Urban Development Authority is currently installing GIS to help in its planning, development control and other responsibilities for the Greater Colombo area and other urban centres throughout the country. It is hoped to link this system with a new GIS being installed by the Government Survey Department. Again, a major benefit of GIS should be to eliminate the large backlog of land subdivision applications and address improved land registry functions in both urban and rural areas.

In a few countries, remote sensing using high resolution satellite data can be used with GIS. Such integrated systems are particularly useful for evaluating urban growth scenarios, planning new transport routes and sites for infrastructure facilities, environmental zoning analysis and mitigation of natural hazards.[3]

### Land Market Assessments

Many urban planning departments are trying to plan for future development without a realistic data base on the prime commodity that they deal in-land. Land market assessments are implemented to fill this information gap and to provide accurate and up to date information on land prices, the supply of serviced land, present and future land projects, housing typologies, and other aspects of the housing and land market.[4] Land market assessments can be used to support four broad activities: government planning and decision-making; the evaluation of government policies and actions (including urban planning): private-sector investment and development decisions and structuring of land-based taxation systems. The availability of high capacity statistical and spreadsheet computer packages at low cost means that comprehensive data banks can be established for even large cities with only modest staff and technical resources. In some instances, land market assessments can be incorporated in Geographical Information Systems.

## Institutional implications

The implications of the move from traditional master planning are significant for the role of the urban planner and the planning system within the general goal of improved urban management.

### Delegation of planning powers

The powers of local government to prepare plans, regulate land use and co-ordinate the actions of the public and private sector in land development are often very restricted by central government. Such a situation may have been acceptable when the urban sector was rather small, but the increasing demands of rapid urban growth make such a centralized approach less and less relevant. Such cities may need city-specific regulatory powers and delegated authority to make land use decisions which avoid the costs and delay of referring cases to higher levels of government. The extent to which delegated or decentralized powers are needed will vary according to national and local political realities and to the particular motivations for plan-making and land regulation already discussed in earlier chapters. For example, if there is to be an emphasis on promoting social equality through intervening in the land market by using financial tools to facilitate low income housing, there may be a need for strong centralized legislation applied across urban areas. If on the other hand the emphasis is to be more limited, e.g. to promote `good neighbour' planning, then a stronger emphasis on locally-administered legislation may be sufficient, (e.g. building regulations).

### Role of the public and private sector

In considering the degree of local responsibility for tasks in plan formulation and land use regulation, the role of the private sector, i.e. enterprises, community groups and their organizations and NGOs, should be considered. Community participation may be a natural part of the city life in some countries, whether in local plan making, surveys, giving priorities to projects, etc, but in many cases there will be in-built resistance by government to such involvement and the direct role of the private sector may be very restricted for some years. It may often be the case that government is happier to enlist direct private-sector support in `downstream' activities such as the contracting-out of certain municipal services. In parallel to this direct involvement by the private sector, it is now increasingly recognized that government needs to be more explicit about which activities in urban development can best be carried out by the private sector (such as the provision of shelter, job creation) and which can best be carried out by the public sector, such as investments in advance infrastructure measures, policies to make land transactions cheaper and developing realistic standards which will benefit all income groups. In some instances this policy is being applied to the planning profession itself,

e.g. consultants are employed to take over the city's traditional role in plan-making.

Increased co-ordination

It might be thought that the agenda for reforming urban planning policies and the techniques outlined above are more than sufficient for governments to absorb, quite apart from the new demands of meeting sustainable development objectives. However, urban planners are explicitly or implicitly involved in important components of ecological sustainability, for instance in land development and the conservation of resources, and there should be opportunities to extend this involvement.

In summary the move towards strategic planning will require stronger co-ordination of urban planning functions with those sectoral and financial agencies at the local level in order to deliver the integrated development approach. This `horizontal' co-ordination also extends to public/private sector linkages, i.e. day to day links between the planners and the private sector, both formal bodies such as land development companies, major manufacturing and service businesses, as well as community-based organizations and individuals. Mechanisms for such co-ordination are generally poor at present-although there are examples of cities where such co-ordination has been much improved. For instance, the city of Curitiba is well known for its co-ordinated planning and management, in particular the close co-ordination of transport and land use policies which have encouraged higher densities along public transport routes, reduced dependency on private automobile use and encouraged travel by bicycle and on foot. This example is described in more detail in Section 9.5. Box 9.7 describes a programme in Indonesia that improved co-ordination in infrastructure development.

## 9.3 Innovations in Land Development and Management

### Supporting innovative land development

The achievement of sustainable development goals within urban development requires that land development initiatives take account of impacts of development on the environment and other land based resources. There are now many examples of innovative land development mechanisms that promote the combining of social, economic and environmental goals, using appropriate standards, working with rather than against land markets and using new forms of public/private partnerships. Some of these mechanisms include:

BOX 9.7

### Integrated urban infrastructure development in Indonesia

The Integrated Urban Infrastructure Development Programme (IUIDP) is an excellent example of improved infrastructure planning co-ordination. In its idealized form, the process entails the following steps: (1) meetings are held with provincial governments to prioritise cities for attention; (2) project teams in the selected cities (local staff with technical assistance provided from the centre) review and update local master plans or develop a new 'structure plan' where none is available; (3) teams then use those plans as a guide in developing a proposed local multi-year investment programme (PJM) integrated across several sectors; (4) the teams are also required to prepare a complete financing plan (RIAP) that covers the enhancement of local revenues and borrowing, as well as support from the central budget and/or external donors; (5) plans (LIDAP) are also prepared for building the capacity of local government to assume ever increasing responsibility for infrastructure development, operation, and maintenance; (6) on the basis of the multi-year PJMs, individual cities prepare annual budget requests; (7) the programme and budget requests so defined are reviewed at the provincial and central levels and decisions are made about the allocation of central loan and grant funds.

Despite over-ambitious targets in the early years, IUIDP has generally been regarded as a major accomplishment. Its basic characteristics (integrated planning across sectors based on city-specific conditions, the linkage to financial discipline through the RIAPs and to capacity building through the LIDAPs) in and of themselves have been a dramatic improvement over the approach of the past. Also, efforts continue to be made to rectify problems as they are identified by revising IUIDP guidelines.

Source: Urban Management Programme, Multi Sectoral Investment Planning, UNCHS/UNDP/World Bank, 1994.

- Increasing the supply of new urban land by direct and indirect interventions in private land markets, i.e. by public land acquisitions and land readjustment as has been demonstrated in Bangladesh (see Box 9.8) and several other countries.

- Implementing guided land development programmes as a joint public/private-sector initiative. This has been implemented in Indonesia (see Box 9.8), among other countries.

- Increasing access of low income groups to existing and new urban land through cross-subsidies, sites and services projects, land-sharing, the use of appropriate land development standards and the more intensive use of low-density built-up areas.

- Recognizing the legitimacy of informal settlements and incorporating informal settlements into formal systems of land management, identifying those areas capable of improvement and those where resettlement is imperative. This has been successfully demonstrated in many countries including Jordan (see Box 9.8).

BOX 9.8
**Examples of innovations in land development and management**

Land readjustment in Bangladesh: On the fringe of Dhaka, a group of landowners have designed a land readjustment project covering some 30 hectares, now in process of implementation with only minimal government involvement. The objectives are to bring access roads, school sites and other social services into the neighbourhood by a process of plot readjustment. The technique also permits the replotting of landholdings into more rational and hence more viable holdings for sale or development. The benefits of such schemes to the landowners are clear. They get replotted land with higher value and better access to services. The costs and benefits of the land readjustment process are shared among the owners equitably and they are free to develop their land according to individual needs. The benefits to the city are also clear-the opportunity to structure urban fringe development in a timely manner and to provide appropriate infrastructure and land for public uses at little or no cost to government.

Guided land development in Indonesia: The Guided land development approach, first considered in Jakarta, Indonesia, in the early 1980s, incorporated elements of public/private co-ordination in land development with an emphasis on encouraging the legal participation of low-income groups in urban development. The programme included the construction of roads to induce growth into preferred urban expansion areas, the incremental introduction of essential urban services, into these areas starting with land drainage and at a later stage water supply mains, and the creation of an administrative, planning and financial structure to ensure an effective joint public/private management and implementation of such growth. The physical aims of the programme were to provide a large supply of ordered and planned land so that the private market could help meet the city's projected housing needs for some 250,000 new residents annually, while using the positive relation between levels of access to an area and the resulting price of land to benefit the majority demand by low-income groups. Various administrative measures were proposed to simplify and reduce the cost to poor households of obtaining legal rights to land, and a more equitable tax structure involving betterment taxes was proposed to allow recovery of all public development costs other than the purchase of land for key community services.

Legalization of unregistered subdivisions in Jordan: In the fringe areas of Amman, many unregistered subdivisions are made on land which was granted decades ago to various tribal groups. Although the government does not legally recognize such claims, and still officially considers the land to be in public ownership, individuals representing the tribes have been able to subdivide the land and sell-off individual plots, using 'hejah' or customary contracts. The boundaries of the parcel are inspected and physically marked; it is in the buyer's interest to immediately construct a wall, or at least boundary corners, if there is likely to be any confusion. The buyer can hold their) and vacant for as long as they wish, but most begin at least some symbolic construction. Once the building is roofed it is considered inhabited and demolition cannot take place. The government began a process of legalizing individual holdings in the early 1970s and is now establishing rights-of-way for roads, etc., as a recognition that these areas will form a permanent component of the expanding city.

## Facilitating land titling and land transactions

Another vital instrument of land development often given low priority in government funding and staffing is the functions of land survey, cadastral mapping, registration and tenure records. Typically, existing systems are based on long established practices which have failed to keep up with the growth in land transactions and subdivisions. In addition, the process of land transfer is often costly, including staff time, transfer taxes and stamp duties, and further complicated in cities where both modern and customary land tenure rules apply. The resulting impacts on residents include poor access to credit for land development, insecurity of tenure, and long and costly disputes over land ownership.

Various countries are now introducing quicker and cheaper systems of titling, registration and tenure-see for instance the use of Occupancy Licences in Zambia (Box 9.9). Although systems are usually provided by government, there is increasing use of the private sector (i.e. private licensed surveyors) to speed up the process of land titling and development.

BOX 9.9
**Occupancy licences in Zambia**

In Lusaka, Zambia, under the Housing (Statutory and Improvement Areas) Act, 1974, an Occupancy Licence was introduced to provide tenure to squatters without the necessary costs and complications of issuing legal titles. The licence gives the right to occupy a building for 30 years; the occupant does not own the land, but, subject to their paying municipal charges for services, they are legally protected from eviction. They can improve the house, sell it, or mortgage it, without restriction. Once the land has been gazetted as an Improvement Area, all existing house locations are numbered using an air photograph of the area. This demarcation forms the basis for identifying the property and is properly entered in a register of titles. Land disputes in the upgraded squatter areas are resolved by community leaders, subject to customary law. While the licence does not address the issue of the original ownership of land nor the issue of its legal transfer, which thereby brings about disputes involving claims and counter claims by various owners and tenants of individual houses, it does have the major benefit of simplicity in providing tenure security without complicated surveys, legal proceedings and bureaucratic forms. It may be gradually upgraded into a legal title scheme as property boundaries become consolidated and eventually recognized in the years to come.

## Public/private-sector partnerships in land development projects

In many countries, both North and South, there are examples of new forms of public/private sector partnerships in urban land development projects. In general, the public sector's comparative advantage is in land assembly, fast track plan approval and coordination of infrastructure investment for the project, while the private sector enjoys the advantages of finance raising, marketing of floor-space and efficient relationships with building contractors. Teaming up creates mutual benefits. The possible benefits to the public sector include: urban redevelopment of decayed neighbourhoods considered too 'risky' by developers to tackle on their own; increased economic activity and taxes as under-used and surplus urban land becomes developed; and financial gains from grouped ground leases and participation in cash flows from joint development projects. In addition, developers may sign agreements to provide public amenities such as recreation spaces and/or cash contributions to public-sector projects in exchange for planning approvals.

Box 9.10 gives three examples of public/private-sector partnerships or agreements. The first is the reassessment of the role of the Sri Lankan government's Urban Development Authority. The second is the application of the principle of 'planning gain' within the United Kingdom through which developers are required to help meet the cost of needed infrastructure or services. The third is 'Least Cost Planning' in the United States of America whose application can require developers to take actions outside their own devel-opment-for instance to reduce demand for water elsewhere to the point where it equals the increased water demand the development will require.

## Infrastructure-led development

It is common for urban planners not to co-ordinate their work sufficiently with the public agencies and private enterprises whose developments have a large impact on the form of urban development. For instance, plans for a city may be developed without co-ordination with the infrastructure and utilities sectors of water

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BOX 9.10
### Public/private-sector agreements in development projects

Public/Private-Sector Partnerships in Sri Lanka: In Sri Lanka, the Urban Development Authority (UDA) has been involved in large and small commercial industrial and residential development projects for many years, usually in partnership with private sector interests. Recently, a reassessment of the comparative advantages of public- and private-sector roles in such projects has been undertaken. In summary, UDA's future role was assessed as follows:

• UDA should take the lead role as a catalyst in promoting commercial and industrial projects which are analysed to give satisfactory social, economic, financial and environmental returns. It has the legal authority to undertake land assembly and acquisition.

• UDA should have an intensive but limited involvement (say 5 years) in the planning, design, funding arrangements and implementation of projects, but should not be involved financially in the long term. However, it may have a long-term stake in the funding of and revenues from particular components of the project (such as commercial/shopping floorspace).

• UDA should coordinate the roles of the many infrastructure, service and other sectoral agencies having an interest in the project.

Planning Gain or Contract Zoning in the UK: In the UK the principles of 'planning gain' are closely associated with betterment which was abandoned in the early 1980s. The term 'planning gain' has two meanings. It can denote facilities which are an integral part of a development; but it can also mean 'benefits' which have little or no relationship to the development, and which the local authority require as 'the price of planning permission'. The experience of this technique is mixed. Essentially, the issue is the extent to which local authorities can legitimately require developers to take on the wider costs of development associated with the urban environment; i.e. much needed infrastructure, schools, and other essential local services. Under UK law there are three key tests, i.e. that the gain:

• is needed to enable the development to go ahead, for example the provision of adequate access or car parking; or

• in the case of financial payment, will con-tribute to meeting the cost of providing such facilities in the near future; or

• is otherwise so directly related to the proposed development and to the use of the land after its completion, that the development ought not to be permitted without it, e.g. the provision, whether by the applicant or by the authority at the applicant's expense, of car parking in or near the development, of reasonable amounts of open space related to the development, or of social, educational, recreational, sporting or other community

provision the need for which arises from the development.

Least-cost planning (LCP) in USA: A demand management technique applied especially in the USA, LCP aims to optimize the performance of networks (usually infra-structure) by equal considerations of supply and demand side measures, and their social, environmental and economic implications in an integrated policy framework.

Increasingly LCP is being used to force developers and utilities to implement demand management policies over infrastructure provision in new developments. In California, LCP applications are playing a major part in developments receiving permissions. For example if a development is going to receive permission, the developer has to formulate a strategy of water conservation measures in adjacent development to reduce demand in the existing area by the same level that the new development will increase demand; thus at the very least maintaining equilibrium and ensuring the new development is highly water-efficient.

The benefit of a LCP approach to the planning process is that is focuses attention on demand management options rather than increasing levels of supply. Thus it shifts planning away from focusing solely on the direct environmental problems associated with specific development to one which needs to take a view of problems in relation to the whole city or urban fabric, making linkages with a much wider range of actors than would usually be involved in the formulation of planning policies.

resources and supply, solid and liquid waste management, drainage and sewerage, electricity and telecommunications, road and rail transport. However, many countries and cities are now making efforts to achieve better co-ordination as part of the new emphasis on the enabling approach and also as a result of the failure of zoning and other `negative' land use control systems to influence urban growth.

One key part of this is termed 'infrastructure-led development' where full use is made of public investment to guide urban development but in ways that also support the private sector's role in such development. For example, road construction can be used to guide the direction of urban expansion into desirable development zones and away from hazardous land areas or areas of particular ecological value. One example of this is Guided Land Development in Jakarta through which industrial estates can be located downstream of residential areas and where provision is made for the treatment of all the factories' wastes, which is more efficient (and cheaper) than treatment within each factory, scattered across the urban area. Landfill activities can also be planned and phased to prepare areas for future urban growth more efficiently than through the landfill actions of different developers. Since such strategic public investment can also bring about significant increases in land and property values, especially the extension or improvement of roads or public transport systems and of water and sanitation systems, adoption of infrastructure-led development techniques will also need effective means to recover the costs of such investments-for instance through user charges, betterment taxes, planning gain agreements, and land readjustment schemes.

This use of infrastructure to guide urban growth and redevelopment requires the planner to be involved in new forms of infrastructure provision. Box 5.1 in Chapter 5 noted the great range of ways through which infrastructure can be developed ranging from the various alternatives for public sector provision through mixed private/public provision to private provision. Section 9.4 develops this further, describing various ways in which public authorities can involve the private and voluntary sector in the management of environmental infrastructure.

A central issue here is the provision of 'off-site' infrastructure. Typically, the public sector will provide off-site roads, power supply, water mains, treatment works, etc, but faced with resource shortages is looking for innovative methods of cost recovery. For example, in Dhaka, Bangladesh, land reservations along a major new central road were sold to developers as a means of partial cost recovery; the next stage in thinking is how to attract 'Build-Operate-Transfer' private sector

enterprises to provide such roads by granting land alongside a road on which the enterprise can develop saleable properties.

## Urban economic development

Innovative land development in the context and framework of appropriate urban planning approaches can contribute to economic development in several ways, namely:

- through strengthening the management of urban infrastructure with particular emphasis on maintenance
- through improving the city-wide regulatory framework to increase market efficiency and private sector participation
- through improving the financial and technical capacity of municipal institutions; and
- through strengthening financial services for urban development.

Many of these innovative mechanisms contribute to capacity building in a much wider sense. The impact of such contributions would be greatly enhanced and better targeted if there were much better co-ordination of policy and programme-making between urban planners and the wide range of local business interests in both formal and informal sectors. To take one obvious example, the introduction of mixed-use zoning (residential/commercial) would be of immediate benefit to small household-based businesses, which form an important core of the informal sector and which are not provided for under traditional master plans with their emphasis on separate land use zoning.

There is an increasing tendency for cities, especially in OECD countries, to establish economic development units that report directly to the Chief Executive and that have a very focused mandate for such aspects as employment creation, industrial renewal, environmental upgrading, and advisory services for small businesses. Given that these agencies are by definition in close touch with local business they provide a two-way channel of guidance and information between urban planning and economic development.

## Improved investment decision-making

Strategic planning requires, among other things, close linkages between spatial planning, financial resources and sectoral strategies. The Urban Management Programme (UNCHS/World Bank/UNDP) has analysed techniques used in different countries for investment prioritization and has developed the technique of Multi-Sectoral Investment Planning.[5] This has its roots in both spatial planning and annual operating and capital budgeting traditions. Its product is a

multi-year capital plan, showing what investments take place across sectors, how this investment will be financed and the repercussions of investments on the operating and maintenance budgets of public agencies. Multi-Sectoral Investment Planning is built around four themes:

- investment planning should be demand driven,
- all public agencies with a significant role in investment decisions should be part of the process,
- when the process is inaugurated, every step should be simplified as much as possible,
- comprehensiveness is critical, i.e. there should be a strategy for allocating scarce investment measures across all sectors and all projects. However, Multi-Sectoral Investment Planning should not rely on a central planning group alone; decision-making can be decentralized to markets, line agencies and community-level groups.

The steps in implementing it are:

1. Establish an inter-agency steering group and coordinating agency to be responsible for investment prioritizing.

2. Decide on the mechanisms to be used for measuring user demand and incorporating this information within the priority-setting process.

3. Identify the capital improvement priorities of the community.

4. Obtain information on investment activities in progress or about to start.

5. Prepare lists of prioritized projects by agency or individual sector.

6. Decide on cross-sectoral project priorities.

7. Plan for the revenue side of the budget.

An advantage of Multi-Sectoral Investment Planning is that the process can be tailored to staff resources available and can be expanded incrementally from certain core activities/sectors. A further advantage is that many community-level projects can be integrated and prioritized at the local level and do not have to go through city-wide planning (in many cases this delegation of decision-making can be coordinated with the Action Planning approach discussed earlier).

Box 9.11 gives two examples of initiatives to improve investment decision making. The first is from Tianjin (China) and this seeks to improve inter-sectoral coordination and to involve the finance bureau in guiding investment project choices which draw in finance specialists. The second is the Capital Investment Folio process used in Metro Manila, Philippines, a well known example of Multi-Sectoral Investment Planning in practice.

Technically, the priority setting system of the Capital Investment Folio Process in Manila described above attracted a good deal of favourable attention in the Philippines and elsewhere. It led to practical recommendations regarding types of projects that should be advanced in the capital-improvements queue and others that should be postponed. However, its fate illustrates the potential problems associated

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**BOX 9.11**
## Innovations in investment decision making

**Inter-agency steering froup for Tianjin, China:** Tianjin traditionally has had an Urban and Rural Construction Commission (URCC) which co-ordinates policies, programmes, and budgets across the different bureaux responsible for infrastructure planning and construction, such as the Municipal Engineering Bureau or Public Utilities Bureau. This has reflected a technical and supply-driven approach to infrastructure provision that emphasizes units built. In the new urban management approach being developed in collaboration with the World Bank, a steering group, called the Planning and Management Improvement Leading Group, has been created to guide investment project choices. It is chaired by the Chief Engineer of URCC but also includes the Chief Economist of the Finance Bureau, the Director of the Infrastructure Division of the Planning Commission, as well as the Deputy Director of URCC and others. Task forces will be set up to prioritize projects in each functional area, chaired by a member of the Leading Group and comprised of staff from affected Bureaux. One of the goals is to introduce financing constraints, planning principles, and up-to-date information on user demand into a rolling five-year capital plan.

**Priority-setting under the Capital Investment Folio Process in Metro Manila, the Philippines:** The Capital Investment Folio process first screened out projects that, though they appeared on agencies' project lists, were insufficiently elaborated or had no possible funding source. Small projects were grouped together by type of activity for evaluation. All projects or classes or projects were then scored on a scale of 1-10 according to different evaluation criteria, including:

- socio-political acceptability
- capital-financing requirements and availability of dedicated funds
- debt-servicing requirements
- economic rate of return
- targeting on poor communities and poor households.

Rankings were made under alternative assumptions about future economic growth. Based on this analysis, projects were grouped into first, second, and third priorities. First priority investments included, among others, slum upgrading, garbage collection and disposal sites, and sites and services projects. Low priority programmes included a primary roads programme, sewer rehabilitation, and the construction of completed housing units. For highly ranked projects, a further investigation of agency implementing capacity was carried out, before the projects were placed in the recommended Core Investment Program.

Sources: For Tianjin, World Bank, Tianjin Urban Development and Environment Project, Washington DC, 1992; for Manila, Clark, Giles, Reappraising the Urban Planning Process as an Instrument for Sustainable Urban Development and Management, UNCHS (Habitat), Nairobi, 1994.

with technical solutions that do not involve public or local government participation. The Capital Investment Folio Process was primarily an exercise for coordinating the major parastatal providers under the aegis of a politically powerful inter-agency forum, with local governments in a subordinate role. When Imelda Marcos was removed as Governor of Metro Manila, the entire concept of a formally recognized metropolitan planning jurisdiction with capital-allocating power disappeared with her.

This highlights an issue that has been raised in almost all efforts to apply Multi-Sectoral Investment Planning in practice: should analytical priority-setting methods replace, merge with, or serve as background information for political selection of investment projects? Different answers to this question have evolved over time in different locations. However, when first established, Multi-Sectoral Investment Planning probably should not attempt to supplant political decision making. Rather, it is best used as a tool to help rationalise or constrain political choices.[6]

# 9.4  Management of Environmental Infrastructure

Major changes are now taking place in the ways in which urban water resources and environmental infrastructure are managed. These are in response to the continuing failure in most countries in the South to meet environmental infrastructure needs despite the efforts of national governments with the assistance of external support agencies (both bilateral and multilateral). This has led to water sector professionals, urban planners, and some government ministers and city authorities concluding in several meetings and conferences that new ways must be sought.[7] These meetings have also helped to consolidate new actions and strategies for building capacity in water resource and environmental management and in the management of environmental infrastructure.

The experiences of the International Drinking Water Supply and Sanitation Decade from 1981 to 1990 have also shown the need for new approaches. To improve low-income groups' access to safe water and sanitation, drainage, and solid waste management on a sustainable basis will require more effective utilization of limited investment resources, an active search for better approaches to enhance services, expansion of both technological and service delivery options to tailor choices to people's demands, a re-think of the roles of government and the private sector, more investments in human resources and capacity-building initiatives, and the strengthening of country level institutions which can ensure that the improved infrastructure is maintained.

Box 9.12 outlines some of the initiatives underway by various international agencies.

## Integrated management of services

In most countries in the South, environmental infrastructure has not been managed in an integrated manner, even where the different forms of infrastructure provision were under the same

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**BOX 9.12**
## Examples of international agency initiatives to improve the provision and management of environmental infrastructure

**UNCHS (Habitat), is promoting sustainable environmental infrastructure service delivery and management through several programmes:**

- **The Settlement Infrastructure Environment Programme (see Box 9.13).**

- **The Urban Management Programme in partnership with 15 multi- and bilateral external support agencies. This promotes coherent urban policies, strengthens urban management, and enhances the provision of municipal services by harnessing the skills and strategies of regional networks of experts, communities, public and private sector organizations (see Chapter 11 for more details).**

- **The Sustainable Cities Programme whose principal goal is to provide municipal authorities and their partners in the public and private sector with an improved environmental planning and management capacity (see Chapter 12 for more details).**

- **The Community Development Programme which seeks to raise awareness and build capacity within communities, and encourages community participation in decision-making and service provision and financing.**

- **The City Data Programme which seeks to set up a comprehensive data base on cities.**

**The UNDP-World Bank Water and Sanitation Programme, which through four Regional Water and Sanitation Groups is concentrating on a dozen focus countries and is operational in more than 30 other countries. The programme combines field operations and applied research to test and evaluate innovative approaches applied in large-scale investment programmes in the South, and encourages interaction and collaboration among donors.**

**The WHO-UNICEF Water and Sanitation Monitoring System monitors service coverage. This also includes the contributions of users, beneficiaries, and communities to operation and maintenance costs and the proportions of investments made into low-income urban and rural areas.**

**Many bilateral agencies are also seeking to improve delivery and management of environmental infrastructure, including those of Denmark, Sweden, the UK, Japan, the USA, the Netherlands, Germany, Italy and France. These provide technical assistance direct to countries in Africa, Asia or Latin America or provide funding for research and demonstration projects implemented by agencies such as UNCHS.**

government agency, local authority, or parastatal. However, integrated management is needed as inadequate water supply leads to poor sanitation while inadequate provision for sanitation can mean a contamination of surface and groundwater resources. Similarly, the absence of a well managed solid waste collection and disposal system often leads to refuse blocking drains, causing flooding in low lying areas, and water pollution. An integrated approach is also needed to promote the conservation of water resources both in terms of quality and quantity, and the efficient and equitable allocation of scarce water resources among competing uses.

In response to this and to other needs, UNCHS (Habitat) launched its Settlement Infrastructure and Environment Programme. This includes a global demonstration project with the objective of formulating policy options and strategies to improve the integrated management of urban water resources at the municipal level. The programme also seeks to develop practical planning and implementation tools for local government and communities through research, city and national workshops for all stakeholders (government, local authorities, all categories of consumers, communities, private sector, and NGOs). The programme is also documenting best practice in promoting community participation in the implementation of water and sanitation programmes focused on the urban poor-see Box 9.13.

### Financing investments

In the past and to a large extent in many countries today, investments in environmental infrastructure has been financed largely from tax revenues and government borrowing. Thus, government bore all the associated risks. However public funds fall far short of the required level of investment to cover the rapidly growing demand in many urban areas, especially in the South, and the economic problems faced by most countries in Africa, Asia and Latin America have further reduced the availability of these funds. An estimated $80 to $120 billion a year needs to be invested by countries in the South to cater for the population growth between 1990 and 2000, but only about 5 to 10 per cent of the yearly requirement (about $2.5 billion per year) has been provided by external support agencies in the form of aid and non-concessionary loans. The need to quickly identify other means of financing investments is obvious.

While there are arguments for government financing of infrastructure, since government is the most credit-worthy entity in some cases, and is also able to borrow at lower interest rates, there are many reasons why other options should

be sought. These include the inefficiencies in government, the difficulties of maintaining accountability, implementation delays and serious cost and time overruns, and the general failure or unwillingness to recover full costs of investments along with operation and maintenance costs. These often greatly increase the unit cost of service provision, and make continued government financing unsustainable.

Financing investments with bilateral aid also has its own problems. The requirement that the funds be spent on goods and services from specified countries often leads to higher costs, and to the import of technology that is, in some cases, unfamiliar and inappropriate. More importantly, there is insufficient bilateral aid available to cover the funding gap, and the overall amount available is decreasing, in real terms.

Mobilizing private capital is another way to fill the funding gap. However private capital is not unlimited and environmental infrastructure has to compete with sectors which yield a higher return on investment. To date, only limited amounts of private capital have been used to finance investment in the sector. A survey published in October 1993 by *Public Works Financing* showed that of 148 private infrastructure projects funded worldwide since the early 1980s at a total cost of over $60 billion, only 16 per cent of the projects were for environmental infrastructure, and none of the projects were in low income countries. As better strategies are devised to ensure more private sector financing of infrastructure projects, more environmental infrastructure projects will qualify for such financing. An estimated 250 infrastructure projects in the South are being considered for future private sector financing, 72 of which are in low income countries.

Another source of funds for sectoral investments is generation from the services through user charges. If tariffs are set high enough to recover operation and maintenance costs as well as the investment costs, this can generate adequate funding for future investments. While agencies like the World Bank, the African Development Bank, the Asian Development Bank, and other external support agencies are actively promoting this idea, and in some cases making it a condition for the loans or grants they provide for infrastructure, recipient governments have been slow to embrace the idea, mainly for political reasons. However, there is evidence of slowly increasing support with reasonable results, particularly in countries like Côte d'Ivoire, Guinea, and the Gambia, where services have been leased to the private sector or privatized.

Households, communities, and the informal sector are also sources of limited amounts of capital as well as non-financial inputs for the construction of infrastructure. However the lack of

BOX 9.13
**Settlement Infrastructure Environment Programme (STEP)**

The Settlement Infrastructure and Environment Programme (SIEP) was launched by UNCHS (Habitat) in July 1992 to help countries achieve the infrastructure related goals of Agenda 21. The programme seeks to improve the living environment of human settlements by assisting governments and communities to develop practical policy options, planning and implementation aids and local capacity in critical areas of infrastructure delivery and management. Funded mainly by the Governments of Denmark, the Netherlands and Germany, the programme is currently active in ten countries in Africa, Asia and Latin America.

**The strategic focus**
Sharply focused on Agenda 21 priorities, the programme addresses capacity-building needs in the following areas:

*   Promoting the integrated provision of environmental infrastructure: water, sanitation, drainage and solid-waste management (Programme area D of Chapter 7 of Agenda 21).

*   Water resources management for sustainable urban development (Programme area *E* of Chapter 18 of Agenda 21).

*   Environmentally sound management of solid wastes and sewage (all programmes areas of Chapter 21 of Agenda 21).

*   Promoting sustainable energy and transport systems in human settlements (Programme area *E* of Chapter 7 of Agenda 21).

*   Supporting co-operation and capacity-building for the use of environmentally sound technologies for sustainable development of human settlements (Chapter 34 of Agenda 21).

*   Reducing health risks from environmental infrastructure deficiencies (Programme area *E* of Chapter 6 of Agenda 21).

**Programme implementation**
In programme execution, primary emphasis is given to strengthening the means of implementation identified in Agenda 21, particularly the scientific and technological means, which are critical for addressing successfully the above-mentioned priorities.

The programme is, therefore, implemented through a series of carefully designed projects, focusing on:

*   Bridging the knowledge gap in critical areas through research and studies; developing policy and technical options, management tools and aids; field testing research results and targeted dissemination of proven research outputs.

*   Documenting and disseminating 'best practice applications' in the provision and management of environmental infrastructure services.

*   Implementing demonstration projects for the dissemination of appropriate technologies and effective models of delivery mechanisms.

*   Building 'capacity for capacity', in other words, strengthening the capacity of key local institutions which can, in turn, help enhance the capacity of other local actors.

*   Information exchange, through regional networks linking private and public research institutions and NGOs, and through computerised databases and expert systems.

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appropriate mechanisms for the systematic organization and mobilization of communities has limited the regular and large-scale mobilization of this type of capital at a level sufficient to have significant impact on current demands.

## Institutional arrangements

Many public-sector institutions involved in environmental infrastructure management have been found to be monopolistic, lacking transparency and accountable only to the government machinery and not to the stakeholders and consumers. They also generally lack the capability to respond to consumer demands. Among the challenges of the future are the needs to introduce competition, transparency and accountability, and financial soundness into such institutions.

One of the factors limiting the availability of private capital for environmental infrastructure is the lack of a reliable track record by the operators. There is thus a move promoted by agencies such as the World Bank to privatization or leasing the management of services to private companies with proven track records. Another option is to enter into joint management contracts with such companies with a view to improving service delivery and management, operating on sound commercial principles, and using the private company's proven track record to attract financing. Such private/public partnerships have often proved useful to municipal authorities who lack the funding to provide or manage infrastructure but can do so through forming partnerships with private sector enterprises or with NGOs or on occasion, community based organizations. Such partnerships are also particularly useful, as demands for infrastructure become too large and varied for the government authorities to supply efficiently. They can vary in scale from the contracting out or privatization of city-wide infrastructure (for instance for water supply or sanitation) to support provided to an NGO or community based organization to install infrastructure in one particular low-income settlement. Box 9.14 gives the example of the private firm in Côte d'Ivoire which operates and maintains the water supply system in Abidjan and in most other urban centres, with the government remaining responsible for investment and construction.

The Republics of Guinea and the Gambia entered into management leasing arrangements with private companies for the operation and maintenance of services including billing and revenue collection with the respective governments retaining responsibility for capital investments. While the Guinean contract is still in place, contractual problems in the Gambia resulted in premature termination barely 2 years into a 10-year contract. The lessons of the Gambian case have been used to develop what is believed to be a better management leasing contract for the water utility in Senegal. Once the initial problems are

BOX 9.14
**The private operation of water services; the case of SODECI in Me d'Ivoire**

SOCECI (Societé des Eaux du Me d'Ivoire) is an Ivorian company that provides water supply in Abidjan and for all urban centres in the country and also manages Abidjan's sewerage system. Originally founded as a French firm, its capital is now 52 per cent owned by local interests with 46 per cent held by Saur, the French water distributor, and 2 per cent by a government investment fund. It began operations with the Abidjan water supply system 30 years ago and now manages more than 300 piped water supply systems across the country. This includes 300,000 individual connections that serve some 70 per cent of Côte D'Ivoire's 4.5 million urban residents with the number of connections growing by between 5 and 6 per cent a year.

Since the early 1970s, full cost recovery has been the rule and revenues from water sales have fully covered capital, operation and maintenance costs. During the past ten years, unaccounted-for water has never exceeded 15 per cent and collection from private consumers has never fallen below 98 per cent-although collection from government agencies has proved more problematic. The staff to connection ratio is four persons per 1,000 connections which reflects best-practice standards.

The company retains part of the rates collected to cover its operating costs, depreciate its assets, extend and rehabilitate distribution networks and pay dividends to shareholders. It also pays government a rental fee to service the debt attached to earlier projects financed by the government.

SODECI provides service standards close to the standards of countries in the North but the cost to consumers is no higher than in neighbouring countries in similar economic conditions or in other Francophone African countries where water tariffs rarely cover capital, operation and maintenance costs. SODECI's bonds are one of the main items traded in Abidjan's financial market, and it has distributed dividends to its shareholders. The company has also paid taxes since its inception.

**Source: World Bank, World Development Report 1994; Infrastructure for Development, Oxford University Press, Oxford, 1994.**

BOX 9.15
**Garbage collection and resource recovery by the informal sector; the zabbaleen in Cairo**

In Cairo, an informal-sector group of garbage collectors, known as zabbaleen, and local contractors, known as wahis were transformed into the private Environmental Protection Company (EPC). EPC has the contract for waste collection in several parts of the city. Although the responsibilities for solid-waste management have long been shared by the municipal sanitation service and the zabbaleen, the formation of the EPC established wahis and zabbaleen as key participants in the local governor's programme to upgrade solid-waste management in Cairo. The wahis administer the system, market the company's services, collect household charges, and supervise service deliveries. The zabbaleen collect and transport the waste, supplying their labour in exchange for rights to recycle the waste. After establishing the EPC, the wahis increased their earnings and the zabbaleen earned additional income and were able to reduce collection time by 30-50 per cent. The Cairo Governorate is seeking to extend the EPC service to other areas of the city.

**Source: Environmental Quality International, quoted in UNCHS (Habitao, Sustainable Human Settlements Development: Implementing Agenda 21, Report for the Commission on Sustainable Development, Nairobi, March 1994.**

resolved, there are likely to be more such contracts for the management of environmental infrastructure services.

One of the most common forms of private/ public partnership in both the North and the South is for urban authorities to contract out solid-waste collection and disposal. Many (although not all) case studies find that private-sector solid-waste collection has lowered costs. There are also an increasing number of instances where informal-sector groups of garbage collectors have been contracted to collect and dispose of solid wastes. Box 9.15 gives one of the best known examples-the *zabbaleen* in Cairo. Chapter 12 will return to this issue, since there is considerable potential for improved recycling and reclamation within solid-waste collection and management through contracts with local

groups, including community-based groups, and this also has considerable potential for employment creation at local level.

There is considerable variety in what aspects of infrastructure can become the responsibility of private enterprise, NGO, or community-based organizations. Such groups may be contracted to undertake one or more areas of-feasibility-study, design, construction, supervision or management; or to provide some service like the collection of solid waste; or to administer infrastructure such as the management of water distribution and sewerage networks, which includes operation and maintenance, rehabilitation, and the systems' expansion. Box 9.16 describes the example of AGETIP, a private, non-profit agency in Senegal that executes urban infrastructure and service projects for central and municipal authorities. Similar agencies operate in Benin, Burkina Faso, Mali, Mauritania, and Niger, and others are being formed in Chad, the Gambia, Madagascar, and Togo.

There is also considerable diversity in the form that a public/private partnership in infrastructure provision or maintenance takes and in the extent of ownership or control retained by the public sector. At one extreme, the private sector owns and manages what had previously been the responsibility of the government. This may be through privatization as what had previously been a government company is sold to the private sector (as in many water supply companies). Or it may be through what is often termed BOO

BOX 9.16
**Private-sector infrastructure provision; the example of AGETIP in Senegal**

The Agence d'Exécution des Travaux d'Interêt Public (AGETIP) is a private, non-profit legal enterprise that contracts with Senegal's Government to execute urban infrastructure works and urban service projects. The arrangement is stipulated in several documents including a manual defining the duties and responsibilities of the two parties. Municipal and central governments sign specific delegated contract management agreements with AGETIP each time they submit a sub-project for execution. AGETIP hires consultants to prepare designs and bidding documents and to supervise works, issues calls for bids, evaluates and adjudicates the bids, and signs the contracts, and evaluates progress, pays the contractors, and represents the owner at the final hand-over of the works. As of January 1993, Senegal's AGETIP had implemented 330 projects with a total value of $55 million. These projects are located in 78 municipalities and have created 50,600 temporary jobs and 1,500 permanent jobs. Over half of the projects executed have dealt with the environment (drainage, garbage collection, canal clearing, sidewalk improvements and road maintenance). The AGETIP model creates jobs for low-income groups through its labour-intensive methods. The 'contracting-out' approach created demand for the services of local contracting and consulting industries, thus stimulating their development and increasing spending in local effective management information systems, and a sense of a accountability that allows for timely decision making. These also inspired other agencies to improve their own performance.

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

(build, own and operate) schemes, where the private company builds, owns, and operates the infrastructure. In these instances where there is no public sector ownership, the public sector continues, in theory, to monitor prices and quality. Another common variant of this is through residents' organizations, including those formed in illegal or informal settlements, improving their own infrastructure (for instance paving roads or installing drains) with some support from local authorities. There is also the `Build, Operate and Transfer' model where the private company builds and operates some form of infrastructure, a treatment plant for example, with the infrastructure being transferred to the public sector after an agreed period of time.

For the public sector to successfully involve the private sector in providing or managing environmental infrastructure, the government authorities should have the capacity to manage the process-for instance to ensure that people's needs are met with services of appropriate quality and price. The legal framework must both support the government authorities in managing the process while at the same time not hindering decision-making by a private partner.

Although the examples of SODECI in Côte d'Ivoire, the Environmental Protection Company in Cairo given in the boxes above, and the Orangi Pilot Project in Karachi given in Box 9.18 below, suggest new ways and means by which governments can work with the private and voluntary sector in infrastructure provision or management, care must be taken in assuming that these provide solutions in all instances. The experience of private-sector performance in the management of infrastructure development in countries in the South is still too limited to draw general conclusions, although there is agreement that the private sector has great potential of taking a more active role in this area.

## Capacity building

Building up national and local capacities is a complex process, involving policies, institutions, and people. At the policy level it involves improving the rules governing the sector along with the regulations and practices to provide an enabling environment for its development. Experience in the past has shown that unless an enabling environment is created with the right policies and regulations, investments and other development efforts will not be sustainable.

The UNCHS (Habitat) and other programmes listed in Box 9.12 help build up the capacity of local authorities, communities, private sector and local NGOs to provide and manage the services. Multilateral development assistance agencies now include capacity building programmes in their lending packages, while bilateral agencies provide technical assistance to build up capacity of institutions and individuals and to provide enabling environments for sustainable service provision and delivery.

## Community participation

It has for long been assumed that communities do not know their infrastructure needs-especially low-income communities. Thus, decisions about provision were made from above and passed down. It is increasingly being recognised that this top-down approach has been the reason for the failure of many initiatives, and that the communities know their needs, and should to be consulted and involved in the decision making process. Community participation is gradually becoming a component of all environmental infrastructure planning and decision making.

One example of the need to involve communities in the decision making process has been demonstrated in the rapidly growing body of research into their willingness to pay for services. While it had long been assumed that low-income

communities were unable and unwilling to pay for infrastructure services, research quickly established that such communities living in unplanned and unserviced settlements were often paying 10 to 100 times more for water supply (per litre) than their counterparts in planned areas. UNCHS is currently conducting research to develop a manual for a community self-survey to determine effective demand for services under the SIEP programme described in Box 9.13. There are some 20 other studies on the subject of willingness to pay covering cities in West and East Africa focusing on vending, as well as bidding games in Asia and Latin America, sponsored mainly by the World Bank and the US Agency for International Development (see Box 9.17).

Community participation in the decision making process not only ensures that communi-

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BOX 9.17
## Willingness to pay: assessing community water demand

Two main methods exist for evaluating willingness to pay. The first is a direct method, using rapid appraisal surveys assessing what consumers already pay for water. This has been widely used for surveys of water-vending practices, and the contingent valuation studies which employ bidding games asking people what they would be prepared to pay for improved services in future. The second is an indirect method which aims at establishing what people living in similar circumstances to the target population are already paying for water. These approaches have one common drawback in that they both depend on external resources to generate information, and are therefore subjected to biases.

To address this problem, UNCHS (Habitat) within its Community-based Environmental Management Information System (CEMIS), is undertaking research to develop and test a manual for assessing effective demand by communities for environmental infrastructure services, in association with Atma Jaya University in Indonesia. The approach is to train communities to assess their own demand for services through community self-surveys and community workshops. It uses community leaders and volunteers, and reduces the need for external resources and also the biases, and leads to community empowerment and self-determination. It can also mobilize locally available information and resources.

To do this, after community mobilization, a community meeting is called by the community leader to discuss and prioritize environmental problems. It is common for environmental infrastructure issues to top the agenda. In the case of water supply, for example, the community would decide to determine effective demand for water. First a workshop is held for community volunteers to familiarize them with the methodology and develop a plan for the self-survey. Then the survey is conducted by the volunteers and the data collated and analysed, and the results presented at a community meeting during which a consensus is reached on commitments of individual households to contribute to the provision, operation and maintenance of a service, in this case, water supply.

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ties are provided with what they want as opposed to what the experts think they want, but it also provides a sense of belonging and ownership and better care for the investments, and it reduces costs. Box 9.18 gives the example of the Orangi Pilot Project in Karachi which has become one of the best known examples of NGO community collaboration in developing infrastructure. It has demonstrated that low-income households can afford to pay the full cost of installing basic drainage and sewage, if all households within a street or `lane' worked collectively, generally collecting small contributions from each household and sub-contracting out the work.[8] The NGO, the Orangi Pilot Project, provided technical and organizational support. This showed how a partnership between NGOs and citizens organized in small neighbourhood groups can not only prove effective but can also be so on a very large scale. The estimated cost per household is one seventh of what the local authority wanted to charge to complete such investment. Once the households in a `lane' became involved in installing the drains, they automatically assumed responsibility for regular maintenance and repair. As Box 9.18 notes, the municipal authority is now helping to fund this approach and Orangi Pilot Project is now working with local NGOs and community organizations in other settlements in Karachi and in other urban centres in Pakistan.

The UNCHS/Danida Community Participation Training Programme was launched in 1984 out of the recognition that an enabling approach to improve living conditions in low income settlements requires a partnership between government agencies, project staff and participating communities. It also recognized that the building of trust and cooperation for this partnership requires the use of skills and sensitivities that are new to all parties. The Training Programme aims to institutionalize community participation in all low-income housing projects and programmes.

As a result of governments' inability to meet existing demands, communities, households and NGOs are also becoming more involved in mobilizing funds to build their water and sanitation schemes or to operate and maintain existing ones. Women, in particular, play an important role in organizing their communities and mobilizing local resources. However these activities often do not evolve into sustainable forms of settlement development and resource management since they are carried out in a non-formal manner, reacting to immediate needs, with varying degrees of success. A number of the above programmes as well as NGO programmes are focused on raising awareness and building up capacity for participation in the execution of activities on water and sustainable urban development to help communities achieve better results.

BOX 9.18
**The Orangi pilot project in Karachi, Pakistan**

Orangi is an unauthorised settlement with around 1 million inhabitants extending over 8,000 hectares. Most inhabitants built their own houses and none received official help in doing so. There was no public provision for sanitation; most people used bucket latrines which were emptied every few days, usually onto the unpaved lanes running between houses. More affluent households constructed soakpits but these filled up after a few years. Some households living near creeks constructed sewage pipes which emptied into the creeks. The cost of persuading local government agencies to lay sewage pipes in Orangi was too much for local residents-who also felt that these should be provided free.

A local organization called the Orangi Pilot Project (OPP) was sure that if local residents were fully involved, a cheaper, more

appropriate sanitation system could be installed. Research undertaken by OPP staff showed that the inhabitants were aware of the consequences of poor sanitation on their health and their property but they could neither afford conventional systems nor had they the technical or organizational skills to use alternative options. OPP organized meetings for those living in 10-15 adjacent houses each side of a lane and explained the benefits of improved sanitation and offered technical assistance. Where agreement was reached among the households of a lane, they elected their own leader who formally applied for technical help. Their site was surveyed with plans drawn up and cost estimates prepared. Local leaders kept their group informed and collected money to pay for the work. Sewers were then installed with maintenance organized by local groups. The scope of the sewer construction programme grew as more local groups approached OPP for help and the local authorities began to provide some financial support. Over the last

eight years, households in Orangi have constructed close to 69,000 sanitary pour-flush latrines in their homes plus 4,459 sewerage lines and 345 secondary drains-using their own funds and under their own management. One indication of the viability of this work is shown by the fact that some lanes have organized and undertaken lane sewerage investments independently of OPP; another is the households' willingness to make the investments needed in maintenance.

Women were very active in local groups; many were elected group leaders and it was often women who found the funds to pay for the sewers out of household budgets. But women had difficulty visiting health centres since custom dictates that they should stay at home. OPP developed a health programme, working through women's groups, also at the level of the lane, with advice provided on hygiene, nutrition, disease prevention, family planning and kitchen gardens.

Sources: Arif Hasan, 'A low cost sewer system by low-income Pakistanis', in Bertha Turner led.), Building Community: a Third World Case Book, Habitat International Coalition, 1989; Hasan, Arif, 'Community organizations and non-government organizations in the urban field in Pakistan' Environment and Urbanization, vol. 2, no. 1, April 1990, 74-86; and Khan, Akhter Hameed, Orangi Pilot Project Programmes, Orangi Pilot Project, Karachi, 1991.

For optimum results, there needs to be more coordination linking the activities of NGOs with activities being executed by the public sector and other external support agencies. There is also a need to provide the appropriate legal and institutional environment to facilitate NGO operations. The UNDP inter-regional Local Initiative Facility for Urban Environment (LIFE) launched at UNCED to promote 'local-local' dialogue among municipal governments, NGOs and CBOs to improve the urban environment, is an important initiative in this area (see Chapter 11 for more details).

### Sustaining the resource base

Chapter 4 noted how excessive exploitation of water resources to supply urban areas has often led to the depletion or irreversible degradation of freshwater resources, while unrestricted urban groundwater abstractions in many coastal cities has led to saline intrusions into freshwater aquifers. Increasing urban populations and growing industrial production requires large increases in the freshwater supplies. Cities often have to compete with agriculture for local freshwater and this often makes it necessary for cities to tap new, more distant sources.

Chapter 4 also noted how the discharge of urban domestic and industrial wastewater into freshwater bodies reduces their productivity, and affects fisheries, agriculture, and their downstream use by communities. The discharge of untreated sewage into seas can damage fragile

marine and coastal ecosystems. Uncontrolled dumping of urban solid wastes causes contamination of surface and groundwater resources, blockage of drainage channels and flooding of low lying areas.

In the past the focus was on the design of more efficient, environmentally sound waste treatment and disposal facilities. But financial restrictions and increasing waste production have brought about a change of focus to promoting waste minimization and a reduction of pollutant load at source, waste recycling, the use of water saving devices, metering of services, and new tariff structures. The UNCHS project on the Integrated Management of Water Resources and Environmental Infrastructure is developing strategies and action plans for improved water resources management focusing on control of depletion and degradation of water resources and their equitable allocation. The Centre has also developed an efficient low cost solid waste management system for Pune Municipality, in India (Box 9.19).

### Raising awareness

The examples given above of new approaches to environmental infrastructure management are now well documented and known to sector experts working in the North and in development assistance agencies. However, it is becoming increasingly apparent that the stakeholders in the field involved with delivery and management of environmental infrastructure services in Africa, Asia and Latin America are

BOX 9.19
**Low cost and rapid delivery technical assistance for solid-waste management; Pune Municipality, India**

UNCHS (Habitat) was requested to review the waste disposal problems of Pune and to make recommendations as to possible improvements in the existing local solid waste management practices. As a first priority, the existing refuse collection fleet was examined. It appeared that most vehicles were generally not entirely suited to local conditions in refuse collection and, in view of local waste densities, they were often not operating at full capacity. In particular, the ergonomics of the trucks' design appeared to be unsuitable. It was also found that labour efficiency could be improved, as could the organizational aspects of waste collection, notably shift durations and undesirable delays at landfill sites. The landfill sites were essentially open dumps and one of the four landfill sites was an obvious environmental threat to a nearby water course.

To address these problems, the advisory team from SIEP took the following actions:

- Under UNCHS (Habitat)'s direction, one of the more recently purchased garbage collection vehicles was modified by a local engineering firm so as to increase the vehicles body volume, allowing for the collection of more waste during one trip. The addition of a simple loading platform to reduce the loading height and comfortable seating arrangements during the collection runs considerably improved the tasks of the waste collectors.

- Changes in the workers' daily schedule and an incentive scheme based on productivity was suggested. These would allow for substantially reduced labour requirements and it was further recommended that the surplus labour so created be used to increase the level of service coverage, particularly in low-income areas where primary waste collection was considered a necessity.

- A new design of waste collection hand-cart was proposed to replace the grossly inefficient existing hand-carts and implements. The new hand-cart proposed could be easily and cheaply constructed, using wheels with tyres made of the inner beading of discarded truck tyres.

The advisory study was completed with a workshop to disseminate its findings and to share the experience with other municipalities. All of these activities were carried out in a space of eight months and for a total cost of $US20,000.

not always aware of the innovative approaches. For all the above developments to be meaningful, information about them needs to be more widely available. Only through dramatic change in attitudes employing the above ideas and concepts will there be any chance of achieving the goal of ensuring affordable access to adequate levels of environmental infrastructure services to all people and in the earliest possible time.

# 9.5 Transport[9]

## Introduction

National and city governments in both the North and the South are questioning the future of cities and urban systems in which private automobiles have the central role in the transport of people. This stems from a greater recognition of the economic, social and environmental costs of 'automobile dependent' cities that were described in Chapter 8. More attention is also being given to the social and environmental costs of freight transport by road. To this is added an interest in the extent to which advanced telecommunications and computer networks can reduce the need for people to travel.

Automobiles and trucks can be `civilized' through technological advances that greatly reduce fuel use and polluting emissions and increase safety both for the vehicle users and for other road users.[10] Sophisticated traffic management systems can increase the efficiency of the use of road spaces and the number of vehicles using road systems without congestion. But increasingly, even if the incorporation of these advances was accelerated, it is seen as insufficient as the sheer volume of cars, trucks and other motorized road vehicles overwhelms cities. This is especially so in high density cities that have a low proportion of their total area devoted to roads, as is the case in many cities in Europe and in the South. Seeking to expand road systems to cope with projections of increased automobile use in high density cities also produces such disruption to the urban fabric and displaces large numbers of people. It was the scale of this disruption in cities in the North that helped generate a re-evaluation of the priority that was being given to private automobile users. For many of the major cities in the South, the number of automobiles is growing much more rapidly than the number of people and building the roads and highways to cope with projections for increased automobile use will mean the displacement of tens of thousands (or more) people in each such city. There is also the more recent recognition that people who do not have access to a car are significantly disadvantaged as automobile dependence within a city or region increases since this also leads to a deterioration in public transport and a city in which access to workplaces, schools, shops and services is increasingly difficult without a car.

Despite the doubts as to whether the use of private cars can be controlled, not least because of the power of the economic interests behind the automobile-dependent model, there is a growing awareness of the need to plan to reduce automobile dependence within cities.[11] Many cities have pedestrianized their central districts; for most,

this was easily done as these were historic city centres that originally developed as `walking cities' before the advent of motorized transport. But there are also many examples of cities which have reduced automobile dependence through innovations in public transport and controls on automobile use in both the North and the South. They include Hong Kong, Singapore and Surabaya in Asia, Curitiba in Latin America, Zurich, Copenhagen and Freiburg in Europe, Toronto and Portland in North America and Perth in Australia and the means by which they achieved this are outlined in this section. The fact that this list includes some of the wealthiest cities in both the North and South shows that reducing automobile dependence is possible even in societies with high levels of automobile ownership.

There is also much discussion about the need for development oriented towards public transport as the basis for any sustainable city.[12] The link with sustainable development comes from the fact that there is a rapid growth in the number of automobile-dependent cities and in most of these cities, automobile dependence is still increasing. Chapter 8 noted the very rapid growth in the number of automobiles worldwide and their growing role in greenhouse gas emissions. The world's consumption of fossil fuels and total emissions of greenhouse gases would increase dramatically, if the whole world's population came to be as automobile dependent as North America, West Europe or Australia. The OECD and the World Bank have begun to recognise this and are stressing how transport funding needs to be more critically evaluated.[13] But in a globally connected world, the reduction of automobile dependence (and its associated energy, resource use, air pollution and greenhouse gas emissions) should be directed both to cities where automobile dependence is highest and to cities in the South where short-term and long-term measures can reduce their automobile-dependence while also enhancing their prosperity and quality of life.

Some of the world's wealthiest and most successful cities have been reducing the dependence of their citizens on private automobiles. This can be seen in a comparison between Los Angeles, Zurich and Singapore in how their car use and transit use changed between 1980 to 1990. In Los Angeles, car use continued to grow rapidly, with a decline in the use of public transport whereas in Zurich and Singapore, there was far less growth in car use and a considerable increase in the use of public transport. Thus the substantial increases in income which have occurred in the past 10 years in Zurich and Singapore have gone mostly into public transport use and not into private car use and this reflects their cities' overall plans and priorities to achieve this. Los Angeles on the other

hand has not attempted to control automobile dependence; here, it is accepted that there is a culture which has little belief in planning other than the facilitation of individual household values. The use of private automobiles has almost inevitably grown as a result.

## Key policy conclusions

Four key conclusions of relevance to public policy can be drawn from the data on cities around the world:

- *Public Transport Infrastructure.* Investment in transit infrastructure can help shape the city as well as ease traffic problems-for instance, encouraging `walking cities' to develop around the stations of light railways or rapid busways. There is a considerable range of technological options too, varying in price, capacity and speed and these include options such as express busways that do not require heavy investments. It is also possible to `upgrade' as demand rises and as cities grow in size and wealth-for instance as light railways or trams replace express busways. It is also possible to draw on private-sector resources-for instance through city authorities providing the framework within which private bus companies bid for particular routes or areas. But this can only be achieved if public transport is part of a broader policy that discourages low density developments and unnecessary automobile use. If public transport is left as a supplementary process in streets designed for the automobile, there will be no resolution of the transport dilemma.

- *Pedestrianl Cycle Orientation.* If the goal is to provide for the most efficient, equitable and human form of transport, this means a city with provision for cycling, good walking space on streets and in public squares and traffic-free shopping streets. Any city that neglects this dimension will find social and economic problems as well as the obvious environmental ones.

- *Density.* The need to maintain land use efficiency is linked closely to transport. Dispersing land uses at low density creates automobile dependence. Dense urban villages linked by public transport creates the opportunity for Walking and Transit City characteristics to be introduced into the automobile-dependent city-see Figure 9.1 which should be compared to Figure 8.5 in Chapter 8. Similarly, introducing new and efficient public transport lines into rapidly growing cities can encourage the development of such dense urban settlements and limit low density sprawl, especially if land use planning helps encourage such developments.

Planning and Control. All three of the above policies have strong market pressures behind them. But they also require planning to facilitate them. This planning is not heavy-handed bureaucracy but an expression of any city's cultural   values-and also of the needs and priorities of pedestrians and cyclists and of children, youth and all other citizens who cannot or do not use cars. It highlights the priority on urbanization and access to city services for all people. All cities have some commitment to this social value. If automobile dependence is not resisted through conscious planning, it will erode or help to destroy most attempts to maintain community life in an urban setting. For all cities but particularly those in the South, strong neighbourhoods need to be protected from the dispersing and disruptive aspects of the automobile, while in many cities in the wealthiest market economies of the world, the policy of reducing automobile dependence is part of a process to reclaim residential neighbourhoods.
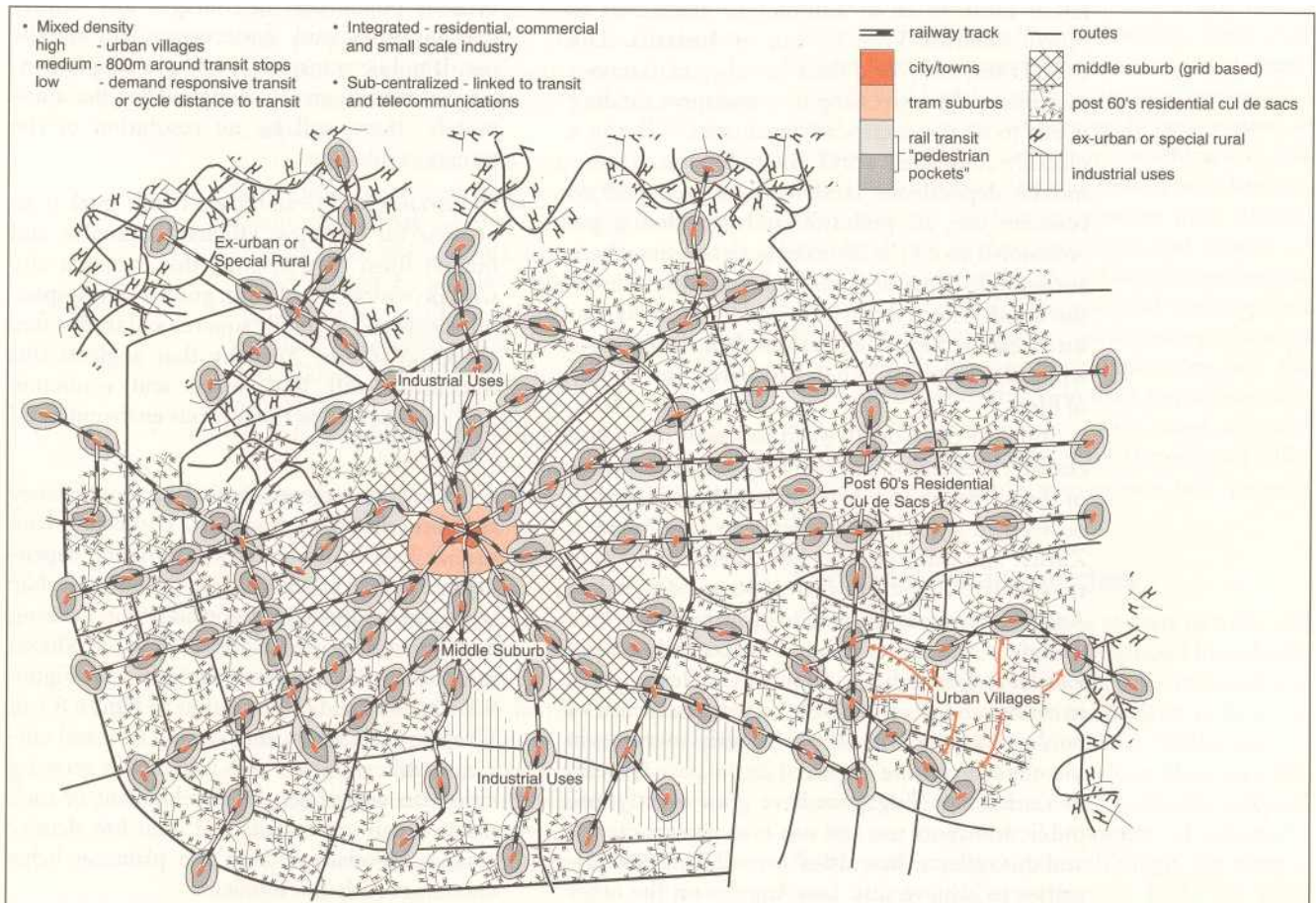
## Case studies in resolving or limiting private automobile dependence

Apart from general principle, it is important to learn from individual cities how they have been able to overcome automobile dependence. It is also important to learn of the challenges that need to be faced by cities that are seeking to address problems of increasing traffic congestion and rising levels of private automobile ownership and/or use. Below are short sketches of the measures taken to reduce automobile dependence in a range of cities. Examples of governments who are developing `enabling' frameworks that encourage city and municipal authorities to reduce automobile dependence and to improve public transport are given in Chapter 12.

### Singapore and Hong Kong

Both Singapore and Hong Kong have remarkably successful transit systems and very low car usage. They have not always been so well balanced but faced the dilemma of the automobile and constantly opted to provide more for public transport than for the car. In order to achieve this, Singapore and Hong Kong have made city-wide planning a very high priority.[14] The transit system in both cities is both fixed, rapid and comfortable (electric rail) and is also flexible and local (minibus). This is supplemented by non-motorized means such as walking and cycling. Central to the success of this model is high density urban development that is closely integrated around the transit system. Such densities seem

**FIGURE 9.1**
**The remodelling of the automobile dependent city**

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

excessive to Anglo-Saxon perceptions but are not so culturally unacceptable particularly when they are associated with good planning that results in high levels of health and other quality-of-life indicators.[15] In Singapore, high-quality provision of public transport is also supplemented by heavy taxes on car ownership and an `area licensing scheme' that charges cars that enter the central city-although car pools of four or more riders are allowed to enter free.[16] Many other measures are being taken to encourage walking and cycling-for instance separated bikeways along roads and in the new towns to facilitate access to the mass rapid transit stations and extensive pedestrian precincts and malls.[17]

Many of the larger cities in Africa, Asia and Latin America already have high levels of automobile ownership-and many have a much more rapid growth in car ownership than in population. Most are seeking to address this with transport priorities dominated by new roads and highways and increased provision for car parking. Many such cities already have huge traffic problems as well as associated environmental and social problems. For them there is the obvious solution-to implement public transport systems similar to those of Hong Kong, Singapore or Curitiba (see Box 9.20 for more details on Curitiba). The density of development in most cities in these regions is more than adequate to enable good transit systems to be built. And for rapidly growing cities, decisions made now about good public transport can ensure that the city's physical growth in the future avoids the problems of automobile-dependent, low-density sprawl. Many proposals and plans for transit systems (usually with a mixture of finance from private and public sources) exist in cities like Bangkok which are becoming overwhelmed by automobiles.

## Curitiba

The problem for most cities whether in the North or the South is how to minimize the cost of public transport whilst putting in sufficient investment to make it a viable alternative to increasing private automobile use. Curitiba in Brazil is a city which has shown how to do this by channelling investment of scarce urban resources into a coherent, city-wide transit service that is closely integrated with land use policy and other social policies in the city. Box 9.20 describes its public transport system.

Three other aspects of Curitiba's transport policy are also worth noting: [18]

1. It has one of the lowest accident rates per vehicle in Brazil.
2. There are considerable savings for inhabitants in expenditure on transport (on average, residents spend only about 10 per cent of their

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BOX 9.20
**Public transport and other environmental initiatives in Curitiba, Brazil**

The public transport system which has been developed over the last 20 years began with the use of express buses on exclusive busways on axes radiating out of the city centre. These proved much cheaper and less disruptive than conventional metro or light railway systems. Over the years, these axes have been further developed and new urban developments have been encouraged to concentrate along them. There are five main axes, each with a'trinary' road system. The central road has two exclusive bus lanes in the centre for express buses and is flanked by two local roads. Each side of this central road, one block away, are high capacity, free-flowing, one way roads-one for traffic flowing into the city, the other for traffic flowing out of the city. In the areas adjacent to each axis, land use legislation has encouraged high density residential developments, along with services and commerce. The express buses running along these axes are served by inter-district buses and conventional feeder buses with connections between different buses organized in a series of bus terminals.

With a more deconcentrated pattern of employment, the central city areas could be pedestrianized and the historic buildings protected from redevelopment. Several main thoroughfares have been closed to traffic and converted into tree-lined walkways. One important complementary action was the municipal government's acquisition of land along or close to the new transport axes, prior to their construction. This allowed the government to organize high density housing programmes close to the transport axes; in all, some 17,000 lower-income families were located close to these.

At present there are 53 km of express lines, 294 km of feeder lines and 167 km of inter-district lines. Buses are colour coded: the express buses are red, inter-district buses are green and the conventional (feeder) buses are yellow. There is full integration between express buses, inter-district buses and conventional (feeder) buses. Large bus terminals at the end of each of the five express busways allow people to transfer to inter-district or feeder buses and one single fare is valid for all buses. Along each express route, smaller bus terminals are located approximately every 1,400 metres, equipped with newspaper stands, public telephones and post office facilities. Here passengers arrive on feeder buses and transfer to the express buses. The latest innovation is the introduction of the 'direct' express buses with fewer stops and where passengers pay before boarding the buses in special raised tubular stations. These new stations (with platforms at the same height as bus floors) cut boarding and deboarding times. This rapid bus system with 'boarding tubes' can take twice as many passengers per hour as the other express buses and three times as many passengers per hour when compared to a conventional bus operating in a normal street. The boarding tubes also eliminate the need for a crew on the bus to collect fares, which frees up space for more passengers.

Curitiba's public transportation system is used by more than 1.3 million passengers each day. Twenty eight per cent of express bus users previously travelled in their cars. This has meant savings of up to 25 per cent of fuel consumption city-wide. Curitiba's public transportation system is a major reason for the city having one of the lowest levels of ambient air pollution in Brazil.

Source:. Jonas Rabinovitch, 'Curitiba: towards sustainable urban development', Environment and Urbanization vol. 4, no. 2., Oct. 1992.

income on transport which is relatively low for Brazil).

3. Social policies have been integrated with the system through the insistence on low cost fares across the city, the access to the system for those with disabilities (wheelchairs can enter the bus directly once in the bus-boarding tube, and old buses are used to provide special services for the heavily disabled).

The next phase of Curitiba's growth is to develop higher capacity rail services along the main axes which can now be done as the city develops based on its original low cost buses.

### Surabaya

Cities without the funding potential for major transit systems must try other ways of managing the automobile or it will quickly destroy their cities. In the South, what is termed the non-motorized transport sector' which includes bicycles and walking is largely neglected and is seen as an expression of older, less fashionable values-ironically, at a time when it is seen once again as fashionable and modern in Europe. In both the North and the South, it has huge potential if it is properly facilitated.[19]

Surabaya provides an excellent example of support for non-motorized transport. Surabaya is a dense, walking-oriented city with little motorized transport. The goal of Surabaya was to build on this strength whilst providing improved quality of life for its residents.  The city developed an extensive programme to improve housing, infrastructure and services in the traditional Kampungs. But the upgrading also retained narrow alleys and these were made attractive with planting and a strong emphasis on pedestrians.[20] This is a demonstration of how planning can work in cities in less urbanized and industrialized economies. It also shows how an emphasis on participation and grassroots involvement can work in such a city environment.

### Zurich, Copenhagen and Freiburg

Each of these are examples of cities that have made concerted efforts to contain the automobile whilst improving the quality of life of their citizens. In Zurich, there has been a spectacular increase in the use of public transport and a containment in the growth in car use. This has occurred despite substantial growth in per capita incomes in Zurich. How has Zurich managed to channel its wealth into such positive city-building processes rather than the city-destroying processes of dispersal, pollution and community disturbance associated with automobile dependence? In the 1970s, Zurich had to make decisions about its trams. Instead of bowing to the car lobby and scrapping the tram system (as most European cities had done before them), it expanded its old

tram system and upgraded the services so tram-users never had to wait more than 6 minutes and had total right of way at traffic lights.

As trams became fashionable, public attention was directed to other amenities-pedestrian malls and outdoor cafes, that were allowed to take up road space and parking lots. The strategy, was `to point out other better possibilities of use'. People began to respond to the attractions of the public realm and made private sacrifices to be part of that. This is the key to resolving the dilemma of the automobile: a city should provide something more appealing to its citizens than automobile-based decisions can provide.

Copenhagen is an example of a city that has sought to resolve the dilemma of the automobile using innovative social planning. The city has a transit-oriented  urban form but it was not enough in itself as the use of private automobiles was growing and there was a need to resist this.

By the 1960s, American values had begun to catch on-separate isolated homes and everyone driving. The city was suffering so how could we reverse these patterns? We decided to make the public realm so attractive it would drag people back into the streets, whilst making it simultaneously difficult to go there by car.[21]

Each year, the amount of space for car parking was reduced by three per cent and more streets were pedestrianized. Each year, city housing was built or refurbished, and streets were made more attractive to pedestrians and to street life in general through landscaping, sculptures, and seating (including 3,000 seats in sidewalk cafes). And each year they introduced more street musicians, markets and other street life and street festivals that became increasingly popular. `The city became like a good party'.[22] The result has been not only a reduction in the traffic but growth in the vitality of the city area. Social and recreational activity has tripled in Copenhagen's major streets. And this was despite the conventional wisdom that:

- `Denmark has never had a strong urban culture'
- `Danes will never get out of their cars' and
- `Danes do not promenade like Italians'.

This turnaround from what had appeared to be a strong trend towards increasing automobile dependence took only twenty years. The newly invigorated public realm of the city is so attractive that there is a declining market for single detached homes on the urban fringe; they are apparently `too far away' and `too private'.

Freiburg in Germany is another city that has shown how it is possible to virtually stop the growth of car use, even when car ownership is growing. Freiburg's car ownership rose from 113 per 1,000 people in 1960 to 422 per 1,000 in 1990,

only a little under the average for the Zurich agglomeration, and only 12 per cent less than the national average for West Germany (481 per 1,000).[23] Table 9.1 shows how, despite this growth in the availability of cars, car use has virtually remained constant since 1976. Public transport passengers have increased 53 per cent and bicycle trips have risen 96 per cent between 1976 and 1991.

The growth in car trips in Freiburg over 15 years was only 1.3 per cent, yet total trips increased 30 per cent. The growth in mobility was supplied principally by increased public transport and bicycling. In fact the share of trips by car *reduced* over the 15 years from 60 per cent to 47 per cent. The growth in car ownership has also begun to slow down;[24] Freiburg had previously had higher than average car ownership within what was West Germany as a whole, whereas now it has below average car ownership.

The success in Freiburg in `taming the automobile' was the result of a combination of transportation and physical planning strategies:

First, it has sharply restricted auto use in the city. Second it has provided affordable, convenient, and safe alternatives to auto use. Finally, it has strictly regulated development to ensure a compact land use pattern that is conducive to public transport, bicycling and walking.[25]

Restricted automobile use has been achieved through mechanisms such as pedestrianization of the city centre, area-wide traffic calming schemes (including a city-wide speed limit of 30 km per hour in residential areas) and more difficult, expensive parking. Freiburg's improvements to public transport have focused on extending and upgrading its light rail system as opposed to buses. Buses are used as feeders to the light rail system. Land use regulations are similar to many other parts of Europe and have involved limiting the overall amount of land available to development and strictly zoning land for agriculture, forests, wildlife reserves or undeveloped open space.

The important savings in automobile use arising from the more compact urban patterns that have resulted from these latter policies should also be noted.[26]

## Toronto and Portland

North America has been the area most associated with high levels of automobile ownership and use. Toronto and Portland are now however, among the cities that have overcome the dominant paradigm of automobile-based planning. Central to both stories is how community organizations forced planners to think again about freeway proposals.

Toronto has made a deliberate policy of transit-oriented development for a number of decades. Whilst not always consistently applied, it has been more successful than any other North American city.

Toronto is far less dominated by cars and indeed is the best North American example of transit-oriented development. From 1960 to 1980, the use of Toronto's public transport grew by 48 per cent. The central city of Toronto grew and the overall density increased by 8 per cent (particularly along its transit lines). The Mayor of Toronto from that period tells the story of how it happened. The authorities in Toronto were very influenced by the book *The Death and Life of Great American Cities*[27] which stressed the need for people to go back to a more urban character and to rediscover public spaces. The author, Jane Jacobs, went to live in Toronto and was very influential in a movement there that was designed to stop the building of a major freeway called the Spadina Expressway. This began a whole public community-based move for a different kind of city.

Once the halting of the freeway had defined the city's direction, the decision was made to emphasize transit-oriented development. Toronto changed in 20 years from a city that was very car-based to one that is substantially based around public transport. As a result it has been able to revitalise the downtown area and develop a series of transit-centred sub-cities.

The overall process was something that the Mayor said they were never confident about; they were not sure that they would be able to achieve a city that was moving away from the automobile. But they were surprised by how well it worked. It is now a very vibrant city. It is a city that planned its development around public transport. It has even built 30,000 houses in the past 10 years in the city centre and this has reduced the morning peak by 100 cars for every 120 units built.[28] There are families living in the city centre in the European tradition, which contributes much to the vitality and safety of the public spaces.

Portland in the United States has shown that an increasingly automobile-dominated city is not inevitable. During the 1970s, there were plans to build the Mt Hood Expressway through the city. When it was decided by the community not to

**TABLE 9.1 Transport trends in Freiburg, Germany, 1976-1991**

| Transport factor | 1976 | 1991 | % Increase 1976-1991 |
|---|---|---|---|
| Total daily trips | 385,000 | 502,000 | +30.4% |
| Total daily auto trips | 231,000 | 234,000 | +1.2% |
| Auto's share of non-pedestrian trips | 60% | 47% | n.a. |
| Bicycle's share of non-pedestrian trips | 18% | 27% | n.a. |
| Public transport share of non-pedestrian trips | 22% | 26% | n.a. |

Source: Pucher, S and Clorer, J., 'Taming the automobile in Germany', Transportation Quarterly, vol. 46, no.3, 1992, 383-95.

build it but instead to go for a light rail system (MAX), the majority of transport experts laughed-and the new system planned was even dubbed the `streetcar named expire' as the experts claimed that in a modern city you cannot get people out of their cars.

The new system proved to be a transport success story with a doubling of the patronage over the bus system it replaced and a large off peak usage by families going into the city. The only political problem with the decision to go for light rail instead of a freeway is that many other corridors  want the MAX system extended along them-so plans are being developed to extend it. There have also been several other important side effects. One is that the city centre has come alive after the business community recognised the opportunity provided by MAX and took the initiative to help re-pave the city streets and installed lots of seats, flower planters and other elements of good urban design at the street level. The city centre is among the most attractive in the USA. The downtown area went from 5 per cent to 30 per cent of the city's total retailing because of the light rail and added housing rather than parking. There was even a central city car park that was replaced with a public meeting place and a downtown freeway that was replaced with a riverfront park.[29] Another development has occurred in the suburbs where citizens, encouraged by their victory over the freeway have started to push for traffic calming. In response to this, the City Government began a 'Reclaim Your Street' project where residents and the government architect plan together how to slow down traffic and make it easier for pedestrians and cyclists (see Box 9.21 for an example of the benefits of traffic calming). Finally the city has now recognised that MAX  provides the opportunity to develop an integrated approach to land development. They have now developed a plan to curtail outer area growth and redirect it to urban redevelopment around transit stops so 85 per cent of all new growth must be within 5 minutes walk of a designated transit stop.[30]

## Perth

For over 50 years new suburbs have been built in Australia on the assumption that the majority of people will not need a public transport service. Suburbs were built at uniformly low densities of 10-12 dwellings per hectare and without access to rail services. This left suburbs with a subsidized bus service that rarely came more than hourly at off-peak times. It is not surprising that the Australian suburban lifestyle rapidly became highly automobile-dependent.

One such corridor in Perth was that of the city's  northern suburbs which grew rapidly in the 1960s and 1970s on the low-density, car-

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BOX 9.21
## Traffic calming: the European experience

There are many examples of traffic-calming schemes in Europe that have greatly reduced accidents. One example is the German Federal Government which has sponsored area-wide traffic calming schemes in cities of different sizes from Berlin down to a village of 2,300 inhabitants. In the Netherlands, the Federal government has also sponsored a wide range of traffic-calming initiatives since 1977, including area-wide traffic-calming demonstration projects in Eindhoven and Rijswijk. Both the number and severity of accidents is usually significantly reduced, as reducing speed greatly reduces the risk of serious injury and the danger to pedestrians and cyclists. Berlin's area wide scheme resulted in the following reductions in accidents:

| Type of traffic | Measure | % reduction in accidents |
|---|---|---|
| All traffic | Fatal accidents | 57 |
| | Serious accidents | 45 |
| | Slight accidents | 40 |
| | Accident costs | 16 |
| Non-motorized | Pedestrians | 43 |
| | Cyclists | 16 |
| | Children | 66 |

Most other schemes report similar results-for instance in Heidelberg, accidents fell by an average of 31 per cent with casualties falling by 44 per cent, after a residential speed limit of 30 km per hour and other traffic-calming measures were introduced.[31] Area-wide schemes in the Netherlands have reduced accidents in residential areas by 20 per cent overall and accidents involving injury by 50 per cent (measured per million vehicle km) and there was no increase in accidents in surrounding areas.[32]

Source: Newman, Peter and Jeff Kenworthy with Les Robinson, Winning Back the Cities, Australian Consumers' Association, Pluto Press, Australia, 1992. The Table on Berlin is drawn from Pharoah, T. and J. Russell, Traffic calming: Policy evaluation in three European countries, Occasional Paper 2/89, Department of Planning, Housing and Development, Southbank Polytechnic, London, 1989.

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dependent form. Two original rail services were removed in the 1960s as planners saw no future for transit other than back-up bus services. However by the 1980s, the freeway serving the corridor was highly congested at peak hours and the community was dissatisfied with the bus service. A strong political push for a rail service resulted in the Northern Suburbs Rapid Transit System.[33] The 33-kilometre electric rail service has only 7 stations which allows a very rapid service. It also features trains that are linked by bus services interchanging passengers directly onto the stations. This allows cross-suburban bus services to be provided once the station nodes become the focus for bus routes rather than the Central Business District.

The new service has been successful but it reveals the problem of transport planners who do

not believe that good public transport can succeed in modern cities. Three predictions were made about the rapid transit system which proved to be wrong:

*Prediction 1:* Rail will lose patronage over buses as people don't like transferring.
*Result: 40* per cent *increase* with Rail-Bus over Bus-only in the corridor.
*Conclusion:* People will transfer if they can move to a superior form of service.

*Prediction 2: You will* never get people out of their cars as the freeway is so good and parking so easy in Perth.
*Result:* 25 per cent of the patrons on the northern line gave up using their cars.
*Conclusion:* Even in an automobile-dependent city, people can give up their cars.

*Prediction 3:* It will be a financial disaster.
*Result:* It was completed on-budget and on-time, winning many awards for engineering and architecture. It is almost breaking-even in running costs.
*Conclusion:* If people are given a good option then rail infrastructure can be viable in modern cities.

Perth still has a long way to go before it overcomes its automobile dependence. One of the positive trends has been the growth in transit-oriented urban villages around the new electric rail service stations. These urban villages provide not only a good, close, rail option for residents and employees in the villages but much of the need for a car is replaced by a short walk to local

services. This process can continue as more people discover the value of a less automobile-dependent lifestyle.

### Alternative planning models in new cities

Two new cities, Milton Keynes in the United Kingdom and Almere in the Netherlands, illustrate the difference between a new city developed on the assumption that most people would travel by private automobile and a new city developed at a density similar to traditional settlements-i.e. to a settlement pattern that predated the automobile. The Garden City concept developed by Ebenezer Howard was first proposed 100 years ago in response to the smoky, overcrowded industrial cities of Britain. The concept has been the inspiration for many New Towns since. However not all have kept to the key concepts as developed by Howard. In particular, the density of residential areas has been lowered in their New Towns considerably on the basis of `Nothing gained by overcrowding' the slogan of the Town and Country Planning Association through most of this century. This dislike of high density seems to be an Anglo-Saxon characteristic that has been exported to most English-speaking cities.[34]

What is lost by lowering densities below 35 to *40* dwellings per hectare is the walking scale of cities and their viability for public transport. What is left is an automobile dependence that creates so many of the problems outlined in earlier chapters. This can be seen most clearly in the difference between Milton Keynes, a UK New Town and Almere a similarly sized Dutch New Town. Both were inspired by Garden City concepts but Milton Keynes reduced its densities to 20 dwellings per hectare and also separated its housing from employment and shopping zones by large distances. Almere was denser and more mixed as in traditional Dutch settlements.

Perhaps the most marked difference is in the degree of automobile dependence which is expressed by the proportion of people who see a car as `essential', and the related difference in confidence in allowing children to be unsupervised on streets. This difference is about confidence in the public realm. It is obviously related to many social factors but its link to the structure and form of the city cannot be underestimated. A walking environment is not created by scattering land uses at densities which demand the use of an automobile.

### Conclusions

The private automobile poses a dilemma in all cities. It raises significant questions about the economic, social and environmental impact of technology, whether as part of the planning

**TABLE 9.2 A comparison of travel and land use in two new towns: Milton Keynes (UK) and Almere (Netherlands)**

|  | Milton Keynes | Almere |
|---|---|---|
| **Modal Split** | | |
| Car | 59% | 35% |
| Public Transport | 17% | 17% |
| Bicycle | 6% | 28% |
| Walk | 18% | 20% |
| **Land Use** | | |
| Average Travel Distance | 7.2 km | 6.9 km (much less for non-work) |
| of Trips more than 3 km | 45% | 85% |
| Density (dwellings per hectare) | 20 | 35-40 |
| Form | scattered, separated use | organic, mixed use |
| **Automobile Dependence** | | |
| Proportion who see a car as 'essential' | 70% | 50% |
| Households with children under 12 years who are always supervised outside home | 52% | 16% |
| % who are never supervised outside home | 8% | 48% |

Source: Roberts, J., *Changed Travel-Better World? A Study of Travel Patterns in Milton Keynes and Almere,* TEST, London, 1992.

process in cities in the North or South, or as part of development assistance. Many development assistance agencies explicitly or implicitly favour the automobile-dependent city in the transport and infrastructure projects they support. The inappropriateness of such a model can be seen in the scale of the problems with traffic congestion and pollution related to internal combustion engines in cities in the South and the very high rates of accidental deaths and injuries, even though most cities have much lower levels of private automobile ownership per person than cities in the North. Much of the advice on solving the problem is still within the automobile-dependent model in the form of plans that spread cities outwards in reduced densities and in the building of freeways that usually bring an enormous displacement of people. These just create further automobile dependence.

Examples given in this section suggest that the problem can be resolved, as most cities have not developed to the scale and low density that makes public transport options unfeasible. But the difficulties in doing so should not be underestimated. First, very rarely is there an agency in a city or metropolitan area that has the authority to promote comprehensive solutions-and different agencies or ministries have their own objectives, priorities and resources.[35] Second, ministries or agencies concerned with roads are often more powerful than agencies concerned with public transport-and are also backed by powerful lobbies that represent automobile owners, automobile manufacturers and construction companies.

However, the case studies in this section do show that these constraints can be overcome. Ironically, it may be the increasing realization that all major cities must remain competitive in a world market to attract productive investment that will, once again, legitimize substantial government intervention in limiting automobile dependence and the economic, social and environmental costs it implies. The case studies also show how automobile dependence in cities in the North can be slowed and even reversed through planning that puts greater emphasis on public transport and non-motorized travel. The case studies offer some hope although few cities have integrated, coherent plans to overcome automobile dependence and most are relying too much on technological advances to resolve more fundamental problems in the planning of their cities. Solutions in cities in the South are also being found either through an emphasis on public transport or non-motorized travel. Both require a commitment to planning that is in essence the recognition that social aspects of development are essential for sustainable and civilized cities.

## 9.6 Participation and the Tools and Methods to Support it

### Introduction

The 1980s brought many important developments in the ways and means of more fully involving low-income groups and their community organizations in development projects. Although most of these developments were pioneered in rural or agricultural projects, more recently, these have been modified for use in urban areas or new initiatives developed within urban contexts. This section reports on recent developments in participatory tools and methods, illustrating them with three case studies: `Planning for real' in the UK, Community Action Planning in Sri Lanka, and the India-South Africa community-to-community exchange.

The importance of involving the inhabitants of any settlement in decisions about the development of their settlement or in larger developments that will affect them is receiving increasing recognition.[36] New methods have been developed to collect and process information about, with, and by local people and their own conditions and livelihoods. When first developed during the late 1970s and early 1980s, these procedures were primarily concerned with gathering accurate and detailed information efficiently. At that time, the emphasis was on the word `rapid' within `rapid appraisals', and most of the analyses and actions were controlled by outside agencies or researchers. As experiences and insights grew, it became evident that local people, who had previously been viewed as passive `subjects', `clients' or `beneficiaries', had much to contribute to the research and development process. As these approaches were adapted and modified further, the depth and validity of local people's experiences and knowledge became clear. By the late 1980s, much of the emphasis had shifted from `rapid' to `participatory' planning and research. Participatory approaches and the tools and methods that help their implementation are now being applied in a wide range of social and ecological contexts and are shaping and influencing development programmes and projects worldwide.[37]

### Participatory approaches

Participatory methodologies are sets of tools and techniques that have been developed in order to better realize high levels of community members' involvement in development projects or to allow the inhabitants of a particular settlement to design, implement and/or evaluate their own initiatives. Participation is now commonly accepted to be an important component of successful development programmes although the term is used in many different senses. Table 9.3 illus-

**TABLE 9.3 Different levels of participation within any project**

| | |
|---|---|
| **Self-Mobilization** | Project initiated by the population themselves who develop contacts with external institutions for resources and technical advice they need, but retain control over how resources are used. Can 'go to scale' if governments and NGOs can provide the'enabling' framework to support a wide range of such initiatives. Also, within any low-income settlements, this is less of a project and more part of a process by which people organize to get things done and negotiate with external agencies for support in doing so. |
| **Interactive Participation** | Project initiated by external agency working with local population (and often in response to local people's demand). Participation seen as a citizen's right, not just as a means to achieve project goals. People participate in joint analysis, development of action plans and formation or strengthening of institutions for implementation and management. As such, they have considerable influence in determining how available resources are to be used. |
| **Functional Participation** | Participation seen by external agency as a means to achieve project goals, especially reduced costs (through people providing free labour and management). For instance, people participate by forming groups to meet predetermined objectives but after major decisions have been made by the external agency. At its worst, the population is simply coopted to serve external agency's goals which accord little with their goals. However, this limited form of participation has brought real benefits to 'beneficiaries' in many instances. |
| **Participation for Material Incentives** | People participate but only in implementation in response to material incentives (e.g. contributing labour to a project in return for cash, food or other material incentives; building a house within a 'self-help' project as a condition for obtaining the land and services). |
| **Consultation and Information-Giving** | People's views sought through a consultation process whose aim is to elicit their needs and priorities but this process is undertaken by external agents who define the information gathering process and control the analysis through which the problem is defined and the solutions designed. No decision-making powers given to the population and no obligation on the part of the project designers to respond to their priorities. Great variety in extent to which people's views are accurately elicited and incorporated into project design and implementation. |
| **Passive Participation** | People are told what is going to happen but without their views sought and with no power to change what will happen. |
| **Manipulation and Decoration** | Pretence of participation-e.g. with 'peoples' representatives on official boards but who are not elected and have no power. |

Sources: Drawn from Hart, Roger A., *Children's* Participation; from Tokenism to Citizenship, Innocenti Essays, no. 4, March, UNICEF International Child Development Centre, Florence, 1992, and Pretty, Jules, 'Participatory inquiry for sustainable agriculture', IIED, London, mimeo (draft), 1993. These in turn drew on Arnstein, S. R., 'Eight rungs on the ladder of citizen participation', Journal of the American Institute of Planners, 1979.

trates how at one extreme, `participation' is simply 'passive participation' where people are simply told what is going to happen to them, to 'self-mobilization' at the other extreme in which the inhabitants of a settlement work together to develop and implement their own initiative, independent of external agents.

Participatory approaches are meant to facilitate higher levels of participation in which the inhabitants of a settlement have some control over the development process. They have, in general, been initiated by development practitioners and agencies concerned that much of the decision-making process is designed by and limited to professionals. Participatory approaches are intended to facilitate the integration of residents into such debates and to bring out the needs and priorities of all those living in the settlement. In some cases, they are also intended to enhance collective control of the development process.

Participatory approaches include a range of different activities designed to:

- increase available information about the settlement and residents

- increase available information about the locality
- identify development options
- identify resources for such options
- enable residents (individually and collectively) to prioritize their needs
- develop residents' self-confidence and collective capacity
- develop mechanisms to bring out the priorities and needs of all residents, especially those that may face particular social or cultural barriers to their full involvement-for instance the many societies in which the needs and priorities of women, children and youth receive too little attention.

## The development of participatory approaches

Participatory approaches have largely been developed within two sectors, rural development and public health.[38] While they have separate traditions, there is some acknowledgement of their related origins. Within rural development, these

approaches are associated with the term `Rapid Rural Appraisal' (RRA) and within the public health sector `Rapid Assessment Procedures' (RAP). Other names for similar methodologies include Participatory Learning Methods, Participatory Action Research, Rapid Rural Systems Analysis and *Méthode Accélérée de Recherche Participative.* RRA methodologies have drawn on other methodological traditions and have further developed into Participatory Rural Appraisal (PRA). Robert Chambers who has done much to develop these approaches and promote their use argues that these influences include participatory research and participatory action research approaches developed from the work of Paulo Freire, agro-ecosystems analysis, applied anthropology and field research on farming systems.[39]

Participatory rural appraisal uses similar methods to rapid rural appraisal but, in addition to obtaining the information, it is also concerned with enhancing local people's active participation in the research and development process. The concepts, principles and methods employed are those that encourage low-income households (or groups within households) to take control of the project or programme for which the research and/or development activity is being undertaken. The process of Participatory Rural Appraisal demonstrates to, and reinforces within these local groups, the breadth, depth and validity of their own understanding of their needs and priorities. It builds on people's innate visual literacy by employing a variety of diagramming and visualization methods that enable both literate and non-literate persons to participate actively. Within the health sector, rapid assessment procedures have been used since the early 1980s when anthropological investigation methods were adapted into tools and procedures that could be used to rapidly obtain information on household and community health and nutrition-related behaviour.[40]

## Participatory approaches in an urban context

There has been far less development of participatory tools and methods for use in urban contexts. Although there are an increasing number of case studies of urban community development, in general, little emphasis has been placed on methodology. One of the best known examples is the approach taken by the Million Houses Programme in Sri Lanka described in Box 10.13 in which the specific methodology for residents' involvement has always had a clear role. More recently there has been an increased interest in drawing on methodologies developed within a rural context for urban work. This interest includes a broad spectrum of agencies and areas of work that are trying out rapid assessment procedures for urban poverty and programme assessments and the incorporation of PALM tools within the UK Overseas Development Administration's Indian Slum Improvement Programme.[41]

As with the use of such approaches in a rural development context, there is an important distinction between participatory tools and methods being used to simply obtain information and such tools being used to initiate a local development process. Where the intention is to initiate a development process, information gathering is very much a first step, designed to demonstrate to all the residents the depth of their knowledge and their capacity to analyse such information. It is this second use that is illustrated in the boxes included in this section. In its first use, i.e. using these techniques simply to gather information, the exercises are completed once that information is obtained and there is no further discussion of problems facing the community, and how such problems might be overcome. In this form, it is essentially rapid appraisal rather than participatory appraisal.

While some participatory approaches have clearly drawn on traditions developed in other sectors, particularly participatory rural appraisal and rapid assessment procedures, it is also evident that there has been a widespread experimentation with different participatory tools and methods by groups working in urban areas.[42] In many different contexts, similar tools and techniques have been developed based around the use of diagrams, maps and pictures to replace written descriptions. Box 9.22 describes some of the tools and techniques used in urban areas.

One of the most comprehensively documented examples of the use of participatory methods in urban development is community action planning in Sri Lanka. The community action planning approach of Sri Lanka's National Housing Development Authority was developed to implement the urban component of the Million Houses Programme (1984-1989). Community action planning sees people as the main resource for development rather than as an object of the development efforts or as mere recipients of benefits. The objective is to motivate and mobilize the population of an urban low-income settlement to take the lead in planning and implementing an improvement programme. The role of the National Housing Development Authority and the urban local authorities, is to support this process where necessary, but the intention is for the inhabitants of low-income settlement to take the initiative themselves. Box 9.23 describes community action planning, while more details of the Million Houses Programme are given in Chapters 10 and 11.

BOX 9.22
**Examples of participatory tools and techniques**

- Participative Mapping of the settlement by the inhabitants, including the plotting of important landmarks such as rivers, roads, churches, and public services plus indications of features such as topography. Such maps may be drawn in any open space within the settlement and are put together by drawing on a number of different participants.
- Community members undertaking surveys of the settlement to collect socio-economic data such as numbers of children or information about particular resources such as skills of household members.
- Collective modelling of new housing designs that will better meet the needs of residents. House models can be made from any easily available material such as cardboard. Models can then be discussed and revised with different groups in the community in order to identify the preferred model and discuss trade-offs between size and materials on the one hand and cost on the other.
- Collective planning of new settlement design that will better meet the needs of residents. Once a plan of the existing

settlement has been made, residents can discuss how to change buildings to improve access roads and allow space for infrastructure, reblock plots and/or improve services.
- Collective identification of resources including access, management and control and including sources of income, health and links to other settlements.
- Transect walks-for example, to identify the different informal sector activities taking place in the settlement or to identify housing conditions within the settlement.
- Seasonal calendars to identify seasonally occurring events such as illness, availability of employment, food prices and food intake.
- Wealth ranking of all households in the settlement either through households being ranked from first to last or using different colours to indicate different levels of wealth. (A similar exercise can be done for 'well-being' once the community has identified appropriate characteristics.)
- An understanding of the processes by which a particular settlement developed can be obtained either through trend analysis or life histories. In trend analysis, discussions with older people or those who have been in the settlement many years are used to plot the provision of basic services

in the settlement, or to consider how factors such as population and social customs have changed over time. Through small group discussions with accounts of individual life histories, critical events in people's lives and in the life of the settlement can be identified.
- Perceived relations with other groups and organizations can be identified through Venn diagramming techniques. Different sized circles are given to small groups of participants who then use the circles to illustrate the importance of other groups (e.g. local government officials) to the community. The size indicates their importance; the distance on the ground indicates their closeness, or not, to the community. Different symbols (squares, triangles etc. may be used to indicate different kinds of groups or individuals).
- Identification of priorities through collective ranking of different development options.
- Acting of 'life stories' based on individuals in the community in order to provoke discussion about opportunities and constraints facing residents.
- Establishment of formal and informal groupings that can provide a focus for and maintain the momentum of community driven development.

BOX 9.23
**Community Action Planning**

> 'the real authors of the methodology are the community and the officials who worked alongside each other.' [43]

Community action planning is initiated by workshops at which the inhabitants of a low-income settlement work with staff from the National Housing Development Authority (NHDA), the local (municipal) authority and the non-governmental organisations. They discuss the problems within the settlement, identify solutions and formulate plans of action. Local residents take responsibility for implementing these action plans in collaboration with the NHDA and other organizations, and also for maintaining and managing the built environment after the completion of the project.

Settlement regularization: Community action planning has been used to implement the

regularization of illegal or informal settlements. A workshop determines the broad principles within which the regularization process should take place, such as the width of roads and footpaths. The workshop participants are divided into three groups: a women's team, an officials' team and a team of community members and builders. The groups meet separately to identify the needs for land in the settlement for residential plots, roads and footpaths, amenities, a community centre, a playground, a clinic and any other needs. Each group presents its findings in a plenary session and the presentations are discussed until consensus is reached. Next, the three groups meet again separately to find locations for the land uses and to allocate land. Once this has been agreed, participants consider the logistics for the on-site blocking-out exercise.

The decisions of the workshop on the principles and guidelines for re-blocking are distributed to all households in the settlement. Community leaders inform clusters of

households of the day the blocking-out exercise will be conducted in their cluster and request the households to be at home on that day. The action planning team visits the cluster to discuss the plot boundaries with each of the households. The team meets with the families in each block to discuss the size of the area and whether or not it can accommodate all the households and, if not, how the problem will be dealt with. As soon as there is an agreement, plot markers are placed to allow all involved to see the implications of the decisions. This often leads to objections and further negotiations by the affected families. The process of negotiation between the families is the most important part of the exercise. The role of the officials is to ensure that no household can grab more land than has been agreed on by the workshop (which establishes a maximum size for plots in the settlement). In the process, all land disputes are settled on the spot and finally consensus is reached about the re-blocking of the land in the settlement.

Sources: UNCHS (Habitat), The Urban Poor as Agents of Development: Community Action Planning in Sri Lanka, United Nations Centre for Human Settlements (Habitat), Nairobi, 1993; UNCHS (Habitat), The Community Construction Contract System in Sri Lanka, Nairobi, 1994.

Despite relatively few publications about the use of such methodologies within an urban context, they are being used in many countries by groups working in settlements in urban areas to consider a wide range of issues including neighbourhood and community development. A recent review drew attention to a considerable diversity of approaches between North and South; between their use by the state and the voluntary sector; and whether they were developed specifically within an urban context or were techniques or approaches originally developed in rural contexts and modified for use in urban areas.[44] However, it also noted the similarities in approaches, despite great differences in context.

Similarities in participatory methodologies between North and South have developed in response to a common need. Professionals throughout the world share similar training standards and very few had any training in the use of participatory tools or methods or indeed in participation itself. As urban development has officially become the work of architects, engineers and planners, so small scale household building processes (whether self-build or by contractor) were excluded from professional consideration except as `eyesores' to be declared illegal and to be later replaced.[45] Examples from throughout Africa, Asia and Latin America suggest that there is a rich tradition of community-based urban development efforts.[46] Many of these have developed appropriate methodologies to improve work with local residents. Examples of this include:

- In Fortaleza, Brazilian NGOs have worked with community groups to collectively redesign houses and settlements.

- In Manila, the Philippines, women have been exploring critical events in the development of settlement through sharing life histories.

- In India, participatory methods have been used to assist in identifying appropriate responses to the earthquake in Maharashtra.

- In Chile, houses have been designed by non-specialists using house modelling exercises.

- In Pakistan, the Orangi Pilot Project makes rapid.and low-cost surveys of areas that are to be provided with secondary drains by drawing on the community's expertise.

- In Zambia, Participatory Rural Appraisal methodologies have been used to identify appropriate donor support for income-generation projects in Lusaka.

- In Birmingham, England, participatory tools have helped to initiate discussions and development programmes with Bangladeshi immigrants.

In an initiative between South Africa and India,
exchanges between residents from different settlements have been combined with participatory methodologies in order to `root' the learning process more solidly within communities and rapidly to accelerate the capacity of community leaders and members to adopt new roles within the development process.[47] This partnership is between the People's Dialogue in South Africa together with the South African Homeless People's Federation and a group of three organisations in India: SPARC, the National Slum Dwellers Federation and *Mahila Milan,* a federation of women's collectives.[48] Exchange visits have been organized between representatives from squatters or pavement dwellers in India and in South Africa.

These community-to-community exchanges have meant that members of the People's Dialogue in South Africa have been able to benefit from community-based shelter training programmes in India where the National Slum Dwellers Federation and *Mahila Milan* have been engaged in such programmes for over eight years. They have since experimented with and developed the training process within communities in South Africa. In this process, they have demonstrated the potential of South-South exchanges to transform the capacity of local residents to address their own development needs. The tools and methods that are used for developing detailed maps of informal settlements, models of houses that meet the needs and resources of the inhabitants and the development of savings groups are described in Box 9.24. This description has been drawn from their application in South Africa. These tools and methods are disseminated by local residents (and facilitated by federations of community based organizations) who, once trained in their settlement, visit other settlements and train new `experts'.

The examples given here demonstrate that, although often associated with NGOs and community based organizations, they have also been initiated and supported by government agencies willing to support greater community involvement in development processes. The India-South Africa exchange programme described above is unusual because community leaders themselves have been responsible for demonstrating the different tools and methods and therefore for spreading this approach to members within their organizations. A more common strategy has been the use of trained professionals to initiate activities within the settlement.

## Some conclusions

The development and use of participatory tools and methods have helped to transform the capacity of the inhabitants of informal or illegal settlements-or other settlements or neighbour-

BOX 9.24
**The India-South Africa community exchange and the methods used**

The experience-based learning of the training process has two separate but interrelated purposes. First, it enables low-income people to develop their own understanding of their social and economic context, not just on a micro-level but via exchange in regional and global arenas. Second, it equips the participants (low-income residents of informal settlements) with the ability to carry out and drive their own experimental learning programmes.

Shack-Counting in informal settlements: Once the community leadership is ready to undertake the training, a start date is arranged with the training team. Normally the training begins with the physical counting and mapping of all houses and other structures in the settlement and this shack-counting exercise always starts with a huge celebration which might be a concert, drama, or a welcome for visiting dignitaries or representatives from other low-income communities. The training team prepares for the activities of the next day by completing a few practical tasks. A rough map of the settlement, drawn a few days before, and a series of photographs of the settlement are displayed. Everybody should be ready at the start of the day to begin the counting. One member of the training team is assigned to each section. They become the leaders of groups of people who will assist in counting all the structures in the sections. While counting the shacks with training-team members these people receive a thorough experience-based training.

The informal exchanges that take place during this process are the core of the process. This simple process of dialogue and exchange only occurs when the people from communities do the counting. The informal discussions that accompany community driven enumerations are both an outstanding method of mobilization and an exceptionally accurate way of identifying issues that people in the community regard as relevant. Community-driven enumerations, where they are backed up by a strong but loosely structured federation of informal settlements, achieve what professional enumerators are unable to do. The process helps identify and release the real feelings, frustrations and expectations of the inhabitants. The way a squatter responds to the inquiries of a fellow squatter is very different from, and more relevant than, the way that same squatter responds to the social scientist or researcher. In tandem with the shack-count and numbering, the training groups draw rough maps of the settlement.

Mapping: As the groups progress through the settlement numbering and counting shacks, shops, crèches, churches and so on, they draw a simple one dimensional drawing of the streets and structures. Key landmarks are included, such as drains, sewers, electric lights, rivers and other major features. Once the shack-counting and mapping have been completed, the sections are combined into one by a community member who draws well. The result is that the community members have produced their own physical map of the settlement in which they live: a concrete example as to how the attainment of knowledge through practice generates energy and power.

Source: Bolnick, Joel and Sheela Patel, Regaining Knowledge: An Appeal to Abandon Illusions, People's Dialogue and SPARC, Cape Town and Bombay, 1994.

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hoods-to work together to achieve agreed goals. By strengthening the process of collective decision making, they have resulted in:

- residents being aware of their skills and gaining self-respect
- community groups being able to negotiate as equals with government and other agencies
- community groups being able to strategize to improve their situation
- community members being made more able to resolve differences within the settlement.

From experiences to date, three particular questions have emerged about the use of participatory methodologies. The first is what is the time scale of implementation, particularly given their development from `rapid' methodologies? Second, how participatory are such methodologies? And thirdly, how can such local development programmes link with higher level planning structures?

Although having emerged from methods whose essential feature was their rapid execution in contrast to more traditional forms of information gathering, participatory methodologies are generally not so quick. As rapid assessment has moved towards and merged with participatory development, speed is considered of less importance. While some of the methods may result in the relatively quick gathering of information, the establishment of programmes to support such activity is likely to take some years. For instance, in the use of participatory approaches in the development of artisanal fisheries in port areas of Dakar, their introduction has not been rapid due primarily to the need to train government officials.[49] The tools and methods might still be used for rapid assessment,[50] but development participation in programmes takes more time.

Community participation is a complex process and reservations have been expressed about the nature of participation within programmes using participatory tools and methods. Drawing on the experience of participatory approaches in rural areas, it is likely that the application of such tools and methods will not be quick if the community is to understand and accept the purpose of the external agents coming into the settlement.[51] The need to establish some form of representative community development council has been recognised in many of these projects such as the Million Houses Programme. However, even within these formal structures many issues remain. Particular groups including women, children and those on the lowest incomes may not participate equally in the activities that take place. Many settlements are divided by political or other affiliations and these differences need to be recognised and, where possible, addressed before other collective activities can take place. Community participation may favour stronger

groups in the community who can reinterpret their private interests as public concerns.[52]

How to link local planning within the community to higher level planning structures? As community capacity to plan local settlements increases, there is a need to ensure that municipal and city officials permit and encourage such developments. Such autonomous and community-driven development may rest uneasily within city plans. At a city level, participation is likely to be a more formal process and there is a need to address how cities can plan in order to be flexible and responsive to local initiatives.

Despite these concerns, there is evidence of growing interest in the use of participatory methodologies for neighbourhood improvement programmes in both urban and rural areas.[53] The experiences described here demonstrate a new direction for planning methodologies that is being used by governments, communities and professional training institutions. Both the scale of present interest and their widespread acceptance in rural development suggest that their application will continue to grow

## 9.7 Training for Settlement Management and Development[54]

### Introduction

Governments and international agencies are responding to the great lack of adequately trained and qualified personnel for settlement management and development, and many new approaches have been developed to make training more relevant to addressing the wide range of settlement problems outlined in earlier chapters. However, the scale of support for training from governments and international agencies remains far below that needed. In addition, much of the training remains inappropriate to the tasks that the personnel will face when they work in institutions for settlement management. This section considers the scale and nature of need for qualified personnel and the qualitative and quantitative deficiencies in the `supply' side. It also outlines how training is changing to more relevant approaches and the role of governments and international agencies in this.

### The scarcity of qualified human resources

A scarcity of adequately trained, qualified personnel-for policy, management and technical aspects-has long been one of the main obstacles to the improvement of human settlements. This is especially the case at local (for instance district or municipal) level. The need to address this scarcity has become even more pressing since mid-1980s as a result of various global developments:

- The new roles and responsibilities placed on local governments as a result of decentralization and the new importance given to public/private partnership.
- The need for far more effective local responses to environmental degradation and to poverty (and, in many countries, to the social impacts of structural adjustment).
- In the `transition' countries, the basic restructuring of economic and political systems and of the nature of land and property ownership is completely changing the management of local development, and presenting authorities with entirely new problems and opportunities.
- In the wealthiest market economies, where settlement problems were thought to be diminishing, there are many problems that remain poorly addressed including urban violence, poverty and homelessness, and the social and economic strategies needed in urban centres or particular city districts that lose their economic dynamism.
- The importance of integrating sustainable development issues into public policy and public/private partnerships.
- The new awareness of gender discrimination and the need for new responses to address this in housing, transport, settlement and environmental policies.
- The demands placed on governments at all levels by non-governmental organizations, community-based institutions, women's groups, and the private sector for much broader participation in development decisions and actions.

Neither the staff nor the elected officials of the organizations responsible for the management of cities, municipalities and districts are, by and large, prepared to meet this challenge. But even where they are, they often lack the knowledge of how to do so. Addressing these issues requires new content and methods of training, as well as the obvious need to greatly increase the number of qualified personnel. There are also the great difficulties that local governments and other agencies working in settlements management face in attracting, motivating and retaining qualified staff and officials, as they often do not have adequate salary scales, career-development opportunities and other incentives.

### The supply side

The programmes of the academic institutions, and of other pre-service educational organizations, that train people for settlements management, have been slow to respond to the increased

magnitude and new nature of needs and demands. National institutions that should provide training courses in rural and urban development or should help develop the capacity of settlements institutions (including on-the-job training) are rarely in a position to do so.

In addition, the training and capacity-building they provide is often inappropriate to the tasks facing those responsible for settlements management and development. The conceptual framework on which education and training in general is based is in a process of change, or as some call it `paradigm shift'. As a result of scientific discoveries and of awareness of changes in the world, `the fragmentation of knowledge into jealous and secretive "disciplines" and of activities into bureaucratic and competitive "sectors" is now widely decried.'[55] As Fritjof Capra states, `In the old paradigm it was believed that in any complex system the dynamics of the whole could be understood from the properties. of the parts. One tried to construct explanatory pictures from building blocks, starting with jig-saw puzzle pieces instead of disaggregating a whole'.[56] As Capra goes on to say, `in the new paradigm, the relationship between the parts and the whole is reversed. The properties of the parts can be understood only from the dynamics of the whole. Ultimately, there are no parts at all. What we call a part is merely a pattern in an inseparable web of relationships'.[57]

This new paradigm is central to improving practice in the complex multi-dimensional process of settlements management and development. At the same time, translating such general principles into training and capacity-building practice requires major rethinking and restructuring of current strategies, methods and institutions.

The concept of `enablement' that is integral to the `Global Strategy for Shelter to the Year 2000' and the new partnerships between government and other sectors that it implies also require major changes in training and capacity building. For instance, it implies entirely new relationships between settlements development institutions and population at large, especially with the lowest income groups. This requires radical change in the roles of officials and professionals which in turn necessitates major changes in the content and form of their education and training.

## National responses

Most countries in the South lack national human resource development policies and strategies for settlement management and development. Much of the training for settlements management comes through academic education, primarily in architecture related to planning schools, but also in geography, public administration, socio-

logy, economics, and law (among others). Many countries also have specialized, pre-service, professional education in local government management-for instance special programmes for town clerks or treasurers. In Latin America many countries have technical-level education for human settlements, especially for work with low-income settlements (what is sometimes termed the `barefoot architects' concept).

One characteristic of training for planning and for other specialist disciplines during the late 1970s and early 1980s was their increasing fragmentation into more specialized departments, programmes, and careers. In the 1990s, there are signs that this fragmentation is being reversed. This applies to post-graduate education and to in-service training. Several institutions, or training programmes that were previously narrowly focused (for example on housing) have widened their scope to settlements management in general, and reflect the paradigm shift mentioned above. Examples can be found in training institutions in Europe that concentrate on settlements-related training for the South (for instance the Institute of Housing and Urban Studies in the Netherlands and the Development Planning Unit and CARDO in the UK) and in training institutions in the South (the Centre for Housing Studies, Ardhi Institute, Tanzania and the Human Settlements Management Institute in India).

In terms of subject focus, in pre-service education and even more in-service training, there is a new emphasis on management, in addition to the planning and preparation of new capital projects. This also includes greater emphasis on the operation and maintenance of existing assets. The range of subjects covered by education and training for settlements management has also widened to include a broad range of social, economic, political and environmental concerns, including organizational development and settlements management within a sustainable development framework.

There are many new initiatives and approaches within in-service training. These include:

- A move from supply-based standard courses to demand responsive, client-centred capacity-building services to local government and other settlements management organizations;

- The combining of training (residential and on-the-job) with problem-solving consultancies, research, and the production of training materials;

- A move from knowledge content only, to practical skills and to the development and strengthening of attitudes. This remains contentious as some experts believe that training should concentrate only on technical issues

while others insist that changes in behaviour and attitude are central to making effective settlement managers. Among these important changes in attitude are how to work in teams, an understanding of gender issues and how to act on gender-discrimination, `can do' attitude, and a readiness to listen to and work with low-income groups in participatory ways.

- A shift from classroom teaching to on-the-job, experiential learning.

Such innovations are still limited only to some institutions but they represent a significant, and very positive, new trend.

In parallel with these developments in the content of training and in the methods taught, there are also important changes in the nature and status of the settlements management training institutions, and in the greater number and diversity of training and settlements management advisory services. These include:

- Government training institutions that have become more autonomous with often a parastatal status with the elimination of budget financing and the reduction of subsidies and other supports. In most cases, the objective is complete financial self-reliance, based on services paid for by clients and, in some instances, by third-party donors.
- Universities and other academic institutions, in the North and South opening in-service training programmes in settlements management and development.
- An increase in the number of training and local development-support institutions with an NGO base, linked with national associations of municipalities, or associated with political parties.
- The creation of a large number of private commercial training and consultancy enterprises.

National networks of settlement management capacity-building institutions already function in some countries (for instance Peru, Nicaragua, Poland and Zambia) and are in a process of development in others (for instance Lithuania and Mozambique).

## International responses

The support for training in settlements management and development by international bilateral and multilateral agencies falls into three broad categories:

-The direct training or internships, in' the donor country
-Direct individual training in the `recipient' countries and regions
-The strengthening of national and local capacity-building institutions: building `capacity to build capacity'.

Although there is a variety of programmes and activities in all 3 categories, there is a clear trend away from the donor-country based training, to training in the regions and countries concerned, and ultimately towards the strengthening of national capacity to respond to that country's need for personnel trained in settlements management. Direct training in donor countries will probably remain an important factor within aid programmes as it allows foreign assistance funds to remain largely in the donor country and it supports the donor country's own academic institutions. However, the programmes themselves are increasingly focusing on mid-career training of university professors and trainers, and on the short-term high-level `executive training'. Internships in donor countries for professionals and officers from recipient countries should also be included in this category. This has been widely used, especially since the beginning of 1990, for Transition Countries of Central and Eastern Europe, although it has received some criticism in terms of its low impact and low multiplier effect.

The support for direct training in `recipient' countries and regions sponsored and organized by the external agencies is not declining, although it is receiving a lower proportion of total international assistance. Furthermore, some new training of this kind is a relocation, to the South, of the former donor-country based training.

There are many examples of the rapidly growing category of strengthening national `capacity to build capacity'. These fall into various types of activities and programmes such as:

- Regional workshops, seminars and policy consultations on the development of policies and strategies for training in settlements management and development.
- Assistance in creating regional, collaborative networks of national and local capacity-building institutions for exchange of experiences, mutual assistance and joint programmes and activities.
- Assistance in training needs assessments, and assessments (including self-assessment) of capabilities and support requirements of training institutions.
- Assistance in strategic planning and business planning by capacity-building institutions.
- Regional, or inter-regional, workshops and seminars on innovative approaches to current key policy issues.
- Development and testing, jointly with the national and local capacity-building institutions of innovative generic training materials, handbooks, instruments and management tools in key areas of settlements management and development.
- Specific assistance in gender-aware approaches

in settlement planning, management and development.

- Programmes focusing on capacity-building for local development NGOs-see Box 9.26 for one example of this.

- Training of trainers and advisors in subjects of particularly high need-for instance in the use of participatory tools and methods that are described in a later section-often in conjunction with development of training manuals and management tools.

- 'On-the-job' assistance in curricula development, application of new training methods, and use of new learning tools and instruments.

- Assistance with capital investments, equipment, and library support.

- Assistance through evaluation of activities, programmes and their impact, as input into strategic planning of the national and local capacity-building institutions. This is still a relatively new direction, although support for it is growing. Strengthening its effectiveness, coverage and resulting impact is a major challenge.

Box 9.25 gives an example of an international capacity-building project for municipal development.

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BOX 9.25
**Support for municipal development: the SACDEL Project**

**The regional Support System for Training for Local Municipal Development in Latin America (SACDEL) is a capacity-building project executed by the CELCADEL training centre in Quito, Ecuador. Its main objective is to bolster the decentralization processes taking place in Latin America through training activities and assistance to- public and private national training institutions charged with the development of local government. Most of its work is policy seminars, the training of trainers in key areas of municipal administration, technical assistance to national training institutes, support for municipal associations and development and dissemination of innovative training materials, manuals and on-the-job handbooks. The pilot phase of the project, completed in 1993, concentrated on Colombia, Costa Rica, Ecuador and Peru. The current stage initiated in 1994 is gradually increasing its coverage with three sub-regional programme groups: Central America, Andean Region and Southern Cone. An important characteristic of this project is a high level of inputs, substantive and financial coming from the countries themselves. It also receives**

**support from the Economic Development Institute of the World Bank, UNCHS (Habitat), the Canadian Federation of Municipalities, the Canadian International Development Agency and the International Union of Local Authorities (IULA), Swedish International Development Co-operation Agency and other donors.**

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## Lessons from the new approaches

To address the scale and complex nature of housing and settlement problems described in earlier chapters, national and local capacity-building institutions will need to be strengthened in most countries. The needed capacity-building must also respond to national and local context and culture and to changing problems and opportunities. Among the greatest challenges is to ensure that training for settlement management is in the national languages and that it trains people to be gender sensitive and understand how to involve all the key actors, (governmental, NGO, community and private enterprise). This can be done only by national and local capacity-building institutions.

These institutions must also go beyond traditional concepts of class-room training to include all aspects of human resource development and institutional capacity-building. They should also support the development of national policy and help build societal awareness. But these institutions' effectiveness will also depend on supportive policies from national governments and on the extent to which the legal, institutional and regulatory environment supports the actions of the professionals they train.

This `building capacity to build capacity' is still new, with its coverage still limited-and the ways and means of achieving it still not fully known. The experience to date should be used to improve practice and to expand coverage to all regions. It should also emphasize the enabling approaches and close partnerships between operational settlements management institutions and capacity-building organizations, and between those organizations themselves at national and regional levels.

There is also a need to scale up new approaches. For instance, the process of training trainers and advisors, and the development and dissemination of manuals and handbooks in national languages (the only way to reach all critical actors) needs to be greatly expanded. So too does the scale of training activities, especially for elected local government officials-the elected municipal or city councillors. This is especially relevant, given the introduction or return to elected local councils in so many countries and the fact that their responsibilities for settlements management have often been increased.

Another area meriting increased attention in the future is management training for staff from NGOs, community based organizations and other voluntary organizations involved in urban development. The FICONG Programme in Latin America, is a useful model-see Box 9.26. Such training should not only help these organizations to improve their own effectiveness but

should also cover policy consultations, problem-solving  workshops and other activities aimed at improving their collaboration with local and central governments, including the creation of a legal and regulatory framework that is supportive of their activities.

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**BOX 9.26**
**Training NGOs: the FICONG Programme**

In Latin America, there is a long tradition of specialist NGOs working with the inhabitants of low-income settlements (often illegal or informal settlements) in programmes to improve housing conditions or provide basic services. The role of NGOs has also been much increased in many countries as economic reform during the 1980s has often been accompanied by a withdrawal of the state from direct provision of services. Many of the programmes of international agencies also support NGOs or channel funding to low-income groups through NGOs-for instance through Social Funds as outlined in Chapter 11. However, greater participation for NGOs in projects to help improve the living conditions and incomes of the poor and to improve environmental health has to be matched by a greater effectiveness among NGOs and a growth in the scale of their programmes. With these goals in mind, in September 1991, IIED-America Latina in Buenos Aires launched a new programme for the institutional strengthening and training of non-governmental organizations (FICONG). The programme is implemented through a large network of NGOs and other settlements institutions and it aims to enhance the capacity of NGOs and public agencies in responding to the needs of poorer groups and to increase their effectiveness and the scale of their activities. FICONG also encourages NGOs and State organizations to develop more effective partnerships with residents' associations in low-income communities. Training courses, seminars and workshops are undertaken throughout Latin America in conjunction with a large network of affiliated institutions and organizations. Among the main supporters of the FICONG Programme are the Economic Development Institute of the World Bank and the bilateral aid programmes of Sweden, the Netherlands and Japan.

Source: IIED-América Latina,  'About FICONG', Pobreza Urbana y Desarrollo, Special issue on 'The  role of NGOs in policies and projects for development and against poverty in Latin America and the Caribbean', Oct. 1994.

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One final area that needs development which remains very weak methodologically, is the area of impact evaluations of training and of other capacity-building activities.  Techniques for evaluating training programmes themselves are better developed and more frequently and systematically practised.  A lack of adequate and reliable impact evaluation limits the quality of capacity-building in general, not only in settlements  management and development. The development and testing of this strategic tool for managing of human resource development investments is an important and urgent task.

## 9.8 International Assistance to Urban Management

interest among development assistance agencies in urban management has been growing in recent years. There was considerable interest in the late 1950s and early 1960s in the strengthening of local government but at this time, there were many fewer development assistance agencies and this was not an interest that was sustained through the 1960s and 1970s. In most African and many Asian nations, newly independent governments were too intent on consolidating the position of national institutions. In virtually all nations, national economic planning to  maximize economic growth also implied neglect of local governments' development role.[58] The development functions of local government (including urban government) was not seen as a priority.

The 1970s brought a new interest among some governments and many aid agencies in agriculture and rural development and many development-assistance agencies avoided urban investments. Although virtually all nations in the South urbanized rapidly during the last four decades, in most, very little attention was given either by governments or by development assistance agencies to ensuring that urban governments had the power, skills and resources to manage this rapid growth and to provide rapidly expanding populations and economic activities with the infrastructure and services they needed. The exception was the Inter-American Development Bank that made many investments in urban shelter, water and sanitation in Latin America during the 1960s although at this time, little attention was given to urban management. One result of this lack of interest among governments and international agencies was that the institutions that were meant to manage urban development remained (in the words of a survey in the early 1980s) `fragmented, confused about their functions and all too often either invisible or largely ceremonial'.[59]

It also became clear that the funds available for urban development from donor agencies prepared to support urban development were small in scale, in relation to need. For instance, despite the fact that the World Bank's loan commitments to urban shelter, infrastructure and service projects in Latin America represent much the largest commitments from any agency to the region, it was estimated that total capital investments by sub-national governments in the region were more than 45 times the volume of Bank loans[60]-and despite this, urban investments in the region still failed to keep up with urban growth. The fact that international funding was limited-in relation to needs encouraged some of the largest

agencies to move away from support for urban projects to support for developing governments' institutional capacity to invest in and to manage urban development. One example of this will be described in more detail in Chapter 12-the move by the World Bank and the US AID Housing Guaranty Program from support to shelter projects to support to national housing finance institutions. Instead of supporting a single shelter project, the aim is to develop financial institutions within the nation which can support a large multiplication of projects or individual house loans. Similarly, there was also a move within the World Bank away from funding integrated urban development projects to funding national institutions concerned with funding municipal projects.

This move away from projects to building institutional capacity can also be seen in the greater emphasis given by some agencies to urban management-i.e. on building the institutional capacity of city authorities to address their own needs with regard to urban development and to enhancing urban government's capacity to install and maintain infrastructure and services. One reason for this move may stem from a recognition of the unsustainability of many of their previous project interventions; many projects in the 1980s were to rehabilitate urban infrastructure or services built only a few years previously in development-assistance funded projects, or had components within larger projects to do so.[61] Another reason is that this will increase the capacity of recipient governments to manage and invest in infrastructure and services. This new interest in urban management has been most evident in the project commitments of the World Bank Group (although many agencies have recognized the importance of this subject) and, in technical assistance, in the joint UNDP-World Bank-UNCHS (Habitat) program to strengthen urban management (see Box 9.27).

The first sign of an increasing interest in urban management was for it to become common for `institution building' or `strengthening institutional capacity' to be included as a component in many projects so that the implementation of a water supply project or an upgrading project often includes funds and technical assistance to strengthen the national or local agencies involved. Many `integrated urban development' projects included components for training or strengthening institutional capacity. However, this developed into projects that were specifically about building institutional capacity, rather than having this as one component.

The World Bank was the first to provide significant amounts of funding to this with various funding commitments to improve urban management in the first half of the 1980s. Over 40 project

BOX 9.27
**The Urban Management Programme**

The Urban Management Programme (UMP) is a global technical co-operation programme in which agencies of the United Nations and other external support agencies work together to strengthen the capacity of cities and towns to manage economic growth, social development, and the alleviation of poverty. Initiated in 1986 by the United Nations Development Programme (UNDP), the United Nations Centre for Human Settlements (Habitat) and the World Bank, this Programme assists cities in implementing innovative programmes in five areas: urban land management; infrastructure management; municipal finance and administration; urban environmental management; and urban poverty alleviation.

Through its regional offices in Africa, the Arab States, Asia and the Pacific, and Latin America and the Caribbean, the Urban Management Programme seeks to strengthen urban management by harnessing the skills and strategies of regional networks of experts, communities, and organizations in the private sector. The goal of the Programme is to strengthen this local and regional expertise.

Regional co-ordinators and their networks address the five programme areas in two ways:

- **City and Country Consultations**, which brings together national and local authorities, the private sector, community representatives, and other actors to discuss specific problems and propose reasoned solutions. Consultations are held at the request of a country or city, and often provide a forum for discussion on a cross-section of issues. These consultations generally result in a concrete action plan for policy and programme change. By 1995, 61 such consultations had been held.

- **Technical Co-operation**, in which the Programme uses its regional networks of expertise to follow-up on the country and city consultations by providing technical advice and cooperation to implement action plans and to mobilize the resources needed for their implementation.

Nucleus teams at UNCHS (Habitat) in Nairobi and at the World Bank in Washington DC support the regional programmes and networks by synthesizing lessons learned, conducting state-of-the-art research, and supporting dissemination of programme materials. The Urban Management Programme has many publications covering the description and analysis of urban problems and their causes and reviewing new approaches and tools that can be used in resolving them.

Source: Urban Management Programme, Annual Report 1994, a partnership of the United Nations Development Programme, the United Nations Centre for Human Settlements (Habitat) and the World Bank, 1995; and internal Urban Management Programme documents.

commitments were made between 1980 and 1993 with a total value of $US2 billion to build the institutional and financial capacity of urban governments or to fund institutions which support urban development. Well over half this commitment was made in the years 1989-93.[62]

Most of the World Bank loans are to strengthen

institutional   capacity for urban investments, urban development planning and urban management.  These include loans for strengthening specific city governments (for instance Amman in Jordan, Pusan in South Korea and Santo Domingo in the Dominican Republic) and loans which provide assistance to national-level institutions to support local governments (as in loans to Mexico, Sri Lanka and Guinea). Several loans are specifically to strengthen the capacity of municipal governments (as in loans to Nepal and Brazil). Many of these loans include a training component. Several loans are for national institutions responsible for providing funding to local governments-as in loans to support the work of the Cities and Villages Development Bank in Jordan, the Autonomous Municipal Bank in Honduras and the Fonds d'Equipement Communal in Morocco and in a loan to the Philippines to help establish   a revolving   municipal development fund. Other loans to Zimbabwe and Brazil have provided credit direct to certain urban authorities. Box 9.28 below gives some examples of these kinds of projects, including those receiving support from other agencies although to date, the World Bank is the only institution which has a major programme in this area.

The Inter-American Development Bank has also given several loans totalling $244 million between 1990 and 1993 to improve urban management; most combine providing a pool of funding that municipal governments can draw on to make investments in infrastructure and services with support for institutional reforms. In recent years, the US AID's Housing Guaranty Program has also authorized loans to strengthen the institutional capacity within nations to invest in urban infrastructure and services-for instance the municipal finance programme authorized in 1988 for Indonesia described in Box 9.28 and the loan to Jamaica authorized in 1988 to support their national shelter strategy by providing capital and technical assistance to public and private utilities which provide water and electricity.

One final example of an international initiative designed to improve planning and management within urban areas is the `Healthy Cities programme'. This aims to get all the key actors within a city (government, business, community organizations, professional groups, NGOs) to agree on what they can do jointly to improve the health and quality of the living environment in their city.[63] Although these groups have different and often contradictory priorities, there is often a common, agreed agenda in regard to improving the quality of the city environment and working together to address social and environmental problems. Municipal Health Plans are also being prepared to promote collaboration between sectors, generate awareness of health and environmental problems

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BOX 9.28
## Examples of development assistance to build the capacity of municipal governments

**Indonesia: $100 million five year municipal finance programme initiated in 1988 by the US AID Housing Guaranty Program. This will help strengthen the local government finance system and help develop links between this system and private sector capital markets. Thus, it will also increase the participation of the private sector in providing and funding urban infrastructure and services and improve the role of central government through a system of loans and grants which encourage the mobilization of local resources.**

**Brazil: $100 million non-concessional loan commitment from the World Bank in 1989 to provide technical assistance, training and equipment to municipalities and to urban sector state institutions in Parana state to strengthen their financial management and overall administrative capacities. In addition, the loan will help fund municipal government investments in urban infrastructure throughout the state and a pilot project for low-income self-help housing construction.**

Sources: US AID Office of Housing and Urban Programs, Annual Report, Fiscal Year 1988, Washington DC, 29; World Bank, Annual Report 1989, Washington DC, [156].

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and mobilize resources to deal with the problems.

Initially,  most of the `healthy city' initiatives took place in Europe, North America, Australasia and Japan. The movement started in Europe to create action oriented approaches to Health in Cities; this has been supported by the Healthy Cities Project of the World Health Organization's European Office since 1986. In recent years, all WHO regional offices have been helping comparable developments within their region.

- In the Eastern Mediterranean region, many countries are developing national networks of Healthy Cities. For instance, in Iran, a Healthy Cities office has been set up in Teheran and projects have begun to upgrade a number of low-income areas in the city. In Pakistan, a national network of Healthy Cities has been established and projects are planned in 12 cities. Comparable plans are underway in Saudi Arabia, Egypt, Yemen, Tunisia and Morocco.

- In Africa, Accra was one of the first to develop a Healthy Cities project that reviewed health problems in the city and developed plans to address them. A network of healthy cities has also been established in Francophone Africa that includes Garoua (Cameroon), N'Djamena (Chad), Abidjan and Toumodi (Côte  d'Ivoire), Libreville (Gabon), Niamey and Dosso (Niger) and Dakar, Rufisque and St Louis (Senegal). Projects are also underway in Ibadan (Nigeria) and Dar es Salaam (Tanzania).

- In Asia, a network of cities committed to the

Healthy Cities Programme has developed-including Bangkok (Thailand), Kuching and Johor Bahru (Malaysia), Bangalore (India), Chittagong and Cox's Bazaar (Bangladesh) and Surabaya (Indonesia). In Latin America, Healthy City initiatives are underway in Rio de Janeiro and Sao Paulo and in various cities in Bolivia and Colombia.

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# 10 Housing and Basic Services

## 10.1 From Housing Supply to Enablement

A review of what governments have done to ¡mprove housing conditions since Habitat I, the first United Nations Conference on Human Settlements in 1976 came to three main conclusions.[1] The first is that there is no evidence that housing conditions for the lower income groups in cities in the South have improved since Habitat I in terms of affordability, tenure, standards and access to services. The absolute number of urban residents living in inadequate shelter has certainly grown, although the information about housing conditions is too limited to know whether the overall proportion has also grown. The second is that housing conditions are not deteriorating in all nations-and in many they have improved considerably. Trends vary greatly from city to city and nation to nation-and within nations and cities, according to income group, location and other characteristics. The third is that in many cities in both the North and the South, inequality in incomes and in housing conditions has increased, and with it the attendant dangers of social and political conflict.

The last 10-15 years brought major changes to the ways that most governments sought to tackle housing problems. These were influenced by many factors but among the most important are changes in economic conditions (and in government responses to them), changes in the concept of what governments should do (and should not do) to improve housing conditions, and, in many countries in the South, democratic pressures. There were also contradictions that arose that have yet to be resolved-for instance, a diminution in the role of the state in housing but also growing pressure for government action from those with inadequate housing. And as will be described in more detail later in this chapter, there is the growing use of national and international pressures by citizen groups and NGOs to demand that governments recognize people's right to adequate housing. There is also a growing movement to end discrimination against women in access to housing and basic services.

In the South, the economic stagnation and debt crisis that faced many nations during the 1980s that had previously achieved economic growth brought cuts in public expenditure, including that on housing programmes. In addition, the falling incomes experienced by many people also meant less capacity to pay for housing. For the many nations undergoing structural adjustment, further cuts in public expenditures were also required which often meant cuts in investments on housing-related infrastructure and services. Macro-economic policy can have powerful effects on the performance of the housing sector, through such instruments as directed credit, trade policy, interest rates, fiscal and monetary policy, state intervention in housing (including ownership and control of production) and laws governing property rights.[2] Over the past 10-15 years, the housing sector has been particularly vulnerable in countries undergoing structural adjustment as policies designed to address broad economic problems have been formulated with little regard for their impacts on housing investments.[3]

At the same time, there were changes in the concept of what governments should do to improve housing conditions. There are three distinct concepts of the role of government in housing programmes: state provision; the `enabling' approach; and `leave provision to the market'. Although no government's position falls entirely within one of these approaches-and within either state provision or the enabling approach, there is a great variety in what government does and how it does it-the scale and nature of any government intervention in housing will reflect which of these concepts its official position is nearest to.

The enabling approach helped to develop what might be termed a new agenda for shelter as it relied on market forces for many aspects of shelter provision, but within a framework that addressed those areas where private, unregulated markets do not work well. Thus, it used the advantages of private markets for land, building materials, finance and finished housing in terms of cost reductions, rapid response to changing demands and a diverse range of housing available for sale or rent. But it is not only private-sector firms but also third-sector institutions such as NGOs, voluntary agencies and community organizations that are seen as more cost effective producers and providers of housing, housing finance, land development and many forms of housing-related infrastructure and services than government bureaucracies. In addition, governments retain a key role in ensuring thar land

and housing finance are available and in ensuring that the provision of water, sanitation, drainage and other infrastructure and services expands to match the expansion of the housing stock-although here too, private firms or voluntary organizations may have central roles in actual provision.

This new approach accepts that the privatization of some services can bring major benefits but that privatization is no longer the standard response for all services. The results achieved in some of the highly privatized social service systems in the North are not encouraging, not least for low-income groups. Within the many very unequal societies of the South, such problems are likely to be exacerbated.[4] The tendency in market economics on short-term optimization at the expense of longer-term investment and planning is of concern as is the lack of attention paid to the influential role of interest groups and other non-economic factors in manipulating the way markets work to the advantage of some and the detriment of others.[5] These and other observations encouraged a re-emphasis on the limits of market mechanisms and reasserted the importance of strong government and social action.

The `enabling' approach is also associated with political reforms, especially democratization. Popular participation and decentralization now receive more official support than they used to.[6] Civil society is also given a much greater role through NGOs, community based organizations and citizens movements. There is a more explicit and informed attempt to ensure that housing provision better matches the needs and priorities of lower-income groups. This includes removing discrimination against women in housing and basic service provision and ensuring that the different needs of men and women in housing provision and production are understood and addressed.

Housing policies that have moved from `supply to enablement' during the 1980s have antecedents in many programmes such as the Kampung Improvement Programme in Indonesia that had been initiated in Jakarta and Surabaya in the late 1960s and the Urban Basic Services Programme in India. These broke away from specific projects to focus on developing a more appropriate framework within which people living in informal or illegal housing could create or develop housing more effectively.[7] The new approach gained strength throughout the 1980s, supported by two related, international initiatives. The first, promoted by UNCHS (Habitat), centred on the concept of the `enabling approach' that was elaborated in the Global Strategy for Shelter. Here, the role of government was redefined to focus on managing the legal, regulatory and economic framework so

that people, NGOs and private-sector actors were more able to produce housing and related services, more effectively. Scarce government resources could then be directed to areas such as capital-intensive infrastructure which the poor could not fund, and which commercial interests would not finance themselves. Given added impetus by the United Nations `International Year of Shelter for the Homeless' in 1987, and formalized by UNCHS (Habitat) in the `Global Shelter Strategy to the Year 2000' in 1988, the principles set out in the enabling approach marked a considerable break with the past.

The second international support for a new approach to shelter policy in the 1980s and early 1990s came from the World Bank. Although the World Bank's approach shared and supported many of the characteristics of the `enabling approach', during the second half of the 1980s, its shelter policy developed more of a focus on economic issues, especially the role of markets, and paid less attention to social and political matters. As the title of the most recent World Bank policy statement makes clear, the focus is on `enabling housing markets to work' rather than on enabling poor people to gain access to housing and land markets.[8] This is a subtle but important distinction. The World Bank's interest in the enabling approach was already clear in earlier evaluation reports[9] and policy statements,[10] with a move away from investment in housing projects in the mid-1980s, to housing finance in the latter part of the decade, and on to urban management around 1985 (see Chapter 11 for more details). The World Bank also responded to the negative impacts of structural adjustment on many low income groups and on many previously middle- or lower-middle-income households who became impoverished. As these negative impacts became clear by the mid-1980s, the World Bank added social funds or other forms of `social safety-net' to its portfolio of urban interventions which sought to mitigate economic stress via a range of welfare and compensatory measures.[11] Growing attention was also paid by the World Bank throughout the 1980s to the links between economic development and shelter. As two of its staff commented, `it is less government's spending in the housing sector than its role in defining regulatory frameworks, pricing policies, and policies affecting the financial sector that comprise the major instruments for influencing the performance of the sector, and, in turn, the way its performance affects the macro-economy.[12] This approach was formalized in the World Bank's 1991 paper, *Urban Policy and Economic Development: An Agenda for the 1990s*, which had an explicit focus on the need to remove constraints to urban productivity arising from the legal, fiscal and other frame-

works, and on the role of the private sector in addressing these concerns.[13] It was further developed in the 1993 Policy Paper *Housing. Enabling Markets to Work,* which advocated the reform of government policies, interventions and regulations to `enable housing markets to work more efficiently', while simultaneously managing housing and urban development as part of a broader economic strategy.[14] The most important elements in this new agenda included secure property rights, developing private mortgage finance, rationalizing subsidies, promoting cost-recovery in infrastructure development, reducing shelter standards and regulatory complexity, and promoting private-sector activity in all areas.

Thus, different interpretations of 'enablement' mean different kinds and levels of government intervention. `Housing enablement' can imply very extensive or very limited government intervention. For instance, Sweden's housing policy during the 1980s could certainly be termed enablement as state intervention ensured that cheap land and housing finance were widely available and that most of the housing was actually constructed by private firms or individuals. However, most private-sector construction was as clients of housing co-operatives, communes or `restricted profit' schemes and virtually all housing construction during the 1980s received government funding and had to meet the conditions laid down by such funding.[15] This is an example of an enabling policy that does not imply no state intervention-but a change as to where the state intervenes and a reliance on market forces where appropriate to bring down costs and ensure a good match between supply and diverse demand.

It is also important to recall the complex political economy of each nation that conditions any new housing initiative and that cautions against international comparisons. Both Sweden's and Sri Lanka's housing policies during the 1980s can be described in terms of housing enablement but the contrasts in the economic and political conditions of the two countries are so extreme that it is difficult to compare them. There are also historic factors that help explain why a new initiative was or was not taken during the 1980s. Many governments in the North and the South may have given a lower priority to public housing, but many public housing programmes or programmes of subsidized housing finance remained in place, because they had long benefited government employees or some other group with sufficient influence within government to ensure that their access to subsidized housing provision or to subsidized housing finance was not halted.

Obviously, the ideological base of governments will strongly influence the nature of state intervention in housing but a government may be strongly market-oriented in most aspects of economic policy, yet still interventionist in regard to housing. This remains the case in many European countries, although the form of government intervention in housing has tended to change and often to diminish. In the South, Singapore is the most obvious example of heavy state intervention within housing within an economic policy that is strongly market-oriented. With one of the world's most successful economic performances over the last few decades because of its expanding role within international production, trade and services, it also has much the largest public housing programme in terms of the proportion of the population living in such units. Over 90 per cent of all housing units built over the last forty years were built by the public sector-although most have been sold to their occupiers so in terms of housing tenure, it does not appear as state housing provision. Singapore has also long had a degree of control over land use with the government also a major landowner that is much closer to social democratic countries in Europe than might be implied by its overall economic policy.

One important influence on the housing policies of many governments over the last 10-15 years has been the introduction of or return to democractic rule. This has brought more readiness on the part of governments to provide legal tenure for many of those living in illegal or informal settlements and less readiness to support large-scale `slum' and squatter eviction programmes. Most of the large-scale eviction programmes from cities during the 1970s and 1980s and most of the repression of community organization took place in countries that had non-democratic regimes.[16] The wider acceptance by governments of upgrading programmes (described in more detail below) may also be linked to increasing democratic pressures. It is difficult for a democratic government to justify an entirely market-oriented approach to housing, since the rapid expansion in the scale and nature of housing problems often coincides with the decades when priority was given to economic growth and economic growth was seen as the means by which housing problems would solve themselves. And if `enablement' is taken to mean that those with low incomes, few (if any) monetary assets and little political voice are to be `enabled' to obtain better quality housing, it implies a transfer of power and resources to them.[17] Such transfers are unlikely, if political structures are unresponsive to citizen and social pressures.

## 10.2 How Government Policies have Changed since Vancouver

### Housing enablement in the North

Not surprisingly, the changes in the political orientation of many governments towards neo-liberalism during the 1980s also brought changes in the way that governments viewed their role within housing (and within social policy in general). This can be seen in Europe with the erosion of the post-war consensus on the role of the welfare state[18] that also brought major changes in housing policies in many countries. The changes were particularly abrupt in the United Kingdom which up to 1980 had one of the highest proportions of its national population in public (municipal) housing. The powers of local governments to build social housing and the resources they could use to do so were much reduced; the production of social (rental) housing fell from 140,000 in 1977 to 31,000 in 1992.[19] Meanwhile, the proportion of the population living in municipal housing was much reduced as large financial incentives were offered to those who lived in such housing to purchase it. Owner-occupiers in general also received large tax incentives and were not taxed for the capital gains they made when housing was sold; in 1990/1, these tax advantages for owner-occupiers cost the government twice as much as the cost of providing housing benefits to low-income renters.[20] However, there was no agreement within the European market and mixed economies as to the best role for governments in housing policy. Indeed, a comparative study of housing policies in eighteen countries concluded that there was increasing divergence during the 1970s and 1980s.[21] Two factors underpinned this divergence: the nature of the building, industry and how housing was promoted; and the broad ideological base of the society.[22]

The thrust of housing policies in countries in Europe and North America can be partly explained by their ideological base. Housing policies and the range of housing types and forms of tenure they influence are very different in Europe's social-democratic welfare states such as Sweden and Norway compared to liberal welfare states such as the United States and, increasingly, Britain. In social democratic welfare states, there is extensive state intervention in many areas to promote equality which includes extensive state intervention in housing while using market forces to keep down prices and promote diversity in types of housing and forms of housing tenure. Countries which are characterized as social democracies tend to have governments with a much greater role in land supply and a greater emphasis on social housing and restricted profit

private promotion. For instance, in Sweden, during the 1980s, more than half of all housing completions were non-profit social housing (housing co-operatives and municipal housing companies largely run by local communes) with 19 per cent of completions by the restricted private profit sector producing for sale and rent; virtually all housing production was funded by the state housing loan system. In liberal welfare states, the market is favoured over other forms of housing provision with very limited government involvement, generally only in the form of housing provision to a residual population who lack the means to enter `the market', or some form of welfare payment to help pay for housing. Here, as in other aspects of welfare provision in liberal welfare states (and unlike social democracies) there is a stigma attached to living in public housing.

Most countries in the North fall between these two extremes both in their ideological base and in the form of government intervention in housing. And even in the countries with the most market-driven approaches, there are still innovative public programmes to improve housing conditions for lower-income households.[23] There is also an important third category that can be termed the corporatist welfare state where the state is prepared to displace the market as a provider of welfare but not to the extent of promoting equality (as in social-democratic welfare states), and in principle the state only intervenes when the capacity of the family to address problems is no longer adequate.[24] In these and in many social-democratic welfare states, a considerable proportion of new housing units are produced by households who organize their construction themselves-including a proportion who are also self-builders. For instance, in France, over half of all housing output during the 1980s was undertaken by households promoting their own unit. Most (with 30 per cent of all completions) were built by specialist mass production `catalogue' builders although 10 per cent of all completions were self-built with roughly 10 per cent through one-off contracting.

Liberal welfare countries tend to have the highest proportion of housing built where land supply is through conventional market means and most units produced by the private sector. Nearly 75 per cent of all units completed in the United Kingdom during the 1980s were in this category. Box 10.1 contrasts housing provision in `high growth' zones in Sweden, Britain and France as a way of considering the relative performance of housing markets in the three distinct forms of welfare state.

BOX 10.1
**Housing quality, cost and diversity: a comparison between prosperous regions in Britain, France and Sweden**

One study which compared the quality, diversity and cost of housing produced during the 1980s in a prosperous region in Britain and Sweden and two such regions in France found that the most regulated housing system performed best and the least regulated performed worst. The region in Sweden (where housing production was most regulated) performed best when considering output levels, building costs, land prices and final output prices; the British region (within the least regulated production system) performed the worst. The most regulated (in Sweden) produced the most diversity with those seeking a house or apartment having the option of purchased owner-occupation, self-promoted owner-occupation, co-operative tenant ownership and social renting; the most market driven area-in Britain-had the least diversity. In terms of consumer cost, the region in Britain had the highest costs, especially for poor households. The Swedish region had lower costs and less-marked social differentiation. The regions in France came between these two extremes.

The study was undertaken in high-growth regions in France, Britain and Sweden, each of which experienced above average growth in population. In Sweden, the study concentrated on three communes north of Stockholm [25] and the contiguous Kista parish in Stockholm; the number of jobs in this area

grew by 139 per cent between 1980 and 1987 with a relative emphasis on high-growth sectors and high-status jobs. In Britain, the study area was the county of Berkshire where employment only grew by 6 per cent over the period but it began from a larger base and should be seen within the context of Britain's poor economic performance. In France, two regions were chosen: the urban agglomeration of Toulouse (which is relatively free-standing) and an area on the southern fringe of Paris (which like the British and Swedish examples are close to and strongly influenced by the country's largest city).

In terms of housing output per person, the Swedish region had the highest figure followed by Toulouse, then Berkshire, then the southern Paris region. Output in Berkshire showed the most volatility. The comparison of costs looked at the costs of building, the cost of land and final output costs. In regard to land costs, in Toulouse and the Swedish region, land costs were both relatively low and quite stable, although there was a rise in the Swedish region by 43 per cent in the economic boom of 1987-9. In Berkshire, the UK region, land prices were comparable at the beginning of the decade but they rose by 436 per cent between 1980 and 1988. By 1988, the land-cost element of housing costs had risen to 60 per cent by 1988. In Toulouse, the land-cost element was estimated to have declined from about 40 per cent to just over 30 per cent during the decade while in south Paris, it remained at roughly 40 per cent of final house costs. In the Swedish region, it is unlikely that the land cost element exceeded 10 per cent of a single dwelling costs and 5

per cent of an apartment.

Overall, taking into account output levels, building costs, land prices and final output prices, the Swedish region performs best: output was high, building costs and land prices relatively low and stable and total output costs comparatively low. In Berkshire, the costs were generally highest and certainly most volatile. There was also a much greater diversity in the forms of housing tenure available in the Swedish region, compared to the British region, with the two French regions falling between these two extremes. For a household in Berkshire, there was increasingly only one choice-buying a house from a speculative development or from existing owner-occupied stock. An examination of housing costs for various class groups and household types also found that in general, those in the Swedish region paid a smaller proportion of their incomes on housing-and there was also less inequality between groups in the proportion of income spent on housing. In the Swedish region, there was also no association between household income and housing quality or age; income differentials only became apparent for housing size.

The structure of housing promotion and production in Britain favoured the establishment of short-term goals based around business strategies that focused on speculation in the land and housing markets. In the Swedish region, they concentrated on improving labour productivity and product quality and diversity. However, in Sweden these are problems of emerging power of large oligopolistic firms that tended to subvert the existing system of regulation.

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

## Towards housing enablement in the South

In the South, there was a clear retreat from government as major providers of housing during the 1980s. In some countries, this was a trend that had begun prior to the 1980s and was associated with the shift from provision to enablement. Many governments had already made significant changes in their housing policies during the 1970s-for instance in the shift away from public housing programmes and a greater priority given to upgrading programmes.[26] During the 1980s, there was a coincidence of several influences:

- a greater market orientation encouraged by many powerful governments in the North and by many multilateral and bilateral donors that was often enforced through structural adjustment;
- for most nations, economic stagnation or decline that in turn limited the capacity of gov-

ernments to embark on high cost housing interventions;

- democratic pressures from the bottom up and some international donor pressure from the top down that demanded a stronger support for community organizations, NGOs and participation and that explicitly or implicitly supported the expansion of the human rights movement to include consideration of the `right to housing';
- the growing strength and influence of the movement to reduce the discrimination against women and 'gender-blindness' in housing and basic service provision;
- Increasingly less international funding available for housing projects from the international agencies that had been much the largest supporters of such projects-especially the World Bank and US AID'S Housing Guaranty Program (see Chapter 11 for more details); and

- the development of `the enabling approach' within the Global Shelter Strategy.

Of course, the relative strength of these different influences varied enormously from country to country-and often with considerable change over time. There were also many countries that retained or returned to non-democratic regimes and where few if any of these influences were evident. There are also nations where economic decline and/or civil strife meant little or no attention to housing. In seeking to highlight the most important innovations in housing policy in the South over the last 10-15 years, perhaps five deserve attention. The first is the development of national shelter strategies by many governments that broadly follow the guidelines of the Global Strategy for Shelter. The second is the higher priority given to upgrading programmes and the development of new approaches to upgrading. The third is the increasing attention given to identifying and reducing discrimination against women and 'gender-blindness' in housing and service provision. The fourth is the increasing influence of human rights movements or campaigns within housing. The fifth is the recognition by governments of the importance of rental housing, with some initiatives to support its development. Each of these is described below. There were also many innovative programmes of housing finance developed during the 1980s by governments and by NGOs, but these are described in Chapter 11. Some of these are also mentioned briefly in this chapter because they combine housing finance with support for upgrading and other elements of housing construction or improvement. One example of this is the urban component of the `Million Houses Programme' in Sri Lanka which is mentioned both in this Chapter and in Chapter 11. A final section draws some conclusions.

## National shelter strategies and the global shelter strategy

Relatively  few governments had developed national shelter strategies before the elaboration of the Global Shelter Strategy in 1988. The United Nations International Year of Shelter for the Homeless in 1987 had stimulated a good deal of action in preparing draft national strategies: out of 145 countries that had participated in this International Year, 55 established new shelter policies or strategies, 11 started preparations for new strategies, and the rest `had made at least one significant policy change or new programme'.[27]

The Global Shelter Strategy laid down four requirements for national strategies:[28]

- the  definition  of clear and measurable objectives;

- gradual reorganization of the shelter sector (including the legal and regulatory framework and shelter production);

- mobilization and distribution of increased financial resources (including housing finance, rationalization of subsidies and cost-recovery); and

- production of shelter and management of land, infrastructure and the construction industry.

Agenda 21 from the Earth Summit (the United Nations Conference on Environment and Development in 1992) added one further requirement to this list, namely that national shelter strategies should include measures to promote `sustainable energy development and transport systems'.[29]

Over the last few years, a number of studies have reviewed progress in developing national shelter strategies.[30] A good deal of information is  therefore available on strategy formulation, especially from Colombia, Nigeria, Thailand, India, Kenya, Zimbabwe, Uganda, Indonesia, the Philippines,  Costa Rica,  Nicaragua, Jamaica, Mexico and Sri Lanka. In general, a start has been made in developing national shelter strategies in  most countries. The output of the strategy-formulation process also varies widely from one country to another; some have concentrated on modifying existing plans from earlier years, while others have focused on particular sectors of shelter development.[31] In most cases, some elements of strategy were already in place prior to 1988 as a result of earlier attempts at policy-formulation.[32] For example, Costa Rica and Zimbabwe have concentrated on changes at central government level; Nicaragua and Uganda have emphasized the development of district and municipal strategies; and Indonesia and the Philippines have focused on the development of links between central and local-level planning and action.[33] Some countries (such as Uganda and Zimbabwe) have kept to their original schedules, with strategies and mechanisms for implementation agreed and adopted by 1992 but most have fallen behind schedule for one reason or another. In Indonesia, the government recognized' the need to adopt an `enabling approach' to shelter in its Five-Year Plan for 1989-94, though it still has no single, explicit strategy document.[34] Kenya signalled its move away from state-dominated shelter policies to the enabling approach with a 'Sessional  Paper on Housing' in 1986, followed a year later by a National Shelter Strategy and in 1990 by a new Housing Policy Paper. However, one observer reports that the impact of these changes has been `disappointing', in part because housing policies have been fragmented and uncoordinated, and because of institutional difficulties in implementing them.[35] Similar problems have been noted in Tanzania.[36]

India's new National Housing Policy (1992) evolved from an earlier policy adopted in 1988, and embodies a clear commitment to the principles enshrined in the Global Shelter Strategy: `the Government will devise and implement strategies which will enable the various agencies to complement the efforts of one another and to ensure the most efficient utilization of resources'.[37] However, Indian NGOs have yet to be persuaded that the new policy will be implemented effectively; `although India has continued to describe its policy for housing as an enabling one, it has done little to create mechanisms which assure in concrete terms the enabling principle.'[38] A similar judgement comes from Bolivia, where one observer reports that, though `bold in its outlook and wide in its application', the National Plan for Housing (1989-93) has not been implemented.[39] Mechanisms for implementation have also been the weakest area of strategy development in the four countries reviewed by UNCHS in 1990 (Barbados, Zimbabwe, Jamaica and Kenya). A common failing is that the functions of, and linkages between implementing agencies are not spelled out in any detail.[40] All four country strategies define an increased role for the private sector in shelter production and qualitative changes in the roles of government agencies, but again this means different things in each case. For example, government maintains a more significant role in Zimbabwe than in the other three countries reviewed. This study, in common with other similar studies, found wide variations in the details of scheduling, the groups and institutions involved in drawing up the strategies, the degree of technical assistance involved, and the precise steps that were taken.

Key factors in differentiating successful strategies from those that remain `on paper' are high-level and continuous political support, careful research on housing market conditions prior to strategy formulation, and local control. Attempts by international donors to initiate the process should be avoided.[41] There is also evidence that broad-based consultation among public, private and third-sector institutions produces a stronger outcome, whether this is achieved through a committee structure (as in Kenya) or via a series of hearings (as in Indonesia). In Nicaragua, an innovative process of workshops and data-collection at municipal level produced a number of `diagnoses' of shelter issues that were then discussed at meetings of all the relevant actors, resulting in the production of local action plans during 1990 and 1991.[42] A similar process was undertaken in the Philippines, which focused on developing strategies at the regional level. Uganda was also successful in involving a wider range of staff at both local and district levels in the development of a new National Shelter Strategy

in the early 1990s, the focus being on building from the district level upwards rather than the central level downwards. A similar 'bottom-up' process in Zimbabwe did not work so well, since the state system is more highly centralized than in Uganda.[43]

Taking the four requirements for national shelter strategies laid out in the Global Shelter Strategy to the Year 2000, the following conclusions can be drawn:

(a) *clear objectives:* national shelter strategies have made good progress in reframing traditional policies in terms of the general objectives of the enabling approach, but progress towards implementing these objectives has been weak. The aims of Colombia's new shelter strategy are to create a national social-housing system that maximizes the use of available resources under efficiency and equity criteria, and that optimizes the construction process. These aims are representative of most shelter strategies in the South in the sense that they follow the broad framework of the Global Shelter Strategy while allowing for local adaptation. However, more detailed, measurable and time-bound goals are comparatively rare. The new strategies are beginning to take effect in some countries-for example in the Philippines, evictions have fallen from an annual level of around 100,000 people between 1986 and 1992, to less than 25,000 in 1993.[44] There is also some evidence of a lack of integration between objectives, as in Indonesia where urban renewal policies may run counter to measures to increase the supply of land.[45] Indicators are beginning to be identified to enable policy-makers to measure progress towards the objectives laid out in national shelter strategies. The UNCHS/World Bank Housing Indicators Programme and the sub-regional seminars held in 1990/1 to develop monitoring guidelines for shelter strategies have developed a wide variety of indicators, though even when aggregated there are probably still too many for easy monitoring.[46]

(b) *reorganization of the shelter sector:* most national shelter strategies make explicit reference to the roles and responsibilities of public, private and third sectors in the shelter process, and to the role of government in creating and maintaining an `enabling environment' within which people and private enterprise can build their own housing. `Mexico has managed to do more with less' by increasing the efficiency and effectiveness of municipal management.[47] The new National Shelter Strategy for the Philippines signifies a clear move to a less interventionist role for government which is already producing some interesting results, such as the `Joint Venture Programme' and the Community Mortgage

Programme[48] that is described in Chapter 11 on housing finance.

Public-private partnerships of this kind are explicitly recognized in most strategies as a central mechanism to enable different institutions to concentrate on areas of comparative advantage in the shelter process.[49] `The fundamental policy role for governments is to identify, within acceptable political parameters, where the management of human settlements will be enhanced by decentralizing, devolving or subcontracting any particular component of their current responsibility to any particular level.'[50]

(c) *mobilization and distribution of financial resources:* reforms in housing finance, infrastructural investment and cost-recovery, property taxation and other fiscal measures receive high priority in all national shelter strategies, though again implementation is often disappointing. Mexico's success in `doing more with less' cited above can be attributed in part to the increased revenues captured by government from the regularization of land around major cities, reforms in housing finance (with mortgage repayments indexed to adjustments in wages), the creation of specialist intermediaries to promote access to affordable finance among lower-income groups, and the more efficient targeting of subsidies.[51] The expansion of the `Kampung Improvement Programme' in Indonesia was made possible by increased financing from public and private sources, supplemented by increased local (property and other) taxes.[52] The strategy process in Costa Rica was stimulated in part by the difficulties experienced in the *1980s* by municipal authorities, who found they lacked the means to finance housing and infrastructure works originating from central government.[53] Zimbabwe's new National Shelter Strategy is based on the goal of home ownership for all via incentives to building societies and increasing access to loans among the urban poor.[54]

(d) *production of shelter and management of land, infrastructure and the construction industry.* National shelter strategies formulated after *1988* mark a major break with the past in scaling-down government's role in shelter production and in focusing instead on promoting incentives to private- and third-sector production, within a framework intended to. guard against speculation and ensure access among the poor. Most strategies identify a central role for government in infrastructure investment (less so in the provision of services), re-defining housing and building standards, promoting small-scale construction efforts and investment in local building materials, and removing `imperfections' in the land market. In Zimbabwe, for example, the new strategy

makes explicit reference to the need to lower building and planning standards, a significant move since the Zimbabwe Government had previously maintained standards inherited from the colonial era as a reaction in part to the lower standards endured by Africans under colonial rule.[55]

In summary, substantial progress was made during the *1980s* and early *1990s* in many countries in redefining aims and objectives to coincide with the principles of the enabling approach. In many cases there was also wide consultation with private-sector groups and NGOs and community organizations, although (necessarily) the details of who was involved at what stage vary widely. However, most `strategies' lack a detailed plan of action, a timescale, provision for ensuring resources are available to implement the actions proposed, and indicators for monitoring and evaluation. They are closer to `policies' than `strategies'. This is one reason why implementation has so far been disappointing. The lessons learned from this phase of strategy development confirm the results of an earlier evaluation of the enabling approach, that identified four preconditions for success:

- governments must take unambiguous decisions that provide for autonomy at local level;

- measures to foster local initiative must be accompanied by others to address barriers that stand in the way of these initiatives;

- governments must accept the demands of poor communities as legitimate, and respond to them; and

- professionals involved in human settlements development must be prepared to redefine their roles.[56]

It is also evident that if `enabling policies and strategies' are to enable low-income groups to buy, rent or build better quality housing, this involves changes that are far beyond the capacity and competence of housing ministries or agencies and such changes are unlikely to happen without more democratic and accountable governments.[57]

## Upgrading

Upgrading programmes for inner-city tenement districts and illegal or informal settlements have become so widespread that it is difficult to retail how recently these became a significant part of most government's housing policies. Some have achieved a significant 'scale (though often with considerable disguised subsidies). Indonesia's `Kampung Improvement Programme' has been implemented in over 500 urban areas since 1968 and is responsible in part for the fact that dwelling size and residential densities in Indonesian cities -are actually improving over

time, despite the continued poor performance of the formal construction sector.[58] In India, the Urban Basic Services Programme for the Poor is intended to cover 500 urban centres between 1992 and 1997-and after two years of operation, there is progress in 280 urban centres with community structures evolving and in place and with nearly 30,000 volunteers and over 4,000 neighbourhood groups of women.[59] The upgrading of `slums and shanties' became a central part of the urban component of Sri Lanka's Million Houses Programme' in the mid-1980s.[60] In Pakistan, although the *Katchi Abadis (squatter settlement) Improvement and Regularization Programme* has not managed to meet its targets and faces other problems-as will be described below-it still represents a central part of Pakistan's housing policy. Other successful upgrading programmes (such as Aguablanca in Cali, Colombia, and Ruamjai Samakki in Bangkok, Thailand) demonstrate that the failings of earlier projects are being tackled-costs and subsidies have been reduced significantly, access to the very poor (though still not the poorest) has been promoted, and security of tenure granted.[61]

One of the underpinnings of upgrading programmes has been the greater tolerance by governments for illegal and informal settlements. This, in turn, has often been helped by a return to democratic rule. Those living in illegal settlements have shown themselves to be politically adept at negotiating for legal tenure or basic services in return for votes.[62] Their numbers have also increased so much that they can represent a sizeable portion of a city's voters-and they often include a sizeable part of the city's lower-middle and middle-income groups, although these tend to be in settlements developed on illegal subdivisions rather than on illegally occupied land. A greater official tolerance for illegal or informal settlements is also helped by the number of individuals and businesses who make money out of their development. Chapter 7 noted how an increasing proportion of illegal or informal settlements develop on land that the occupiers have to purchase from landowners, land developers acting on their behalf or land developers who simply subdivide government land. In other instances, landowners are less worried about the illegal occupation of their land, as government authorities prove ready to provide them with compensation. Certain landowners have also profited from land invasions; there are even cases of landowners organizing or encouraging squatters to invade their land because they could receive more money in compensation from the government than the land itself was actually worth, before it was invaded.[63]

Governments could therefore afford to be tolerant, as long as low-income groups did not try to invade prime real estate-either that which was privately owned (so the invasion was in direct conflict with private landowners) or that which was publicly owned and was to be used for some public investment. Low-income groups usually avoid using land sites which were easily visible from the centre of the' city or a major road since these might be subject to the threat of eviction because of a government plan to `beautify' the city.

Perhaps the two most serious difficulties with upgrading programmes are how to sustain the initial impetus and how to expand them to the point where they reach most or all of those in need. The `upgrading' aims to make up for a lack of past public investment in basic infrastructure and services by a single intervention-for instance, paved roads, drains, water supply and electricity. These should have been installed in the first place and maintained and improved on a continuous basis by the local government or utility company. Upgrading programmes may improve conditions considerably at first but very rarely do they increase the capacity of the local government to maintain the new infrastructure and services and to continue with the upgrading process.[64] Upgrading momentarily makes up for a deficiency in local government's investment and implementation capacity but the basic institutional deficiency is not removed. Even in successful `slum' upgrading schemes such as Hyderabad and Visakhapatnam in India, it has proved difficult to sustain community interest in maintaining services after the initial period of investment in housing and infrastructure is completed, particularly in `softer' areas such as health, education and social development.[65] As two Indonesian specialists suggest, reviewing the experience in Indonesia with the Kampung Improvement Programme,[66] fully involving the residents in the upgrading programme can provide a substitute, so that local residents and community organizations take on the responsibility for maintenance. But this is rare in upgrading schemes. It might also be considered somewhat inequitable for poorer communities to have to take on responsibility for maintenance when richer areas not only receive higher quality public services but also have these maintained by local government or other public agencies.[67]

The *Katchi Abadis (squatter settlement) Improvement and Regularization Programme* in Pakistan illustrates the second difficulty-expanding the programme to the point where it reaches most or all of those in need.[68] This programme has been in operation in its present form since 1978. It seeks to regularize 2,320 *katchi abadis* with a population of over 5.5 million and also to provide water, sanitation, electricity, paved roads and social facilities. The beneficiaries are

meant to pay for this improvement through land and development charges known collectively as `lease charges'. However, between 1978 and 1989, only 13.9 percent of *abadis* were in the process of being developed.[69] Among the reasons given for the slow pace of work are lack of funds (although the agencies responsible are able to spend only 50 per cent of what is allocated to them annually), heavy government subsidy in development along with lack of recovery of development charges and lack of community involvement. Under the present programme, 30,000 houses are upgraded annually although to keep up with the increasing backlog, this would have to increase to 100,000 a year. In addition, the planning standards are unnecessarily high and their implementation means the uprooting of up to 35 per cent of the population of a *katcbi abadi*. Their resettlement also poses major political, social and financial problems.[70]

The Indonesian *Kampung* Improvement Programme can be taken as an example of a programme that expanded to the point where it reached a high proportion of all low-income households. This was also one of the first large upgrading programmes and remains one of the largest ever implemented. It was started in the late 1960s in Jakarta and Surabaya and later expanded to include a large range of urban centres. It is generally judged to have been a success because at a relatively low cost, millions of households were reached. Infrastructure and services were improved for a high proportion of lower-income households. However, there are signs that in some cities or some districts within cities, upgrading also led to rising land prices, and a marked decrease in cheap rental accommodation.[71] Furthermore, where no provision was made to work with the inhabitants of the *kampungs* in designing and implementing the upgrading (and thus no provision made to ensure maintenance and repair for the new infrastructure and services), considerable problems with maintenance soon arose.[72] Box 10.2 gives an example of how improvements stimulated by an upgrading programme in Surabaya were sustained and how `a programme' became a continuous process involving government authorities and the inhabitants of the *kampungs*. Although now widely considered as one of the most

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BOX 10.2
## Sustaining improvements in housing and living conditions: the Kampung Improvement Programme in Surabaya, Indonesia

The Kampung Improvement Programme in Surabaya, Indonesia's second largest city, is regarded as one of the most successful government initiatives to improve housing and living conditions in Asia. Unlike many upgrading programmes, the improvements made in water supply, drainage and other aspects have been sustained with households and community organizations making major contributions both to maintenance and to further investments. It was conceived not as a public works programme but as a partnership with community organizations with the kampung inhabitants involved in determining priorities and preferences. The Kampung Improvement Programme sought to avoid taking over what individuals, households or community organizations can do for themselves. The scale of the improvement programme in terms of the number of people reached has helped to avoid the process by which housing and land prices rise in improved kampungs with poorer groups moving out.

In the early 1960s, housing and living conditions in cities were put under further strain as city populations grew rapidly and public and open space were invaded. In the late 1960s, local governments in Surabaya and Jakarta began to evict the people who had settled on land not designated for housing but also to improve conditions in existing kampungs. The first post-war Kampung Improvement Programme in Surabaya, known as the W. R. Supratman KIP, was introduced in 1968. With limited public funding available, the city government of Surabaya only provided basic construction elements for infrastructure in the kampungs, mainly pre-cast concrete slabs and gutters. The inhabitants of the kampungs had to request these and take responsibility for installing them and constructing paths and drains.

From 1976, funding from the World Bank became available to support the upgrading programme in Surabaya. The main objective of the assistance was to increase the scale, scope and coverage of the programme. The financial support was a soft loan of around 65 per cent of the project cost with repayment over a 20-year period. National and provincial government also provided a counterpart fund that represented around one-fifth of the total cost. The kampungs had to provide the land and space needed for the project which meant the removal of front fences and use of house frontage and, on occasion, the removal of houses, with provisions made to rehouse those who lost their house. After the project was completed, many people improved their own front yard and houses and community infrastructure and services also improved-

for instance playgrounds and community halls (that were often used for kindergartens), street lighting, guard houses (to iprove security).

In the second stage, after 1974, a fixed sum was made available in the annual city development budget to respond to improvement requests from kampungs. The requests were prepared by kampung development committees with technical assistance from PWD staff and these had to conform to municipal standards and provide a detailed plan and cost estimate. After approval, the inhabitants also had to provide matching funds; these varied from more than half the total costs in kampungs with a high proportion of high income groups to a third for settlements where most of the inhabitants had low incomes.

Interest in the programme has been sustained and it is still widely used for local infrastructure. Each year, not all applications for funding can be met and there is some variation in the total funding allocated by the city government to this programme. For instance, more funding was available between 1984 and 1986 as part of a programme to prevent flooding. Other international agencies have also provided support for different aspects-for instance, UNICEF helped support improved standards of water provision and garbage collection and support for children's facilities.

Sources: Silas, Johan, Impact Assessment on *Kip* Urban III, and Community *Based* Urban Environment Management: Case *study of KIP* in Surabaya, background papers prepared for the Global Report on Human Settlements, 1994.

successful large scale upgrading programmes, initially the upgrading programme in Surabaya was regarded as `too slow', largely because of the time needed to develop agreements between public authorities and the *kampung* inhabitants.[73]

Perhaps of greater significance worldwide than the large, well-known and well-documented upgrading programmes are the large number of small, largely *ad hoc* `upgrading' schemes in which the inhabitants of a low income settlement negotiate with a local government or some other public agency for tenure of the plots on which they live and for some basic infrastructure and services. The significance of these schemes lies in their numbers and in the fact that they demonstrate a much wider acceptance of this approach by city and municipal authorities. Where these small `upgrading' schemes have been documented, they often show this process to be slow and inefficient-for instance, with support for paved roads negotiated at one point, then later drains or improved water supplies when there would be major cost savings if provision for water supply, sanitation, drainage and paved roads were combined. But their importance lies in the fact that they represent a fundamental change in the attitude of local authorities to illegal or informal settlements. If municipal authorities can acquire increased power, resources and capacities within the many decentralization programmes around the world, so too can their capacities expand to respond more effectively to these kinds of demands. One-off, *ad hoc* upgrading projects can then develop into continuous programmes where infrastructure and service provision is improved and partnerships developed between public agencies and resident organizations to keep down costs and ensure provision for maintenance and for further improvements. Box 10.3 gives an example of one such small scale upgrading programme that arose not from some government programme but from demands made by the inhabitants to the local municipality-but also a settlement where the inhabitants had already worked with external (non-government) agencies in a variety of initiatives to improve conditions.

One measure of a government's commitment to `enabling policies' would be the extent to which it has moved from `upgrading projects' to institutionalizing upgrading within city and municipal authorities who develop the capacity and knowledge to continuously work with the inhabitants of low-income settlements in upgrading the quality and extent of infrastructure and service provision and in regularizing land tenure. In this, there are few examples of the needed institutional restructuring. Certainly, progress has been made in this direction in Indonesia, although the impetus from upgrading was rarely sustained as it has been in Surabaya.[74] Progress was also made in Sri Lanka

during the Million Houses Programme, as local (urban) authorities and community development councils took on much of the upgrading work.[75] Progress has also been made in India, as the programme becomes one implemented in hundreds of urban centres although there are worries that the much expanded programme will run into difficulties because of a lack of properly trained staff and the difficulty of ensuring that it does not become a top-down government directed programme with little or no community participation.[76]

## Towards gender-aware housing policies and programmes

One of the most significant developments in housing during the 1980s and early 1990s was the increasing understanding of the discrimination faced by women in most if not all aspects of housing and basic services. This can be seen in discriminatory practices (more often incipient) that prevent or inhibit women owning or purchasing land for housing or obtaining a credit to purchase or build a house or getting access to a public programme or to private rental accommodation. Although this discrimination affects single women, it usually affects women-headed households more in their search for an adequate shelter and basic services for their household. For instance, women-headed households often cannot successfully apply for housing credit or for a place in a public housing or serviced-site programme, even though up to a third of all households (and up to half of the households in many low-income areas) are headed by women. In some instances, only men could apply on behalf of a household. In others, proof of formal, stable employment was required but women-headed households are rarely able to find a formal job-given both the discrimination against women in the job market and the fact that a formal job is very difficult to combine with rearing and caring for infants and children.[77] Discrimination against women outside of housing often disadvantages them in getting access to ousing-for instance discrimination against women in access to employment and in wage levels also means they have less income and thus less choice within housing markets.

There is increased awareness of possible `gender blindness' in housing and basic service programmes. Such programmes are gender blind because they do not recognize and make provision for the particular needs and priorities of women for income-earning, child-rearing and household management, and community-level action and management. Low-cost housing or serviced-site programmes rarely consider the needs and priorities of women in terms of site

**BOX 10.3**
**Barrio San Jorge, Argentina: an example of change in the attitude of local authorities to informal settlements**

Barrio San Jorge is one of the many informal or illegal settlements located in a municipality on the periphery of Buenos Aires metropolitan area. Around a third of the 450 families living there have incomes too low to meet their basic nutritional needs. There are also serious environmental problems, partly because the settlement is located on a site prone to flooding. One of its boundaries is set by a river which is seriously polluted by untreated industrial effluents. Most roads are unpaved and provision for water supply, site drainage and sanitation is very inadequate.

Since 1987, various community projects have been implemented to improve conditions, with funding raised from a variety of local, national and international sources. They include the construction and development of a mother-and-child crèche/day-care/health centre and a conversion of an existing house into a community centre (the house of the barrio), the provision of a piped water and sanitation system, a health-education programme, a

sewing and clothing workshop; and the surfacing of some internal roads. A community-managed building materials store has also been opened to lower prices and to make it easier to obtain materials. But what has also proved important is the changing relationship with the local authority.

Until recent years, Argentina's political history has been one of military coups and military dictatorships alternating with weak civilian governments. Local and provincial governments have mistrusted community organizations and NGOs became a major source of technical and financial support. Many low-income communities came to doubt the capacity and competence of government, after decades of promises by politicians that were rarely if ever fulfilled. Prior to 1987, the inhabitants of Barrio San Jorge had only intermittent contact with the municipal government, although most of the site on which they were living is public land. Although buses used the one paved road in the settlement, the unpaved and often muddy streets in the settlement were used as the excuse by the municipal government not to provide emergency services to the Barrio and for trucks not to empty the latrines and cesspits which are used by 89 per cent of the residents.

Until 1987 (3 years after Argentina returned

to civilian rule), the local (municipal) government had no programme for those living in illegal settlements. In recent years, the municipality has been showing increased interest. A new integrated development programme for Barrio San Jorge has been developed with the support of the settlement's population and an NGOs'technical support team, the Provincial Government of Buenos Aires and the local municipal government. It aims to improve living conditions in the settlement by promoting the inhabitants' participation and organization in coordinated actions in such areas as employment, education, recreation, health and housing and by co-ordinating the efforts of various actors: the special interests of different age groups, state organizations, private institutions and different funding sources. This integrated development programme is seeking secure tenure of the land for the inhabitants. It is also introducing some restructuring within the neighbourhood to reduce densities by developing new sites for housing on land adjacent to Barrio San Jorge to permit the relocation of some households. To this end, the municipal government has provided Barrio San Jorge with seven hectares of land free of charge on an adjoining site.

Sources: Barrio San Jorge, Annual Reports 1989/90 and 1990/1; Hardoy, Ana, Jorge Hardoy and Richard Schusterrman, 'Building community organization: the history of a squatter settlement and its own organization', Environment and Urbanization, vol. 3, no. 2, 1991; Ana Hardoy, personal communication.

design, house design and nature of infrastructure and service provision that meet their needs. Few housing and basic service programmes make special provision for single-parent households, most of whom are headed by women, even though it is common for a high proportion of all households to be headed by women. And as Chapter 3 described, the proportion of women-headed households is generally even higher among low-income groups.

There have also been many initiatives in recent years to reduce this discrimination against women. Significant progress, however, tends to be limited as discrimination is often deeply embedded in societal attitudes and perceptions, and in laws and institutional structures. It is also embedded in patterns of property ownership; at the outset of the United Nations Decade for Women in 1975, it was noted that women constitute half the world's population but own only one percent of its property.[78] These initiatives began in the early 1970a as a move to ensure that women's roles and contributions within development (and later natural resource management) became better understood. They then developed into a focus on `gender and development' which recognized the need to consider not just women's needs and priorities in isolation but to understand

these within the broader context of the social relationship between men and women and how this relationship underpinned discrimination against women.[79] It was also spurred by evaluations of the social impact of structural adjustment programmes that found that their social impact was often particularly severe on women.[80] Box 10.4 outlines the changes that are needed in any move towards a `gender aware city'.

During the 1980s and early 1990s, there was a rapid growth in the number of professionals, NGOs, coalitions and associations that are committed to ensuring a greater voice and influence for women's needs and priorities in housing and more generally in human settlements.[81] These are part of a much larger and broader group of women's organizations including grassroots organizations.[82] There was a tendency to give more attention to women's needs for income-generation rather than their housing and human settlements needs[83] and there have also been some notable successes in credit schemes for women in different countries-for instance the credit programme of the Working Women's Forum in Madras and that of the Grameen Bank in Bangladesh that lends to both men and women but most of those taking on loans are women.[84] There are examples of innovative emergency

## BOX 10.4
## Moving towards a gender-aware city

Women and men have different roles and responsibilities-within households, communities and the labour market. In these different roles, women and men have different access to and control over resources. This is reflected at a number of different levels. For example, in the household in some parts of the world, girl children may have less access to education than boy children. In many parts of the world, women have unequal access to decision-making positions. Women also face discrimination in job and housing markets. Moreover, women are generally far more severely affected by poor and overcrowded housing conditions, inadequate provision of water, sanitation, health care, schools and nurseries because they take most responsibility for looking after infants and children, caring for sick family members and managing the household.

Urban policies, planning and management must contribute to a reduction in such gender-based inequities and ensure that women and men get equal access to credit (for housing or small-scale enterprises), vocational training and government housing schemes. But they must also respond to the fact that women and men have different needs and priorities. Programmes or projects that target 'the household', 'the community', 'the neighbourhood' or 'low-income groups' must recognize that the needs and priorities of women within each household, community or neighbourhood or within low-income groups will differ from those of men.

Integrating gender issues into urban policy, planning and management will make urban development more effective. First, it helps ensure that limited resources are used more effectively, as both women's and men's needs and priorities are addressed. Second, it facilitates the active involvement of both women and men in all stages of development which will reduce project failures and wasteful expenditure. Integrating gender issues is not something 'extra' for practitioners to consider but a regular part of good practice.

Source: Drawn from Jo Beall and Caren Levy, Moving Towards the Gendered City, Overview paper prepared for the Preparatory Committee for Habitat II, Geneva, 11-22 April 1994.

credit schemes for low-income women, like the crisis credit scheme developed by Mahila Milan, a federation of women's collectives in Bombay.[85] But it is now more common to find discussions of women's livelihood and housing needs together, when previously there was a tendency to concentrate only on livelihoods.[86] Some of the credit programmes that developed for income generation and emergency credit have also developed credit programmes for housing purchase, construction or improvement. The Grameen Bank which began as a bank to provide low-income groups with small loans for productive activities has provided more than 300,000 housing loans[87] while the crisis credit scheme developed by Mahila Milan has developed a savings and credit programme for housing (see Chapter 11 for more details).

There has been a rapid growth in the docu-mentation of the ways and means in which discrimination against women takes place,[88] including evaluation of the extent to which particular projects or programmes meet the needs and priorities of women.[89] Some initiatives have developed housing specifically to meet women's practical or strategic needs-some arising out of facilities set up to help women and children who were victims of domestic violence who after 'emergency' support also needed help in finding their own accommodation. There are also more professionals and institutions who provide 'gender awareness' training for staff of government and development assistance agencies and many international agencies who have taken measures in recent years to eliminate gender blindness in their work.[90] Several initiatives are underway to disaggregate economic and social statistics to reveal the differentials between men and women. For instance, indicators to measure women's participation in shelter strategies at community level have been developed and are now being applied in eight countries.[91]

The role of women at grassroots or community level is also becoming better appreciated by external agencies. There are examples of how and in what way women have organized at grassroots level to make demands for housing-related infrastructure or services[92] or address their own housing needs[93] or organize service provision themselves. In regard to services, one of the best known examples is the communal kitchens and 'glass of milk' committees organized by women in Peru in response to their survival needs during the economic crisis-with many of these initiatives later expanding their area of operation to health and leadership training.[94] Women's organizations are getting involved in demanding tenure for low income households or women having a central role in resisting evictions.[95] Several case studies that suggest community organizations in which women have a major role are more effective than those controlled by men. For example, in the Integrated Slum Improvement Programme in Visakhapatnam (India), it is 'in the few examples of settlements that are led by women that the rhetoric of urban community development has most closely been translated into reality'.[96]

### Women's housing projects

In a number of countries, there are examples of women's housing projects or of housing projects that address the particular needs of women or of women headed households. Box 10.5 gives some examples of women's housing projects in Canada during the 1980s. Another example is Cefemina, a non-profit organization in San Jose, Costa Rica, that has promoted women's participation in the design and planning of new communities.[97]

The Global Strategy for Shelter to the Year

## Women's housing projects in Canada

In Canada, women's groups have helped develop non-profit housing to fill gaps in both shelter and service provision. Direct service-providers, housing-advocacy groups and women's community groups have become developers of permanent affordable housing for women. In the process they have pioneered new models to go beyond shelter to include child care, life skills training and participatory housing management.

There is considerable diversity in women's housing projects. For instance, single parents, groups of women ovef the age of 40 and lesbians have developed non-profit housing projects to meet their own particular needs. Several have also been designed for teenage mothers and their children. Immigrant, visible minority and aboriginal women have also developed housing that responds to their own particular cultural needs.

A survey of 56 housing projects that included more than 1,500 housing units developed and controlled by women found that they fell into three broad categories:

1.  Second-stage transitional housing or next-step housing with a limited stay of a few months to a year for abused women and their children. These often included services such as counselling, child care and opportunities for job upgrading. Second-stage housing has generally been developed by women's shelters that are set up as refuges for women who have been subjected to domestic violence.

2.  Non-profit women's housing projects developed by existing community and women's service organizations such as the Young Women's Christian Association or local groups such as the Young Mothers' Support Group for teenage mothers in Toronto. In these cases, the non-profit community organization owns and manages the housing and residents are tenants.

3.  Non-profit housing co-operatives that have been developed by groups of women and are controlled and managed by the residents that live there.

One example of this third category is the Women's Community Co-operative in Hamilton, Ontario completed in 1988. It is a six-storey-building with 47 units located in a suburban neighbourhood adjacent to a regional shopping mall. Its objective was to provide housing for women aged 40-59 at the time of application who were not well served by either the private market or the social housing that was available. Committees of residents are responsible for maintenance, interviewing applicants and social events.

Source: Wekerle, Gerda R., 'Responding to diversity: housing developed by and for women', in Hemalata C. Dandekar led.), Sheller, Women and Development: First and Third World Perspectives, George Wahr, Ann Arbor, 1993, 178-86.

2000 was also amended to incorporate gender concerns. In 1991, the following text was introduced:

In addition to actors already involved in the shelter-production process, an important place must be found for the integration of the potentially powerful but hitherto largely excluded contribution of women.

Women are subject to special constraints in obtaining adequate housing and in participating in human settlements development efforts at all levels. While some of these constraints are the result of *de jure* and/or *de facto* gender discrimination, others are the result of their severe poverty, their lack of education and training, and their double and triple burden as household workers and workers in the formal and informal sectors of agriculture, industry and commerce. Removing these constraints is important not only because equity in distribution of development benefits is a fundamental principle but also because increasing numbers of households are either solely or largely supported by women. Depriving women of access to shelter and infrastructure deprives large numbers of families as well. There are concrete and identifiable implications for women in all human settlements and shelter-related policies, programmes and projects, whether they deal with land, finance, building materials, construction technologies, housing or community design. It is necessary, therefore, to enhance women's participation in shelter and infrastructure management as contributors and beneficiaries, and to put particular emphasis on the integration of women's activities with all mainstream development activities, on an equal basis with those of men. There is also need to assess women's demands for shelter, good and services and to encourage the design and implementation of innovative programmes that will increase women's participation in shelter management.[98]

Certain countries have introduced special programmes for women-headed households. Box 10.6 gives an example of the programme that developed in Colombia. Also in Colombia, the national federation of popular housing groups Construyamos encourages the development of 'women's committees' and their participation in decision-making at neighbourhood level and at higher levels in the system.[99]

It is important not to overstate the extent to which this pressure to reduce discrimination against women and to promote 'gender-aware' housing and basic service policies has been successful. The fact that this discrimination is deeply embedded in laws and institutions and in societal attitudes was noted earlier. Generally speaking, gender-aware training and research continues to have little influence on mainstream researchers and policy-makers.[100]

## From housing needs to housing rights

One significant change during the 1980s and early 1990s was the increasing influence on government actions of international and national law on people's right to housing. This was largely the result of a much greater use of international and national law by citizen groups and NGOs-which in turn helped stimulate important developments in international and national law concerning people's right to housing. Citizen groups and NGOs used the law as a defence for those facing the threat of forced eviction, as a justification for demanding adequate compensation for those already evicted-and, more generally, as

a way of backing the demand that governments act to ensure people's housing needs are met.

Although few governments or international agencies actively support people's right to housing, almost none will deny that the right to housing is part of human rights. Most countries with new constitutions in the last 10-12 years have included the right to housing within them or at least a formal acceptance that the state has a responsibility for ensuring people find housing. Fifty-three national constitutions have some provision within them for housing rights. Box 10.7 gives some examples. International conventions on housing rights has also changed dramatically in the last few years. International human rights law includes a series of clear governmental legal obligations and a broad series of individual and group entitlements to these. Many changes at local and national level will be influenced by these. What is also new is the extent to which the actions of government in housing are now subject to regular scrutiny by various human rights bodies.

This greater use of national and international law within housing was not so much because of major innovations in international law but more because of the extent to which citizens groups and NGOs organized their demands around the issue of 'rights' rather than the issue of 'need'. Housing rights have long been within international covenants or conventions. For instance, the Universal Declaration on Human Rights of 1948 states that:

Everyone has the right to a standard of living adequate for the health and wellbeing of himself and his family, including food, clothing, housing and medical care and necessary social services ...

When adopted, this was not seen as a legally binding agreement but a common standard of achievement that should form the basis of national and international human rights policies.[101] Various other pieces of international covenants have included within them 'the right to housing' including the Vancouver Declaration on Human Settlements at Habitat I in 1976. But the most important from a legal perspective is the International Covenant on Economic, Social and Cultural Rights which has been ratified by over 90 states.[102] The states that have ratified this Covenant are bound to prove that they comply with this Covenant and individuals can formally complain to human rights bodies if they feel the state has violated this convention.

The International Year of Shelter for the Homeless in 1987 helped to give impetus to the development and use of national and inter-

national covenant on housing rights. In 1987, at its 42nd session, the United Nations General Assembly adopted the following resolution:

The General Assembly,

1. Expresses its deep concern that millions of people do not enjoy the right to adequate housing;

2. Reiterates the need to take, at the national and international levels, measures to promote the right of all persons to an adequate standard of living for themselves and their families, including adequate housing;

3. Calls upon all states and international organizations concerned to pay special attention to the realization of the right to adequate housing in carrying out measures to develop national shelter strategies and settlement improvement programmes within the framework of the global strategy for shelter to the year 2000;

4. requests the  Economic and Social Council (ECOSOC) and its appropriate functional commissions to keep the question of the right to adequate housing under periodic review;

5. Decides to consider the question again following its consideration by the Economic and Social Council (ECOSOC).[103]

The United Nations Committee on Economic, Social and Cultural Rights is charged with helping the Economic and Social Council in monitoring member governments' compliance with their obligations under the International Covenant on Economic, Social and Cultural Rights. Between 1992 and 1994, this Committee scrutinized the housing rights situation in sixteen countries and issued recommendations to several governments concerning complicity in forced evictions. This Committee has become the main international legal  mechanism in the struggle against forced evictions.[104]

The United Nations Commission on Human Rights which is the principal United Nations body responsible for the promotion of human rights appointed a Special Rapporteur responsible for reporting to the United Nations on all aspects of the right to adequate housing under international law-and this rapporteur's reports[105] have contributed not only to the development of housing rights but also of economic, social and cultural rights in general.[106]

Although international law may have implicitly recognized that the practice of forced eviction violated human rights, only since 1991 has the United  Nations explicitly recognized this. In August 1991, the UN Sub-Commission on Prevention of Discrimination and Protection of Minorities   unanimously adopted resolution 1991/12 which condemned forced evictions as a major infringement of human rights law. This has subsequently been reaffirmed by additional resolutions, including resolution 1993/77 adopted in March 1993 which reaffirmed that forced evictions are a gross violation of human rights. It also demanded that governments confer security of tenure to all dwellers currently without such legal protection and that sufficient compensation be paid to all persons and communities which have already been forcibly removed from their homes and land. It also stressed that governments should desist from tolerating or sponsoring evictions in the future.[107]

## Government and rental housing

Chapters 6 and 7 noted the importance of renting in terms of the proportion of people who rely on renting in urban areas and the fact that a large proportion of those who rent are among the lowest income groups. There are examples of successful  government intervention in rental housing but far less of effective policies. In Bombay, the Maharashtra state government has supported a programme to repair the inner-city tenement housing. Between 1969 and 1989, some 13,000 buildings were repaired and those that were beyond repair were purchased by the government for redevelopment. The cost of the programme was shared between landlords, tenants and state and federal government funds. Although the management of the scheme has been criticized, the principle appears sound[108] and attempts are now being made to involve the tenants and landlords more directly. Box 10.8 gives more details of the scheme in the centre of Mexico City that combined a rapid reconstruction of housing destroyed by the earthquake with improved provision of housing for the tenants who had lost their housing.

The general record of official support to the rental market has been disappointing.[109] Despite the obvious (and in many cities growing) importance of renting and sharing, housing policies have been slow to respond. National shelter strategies usually identify the promotion of rental housing as an objective, but have done little to promote it. There are some exceptions to this rule-for example, in Colombia and Indonesia, where credit is being provided specifically for investment by landlords in small-scale rental housing.[111] The Mexican government offered a series of incentives to the private sector to build housing for rent during the 1980s, but the Ministry of Urban Development admitted disappointment with this, as too few companies showed a real interest.[112] Government figures suggest that some 60,000 units were completed but most were in the main tourist resorts.[113] In the  Republic of Korea, the government has attracted private investment in the provision of rental housing through the offer of subsidized loans and exemption from capital gains tax and discounting the sale of serviced land; between 1982 and 1986, land to accommodate · 34,000

**BOX 10.8**
**Renovacion Habitacional Popular: The post-earthquake reconstruction programme in Mexico City**

The earthquakes of September 1985 hit Mexico City's densely populated central area hardest. An estimated 100,000 dwellings were affected, including high-rise public-sector housing, 4-5 storey flats and condominiums and, especially, the run-down tenements, known in Mexico as 'vecindades'. The Renovacion Habitacional Popular programme was geared to the rebuilding of dwellings within this last category. In all, 44,000 units were built or rehabilitated, most of them on the original plots and to the benefit of the original tenants, in the space of just over two years. This amount represents an additional 15 per cent over and above the number of houses financed by the public sector in Mexico during those same years. The programme was handled by a specially created body-Renovación Habitacional Popular-and was financed by FONHAPO and the World Bank. Below are listed the most outstanding innovative features of the programme.

- The programme was drawn up as a direct response to concrete demands from potential beneficiaries. It was those who had lost their homes and were living on the street who demanded the expropriation of the affected lots and the basic operational principles that developed. During the first stage, the demands were presented and obtained by means of intense political mobilization of those affected. For the second stage, after the expropriation, people's participation was channelled into the 'Democratic Agreement for Reconstruction', a negotiated document that laid out the programme's operational rules. The way in which the beneficiaries actively participated in the setting up of this programme contrasts strongly with most public housing institutions which were generally created without regard to the concrete demands of prospective beneficiaries.

The political measure that was of greatest importance to the programme was the expropriation of 4,332 properties, containing 3,311 vecindades which were occupied by 44,788 families. The expropriation solved one the main problems facing low-cost housing programmes, namely access to land, and met the earthquake victims' main demand, the right to remain in their respective neighbourhoods. This included residents and also people whose shops and workshops had been affected. The legal terms of the expropriation determined who were to be the programme's beneficiaries: those families who had been occupying the expropriated lots, at that time, or immediately prior to the earthquake. This eliminated (or substantially reduced) the traditional (often corrupt) mechanisms for allocating housing credits. It became practically impossible for anybody to gain political (or economic) capital out of the programme using clientelistic tactics.

Because of the legal obligation, derived from the expropriation, to rehouse all the affected population in situ, the programme's financial terms had to be accessible to all. This meant a fairly high level of subsidy, although not necessarily higher than those applied in conventional public housing programmes. The subsidies were concentrated in the part of the programme financed by the Mexican government: land and indirect cost.

In addition to World Bank funding, the programme introduced other financial innovations, allowing the participation of non-governmental resources. These were allowed either in the cases of those families or individuals who were unable to pay under the programme's standard credit terms, or to 130 expropriated lots, whose occupants opted out of the Renovación project.

Source: Connolly, Priscilla, 'The go between; CENVI, a Habitat NGO in Mexico City', Environment and Urbanization, vol. 5, no. 1, 1993, 68-90.[110]

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units was made available.[114]

Most governments have also been slow to encourage an expansion of rental accommodation, in upgrading and serviced-site programmes. Various studies have suggested that upgrading programmes in settlements where there are tenants as well as 'owner-occupiers' (even if their land occupation is illegal) can lead to rent rises.[115] In other instances, there is less evidence of this-or even evidence of net benefits for renters, as owner-occupiers were encouraged by the upgrading to extend their housing to include rooms for rent.[116] Whether or not an upgrading programme encourages the displacement of tenants is likely to vary according to the scale of the upgrading programme (a very large upgrading programme would tend to keep down rises in value for the upgraded housing stock) and to its location-where the legalization and upgrading of a settlement in a valuable location will generally lead to price rises and demand for houses there by higher-income groups.[117] Legalization of a settlement will generally push up the value of housing there and rents for any tenants. But it may also promote an expansion of rental accommodation, where prior to legalization, those seeking tenure to the land were reluctant to rent since the tenants might compete with them in claiming rights to tenure.[118]

Where provision for maintenance of rental housing by landlords is inadequate, the transfer of tenure from landlords to tenants and the provision of credit to permit tenants to purchase their units from landlords have been suggested. Tenants could jointly manage a tenement building through co-operative ownership-although those who only plan a short stay in a tenement will be reluctant to take on extra responsibilities and costs. In addition, tenants are unlikely to commit funding and self-help to a cooperatively managed building if they cannot sell their `tenure' when they leave-and this implies provision for such a sale and recognition by housing credit-agencies of the validity of such tenant-ownership.

Thus, in general, instead of promoting the widest possible range of housing alternatives so that people can choose from a range of options shelter strategies still tend to promote home ownership. This is despite the fact that in most urban centres in the South, landlordism among the urban poor is usually a small-scale and non-exploitative affair;[119] that many low-income individuals and households actually prefer rent-

ing to ownership; and that a variety of policy measures are already in hand to stimulate rental housing production.[120] These include rent decontrol, relaxing planning standards (to promote the building of extra rooms), and fiscal incentives to landlords. [121]

## Other developments during the 1980s

Although there is no comprehensive survey of the scale and nature of government support for housing, it appears that support for serviced-site  projects decreased, as the difficulties in implementing them became more obvious and as international support for  them decreased. Government-sponsored site and service projects were an attempt to come to terms with the lack of cheap, legal housing plots but however successful they were at project level, they fail to tackle the real problem-a legal urban land market which excludes poorer groups who want to develop their own housing.[122] When governments tried to scale up `site and service projects' into a continuous programme, they ran into problems in implementing and financing this because they could not acquire the land they needed. The difficulty in acquiring land through expropriation (and the long delays in doing so) often led to serviced sites being developed in locations where land was easily obtained-but these are usually in locations which least suit lower income groups. If governments purchasing land for serviced-site programmes pay 'market rates', the main beneficiaries of an expanded serviced-site programme will be the landowners, not the poor.[123] And the costs of the land will probably be so high that the scale of the programme remains very limited. Perhaps not surprisingly,  a review of serviced-site projects commented that  most governments have adopted this kind of project on a trial basis and not as a central part of housing policy.[124] The review also found that it was pressure on public agencies to reduce unit costs that was the main reason for their implementation-rather than a genuine attempt to develop more appropriate solutions for low-income groups. In pursuit of such cost reductions, government tends to use cheap land sites in locations too distant from employment sources to suit poorer households. Many low-income recipients either default on payments  or  sell  out to middle-income groups.[125] The limitations of site and service projects  are  also  becoming  more evident. Serviced sites are only cheaper than public housing units because the public authorities make the recipients responsible for house construction (and additional cost savings may be achieved by having lower standards for plot sizes, infrastructure and services).  Many serviced-site schemes

have suffered from problems similar to those experienced in public housing projects, i.e. being too expensive for poorer groups, in the wrong location and with plot sizes and site lay-outs which ill-match the needs and priorities of the intended beneficiaries.[126] In other cases, official procedures ensured that poorer households did not receive the serviced sites. In a site and service project in Thika (Kenya) started in 1971, elected town councillors prepared lists of people to receive the serviced sites; those they proposed were not low income households and some councillors received substantial payments from the persons they placed on the list for receiving serviced sites.[127] There are examples of a new generation of serviced-site schemes, often implemented by city or municipal authorities,[128] which seek to address these disadvantages but it is not known whether these are isolated examples or representative of approaches being more widely implemented.

Experience shows that employment-generating activities  must be integrated into shelter programmes at the design stage to take maximum advantage of the links between them as the programme unfolds. Data from illegal subdivisions in  Medellin (Colombia) demonstrate that the use of dwellings for income-generation increased  consistently  between 1964 and 1984.[129] The use of housing as a combined space for living and working (and organizing!) is characteristic  of the urban poor, especially for women who need to be able to balance the demands of employment, income-generation, domestic work and childcare and therefore have special requirements for the design and use of their  housing that permits income-earning activities.[130] The mixed use of buildings needs to be promoted and planning standards adjusted to encourage this. Location-specific jobs (such as pottering, rickshaw-pullets and some forms of informal-sector petty commerce) have obvious implications for the siting of low-income settlements. A key factor behind the success of the  Kampung Improvement Programme in Indonesia was the early recognition of, and support for, the economic potential and productivity of the upgrading process, both via construction itself and via a variety of indirect contributions to the urban economy. [131]  The UNICEF-assisted Urban Basic Services programme also recognizes the importance of establishing the necessary linkages between physical upgrading, social  mobilization, and economic development. [132] The long-term economic potential of upgrading for the poor does, however, tend to be limited by the process of commercialization and filtering which occurs unless preventive measures are adopted.

## 10.3 The Construction Sector-Challenges and Opportunities

### Introduction

The current trends and limitations of the construction sector for delivery of low-cost housing and infrastructure, as discussed in Chapter 6 point to a very demanding set of criteria if the capacity of the sector has to be strengthened. Despite the gloomy picture of constraints facing the sector, however, progress has been made in some countries. In several instances, these efforts have lacked comprehensiveness, by focusing only on one issue and with geographically restrictive impacts. Yet, these minimal developmental efforts are noteworthy since they represent moves in the right direction and could be moulded into a desirable comprehensive strategy for the ultimate solution of the low-income shelter crisis. The following is a summary of challenges and efforts which have been made in some countries, to tackle specific issues for low-income shelter and infrastructure construction.

### New technologies and materials

Over the past 10-20 years, mainly through a wide range of research activities carried out in a number of countries in both the North and the South, several new technologies and materials have been identified which are based entirely on local resources. Even though these research efforts, in many cases, have not been adopted on a wide scale, mainly because of weak information flow and technology transfer mechanisms, experience has shown that if these limitations are removed, considerable improvements could be achieved in the construction sector for low-cost housing and infrastructure delivery. Among the more promising developments in this area are the following.

#### Small-scale production of cement, lime and alternative binding materials

Cement is one of the most important and commonly used construction materials throughout the world, and the per capita production and consumption rate of cement is often used as an indicator of development, especially in the South. The total cement production in the world was 1,147 million tons in 1991, most of which was from large cement plants with capacities varying from 2,000 to 20,000 tons per day.[133]

In view of a number of constraints facing the large-scale cement plants in the South, particularly the under-utilization of installed capacities and resource wastages, a new generation of production plants is now in operation, mainly in China and India. These produce cement of a quality identical to those produced in conventional large-scale factories, but at scales as low as 20 tons per day. The plants use small, local raw-material deposits, can be brought into production rapidly, and involve a level of investment which can be afforded by local entrepreneurs. In 1990, more than 50 per cent of China's and about 10 per cent of India's cement production was from mini-cement plants and the production rate is increasing every year.[134] By meeting the demands of local captive markets mini-cement plants also provide for participation of local small entrepreneurs and, thus, help in building up local economies.

The inherent flexibility of small-scale operations to cope with volatile and shifting demands, and their ability to take best advantage of available factors of production in the South are the main sources of their strength. Yet, the total installed capacity of mini-cement plants outside China and India has remained very limited, mainly because of the lack of wide-scale dissemination of the required information relating to this technology among prospective entrepreneurs.[135]

Similarly, in lime production, small-scale vertical-shaft lime-kiln technology has shown the possibility of producing high-quality building lime, which can replace cement in many low-cost housing construction processes. Lime, even though it has less strength than Portland cement and a slower setting rate, is perfectly adequate for most low-strengthapplications. Moreover, lime, because of its good workability, ability to accept movement without cracking, and retentivity resistance to water penetration, is very often, more suitable for masonry, plastering etc. than Portland cement.[136]

Even though cement is widely used in construction, because of its high cost and chronic shortages, efforts are made in some countries to replace it with cheaper materials. In this connection, the production and use of alternative binders for low-cost construction purposes is attracting greater attention in recent years in many countries. Natural and artificial pozzolanas such as volcanic ashes, pumice, rice and groundnut-husk-ashes and fly-ash are offering excellent potentials as substitutes for cement or lime, thus, reducing considerably the use of cement in low-cost construction.[137]

#### Innovations in soil-construction

In recent years, new and innovative techniques have been developed for the production of high-quality, low-cost walling blocks made from earth using a stabilizer, such as a small amount of cement or lime, to make it strong, durable and impervious to water. The UNCHS (Habitat) in collaboration with appropriate technology development organizations worldwide and a number of building research institutions in the South have actively promoted the wide-scale

production and use of stabilized-soil blocks as a cost-effective alternative to burnt-clay bricks and concrete blocks. The process of making stabilized-soil blocks is not complicated and can be done on a small-scale with simple hand-operated block-presses using a wide range of soil types. A variety of block-presses are now available worldwide and many countries have started manufacturing them locally (see Box 10.9). [138]

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BOX 10.9
**Stabilized soil-block press-manufacturing in Kenya**

**Among the East African countries, Kenya is one of the pioneering countries which has achieved great success in manufacturing stabilized soil-block (SSB) presses. Based on a number of imported presses, a non-governmental organization in charge of developing low-cost building materials and technologies and training local artisans, succeeded in developing a new and improved design for SSB presses in the late 1980s, which was proved to have more efficiency, durability and strength than the imported ones. The idea of designing a new SSB-press in Kenya, which is named Action-Pack Block-Press (APBP), was conceived only after a close examination of all other imported presses were completed and found that not only are they exorbitant in price, they are technically also not fully suitable to local conditions.**

**Reported figures indicate that a total of 800 APBPs have been manufactured, mainly by two private metal working enterprises (including the Undugu Society) in the past 5-6 years, and at least 300 of them have been exported to neighbouring countries: Uganda and the United Republic of Tanzania. The technology is now in the hands of the private sector, with entrepreneurs investing in the technology as a business. Currently an average of 10 presses are manufactured and sold every month and the prospects show that the demand will grow in the years to come. For example, the upgrading of the Mathare Valley slum in Nairobi (a project supported by the Government of Germany) is designed to use SSBs for the walls of houses. This is just an indication of how the technology has widely spread and been readily accepted. [139]**

Source: Action Aid-Kenya, stabilized soil-block technology adaptation and progress, and Appropriate Technologies for Enterprise Creation (APPROTEC), Nairobi, Kenya.

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**Fibre-concrete roofing**

Roofing accounts for between 30 and 50 per cent of the total cost of a simple house. Therefore, any savings in this component are an essential first step towards improving housing affordability in the South.

In recent years, considerable research has been carried out on fibre-concrete roofing (FCR) technology (sheets and tiles) most of which has been published and disseminated, and the technology is gaining considerable popularity in many countries in the South. Production techniques and equipment are widely available for the small-scale manufacture of tiles, using simple locally

made equipment (manual/electrical vibrators and moulds) requiring little energy and largely unskilled labour. Fibres from a wide range of locally available plants (such as sisal and coconut) can be used. The feasibility of fibre-concrete roofing has been demonstrated successfully in more than 70 countries covering more than 2.5 million square metres of roofing area. [140]

**Use of industrial and agricultural wastes in building materials**

One of the greatest challenges of the construction industry is its potential to utilize wastes from agriculture and industry, as raw materials and as fuel substitutes. Among many other opportunities, phospho-gypsum can be produced as a by-product of fertilizer manufacture; sulphur removed from chimney stacks can be used for producing sulphur blocks; and `red mud' can be used both in block production and cement. The utilization of these industrial wastes can also help control environmental pollution. In China and India, for example, millions of tons of fly ash is used annually for block production. Similarly, in most rice-growing countries, the residues of rice processing (rice husk) after some processing (to convert it into rice-husk ash)-is used as a partial substitute to cement.

Timber wastes and agricultural wastes can be processed to form building boards. The residues from rice processing, palm-nut processing, and coconut and groundnut residues are all materials which can be used as fuels in brick-burning and lime-burning. In short, almost all non-hazardous industrial and agricultural wastes can be used in construction. [141]

## Environmentally sound construction: energy-efficient and low-polluting technologies

The construction industry, as a major consumer of the world's natural resources and a potential polluter of the environment, is being closely scrutinized by the international community and many governments. Owing to the expansion of the construction sector in many countries, tropical hardwood, metallic and non-metallic minerals and non-renewable energy resources are used extensively.

To reduce the material content of buildings however, solid masonry walls could be replaced by cavity walls, solid concrete slabs by hollow-block joist slabs, timber beams by lightweight trusses and forest timber by secondary species of wood. Similarly, in the production of certain energy-intensive materials, such as lime and brick, considerable energy savings can be achieved by using continuous kilns instead of intermittent ones. Gasifiers can also improve energy-efficiency of

traditional fuels. Appropriate architectural design (particularly in regions with extreme hot or cold climates) such as proper insulation of external walls or providing natural cooling ducts in rooms are important measures which result in reducing the energy consumption in buildings in use.[142]

In addition to adverse environmental aspects of construction activities, health hazards associated with certain building materials is also attracting great attention in recent years. Materials such as asbestos, certain solvents, insecticides and fungicides, toxic metals and radon exhaled from materials containing radium have been proved to be hazardous to health in a variety of ways, including respiratory diseases such as asthma, heart diseases, cancer, brain damage and poisoning. In the absence of adequate information and public awareness, the construction industry and the decision-makers have unfortunately not been able, so far, to respond effectively to the challenges of controlling the health hazards associated with building materials. There is, therefore, an urgent need to design and implement programmes so as to raise the understanding of the health implications of building materials on a continuing basis.[143]

### Information flow and transfer of technology through networking

One of the crucial prerequisites for the development of the construction sector in the South is the existence of relevant information on technological aspects of the industry. Systematic information flow is a vital component to technology transfer and adaptation and its absence would lead to a trend of wasting scarce resources and a general lack of progress in the construction sector for low-cost housing.

The process of information collection and dissemination through specialized information services and data centres in the South is undergoing gradual development. However, because of a number of reasons, such as inadequate managerial skills and lack of financial resources these centres have not been able to fully satisfy the information needs of researchers and professionals in the construction sector. In recent years, some important regional networking initiatives have been taken by the United Nations to promote the flow of information and regional cooperation with a view to transferring appropriate technologies from country to country and strengthening capacity in the building materials and construction sector (see Box 2). Another innovative measure for the diffusion of appropriate technologies to small-scale building materials producers is through establishment of country-wide building centres. The `Building Centres Movement' in India which was initiated in the

recent past, is an excellent example of this trend which can be replicated in many other countries (see Box 10.10).

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BOX 10.10
**Network of African countries on local building materials and technologies**

**The UNCHS (Habitat) as part of its efforts to support the initiatives of countries in the African region for developing local building materials industries, established (in 1985), in collaboration with the Commonwealth Science Council (CSC) a Network of African Countries on Local Building Materials and Technologies. During the first 4 to 5 years, the Network in addition to facilitating flow and exchange of technological information, organized a number of national workshops in Ghana, Malawi and Kenya aimed at supporting these countries in formulating standards and specification for locally produced building materials. These efforts have made it possible to convince policy- and decision-makers in a number of African countries to take effective measures for formulate and put in place new standards and specifications, for the utilization of locally produced materials such as fibre-concrete roofing, stabilized-soil-block technology, lime and other types of binding materials.**

**The Network, in pursuit of its overall objective of `strengthening local technological capacity through information flow, regional cooperation and transfer of appropriate technologies in the low-cost building materials sector', has been publishing a biannual Journal since 1989, disseminating a wide range of information on research activities, production technologies and case studies on issues relevant to the objective of the Network.**

**While seeking to expand its current activities, the Network is also seeking to strengthen its role in field operations with a view to facilitating more regional cooperation and transfer of technology. It also plans to launch a regional programme on 'Domestic capacity-building in the local building-materials sector in sub-Saharan African countries'. The Network currently has 15 member-countries comprising: Cameroon, Ethiopia, Ghana, Kenya, Lesotho, Malawi, Malta, Mauritius, Namibia, Nigeria, Sierra Leone, Uganda, United Republic of Tanzania, Zambia and Zimbabwe.**

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Similarly, the appropriate technology development organizations (ATDOs) such as the Intermediate Technology Development Group (ITDG), in the United Kingdom, the German Appropriate Technology Exchange (GATE) of the Deutsche Gesellschaft Fuer Technische Zusammenarbeit (GTZ) and the Small Industries Development Organizations (SIDOs) such as the one in the United Republic of Tanzania have had significant roles in diffusion of appropriate technologies in many countries and regions.

### The role of communities

Experience over the past several years has shown that involvement of communities, the informal

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**BOX 10.11**
## The building centres movement in India

The first building centre was launched in 1986 in Quilon, Kerala. Its aim was to disseminate innovative building-materials production techniques through the training of artisans and unemployed youth, for use of meeting the state's massive housing needs swelled by the impact of recent natural disasters.

Under the guidance of a dynamic district administrator, the Nirmithi Kendra (Building Centre)-a community-based, non-governmental organization (NGO)-created a movement for the rapid production of building components such as ferro-cement rafters, funicular shells, filler-slab roofing, plate-floors, rubble filler blocks and soil-stabilized pressed blocks, among others, to replace cement and its dwindling supplies of timber. The Kendra also undertook construction and upgrading of housing, flood shelters, water tanks and wells-all at much lower costs. The Movement demonstrated the cost-effectiveness and aesthetic qualities of local materials and techniques, some of which were nearly lost to local artisans. In a few years, thousands of artisans-both men and women-have been trained in 14 district centres, set up on a similar model, and many now operate independently. The young artisans trained in these centres have become agents for change. The Kerala State Government has supported this initiative by awarding contracts for numerous high-visibility government projects to the Centre.

By 1992, under the guidance and support of the Ministry of Urban Development and of the Housing and Urban Development Corporation, 280 centres had been identified all over the country, 105 of which were already functional. They follow different models-some are led by government initiative, others by NGOs-and they promote different technologies in response to local resources. Some emphasize production, some entrepreneur-training, some artisan-training. The Rajasthan model emphasizes entrepreneur-training, providing a market for what is produced by buying the components for use in the housing projects of the Rajasthan Housing Board. A highly dedicated professional group in Auroville Building Centre is promoting vaulted earth-based construction and a range of ferro-cement products. In Andhra Pradesh, trainee artisans not only produce materials, but also assist villagers in the construction of houses. Building centres with similar aims have also been set up by NGOs, a construction workers' cooperative and a school of architecture. The Building Centre in Delhi trains young architects on new and innovative building products and systems and deploys them to set up building centres in places like Manipur, Sikkim, and the Andaman and Nicobar Islands.

Source: Suresh, V., 'Techno-financing issues in the building materials sector for housing delivery in the Asian region', unpublished draft report prepared for the UNCHS (Habitat), August 1992.

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sector and women in construction activities can considerably help in improving the conditions of human settlements. Positive experiences in encouraging local initiatives by community-based groups and the informal sector in the local  production of building materials have

taken place in several countries, e.g. in Brazil, Jamaica, the Philippines and Zambia.[144] They have demonstrated the many advantages and social opportunities such an approach can provide to marginalized groups by mobilizing the skills and financial resources of the community, generating income and employment opportunities, and giving the community an experience of participating in wider decision-making.

There are many successful examples of women's co-operatives in the    manufacture of building materials. For example, block-making operations in Ghana involve large numbers of women, and in Zimbabwe the rural brick-making industry is dominated by women. Awareness-raising programmes and training projects set up to increase the number of women entering the construction industry have been found to be successful in a number of countries.  Women are in many cases successful entrepreneurs in building-materials production (see Box 10.12).

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**BOX 10.12**
## Kabiro and Dandora women's self-help groups, Kenya

The Kabiro Women's Group located in the western suburbs of Nairobi is registered with the Ministry of Culture and Social Services as a local self-help group. The group of 70 women has divided itself into seven subgroups of 10 and produces building blocks on a rotating basis, i.e. every subgroup works only once a week in block-making.

The Dandora group is located in a densely populated low-income housing area of Nairobi. Consisting of 38 women, the group carries out block-making operations on a plot of about one acre. The group purchased a second-hand block-making machine through contributions of Kshs.100 from each member. Since its formation in 1985, the group has managed to obtain a grant of land, built a small storage shed and a temporary cover for concrete-block curing, and acquired various sundry items to support production. The group works on an almost full-time basis, with subgroups of seven women each operating daily shifts on a rotational basis.

The Kabiro and Dandora groups have a number of similar features: (a) both groups are in formal existence; (b) when a woman is absent for personal reasons her family may substitute for her in production activities; (c) identical machines are used in making blocks; (d) both groups are grappling with the demands of an industrial activity on a part-time basis, whilst being mothers and housewives at the same time.

The production of building materials seems to be a good opportunity for women to move into non-traditional industrial operations. Whilst women in Africa have often practised group or communal activities, industrial production demands regular attendance at fixed times and some commitment to abandon other tasks in favour of the production unit. There are signs that women are rapidly adapting to new lifestyles demanded by these non-traditional activities.

## 10.4 New Partnerships

One characteristic of many of the innovative policies and programmes described in earlier sections of this Chapter is the partnerships that allowed a combining of resources from national government agencies, municipal authorities, private sector, NGOs, international funding agencies, voluntary or community sector resources, and individuals/households. The Kampung Improvement Programme in Surabaya (Box 10.2) relied on the active support of community organizations and on the integration of other government programmes within its framework.[145] The example of Barrio San Jorge in Argentina (Box 10.3) that was given as one among many possible examples of upgrading projects depends for its long term success on agreements reached between community organizations, support NGOs and the municipal authorities. The example of Renovación Habitacional Popular that rebuilt inner city housing in Mexico City for the benefit of low-income former tenants (see Box 10.8) also involved a partnership between community organizations, NGOs, government agencies and an international funding agency. There is also a considerable range of public-private partnerships in housing construction, improvement, maintenance or management in other countries, including many in West Europe, Japan, Australia and North America.[146]

This section on new partnerships will present four very different examples of new partnerships-with one from Africa and Asia and two from Latin America. None are intended as a `model' and each have their limitations. But three represent an attempt by a government to work in partnership with households and residents' or community organizations and, in the examples in Latin America and Asia, with national government agencies working with city and municipal agencies. The Million Houses Programme in Sri Lanka (Box 10.13) represented a reduction in the scale of national government investment in housing and an active policy to stimulate and support the investments of individual households, community organizations and municipal authorities. The development in Guatemala of a Committee for Attention to Precarious Areas in Guatemala City (Box 10.14) brought together representatives from national government agencies, different city authorities, NGOs, community organizations and aid agencies to work together to improve housing, infrastructure and services in the informal or illegal settlements in which close to half the city's population lives.[147] The initiative of the government of Burkina Faso was to mobilize individual and community labour to improve infrastructure and service provision in its largest city and was underpinned by a programme to

provide legal rights of occupancy to more than 60,000 households[148] (see Box 10.16). The fourth example is one of partnerships between low-income groups and their community organizations and a local non-profit institution. The Carvajal Foundation and its work in Aguablanca in Cali, Colombia represents the example of a private Foundation set up by a successful printing company that began in Cali. Its programme worked extensively not only with low income groups and their organizations but also with the city authorities and with national agencies (see Box 10.15). There are enormous contrasts between these examples in the economic and social context in which they worked, but each represents an example of the kind of support that low-income groups need from government or other actors to allow them to improve housing and living conditions.

One of the most innovative aspects of the urban sub-programme of the Million Houses Programme was the system of community construction contracts that were awarded to community organizations who then undertook the construction of infrastructure that had previously been done by a contractor. This process lowered costs, often improved the quality of the product, made maintenance more likely and generated employment within the community.[149] The fact that urban infrastructure (such as roads, markets and drainage networks) can be developed using local labour, as demonstrated by the community contracts in Sri Lanka has also been tried in similar `community contracts' in Zambia and Bolivia. Results from the UNDP/ILO 'Employment Generation in Urban Works Programme' show that labour-intensive public works can compete with capital-intensive methods in terms of cost and quality, though not in terms of time.[151] It is also a reminder of the strong links that can exist between improving infrastructure and service provision in urban and rural areas and creating employment. In countries or regions where only a modest income is needed to fully meet the cost of food, housing, fuel and other necessities, improving infrastructure and services, including helping to staff and maintain schools, health centres and day care centres, remains relatively low cost.[152] It can provide incomes for large numbers of people who previously had inadequate incomes-and particular jobs can be established that meet the needs of poorer or more vulnerable groups. And almost all the income will be spent in the locality.

The Million Houses Programme and the range of initiatives in Guatemala City described below reflect what is essentially a new model of urban development, although in the Million Houses Programme, its incremental development from earlier initiatives hides the extent to which it differs from conventional approaches. But even in low-income countries in the South,

BOX 10.13
**The Million Houses Programme in Sri Lanka**

The Million Houses Programme in Sri Lanka launched in 1984 represented a shift in the role of government within housing from 'provider' with a high level of government expenditure in housing to enabler and supporter of individual or household efforts (and in urban areas community efforts) with a much lower level of government expenditure.

In the early 1980s, Sri Lanka's economic performance began to deteriorate, after several years of very rapid economic growth. There was also an escalation in costs of the direct construction programme and of building materials in general; the direct construction programme of the '100,000 houses programme' had reached only around a third of its target before being suspended in 1983. The government had to reduce the allocation of public funds to housing and urban development. A Task Force set up to examine the results of the 100,000 Houses Programme and to develop a new five-year programme for housing identified various weaknesses including the high cost and unrealistically high standards implicit in a conventional public housing construction programme, the failure to recognize the constraints on the key components of housing (e.g. finance, labour, building materials) and the failure to recognize the fact that most housing was constructed by households without government support and such housing was generally cheaper and more suited to

their needs than government produced units. The recommendations of this Task Force contributed to the change in approach when a new housing programme, the 'Million Houses Programme' was announced in 1983.

The Million Houses Programme was based on 'minimal intervention but maximum support by the state; maximum involvement of the builder families'. The core of the programme was small housing loans to low income rural and urban households to enable them to build or improve their houses. The Million Houses Programme was made up of six sub-programmes. Two were the responsibility of the National Housing Development Authority: the Urban and the Rural Housing Sub-Programmes. The other four were the Plantation Housing, the Mahaweli Housing, the Private Sector Housing and the Major Settlement Scheme Housing Sub-Programmes.

In both the rural and the urban sub-programmes, a considerable range of 'housing options and loans packages' were available for upgrading or repairing an existing house, for developing a new house where land is already available, for the provision of utilities (for instance water, sanitation, electricity) and registration of deeds, or where land, shelter and services were needed. The rural sub-programme was essentially loans to individual households; the urban sub-programme was far more organized around particular projects, because a loan programme for individual house-builders was not sufficient to improve conditions. Most low-income urban households live in settlements without formal land tenure, so

land tenure has to be regularized to create sufficient security of tenure to make the investment in housing worthwhile. Most urban settlements lacked roads, drains, piped water, and a system to dispose of human wastes and these could not be left to individual initiatives. Housing in urban areas is also subject to complicated planning and building regulations that need to be waived for low income housing projects. Thus, the project-based approach was indispensable. [150]

There was also a decentralization of decision-making, planning and implementation to local authorities and low-income communities themselves, largely through elected community development councils within each project area.

The rural sub-programme reached 258,762 families between 1984 and 1992; the urban sub-programme reached 38,125. By 1991, the Urban Housing Division had started the implementation of over 300 low-income housing projects, more than 100 of which were in Colombo and these included 75 slum and shanty settlement regularization and upgrading projects and 21 sites and services scheme. The urban sub-programme also pioneered Community Action Planning and Management-a methodology for poor communities to mobilize themselves and agree on what is to be done.

The Million Housing Programme was then superseded by the 1.5 million houses programme that seeks to reach 1.5 million households between 1990 and 1995 with one of 11 sub-programmes.

Sources: Sirivardana, Susil, 'Sri Lanka's experience with mobilization strategy with special reference to housing and poverty alleviation', Paper presented at the South Asian Regional Housing Conference, Colombo, June 1994; UNCHS (Habitat), The Community Construction Contract System in Sri Lanka, UNCHS (Habitat), Nairobi, 1994; UNCHS (Habitat), The Urban Poor as Agents of Development: Community Action Planning in Sri Lanka, UNCHS (Habitat), Nairobi, 1993; Pigott, Marni, The Origin and Implications of the Million Houses Programme, Sectoral Activities Programme Working Papers, International Labour Office, Geneva, 1986; Gamage, Nandasiri, 'Praja Sahayaka Sewaya (Community Assistance Service)', Environment and Urbanization, vol. 5, no. 2, Oct. 1994, 166-72.

the conventional wisdom remains that government agencies (usually at city or municipal level) have the responsibility for the provision and maintenance of infrastructure and services. Such responsibilities are set by law and embodied in specified norms and standards, irrespective of the institutional capacity to meet these responsibilities. The alternative model starts from the fact that it is people and the organizations they form that are responsible for developing housing and residential areas and that the role of government is to support their efforts. In terms of what they want to achieve, the two models do not differ much but they do differ in the relative roles (and powers) of the different actors and in the implementation.

Within the alternative model, community participation is integral because the basis of the government intervention is to identify what

individuals, households and community or neighbourhood organizations are doing (or would like to do if they had the resources) and seek to support this for the achievement of better results. Community participation in the traditional model may have been introduced but usually this was more to help in the rapid implementation of government-designed and implemented interventions and to help with maintenance—i.e. as a means to achieve ends, rather than as integral to the whole intervention. By contrast, in the example given in Box 10.14 of community initiatives in Guatemala City, external support responded to community priorities and community organizations often chose to take responsibility for organizing and managing the initiative. This helps explain the diversity of initiatives-for instance conventional `upgrading' programmes usually offer a standard package which may not include

aspects regarded as a priority. Where low-income communities have a say in what is provided and where women express their priorities, aspects such as health care and day-care often receive a high priority yet most upgrading programmes make little or no provision for either.

The work of the Orangi Pilot Project in supporting low-income groups to build and manage their own sewers was described in Chapter 9. Orangi is also an example of partnerships in the development of schools and health centres. While the government has provided 72 schools, private entrepreneurs and the inhabitants have developed over 600.[153] Orangi Pilot Project has a programme to help upgrade the physical and academic conditions of private schools.[154] The Carvajal Foundation in Cali (see below) set up a programme to improve the quality of schools run by low-income communities themselves.[155] There may be considerable potential for government support for schools developed by local residents or community organizations that prove much cheaper for government. This can also improve standards, coverage and equipment for the schools concerned. In the illegal or informal settlements in many urban centres, there are various voluntary organizations, charities and international private voluntary organizations running or contributing funding to schools, health care centres and other community services. This is usually without much coordination and with little or no support from government. The quality and coverage of such services would probably be much improved if the national agencies or ministries, the local authorities, the different third sector institutions and community organizations coordinated their work and sought to support each other's initiatives.

Box 10.15 describes the Carvajal Foundation's support for self-build housing and for paving streets in Aguablanca, a large, informal settlement of around 350,000 people in Cali, Colombia. This is only one of various support programmes by this Foundation. There is also a long-established programme of support for micro-enterprises and also programmes for food-shop owners and for education. The Foundation also works with the city authorities and other institutions in one of the most effective primary health-care systems in Latin America.[156] The work of the Foundation in Cali is much enhanced not only by its partnership with low income households and community organizations but also by its collaboration with the city authorities, government agencies and other institutions. The recycling programme described in Box 10.15 was to support a programme of road and pavement improvement and sewerage provided by the City Mayor's Office while the support for self-build housing also complements a major pro-gramme of serviced sites launched by the city government.[157]

Box 10.16 describes a programme that has similarities to the Million Houses Programme and the initiatives in Guatemala City in that it sought to mobilize individual and community resources that were combined with support from national and provincial government and it benefited a significant proportion of the population of Ouagadougou. It secured legal land tenure for more than 60,000 households and improved a range of services for a considerable portion of the lower income households. However, it differs in how it was implemented and in the extent and nature of `participation'. It also failed to change the nature of the urban administration. It was a single initiative that did not lead to a change in what was a highly centralized administrative structure and to improved urban management. It proved incapable of supporting large scale tasks in which management was needed-for instance, efforts to improve sanitation, drainage and garbage collection. It also did not redistribute resources since most major investments during these years continued to go to the central area of Ouagadougou.

Citizen mobilization cannot promote the democratization of the decision-making process as well as providing a means of combating urban inequalities unless it is accompanied by a vigorous public policy taking responsibility for long-term financial and management options on the one hand and mechanisms for arbitration and evening out socio-spatial inequalities on the other.[158]

## Conclusions

Questions have been raised about `who really benefits' from `enabling approaches'. As noted by John Turner whose work did much to develop and promote the enabling approach, `in high-income industrialized countries, as well as those still undergoing rapid urbanization, supra-local, corporate interests appear to be gaining more from enabling policies than those they are meant to support.[159] The danger here is that the balance between public responsibilities and private freedoms in the shelter process is in danger of shifting too far towards the latter, with the result that those with less `market power' in the city (the urban poor) are denied access to adequate shelter and services. These dangers are inherent when more reliance is placed on market mechanisms in highly-unequal societies with imperfect markets and a weak state apparatus. Substandard housing, exploitative rents, hazardous jobs and very inadequate provision for water, sanitation, drainage and other forms of infrastructure and services are just as likely as the thriving land, housing and employment markets which theory predicts.

BOX 10.14
## Building local-national-international partnerships to address city problems in Guatemala City

In 1986, a newly elected government established a Committee for Attention to the Population of Precarious Areas in Guatemala City (COINAP). This became the official government counterpart to an urban basic services programme that UNICEF had initiated some years earlier. Committee members included representatives from several ministries, the different city authorities, local universities, NGOs and aid agencies, and representatives from community organizations where projects were underway. A considerable range of initiatives developed, including community health-promoters and pharmacies, improved water supplies managed by community organizations, house improvement and construction, community day care centres, improved sanitation, reafforestation and education. Some of these are described below.

The network of health-promoters: By 1993, 600 community health-promoters were active in 60 illegal or informal settlements and were serving over 150,000 inhabitants. Each was elected by their neighbourhood and gave eight hours a week of voluntary service. These health-promoters undertook a physical survey of the settlement, noting on a map all relevant social and geographic information. This provided project organizers with a precise idea of the resources available in a given area-for instance a health clinic, church, public water tap or shop-as well as health hazards such as garbage dumps or polluted streams. The health-promoters then worked with a technical team from COINAP to help identify the main causes of ill health and possible solutions that they could realistically address, drawing mainly on local resources. Each undertook house-to-house surveys to discover the specific health or social problems within their micro-zone. This formed the basis for developing a workplan and with training and technical support to help their efforts, the health promoters helped the inhabitants prevent diarrhoeal diseases-and to rapidly treat it when it occurred. They maintained health records for all the families in their micro-zone and helped ensure that all children received vaccinations. They also helped encourage the inhabitants to use local health services and developed health

education materials and community pharmacies; some community-based laboratories have also been set up to carry out simple tests on blood, urine and faeces.

Water supply and sanitation: As health services improved, with a strong emphasis on education, community members sought ways to address other problems, especially water supply. Two different models for an improved water supply developed: the single-source tank and the well. Both combined the active involvement of a community group, reliance on technical assistance, and institutional co-operation from COINAP members. In the first, residents requested that Empagua, Guatemala's municipal water enterprise, install a single, large water tank in the neighbourhood. From this single source, the community created a supply network to reach individual residences, with UNICEF providing the funds for the pipes and other materials. Each family carried out the work necessary for their own home connection. The local community association receives one large bill from the water company and then collects fees from residents according to usage measured by individual meters. A resident, chosen by the community, was trained to manage billing and the collection of fees. Most of the fees are to cover actual costs but a portion is set aside for maintenance and the surplus will go towards other local infrastructure needs such as drains and sewers. For the community-managed well, a deep well is dug and water pumped from this is then distributed to households. The community has formed a small, private enterprise managed by local residents to operate the new water project.

Housing and urban improvement A new programme was initiated in one of the settlements, El Mezquital, to improve housing conditions and water supply and provide paved roads and a park. This was to be funded through loans provided to the residents at a monthly cost that the relatively low-income households can afford. Entitled PROUME (Programme for the Urbanization of El Mezquital), this receives support from the World Bank, the government of Guatemala, the community and UNICEF. With regard to housing, 1,000 new homes will be built and 500 improved. Each family can choose one of five designs for its home, depending on its needs and the size of the lot. The designs allow for the construction of a second storey in later years. Loans are available for families wishing to upgrade their homes-or for

constructing a new unit with the loan covering construction materials and labour. The plan also includes street-paving, the installation of drains and sewers and the construction of a park and community centre. Each household will have to contribute labour towards these improvements and help to pay for materials.

New models for community-based day care: A young trainee teacher developed a new model for day care in one precarious settlement through inviting children between the ages of four and six into her home during the afternoon, at a time when these children would normally be playing or wandering around the settlement. With no pre-school support, they were ill-prepared when they entered school at the age of seven and often had to repeat grades. Many were on the way to becoming street children as parents, discouraged by their lack of progress at school, allowed them to drop out and put them to work-but again in work for which the youngsters were usually ill-prepared. The improved performance of the young children when they entered school was so impressive that both parents and educators developed a pre-school centre. All aspects of the day care are agreed during meetings between the staff (that include two community health promoters) and the mothers. The local technical team helped design and build furniture for the Centre. The health promoters also monitor the growth and development of the children and within a year of the Centre's opening, more than three-quarters of the children met or surpassed standards in all areas. Fees are charged on a sliding scale, according to family income.

A different kind of day-care model was developed in another settlement where there was no space to construct a centre. A 'home day-care network' was set up with support from UNICEF and COINAP. With the help of a local health-promoter, five community women received one month's training in early childhood development. Each home day-care mother receives a small salary and her home is remodelled to provide water, toilets and appropriate outdoor space for ten children. Home day-care mothers from one community then helped to train others using printed materials and their own experience. The same model soon began operating in other crowded settlements, so that by 1993 about 250 children were receiving care in 25 homes that are part of the 'network'.

BOX 10.15
**The housing, recycling and education programme of the Carvajal Foundation in Cali, Colombia**

Aguablanca is a large informal settlement with some 350,000 inhabitants in the city of Cali, Colombia. It contains three of the 20 communes that make up Cali. When the Carvajal Foundation began working in Aguablanca, there was no sanitary infrastructure, no electricity, no medical care and no public transport services. Horse-drawn carts sold water by the gallon (4.4 litres) at a very high price, and dangerously overloaded small jeeps carried people on very poor quality roads to the nearest bus stop. However, in spite of such adverse conditions, many people continued trying to turn their shacks into brick houses.

Among the most serious constraints on self-construction were the very high prices that people had to pay for construction materials because a large number of intermediaries were involved between the producer and the final retailer. Other problems were that the people did not know how to draw plans or structures, they had no access to credit for financing their homes, and even when they had designed their structures and raised finance, they could not get building construction licences from the city government.

Self*Build* Housing: The Foundation's first project to support self-build housing was to build a construction materials warehouse. The warehouse is located in the middle of the squatter area and provides an outlet for producers of construction materials who can rent space from which to sell their products at wholesale prices. Some of those selling construction materials through the warehouse are micro-entrepreneurs, assisted through the Foundation's micro-enterprise programme.

Securing a retail outlet within the materials warehouse is, in effect, a guarantee of sales and therefore allows the entrepreneurs to rationalize production and produce at a lower cost than would otherwise have been possible. The Foundation charges each enterprise a small percentage of the sales value to cover the administrative costs of the project, including the cost of the warehouse, insurance and security. To meet the need for better technical assistance, the Foundation signed agreements with the two schools of architecture, to involve their students in helping people draw plans and structures, and build their homes.

The city government also established a small office in the warehouse from which people could obtain building licences. A second office was opened by the government owned Central Mortgage Bank to encourage people to open savings accounts and obtain loans to finance their housing construction. The Foundation has deliberately sought to promote the involvement of state agencies in providing housing loans and in developing improved guidelines for sub-dividing and construction work.

The self-build housing programme includes a series of practical workshops where people learn a range of skills including how to read plans, how to build foundations, walls and roofs and how to do the plumbing and wiring. The design of the process is such that 60 days after the first workshop, the family has a basic unit to move into. When a household begins to develop its own house and stops paying rent, it can afford to invest more of its budget in its home and, in two to three years, it can have a well-finished house. The programme also includes training in construction management for families who cannot do the building work themselves. On this course, they learn how to budget for the house and how to control the cash flow.

This method of guided self-construction has been particularly effective in reaching those with very low incomes. The programme has directly built 11,160 homes and has contributed to the construction of a further 27,000. The city government of Cali has launched a large housing project for minimum wage families by selling lots and services to 22,500 families who will build their own homes, and the Foundation has offered assistance to 10 other Colombian cities and four countries to set up similar programmes.

Recycling and street paving: Since the district of Aguablanca had no sewage system, the government was unable to pave the streets. With no paved roads for the garbage collection trucks, the garbage collection service was unreliable, and people threw their rubbish onto the roadside or onto piles scattered throughout the settlement. A joint programme for road development was negotiated in which the base layer (foundation), sewerage system and pavements would be provided by the City Mayor's Office. The community's contribution was to pave the streets with cement blocks (which can be removed to construct the sewer and then laid back), and to collect materials for recycling to pay for the blocks. The community organized itself into committees, each committee being formed by the families living in one block, on both sides of the same street.

The Foundation opened a recycling centre. Each committee holds an account at the centre and receives a credit for the value of the materials that they bring in and weigh. As soon as each committee accumulates enough money to pay for the cement blocks, the municipality prepares the street for paving and the neighbours organize a 'block-laying day'. A whole neighbourhood has paved its streets in this way. During the process, members have learned more about the value of garbage. The centre has extended its services and individual households have opened accounts to earn funds for construction materials, utility bills, mortgage payments and medical or dental visits.

The distinction between `enabling' policies and 'market-driven' policies becomes very significant. As noted already, the enabling policies recommended within the Global Shelter Strategy do not necessarily imply less government intervention- but a different kind of government intervention. Governments intervene to help those whose housing needs and priorities are not met by the `market' (for instance those who lack the income or assets to enter the housing market) or have particular needs that the market does not cater for, like vulnerable groups or the elderly. Its interventions usually centre on ensuring that the resources needed for housing purchase, construction or improvement are available at the lowest possible price-especially land, building materials and finance. It also structures its intervention in ways that support the resources and skills that low-income individuals, households and neighbourhood and community organizations can bring to housing construction or improvement. In many instances, its interventions are best realized through non-profit intermediaries as in NGOs providing technical and legal advice to the residents of low-income settlements in need of improvement. Or social banks such as the Grameen Bank or government institutions that directly support community initiatives such as FONHAPO or the

**BOX 10.16**
**Why mobilize town dwellers? Joint management in Ouagadougou (1983-1990)**

Between 1983 and 1990, the government of Burkina Faso sought a new way of providing infrastructure and service provision in the settlements that had formed around the central areas of Ouagadougou. This centred on mobilizing individual and community labour and resources organized by'revolutionary committees' in 30 different urban. neighbourhoods with national and provincial government agencies providing technical assistance and some counterpart funding.

In this period, more than 60,000 plots of land were provided with legal rights of occupancy. Having obtained security of tenure, the residents were invited to organize themselves under the aegis of their revolutionary committees to supply the necessary labour and cash resources to provide facilities in their areas, in exchange for which government agencies undertook to provide technical supervision and a limited amount of 'counterpart funds'. This achieved very substantial improvements in local public facilities and helped the poorer peripheral areas'catch up' with the central city.

Elected by the population of the thirty urban sectors, the revolutionary committees allocated the plots and were mainly responsible for the construction of schools, dispensaries, creches, sports grounds, and markets. These committees also managed certain services such as the distribution of drinking water from public hydrants. In managing these hydrants, the committees purchased the water from the national water and sanitation agency and sold the water to users. Although prices to users rose, this also meant a service that reached a higher proportion of the population and that operated more effectively than previously as water was more often available, maintenance was properly done and closure as a result of non-payment relatively rare.

Initially, local resources came mostly from taxes illegally imposed on the newly defined plots but later, as this revenue source ran out, more commonly from user-fees (including those for water) and fees raised for other tasks (for instance school construction).

This mobilization worked well for projects that could be completed quickly and rapidly gave citizens a return on their efforts. It was responsible for constructing many schools with a successful partnership between local residents (who raised funds and contributed some labour), the revolutionary committees who organized the process and the various state agencies which provided particular components (for instance the roofing sheets, metal doors, windows and furniture and also the teachers to run them). 117 new classrooms were built in the periurban areas of Ouagadougou between 1984 and 1989. Health facilities, drug stores, sports grounds, creches, public latrines and offices for the revolutionary committees were also built in similar ways.

This system of joint management has both positive and negative aspects. It proved possible to tap into new human and cash resources in ways that brought substantial benefits to populations who had previously been largely excluded from the benefit of urban development. Whilst regularizing the land title situation in the outlying areas was the decisive trigger for this mobilization of town dwellers, it was deployed within an extremely centralized institutional framework which was not tempered by any subsequent administrative reform.

However, the system proved incapable of undertaking large-scale tasks in which management was needed. For instance, efforts to improve sanitation, drainage and garbage collection, all much needed, failed because they required a sustained investment and involvement. It did not trigger autonomy but encouraged each urban sector to lobby for more resources from the government and to compete with each other in doing so. It also did not redistribute resources since most major investments during these years continued to go to the central area of Ouagadougou.

Urban Community Development Office in Thailand-whose work is described in more detail in Chapter 11. Or it finds that the scale and scope of its work is much enhanced by working with NGOs such as the Orangi Pilot Project or private foundations such as the Carvajal Foundation. Government may also have to intervene to ensure that market forces keep a downward pressure on prices, in ensuring that a competitive market exists for housing finance, building materials and land. Where there is no competitive market to do so, prices need to be kept at reasonable levels and the quality of products or services needs to be monitored (for instance where private businesses provide piped water services). It is difficult to generalize from the examples of government programmes as social, economic and political circumstances vary from city to city and country to country. Democratic pressures are important to ensure that market failures are addressed and that the needs of those who cannot enter `the market' are catered for. In most societies, the capacities of individuals, households and resident or community organizations to invest in and help build and manage infrastructure and services remains under-appreciated.

The potential conflict in enabling shelter strategies between the need for liberalization (freedom to build', private-sector incentives) and the need for regulation (to correct market imperfections and curb speculation) is a particular illustration of the wider dilemma facing all economies that aim to be more equitable but also to remain competitive within regional and international markets. The successful implementation of an enabling approach depends on the ability of governments and citizens to find the right balance between these two sets of principles.[160] The two should also not always be seen as opposites in that many programmes that improve infrastructure and housing conditions and that increase the incomes and assets of lower-income groups also contribute considerably to economic growth.

As the study on European housing policies whose findings were, summarized earlier in this chapter notes, the key issue is `what sort of market-state mix' will produce what sort of outcome.[161] This study notes that governments must act to ensure sufficient supplies of inexpensive land and capital for housing. It also suggests that governments should intervene to promote a diversity of forms of housing type and tenure-

especially forms of housing tenure that are less costly than owner-occupation but where the occupier has secure tenure. It stresses the need for more autonomous local authorities who can respond to the particular needs and priorities of their inhabitants and localities. But the ambitions of more autonomous local authorities must also be checked by democratic structures. These are issues that are as relevant to the South as to the North and more pressing, given much worse housing conditions, more inequality in the distribution of incomes and assets and, in most instances, a more rapid expansion in both need and demand.

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# 11  Finance for Housing, Infrastructure and Services

## 11.1 Introduction

The first half of this chapter concentrates on highlighting the lessons learnt from recent housing finance programmes that sought to reach lower-income groups in the South; the second half reviews the scale and nature of finance from donor agencies to housing, infrastructure and services. This concentration in the first half of the chapter on such a narrow focus is for two reasons. The first is the fact that the last 10-15 years have brought considerable innovation in this field from many governments and non-government organizations in the South. The second is that limitations of space prevent a more wide-ranging review of recent trends and innovations in housing finance in both the North and the South. This means that many interesting and important innovations are not covered here.

Most of the housing finance programmes described in this chapter include finance for some infrastructure and services so it is difficult to separate the discussion of housing finance from that of infrastructure and services. In most countries in the South, relatively few low-income households can afford to purchase a house with piped water and connection to sewers. Loans provided to individual households to build a new unit often have to cover the cost of installing a water supply and provision for sanitation with no connection available to municipal or city water supply and sewage systems-or connections only available at a relatively high unit cost. The same is true for many loans provided to low-income households to improve existing housing units. The primary focus in this chapter is on housing and there is no discussion of government loan programmes only for infrastructure and services.

In government housing finance programmes, there is a recognition that a large portion of the population cannot afford to purchase conventional housing but can afford to develop their own housing, if credit, technical assistance and services are available that match their needs and capacities to pay. There is also a recognition that new kinds of housing finance institutions are needed and that conventional housing finance or mortgage institutions which many governments set up or strengthened in the 1970s and early 1980s were not serving low-income groups. At the same time, it has been recognized that informal finance is being used for housing improvement or construction. Although differing in detail, many relatively new housing finance institutions have sought to provide subsidized credit to help finance (generally incremental) housing development for low-income communities. This section describes the experiences of some of these programmes: Mutirao (the National Programme of Mutual Aid Housing) in Brazil, the Community Mortgage Programme from the Philippines, the Urban Community Development Office from Thailand, FONHAPO in Mexico and Build-Together National Housing Programme in Namibia. It also includes details of some other programmes such as the Million Houses Programme in Sri Lanka and recent experiences in Colombia. It describes how these programmes enabled households and communities to obtain access to land, building materials and finance for housing, and support for housing production processes.

The government programmes for housing finance drew on earlier NGO experience in credit programmes that had successfully provided low-income groups with small sums of credit for income earning activities. Such government and NGO programmes seek to address the fact that most low-income households cannot obtain credit for housing construction or improvement from conventional banks or housing credit institutions. Without credit, households have far fewer housing options. They generally cannot afford to purchase a secure land site legally and are generally forced to build incrementally, in ways which increase overall costs.

One Indian NGO calculated that the total expenditure incurred by a pavement dweller in Bombay in maintaining their shelter would be equivalent to the mortgage repayments on a small permanent dwelling.[1] But, without being able to obtain a loan, 20 years' expenditure is wasted and they are left with neither a secure home nor an asset. Such experiences showed the need for housing credit.

The lack of formal sector credit for low-income households arises for many reasons:

- Low-income household's lack of verifiable or regular flow of income and of collateral that is acceptable to housing finance agencies.

- The high transaction costs for the housing finance agency, in relation to the size of the loan (processing and monitoring a small loan is often as time-consuming as that of a large loan).

- A belief that the poor will not repay.

- A lack of offices by the conventional banks and housing finance agencies in low-income areas.
- The complexity of the application and the level of bureaucracy associated with the provision of loans including the need to be literate to complete forms.[2]

Many of these are similar to the problems faced by small entrepreneurs in obtaining credit for business investment. But in the case of housing, there are three further factors that reduce available credit: the longer loan periods; the larger loans needed; and the lack of increased income arising directly from the investment. Nevertheless, as the discussion in this chapter shows, these programmes for low-income housing finance are similar in some aspects to informal and innovative credit programmes for micro-enterprises.

## 11.2  Government Programmes For Housing Finance[3]

### New models of housing finance

In both their form and historical development, the new government housing finance initiatives described here show the influence of NGO experiences. In many countries, NGOs have succeeded in identifying the successful `ingredients' of credit programmes for housing and neighbourhood development, but they lack the capital to provide opportunities for low-income communities on a large scale. Although development from NGO initiatives to a government programme has often taken a long time a national fund does offer advantages to both government and NGOs. For NGOs, it offers a way to take their programmes to scale; for governments, they draw on models that have succeeded in implementing effective housing credit and neighbourhood improvement programmes that also make maximum use of the communities' own capacity to invest, build and organize.

Governments seeking to adopt such strategies have to develop systems to make available sufficient land and financial resources. They also have to identify ways in which they can support the present housing production process of low-income households. Each of these elements is discussed below. One particular innovative aspect of such government policies is that they seek to involve many groups other than government and the new roles and responsibilities of the different actors involved in such programmes are also considered below.

### Land

Housing loan programmes generally have to provide ways by which low-income households can obtain land or obtain tenure of the land they already occupied. Significant housing investment does not make sense unless tenure is secure and assistance in securing land is generally a first step in a process of housing consolidation.

Most low-income households have a very limited capacity to purchase land at market prices if they are also to cover the costs of building materials and construction. The loan programmes of both the Community Mortgage Programme in the Philippines and the Urban Community Development Office in Thailand have observed that households who take a first loan for land can rarely afford to take a second to help meet the costs of housing construction. In such circumstances, governments can make a significant contribution to a community development process either by making public land available for housing or by requiring municipalities to provide land as their contribution to the improvement programme (as encouraged by the *Mutirâo* programme in Brazil).

When FONHAPO was established it benefited from being able to use a land bank that had been established by a previous government programme in the late 1970s. This supply of land was of considerable help to FONHAPO in helping communities to acquire the land they needed for housing. Once a suitable plot had been identified, communities could borrow from the fund to finance their land purchases. In the Philippines, the Community Mortgage Programme was set up to help low-income urban households to acquire title to the land that they occupied (illegally)  and then to improve infrastructure and services (see Box 11.2). In Colombia, the shortage of land that can be afforded by low-income households is being addressed through a new government housing programme that offers municipalities an incentive to provide low-income communities with land. Groups living within municipalities that have made land available have an increased chance of receiving a housing subsidy from national government.

When supplying infrastructure and services, experience suggests that the development process works to the advantage of low-income communities if the provision of infrastructure and services follows rather than precedes housing development. Once investments in infrastructure and services are made, the price of the land usually rises steeply, especially since the demand for land for housing with infrastructure and services considerably exceeds supply in many countries and it rapidly becomes too expensive for low-income households.  Undeveloped land is considerably cheaper and acquiring land without infrastructure and services enables the increase in value arising from development to be `captured' by the low-income residents. By developing and

BOX 11.1
FONHAPO

FONHAPO is a national fund for low-income housing established by the Mexican government in late 1981. The Fund sought to:

- double the low-income housing stock between 1980-2000
- finance housing construction by people with modest incomes who organized the development of their own housing;
- finance incremental housing development, not just new houses;
- redistribute national government funds in favour of people with low incomes to reinforce principles of equity and social justice;
- support the development of democratic processes from the community upwards;
- ensure that government support was used efficiently;
- be decentralized; and
- institutionalize the fund within government.

FONHAPO was designed by professionals with long experience of working with low-income communities and realistic assumptions were made about how much the people could afford and where credit was needed. It authorized credit principally to public sector organizations (such as housing or state-level real-estate institutions and municipalities) and to organised community groups seeking housing (such as housing co-operatives, civil associations, unions, and peasant organizations). All groups receiving credit had to be legally constituted and the credit was authorized to lend to the group as a whole, not to its individual members. When the Fund was fully operative, there were 800 accounts and 250,000 households receiving loans.

Title to the land on which the housing units were developed or improved could not be individualized until the loan had been completely repaid. In some cases, communities maintained a collective land-

holding. Occasionally, a single loan was turned into two loans if there were divisions in the community. The most common reason for this was that one group wished to repay the loan faster than other groups.

Credit could be used to fund any part of the housing process, with great flexibility for people to choose how the funding was used. Five main programmes developed: site and services, incremental housing development, improvement and/or extension of existing housing, new finished houses and the production and distribution of building materials. The credit lines correspond to different phases of the housing process: site acquisition, technical assistance to develop projects, provision of basic services (water, drainage, electricity and roads); and either mutual aid construction processes or construction by third parties. The combination of possibilities gave the fund great flexibility to respond to the different needs, potentials and preferences of the participating groups. The programme had very few technical standards but many standards for social processes. For example, there were no limits to the size of rooms but communities had to have regular meetings and fixed numbers had to participate when making critical collective decisions.

The financial system was designed according to the ability of the people to repay. The maximum size of loan was 2,000 times the daily minimum wage of the region although the actual amount of credit was set according to the repayment possibilities of the soliciting group. A deposit of 10-15 per cent of the value of the loan was required before the loan was provided and the value of loan repayments could not exceed 25 per cent of the monthly income of the head of the household. Loans were given for 7-8 years. Communities that successfully repaid their first loan could apply for a second loan. Land was used as collateral for the loan.

A subsidy was included in the programme and half the total value of this subsidy was

earmarked for those with an income of less than 1.5 times the minimum monthly wage. Up to 40 per cent of the total cost of a project could be subsidized; 25 per cent was given immediately and the remaining 15 per cent if the repayment schedule was maintained.

Repayment did not follow a conventional form with the repayment of capital and interest. At the time the loan was taken out, the equivalent value of a monthly repayment (at nought per cent interest rate) was converted into a percentage of the minimum monthly wage. As the monthly minimum wage changed, so did the value of the repayment. This system of calculating repayments was supported by the communities who recognized the need to maintain the capital value of the Fund and felt that their repayments were fair. An additional charge equivalent to an interest rate of 2 per cent was later added and passed to the communities to cover administration costs.

In 1983, when the programme began operations, 25 per cent of all loans were given to communities and 75 per cent to other institutions such as local and state government departments. Within a few years, the structure of the programme had succeeded in shifting a much greater share of resources to community development. Between 1985 and 1987, 66 per cent of the total number of loans were to community organizations. Administrative costs fell from 10 per cent of the total value of loans at the beginning of the programme to 4 per cent after five years.

The 4 per cent government allocation to housing which was given to FONHAPO was soon producing 22 per cent of all government funded housing investment. In the first year, 5,000 units were completed and 15,000 started; by 1987, 63,000 units had been completed and a further 53,000 started. ('Units' does not mean a new house but a completed programme of incremental improvement.)

Source: Asian Coalition for Housing Rights/Habitat International Coalition, 'Finance and resource mobilization for low income housing and neighbourhood development: a workshop report', Pagtambayayong Foundation, Philippines, 1994.

supporting strong community organization, the housing finance programme can assist communities to negotiate and lobby to ensure that infrastructure and services are provided, once the land is acquired; such strategies and mechanisms are discussed in more detail below.

There is a need for governments to adopt integrated urban development strategies in the provision of land. The value of land is related to the availability and quality of services in the area. Good-quality public transport services, in particular, can partially compensate for having to use land in remote locations. Governments add to the value of land allocated to or obtained by

low-income communities through not only ensuring basic infrastructure and services but also ensuring good-quality public transport and encouraging investments in suitable productive activities on nearby sites. Such public investment can clearly add considerably to the value of land. Governments entering into major new transport developments should consider reserving a proportion of land for housing developments for low-income households. In Curitiba, for example, the planning authorities recognized the importance of ensuring low-income households obtained land with good access to employment by reserving areas for low-income housing

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**BOX 11.2**
## The Community Mortgage Programme, the Philippines

The Philippines government launched a Community Mortgage Programme in 1988 to help poor urban households acquire title to the land they occupy and develop the site and their housing in 'blighted and depressed' areas. The Programme was placed within the National Home Finance Corporation. It focused on the bottom 30 per cent of households to obtain access to housing especially those living illegally on land. The Programme provides loans to allow community associations to acquire land on behalf of their members, improve the site, develop individual titling of the land and provide individual housing loans for home improvement or house construction. It is innovative in that it emphasized the importance of non-government groups in developing a solution to housing in the Philippines and in its focus on achieving land security.

To acquire the loan, the residents have to organize themselves into a community association which becomes responsible for collecting repayments and for ensuring that the loan continues to be serviced. If the development is to take place within an existing residential settlement, 90 per cent or more of residents have to agree to be a party to the loan and improvement programme. The land is purchased on behalf of the members and initially remains under the common ownership of the association. It is the association which is responsible for collecting monthly rentals and amortization from member beneficiaries until the community loan has been individualized. Both community based organizations and NGOs (and municipal governments) can take out loans and provide assistance in organizing member-beneficiaries and informing them about loan availability.

Loans are available for up to 90 per cent of appraised value of property. Where residents were already on the site by February 25th 1986, this valuation is no longer required if an agreement has been reached between the land owner and the community association as to the value of the land-although this must not exceed ten million pesos. Loans are provided for 25 years at 6 per cent interest.

As of April 1994, the Programme had already assisted 330 communities (39,992 households) with a total loan value of more than 835 million pesos. The average loan for each household is P21,000. Another 40,000 households have begun the process of obtaining a loan. Repayments rates are about 65 per cent.

An essential part of the programme is that either a government agency or an NGO acts as an intermediary, helping the residents form an association and supporting them while they negotiate for official title to the land, apply and secure the land, and begin site development and the financial operation of the loan. Just over half of the intermediary institutions which have acted as originators for loans are NGOs although some have been undertaken by local government units, national government agencies and financial institutions. Originators receive a small payment of 500 pesos per household from the government for this service.

Source: Asian Coalition for Housing Rights/Habitat International Coalition, 'Finance and resource mobilization for low income housing and neighbourhood development: a workshop report', Pagtambayayong Foundation, Philippines, 1994.

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alongside the express bus routes into the city centre.[4]

## Finance, subsidies and repayments

The housing finance programmes considered here all involve the combined funds of governments and households. This section explores two critical issues: first, the reasons why governments have been willing to finance (and subsidize) these programmes, and second, the strategies that are used to secure a high level of repayment.

The governments' financial contribution to such programmes is primarily the loan capital which is usually available to households or community organizations at subsidized rates. The NGO experience in housing finance has been subsidized housing finance, which reflects their primary focus on assisting the poor and their local knowledge of the communities they are supporting. On the other hand, the experience of government programmes offering subsidized finance is that such programmes are attractive to higher income groups who are often successful in 'capturing' the subsidy. The issue of finance and subsidies are therefore critical to the design of government programmes.

Those arguing for loan provision on economic grounds emphasize that credit markets in many countries in Africa, Asia and Latin America are inefficient and that profitable investment opportunities are foregone because credit is not available to low-income communities at interest rates approaching those of competitive market rates.[5] While much of this debate has centred on credit for micro-enterprise investment, the same arguments have been applied to housing. Thus, it is argued, there is a role for government to ensure low-income households can obtain housing credit. And it has been suggested that this strategy may be more efficient than the more common public policy response of the 1970s and early 1980s which was to provide public housing, core housing or serviced sites for 'low-income' households.[6] Credit programmes to enable low-income households to build or purchase their own housing are therefore a solution emerging from conventional economic analysis of the housing needs of low-income communities. In such programmes, the emphasis is overwhelmingly on the provision of investment capital for housing and the focus of the programme is primarily financial. Subsidies may be considered unnecessary and even detrimental to the effectiveness of such programmes. They are unnecessary because the major problem is lack of credit, not the cost of credit; and they are detrimental because the subsidy is attractive to higher income groups who try to obtain funds through the programme.

The second rationale for credit provision for housing concentrates on its effectiveness in ensuring the basic needs of low-income households are met. Market-based development is considered to be inadequate without a redistrib-

ution of income or assets towards low-income groups although this redistribution will bring wider economic benefits such as increased demand for goods and services. Housing credit programmes, it is argued, have proved to be an effective and efficient way of delivering subsidies because they avoid or reduce problems such as the selection of recipients and dependency. Households contribute directly to the development process as they are required to provide `counterpart' funding through savings and loan repayments. Households and communities are therefore, in part, self-selected. Subsidy funds are allocated more efficiently than might otherwise be the case because the households and/or communities are also spending their own funds and become involved in the allocation decisions with some sense of ownership in the project. The subsidy finance goes further because it automatically draws in additional resources. Within such a perspective, low-income housing loan programmes are seen as one component within a poverty-reduction strategy. Subsidies are seen as an integral component of such strategies. And as was noted in Chapter 6, it is not unusual for wealthier groups to receive tax relief or some other subsidy on their housing loans. In Mexico, the level of subsidy available to low-income households through FONHAPO was less than that received by many more wealthy households.[7]

In all the programmes described here, subsidies have been provided both through subsidized loan finance and through capital subsidies. For example, households were only expected to repay some 40 per cent of the loans obtained from FONHAPO. A major advantage of interest rate subsidies for the government agency is that they spread the cost over the full period of the loan. In some cases, the communities argue strongly for such an approach. In Thailand, the Community Development Office charges an average rate of 7 per cent with differential interest being charged on community revolving funds, housing and micro-enterprise credit. In the case of the Community Mortgage Programme, interest rates subsidies have led to a very specific problem because, managed by a conventional government financing institution, there is an incentive to redirect financing away from the Programme towards investments with higher interest rates. From the perspective of the community, there is some evidence to suggest that communities benefit from having as much choice as possible in regard to the balance between interest rate and capital subsidies. One NGO programme in Mexico offered households within one credit programme three repayment options in which the total subsidy was equal but it was differently divided. All three options were used by the households.[8]

In Latin America, a common practice is to link repayments to the minimum monthly wage as is the case with FONHAPO. At a time of rising inflation (varying between 40 and 165 per cent a year in Mexico during the 1980s) this maintained the real value of repayments more effectively than conventional interest repayments. Moreover, it reduced uncertainty for the households having to maintain repayments and was seen as `fair' by those repaying loans, despite the falling value of real wages.

A common and important feature of these funds is that the loan is taken out by the community. Major government programmes such as FONHAPO, Mutirâo, the Community Mortgage Programme and the Urban Community Development Office have been innovative in offering loans through communities or providing `collective credits'. Such a structure has a number of advantages for the different parties involved. For the programme's managers, administrative costs are lower because the community organization manages the individual loan allocations and repayments. Collective housing developments also allow for greater efficiency and cost-effectiveness in the production process. For the government, the insistence of community organization is one strategy for reducing the risk of the fund being taken over by middle-class residents. However, more fundamental to the development process is the strengthening of the community by encouraging the formation of a formal organization; encouraging the collective process within the community can assist low-income households in combating the adverse effects of poverty.

High repayment rates have, in general, been secured by the programmes described here. For example, Build-Together in Namibia has a repayment rate of 92 per cent.[9] FONHAPO's repayment rate at the end of 1988 was 93 per cent. Repayment has been encouraged through a number of measures, all of which are common to effective NGO programmes. Perhaps the most universal is the requirement that a community has operated a savings programme before becoming eligible for loan financing. For example, the Urban Community Development Office requires a compulsory three-month saving period for any community wishing to obtain a loan. Other measures include requiring the community organization to take responsibility for obtaining the loan repayments.

## Housing production

The way in which such credit programmes interact with the housing production process is also an important element of the programme structure in the innovative schemes considered here. The

programmes have been designed to promote a local development process within communities receiving loans in order to reduce poverty and vulnerability to crises. In order to reach this objective, the programmes seek to encourage three specific elements:

- To maximize household receipt of funds.
- To maximize non-financial support for households.
- To maximize local economic multipliers.

### Maximizing household receipt of funds

Housing production is the process by which building materials, labour and land are combined to become housing. In general, subsidized government housing programmes that focus only on contractor-built units or even serviced sites for low income groups result in much of the value of the subsidy being captured by the construction company. Low-income households do not benefit as much as they might have done and the final product is too expensive for the government to be able to afford production on a scale appropriate to need.[10]

Alternative strategies have been used to ensure that as much as possible of the subsidy reaches those in most need. Loans specifically directed at low-income households are one such strategy. By providing the subsidy through the loan, which is managed at the level of the household or community, the subsidy can be used in the way that is most effective to the community. For example, they can either self-build, or negotiate with local contractors for building services. A further advantage of this strategy is better value for money. In Karachi, low-income communities can install sewers at one-seventh of the cost of the government.[11] In Namibia, homes built by low-income communities have a market value over five times that of the cost of materials invested in the house.[12] An evaluation at the end of the FONHAPO programme demonstrated that the houses constructed had cost about half of what they would have cost if the government had built a house of equivalent size. By delivering the subsidy direct to the people who are responsible for managing the housing construction or improvement process, the full value of the subsidy reaches those for whom it was intended. These experiences suggest that government housing subsidies must be allocated directly to low-income communities if limited funds are to be used most effectively.

### Maximizing non-financial support for low-income households

Credit programmes provide an opportunity to reduce poverty or vulnerability not only through improved housing conditions and through providing households with an asset but also through strengthening community organization. A strong community organization is considered an essential element of the government programmes considered here and each programme has been designed to encourage and support this element. The experience of low-income housing finance suggests that there are many advantages attached to `collective credits' or community loans. One of the most important is that such loans can be designed to support the formation and strengthening of community organizations that then have a central role in the development process within low-income settlements. A strong community organization also offers a number of specific advantages to the realization of a development programme through loan finance:

*Community design:* if the development is to work, it must draw on the knowledge of local residents about their needs. Individual voices are not generally heard against those of the professionals who dictate the development of the house and/or neighbourhood. Even if the individual voices are heard, such individuals cannot be representative. Some forum is required for all the experiences and perceptions of individuals to come together and assess what makes sense for the community.

*Community management:* through community based design and management, the housing process is democratised and the people have the opportunity to determine their housing and its standard. As argued by the Urban Community Development Office in Thailand, the richest resource available to low-income communities is their capacity to work and to organize and the process must be one that realises and enhances this resource (see Box 11.5)

*Maximizes availability of funds:* by working through community organizations, these programmes draw on the use of savings and other resources from community members. Although small, these resources made a real difference to the success of the project.

*Efficient use of funds:* the households who receive credit in these programmes have very limited monetary assets and incomes so it is important that costs are minimized in all stages of the production process. Experience suggests that the community will be able to build at lower costs than either private or public contractors. Incorporating part of the households' savings into the programme increases the responsibility with which the community manages funds. In general, people look after their own money better than they look after the money of others.

*Community insurance:* lack of income and assets means that households are particularly vulnerable

to changes in circumstances. Collective management of funds reduces the risk of loan default by individual households. For example, if the main income earner in a household is sick or injured, the household's repayments may be temporarily paid by the community. In some cases, community insurance schemes have been made more formal with a special fund or special provision. For instance, in Guadalajara in Mexico, a community with 82 households purchased a plot of land with 110 plots, with the extra plots sold to cover the costs these households had incurred in developing this initiative. The community agreed to keep three plots both to provide some insurance for community members and as a resource that could be rented out, providing small amounts of income for the community. If government funds are given community organizations, residents can plan to increase group security.

*Collective strength:* the loan may be the start of the development process but it is not considered to be sufficient by itself. Low-income settlements require the continuing provision of investment and maintenance in infrastructure and services. In order to secure these, they need to be able to negotiate and put pressure on municipal government and other state institutions. Some form of community organization is essential to this process.

It is also important to note that the argument is not one way. Although the form of credit programmes has been designed to strengthen communities, so the success of such programmes may also require that a given level of capacity for, and experience in, community organization has been reached. What was important in the establishment of the Urban Community Development Office in Thailand in 1992 was that there had been a qualitative change in the knowledge and experience of community organizations in the country and a qualitative increase in their capacity over the last 10 years. These changes brought new possibilities including the prospect of large-scale impact for the programme of the Development Office. Without a given level of community organization, it would not have been possible to implement this programme.

### Maximizing the economic multiplier effects

Another strategy often used by innovative housing finance programmes is to ensure that funds circulate as many times as possible in the local economy through using housing production to stimulate local economic growth. In several of the innovative housing finance programmes discussed in Section 11.3, there has been a move away from housing to more comprehensive neighbourhood development. The need for this expansion of housing programmes into neighbourhood development was stimulated by the ineffectiveness of some interventions orientated towards housing alone. In particular, the new programmes are intended to assist in increasing household incomes and therefore the capacity of these households to take on and repay loans. Certain government programmes have also developed this integration of income-generation and housing finance.

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BOX 11.3
**Lessons learnt about community management**

Many government housing loan programmes have both depended on and attempted to strengthen, the ability of communities to manage their own development. Although the context and situation of communities varies considerably, a number of factors are likely to be necessary for communities to be successful in such management.

- The importance of understandable and up-to-date information about all aspects of the programme. It also proved a considerable help for communities beginning the process to be able to draw on a broad range of other community experiences. Local experiences must be complemented by an information programme at the level of the municipality or district with details of available land plots, city resources and other government programmes. Information should be appropriate for the different groups for whom it is intended, state institutions, municipal governments, NGOs, private contractors and communities.

- The need for transparent and easily understood loan processes at all levels. There also needs to be a clear logical framework with a legal role for community leaders and community members. Without such a framework, it is difficult for community leaders to act with legitimacy.

- The need for training for most or all the actors involved in the process (community leaders, trainers, members, technical advisers) including those who will be trainers within the programme. Lack of adequately prepared trainers has been a constraint on the development of several government programmes, including those discussed here. Training needs to be targeted to the different groups involved and should deliberately aim to ensure that all the groups necessary to the success of the programme are drawn into the process. While the form of the training programme will vary according to the local context, training needs are likely to include training in community organization, financial management, housing construction techniques and negotiation skills. Training in financial management has been particularly important.

- The financial needs of community organizations. These need to be addressed in some way if their participation is to be maximized. The management of community development inevitably involves the community and its leaders in some level of expenditure and a mechanism needs to be developed to ensure that the community has access to the funds that it needs. The mechanism most commonly used to date is that a proportion of the loan repayments is returned to the community organization for collective management.

- The need to minimize bureaucracy and complexity. A major problem with government credit programmes for low-income communities is the amount of bureaucracy that is involved. Despite attempts to simplify procedures as much as possible, experience suggests that problems with bureaucracy remain.

There are a variety of different income opportunities that are related to improved housing. For example, housing finance programmes can help finance the building of rooms for rent and may include space for micro-enterprise development. Further income-earning opportunities are provided through housing construction and the production of building materials, fixtures or fittings. In general, such developments have been restricted in government programmes (although FONHAPO permitted loans for building materials production by co-operatives) because of traditional problems in working across different ministries. However, the new fund in Thailand, despite being located under the National Housing Authority, has 50 per cent of the loan capital allocated to micro-enterprise development.

Improved income-earning opportunities increase household capacity to repay loans and enables them to invest more in housing. At the community level, successful new or expanded micro-enterprises ensure the circulation of money within the local economy. A development of the *Mutirâo* programme initiated by one community in Fortaleza has been the construction of small workshops and enterprise units within the community (see Box 11.4). These serve the dual purpose of encouraging individual entrepreneurs and offering them a local base, and providing rental income from the units for the community organization.

A further advantage of developing a more comprehensive programme of activity is that the focus on housing may not always be helpful in maintaining organizational enthusiasm within the community. In the experience of the *Mutirâo* programme in Brazil, the emphasis on housing has not helped the process of community organization. While the communities have been motivated to organize and achieve housing, once the homes have been constructed, the focus of community organization has been removed and energies fade rapidly.

One further long-term economic benefit of housing finance is that, by allowing a low-income household to acquire a house or land site, it provides them with the possibility of incremental investment that both improves their home and adds to the value of their asset. The scale of housing investment that takes place after land tenure is secure has been frequently observed.[13] In the Community Mortgage Programme, most of the loans are for land because it is land that the communities find it hardest to acquire. But five years after acquiring land, the estimated total value of the investment in the residential area is about three times the size of the loan for land purchase.

## The contributions of local government, NGOs and other actors

Government credit programmes for low-income housing usually involve a range of institutions including national governments, local or municipal governments, NGOs and community organizations. Some conclusions as to different roles and responsibilities of these groups have emerged from the experiences described here.

### Non-governmental organizations

Many of the innovative government housing credit programmes have emerged from the experience of NGO staff who were brought into government to improve low-income housing strategies and programmes. In such programmes, NGOs have been given an important role in providing technical advice and assistance to communities participating in the programme. Such support usually involves a broad range of activities including the development of community organization and self-help processes, and training and direct assistance in financial management and housing production. In addition to supporting community loan management, NGOs may have further responsibilities in assisting communities to secure additional government services and infrastructure, once their housing improvement programme has begun.

The experience of government programmes for low-income housing to date is that such programmes may have been too dependent on NGOs and their capacity to support the process. A number of weaknesses associated with both the NGO sector and some individual organizations have emerged. First, there are often not enough NGOs to support the scale of community initiatives that need to take place. Even in the many Asian and Latin American countries which have long had extensive NGO involvement in housing, there are rarely sufficient experienced NGOs to be able to support a large scale programme. Second, government programmes demand new skills from NGOs and few NGOs have extensive experience in financial management and project implementation. NGOs are often sectorally specialized and those that have a housing focus may not have the necessary experience in community enterprises. Third, the NGOs need to find additional income to that which they receive through participation in the programme because the amount they receive for supporting the government programme has not been sufficient to meet all their costs.

In the experience of FONHAPO in Mexico, very few of the 800 communities receiving credit within the programme had a high level of input from NGOs, even though Mexican NGOs have long been among the most innovative in working on housing issues with low-income groups.[14]

**The national programme of mutual aid housing-Mutirâo**

In 1986, the Federal government of Brazil launched a programme aiming to build 400,000 dwellings by 1990. The programme was financed by a tax on the proceeds of the national football lottery. At the time, the National Housing Bank that had been the main source through which the government had made credit available for housing was bankrupt and therefore funds passed directly to the Ministry for Housing and Community Action. In this move, housing was placed clearly within the social policy agenda. Federal resources were distributed to state and municipal agencies and the new programme was called the Mutirao, a Brazilian term meaning mutual aid which has been popularized through housing programmes.

In 1990, federal support for the Mutirao programme ended although the original target had not been achieved. The programme continued in only two cities, Fortaleza and Sao Paulo, with funds from the state and municipal authorities. In 1990, Fortaleza Metropolitan Region had a population of 2.4 million (1.8 million of which lived in Fortaleza) with an official housing deficit of 130,000. The state had previously received funds from the federal government for the Mutirao programme. The state government had passed this funding to Compania de Habitacao (Cohab) for implementation of the programme. Within the municipality of Fortaleza, funding was passed to the Social Services Department. Both Cohab and the Social Services Department collaborated in establishing Communal Societies for People's Housing-perhaps the

most original aspect of the entire programme. Communal societies have now been established throughout Fortaleza with representation from non-organized communities and already established organizations including federations of CBOs, unions and neighbourhood councils. Each communal society is a mixed government/ voluntary organization with three elements:

-a general assembly of beneficiaries;
-a bank account or fund (to which households pay back the credit); and
-a council made up of three community representatives and two government representatives, one from the federal government and the other from the local authority or state.

Through these institutions, the Mutirao programme provides funding for the purchase of building materials. The communities construct their new houses either individually or with collective self-help. Generally, the families build everything together (although there are a few exceptional projects in which households build individually) and, once the settlement is complete, the houses are allocated to members.

Since 1987, 100 communal societies have been formed in Fortaleza and about 11,000 houses have been constructed in the city (with an additional 3,000 in the remainder of the state). Most communities consist of between 50 and 100 households. The Mutirao programme pays the cost of materials but this money is given as a loan to participants who are expected to pay a part of this cost back to the community of which they are a member. A monthly charge, equivalent to 10 per cent of the minimum monthly wage, is made for a

fixed period, generally five years. From the beginning, the social organizations and the neighbourhood associations involved in the programme argued that this level of monthly repayment was too high and it has now been reduced to 2-5 per cent of the monthly wage (for the same period of five years).

The repayments are given to the community to form a fund which is managed by community members. Up to half the community fund may be used by the people to invest in their homes and the remainder is to be used for projects which benefit all members of the community; for example, to repair a sewerage system, to pay the transport costs of those fighting for water, to provide electricity to a meeting room. In practice, all funds have been used for community projects and nothing has been allocated to improving individual houses.

The costs involved in a Mutirao project are about $US1,200 for a house of 30 square metres with the land being provided free. About one-third of this is labour costs which are provided by the households participating in the programme. The remaining $US800 is provided as a subsidy by the government. If 10 per cent of the minimum salary is repaid to the community organization over a five-year period, the households repay about 50 per cent of the value of this subsidy into the community fund. The scale of the subsidy, even in the most expensive example, is very small compared to many subsidized housing projects in Brazil. Taking account of the land and service charges doubles the cost of the project, but the total cost remains relatively low.

Many communities applied for support from FONHAPO with only minimal technical support such as groups of students. In one project, the community was divided into several groups; the one using an NGO successfully completed the programme, the community being assisted by students never finished their new homes. There were few alternative institutions to NGOs offering assistance.

In the Philippines, the lack of support for NGOs did not prove an immediate problem for the Community Mortgage Programme especially as there was significant international support from which the NGOs could obtain additional resources. The NGOs were offered a fee of P500 per household to cover the costs of their support for the communities within the Community Mortgage Programme. As the initial estimate of costs was P250, it was hoped that this amount would be sufficient but a number of

problems emerged. The bureaucracy of the Programme was complex and time consuming. The amount proved to be insufficient to cover all NGO costs and international donors were reducing funding into the Philippines. NGOs have been forced to think about new strategies for fund-raising in order to maintain their involvement in the programme.

### Local Government and Municipalities

Local government is usually responsible for zoning and for applying land use and building regulations and, in most cases, the provision of services. Their involvement is crucial for large scale programmes to improve housing conditions for low-income groups. Many local authorities also own land and virtually all will have the main role in providing legal tenure to those living in illegal settlements. Local government also has an important potential role in supporting credit and

technical assistance programmes for low-income households but as Chapter 5 described, in most countries in the South, local authorities lack resources, revenue-raising capacities and technical staff.

Local government could offer an alternative source of support and training to NGOs. In practice, however, they are often under-resourced and have little experience in dealing with local development projects in partnership with low-income communities. Local government structures may be very bureaucratic and place additional obstacles before low-income communities, for example delay in obtaining building permits or in undertaking the paperwork needed for legalizing their tenure.

### National state government

Governments have a particular responsibility in setting the broad framework within which the other actors take part. This includes making it simple for individuals or households to develop their own housing. For governments intent on changing their role from the delivery of housing to support for households and communities developing their own, this requires considerable institutional change. One dilemma is whether to set up new offices for innovative housing programmes or to work through existing government institutions. Although clearly based on a limited number of examples, those programmes that have been set up within new government institutions appear to have had fewer problems than those located within existing state institutions with a more traditional approach to finance and housing provision. In both Mexico and the Philippines, establishing innovative financing processes within existing government departments resulted in the resistance of some government staff and a delay in the implementation of the programme. One experience emerging from the Mutirâo programme in Brazil is that governments should not divide their strategies for meeting land, infrastructure and housing needs.

Governments that seek to support households and communities developing their own housing will usually also have to modify housing standards. The Mexican experience had shown that minimum standards soon became maximum standards for the poor. Within FONHAPO, the concept of minimum standards (for both improvement and newly built housing) was replaced by that of incremental housing improvement. Standards may be introduced for good reasons-for example those concerned with health and safety-but their enforcement usually compounds problems for low-income self-build households. Governments need to find innovative alternatives. For example, within the Sri

Lankan government's Million Houses Programme, urban communities were allowed to propose new standards for development within their residential areas which were then accepted by the government authorities.[15]

The experience of government loan programmes for low-income housing demonstrates that the importance of the external context within which such programmes are implemented should not be underestimated. The importance of government policy on land has already been discussed. Housing loan programmes have also been influenced both directly and indirectly by structural adjustment programmes. Direct impacts include the reduced magnitude of the capital fund available to the programme and reduced expenditure on advisory and technical services. Indirect impacts have been felt as economic recession has made it increasingly difficult for communities to manage credit successfully and afford different housing options. For instance, FONHAPO's achievements described in Box 11.1 were achieved during one of the most severe economic crises in recent Mexican history. Successive cuts in government expenditure reduced the extent of technical assistance offered by FONHAPO. A high level of technical assistance later proved to be a critical element of successful loan programmes.

However, where economic conditions improve, this can also be used to the advantage of low-income groups. In Thailand, one justification used to support a new loan fund for low-income communities was that those who were not landowners had not benefited from rapid economic growth to the extent of landowners and houseowners. Between 1975/6 and 1992, the share of total income received by the highest 10 per cent of income earners increased from 33 per cent to 43 per cent. As a consequence of putting forward arguments such as these, there was increased support for the setting up of an Urban Community Development Office-see Box 11.5.

### Private Sector

Large private companies have generally had a limited role in innovative government programmes providing credit to low-income communities. In general, private contractors have remained outside such programmes. One of the most innovative aspects of FONHAPO was the attempt to make the private sector produce solutions that were acceptable to a social system of production. They achieved this through competitions in which commercial firms bid for tenders to build a certain quality of house at the lowest price. This is also a method used in several countries in the North where government agencies (national or municipal) or social housing institutions put to tender the 'low-price' housing

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BOX 11.5
**The Urban Community Development Office (UCDO) in Thailand**

In March 1992, the Thai government approved a budget of the equivalent of $US50 million to initiate an Urban Poor Development Programme within the Seventh National Economic and Social Development Plan. The approval of this budget led to the establishment of a new organization, the 'Urban Community Development Office' with responsibility for implementing the Programme nationwide. By the end of June 1995, loans totalling some 340 million baht (around $13.6 million) had been approved, benefiting some 140 communities with around 11,500 families. Loans had been made both in Bangkok and in the regional cities. By the end of 1996 the Office aims to have more than 850 'saving and credit organizations' in urban communities and more than 120,000 households belonging to them. It is also intended that at least 80 per cent of the urban poor who are members of 'savings and credit organizations' will have secure jobs and reasonably secure incomes. A considerable range of regional NGOs, federations of community organizations, municipalities and professionals are also involved in these initiatives.

The overall objective of the Programme is to strengthen the capacity of the urban poor and those living in illegal settlements to obtain increased and secure incomes, appropriate housing with secure rights, an improved environment and better living conditions. The people are considered to be the main actors in the community development process. The Office considers that local authorities, NGOs and other agencies external to the community, both governmental and non-governmental, also have an essential role but as supporters of the people's development process. Based on this understanding, there are six main working objectives:

1.  To assist in the setting up of community savings groups and support for the operation of community saving and credit activities.
2.  To support and enhance the managerial and organizational capacity of the saving groups.
3.  To support the formation and development of community savings and credit federations and other forms of community networking.
4.  To provide integrated development credit for communities (including credit for housing construction or improvement and micro-enterprises).
5.  To support community groups in planning for an integrated community development process.
6.  To support those already working in development activities to work together and enhance their working capacity.

The Urban Community Development Office is a special organization within the National Housing Authority, but its Board has the power to make decisions autonomously. The concept of partnership is fundamental to the composition of the Board, which has nine members. Three are drawn from government organizations (the Bank of Thailand, the Finance Ministry and the National Economic and Social Development Board), three are community leaders, two come from NGOs, and the final member is from the private sector. The Governor of the National Housing Authority is the Chair of the Board and the Managing Director of the Development Office acts as Secretary to the Board.

A major aim of the Urban Community Development Office is to strengthen communities' managerial capacity. It seeks to encourage and enable, in all possible ways, different forms of community organisations and federations to be set up and be involved in the Programme. 'Credit' is used as a mechanism to strengthen the capability of communities to collectively deal with their own development issues.

To be eligible for a loan, each community must operate a savings programme, with a clearly defined management structure, for at least three months. Loans can be granted for up to a maximum of ten times the amount saved. All loans are conditional on there being a community management structure and operating mechanism as well as clearly defined beneficiaries and a project development management process. All committee members are required to sign their names as guarantors of the loan. The Development Office considers that the resources it provides should be supplementary to the financial resources of the communities themselves.

Through the careful use of credit, the role of the community as initiator, organizer, planner and manager is enhanced. At every stage, the role of the community as the main actor in the implementation process as well as the main actor in development is reinforced. The credit system and associated management activities seek to gradually change the quality of the community organization to enable it to become a strong development unit able to more effectively deal with forces external to the community as well as becoming a nucleus for an internal integrated development process.

The Programme provides an 'integrated credit system' for community development with different loans available, including those for income generation, small revolving funds and housing. This approach responds to the multiple and related needs of the communities. The Office charges an average rate of 7 per cent interest a year with differential interest being charged on community revolving funds (10 per cent), housing (3 per cent) and micro-enterprise credit (8 per cent). A further 2-5 per cent may be added by communities to provide their organizations with a small fund for collective projects. This enables the savings and credit organization to increase and strengthen its capacity. By mid-1995, around two-thirds of the credits had gone to 15 new housing projects developed by slum community organizations that registered themselves into housing co-operatives and around 20 housing improvement projects. One-fourth had gone to income-generation but since income-generation credits were on average much smaller than credits for housing, there were many more income-generation projects.

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they want and rely on competition between building firms to produce the best-value final product. Smaller informal construction companies have benefited from such programmes because they increase local demand for building materials and building skills.

Non-profit Construction Companies
There are relatively few `social producers' of housing, i.e. non-profit-making organizations able to work with low-income households and communities in establishing their own housing. FONHAPO consciously tried to develop the capacity of certain communities to provide this service but without success. In its experience, it is very difficult to encourage a community which came together for the purpose of building housing, and which successfully completes its own programme, to then become a social developer in other locations. The level and type of organiza-

tion required to support the process of neighbourhood development elsewhere is different, and experience shows that most groups stop once they have developed their own housing; there was only one exception to this in 800 communities receiving loans.

Box 11.6 gives the example of the 'Build-Together' national housing programme in Namibia which is also centred on housing loans and working with and supporting community organizations.

## Looking ahead

This section has concentrated on the recent experience of seven housing finance initiatives in the South. These are only a sample of the innovations and initiatives that have been tried. There are also many initiatives that have sought to increase the efficiency of housing finance institutions so they can reach households that are further down the income scale with non-subsidized housing finance. For instance, Zimbabwe's new National Shelter Strategy pays considerable attention to improving the efficiency and reach of mortgage finance. With high-level backing from central government, it has proved possible to persuade building societies to reduce the cost of housing loans in return for greater access to capital-in this case, tax-exempt bonds with 25 per cent of each issue earmarked for on-lending to 'lower-income groups.[16]

Considering the programmes discussed here, current trends include three separate but related

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BOX 11.6
### 'Build-Together' national housing programme of Namibia

At Independence in March 1991, Namibia inherited a very skewed pattern of settlement development. The homelands policy had restricted the majority of people to small settlement areas within communal lands. The apartheid laws had prevented people from moving freely about the country including to urban areas. In urban areas, much low-income housing was also of poor quality. There were also particular problems with 'single quarters' accommodation that had been constructed for male migrant workers who had been refused permission to bring their families. With the lifting of movement restrictions, many households became established in a space intended to accommodate a single individual. In 1994, it was estimated that the housing need in urban areas was about 37,000 units. Estimates of need in rural areas, where three-quarters of the population live, are difficult to assess accurately.

The Namibian National Housing Policy made a strong commitment to develop an enabling housing process that would provide all households with a serviced site and facilitate access to housing. The government of Namibia has made housing one of its four development priorities following independence and, as such, it is committed to spending 5 per cent of its capital budget on housing. In order to assist low-income households improve their housing, the government launched the Build-Together Programme for those with an income of less than $Nam1,250 a month ($US357). Within urban areas, just under two-thirds of households have incomes below this level.

The government supports households through technical assistance, subsidized credit and encouragement for the communities to follow a structured framework. Within three years, the programme had reached about 3,500 households at a total cost of $US12 million. The programme has also been successful in reaching women-headed households. Two-fifths of Namibian households are headed by women and to date, about 45 per cent of households receiving loans have been headed by women. Land is free in Namibia but people have to pay for the development costs of the land. In the capital city this is very high and many low-income earners cannot afford to get serviced land.

When a community starts a project, they hold a workshop and go through the following five stages:

-identify problems
-agree on problems
-work out solutions to the problems
-select practical options from solutions
-plan for implementation

Housing loans are available in the form of options for different housing needs. Loans range from $Nam1,050-17,500 ($US300-5,000). Families, particularly those of informal workers, are encouraged to take out very small loans. However, people want to take out the biggest loan possible for their income. Loans are given for 20 years at an interest rate of 9 per cent for loans up to $Nam14,000. An additional 1 per cent is charged for every additional $Nam1,000 loaned over $Nam14,000. The current annual market rate of interest is between 14-16 per cent and the inflation rate is 12-13 **per** cent.

A Community Housing Development Group (CHDG) is established in each community interested in participating in the programme. This group is the decision-making body at the community level. To date, Groups have been established in twenty-two towns and villages. The Groups assess the major problems faced by the community and how best to solve them. The Group submits an implementation programme to the Ministry of Regional and Local Government and Housing. The Group receives the individual loan application forms from community members and has to decide whether or not to recommend them for approval. The final decision rests with the Ministry. A new act is being drafted to give more authority to the Groups and to devolve the programme.

To receive the loan each beneficiary opens an individual account in any private bank. Once the loan is agreed, the work programme begins and the central government transfers the progress payment directly to the individual's account. All monies pass through a private bank. Some villages participating in the programme are served by a mobile bank. Technical assistance is provided on request to households from the Directorate of Housing and is available for such tasks as the reblocking of settlements or community installation of infrastructure.

Groups are responsible for checking on the progress of the work and for monitoring repayments. The current repayment rate is 92 per cent. Many of these households have built one-room houses with a toilet for $Nam5,000. If the government builds such a house it would cost $Nam27,000.

Within each settlement, households receiving loans are encouraged to organize themselves into a community-based organization in order to strengthen solidarity within communities and to be able to negotiate with external agencies including the local authorities and Development Groups. This organization may take on responsibility for managing communal services.

Source: Asian Coalition for Housing Rights/Habitat International Coalition, 'Finance and resource mobilization for low income housing and neighbourhood development: a workshop report, Pagtambayayong Foundation, Philippines, 1994; and Ministry of Regional and Local Government and Housing, 'Build-Together, National Housing Programme: Implementation Guidelines', UNDP/UNCHS Project NAM/90/018, 1994.

aspects. The first is a tendency to individualize housing finance with loans being held by the individual household and not the community. In the Philippines, there is now much-increased pressure to individualize community mortgages into individual titles within two years of the start of the credit. In FONHAPO this tendency is also evident. This trend means that none of the benefits to community organization for development can be realized. The second trend is an emphasis on private-sector production, rather than production through local community enterprises. In this, it is sometimes forgotten that community enterprises or non-profit enterprises can themselves use market forces to keep down costs. The third trend is towards reducing the cost of subsidies. In order to achieve this, governments are trying to target subsidies more accurately on the poorest groups. As a consequence, there is a reduction in the scope of such programmes.

In addition to these general trends in housing for low-income communities, innovative government programmes for housing credit have found it difficult to maintain their momentum and continue their development. Experience to date suggests that working within government to establish processes that are favourable to low-income communities and their housing needs is a slow and difficult process. Certainly working within existing government institutions proved difficult for both FONHAPO and the Community Mortgage Programme. Reflecting on FONHAPO and why the programme failed to maintain the successes of the first five years, three reasons may be put forward. First, insufficient attention was given to demonstrating the success of the programme. Although the community organizations were strongly behind it, their support was not mobilized effectively and the potential support of the other groups was not identified, developed and maintained. Second, the process was not sufficiently institutionalized within the organization. Setting up a programme within government inevitably meant working with staff who were not familiar with the processes required to work effectively with low-income communities. And innovative and successful programmes always face the risk of being closed or replaced, when governments change, as they are too strongly associated with the previous regime. Third, the success of a programme can also make it particularly attractive to politicians seeking to strengthen their own power base and this too can bring disadvantages.

## 11.3  NGO Programmes for Financing Housing and Basic Services

### Formal and informal institutions for housing finance

Because of the lack of credit available to low-income households in either the private sector or the government, NGOs began to experiment with housing finance programmes. This section describes some of the characteristics of such programmes including their relationship with formal financial sector institutions, subsidies, risk and repayment and additional support mechanisms.

NGOs who identified the need to intervene in financial markets to provide credit for housing investment have used different strategies in their relationship with formal finance institutions. Some have remained sceptical about the ability of the formal financial sector to address the needs of low-income households and have sought to establish alternative financial institutions. Others have established new financial institutions offering bridging or small-scale finance while encouraging links between the informal and formal financial sectors. Yet others have assisted the integration of low-income housing loans within the formal financial sector. Each of these strategies is described below.

In many cases, NGO experiences start with very small independent revolving loan funds in which households repay funds to a capital fund which then makes the funds available to another household. The revolving loan fund of Catholic Social Services in Karachi, Pakistan is typical of such programmes.[17] The fund has a capital base of $US 150,000 and between 1981-92, it supported 830 households with about one-third of the loans being outstanding at the end of this period. As NGOs have sought to increase the scale of such programmes, some have found that formal sector institutions are unable to respond adequately to low-income groups. The first strategy is concerned with establishing alternative financial institutions. NGOs have therefore obtained donor and/or government support to establish alternative institutions that seek to combine the best of formal and informal sector finance. The founder of the Grameen Bank only set up the Bank, after failing to persuade conventional banks that people with low incomes (especially women) were credit-worthy and would repay loans.[18] Although best known for its credit programme to low-income households (primarily women) for income-generation, the Grameen Bank has also developed a large housing loan programme that is described in Box 11.7.

The second strategy is to develop a credit scheme that provides an alternative lending insti-

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**BOX 11.7**
**Grameen Bank housing loans**

**Although the Grameen Bank's main focus has been on providing credit for income-earning activities to poor rural households, it has also developed a housing loan programme which has been in operation since 1984. Members of the Grameen Bank who are borrowing to finance income-generating activities and who have met loan conditions and are up to date with repayments are also eligible for housing loans. The average loan made in May 1990 was $US298. The annual interest rate is 5 per cent and the period of the loan is about 10 years although borrowers are advised to try to repay more quickly. Up to May 1990, just under 80,000 loans had been disbursed, over 80 per cent to women. This programme is integrated into the Bank's other credit programmes, in which those seeking loans must form themselves into groups of five and several groups then come together to form a Centre. All group members and an elected 'Centre Chief' must approve a loan made to any of their members. The housing loan package includes four reinforced concrete pillars, two bundles of galvanized iron sheets, one sanitary latrine and additional material for the walls and roof. Some of this material is produced by manufacturing units supported by the Bank.**

Source: Anzorena, Jorge (1989-91), reports in *SELAVIP* papers. Some additional information about the Grameen Bank comes from UNCHS (Habitat), IYSH Bulletin Tenth Issue, July 1987.

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tution in the short term but has as its long-term objective the integration into formal-sector housing finance of low-income groups who take part. FUPROVI is a Costa Rican NGO that was established as part of the official development assistance programme of Sweden and its housing loan programme is described in the last section of this chapter. FUPROVI offers preliminary loan finance to households which then transfer their loans to the National Financing System for Housing; this allows FUPROVI to recover their capital and to extend credit to other households.[19]

The third strategy is to facilitate the immediate integration of low-income groups into the formal sector. For instance, NGOs establish loan-guarantee schemes to provide the collateral that low-income households need to obtain credit from formal-sector credit institutions. In such schemes, the NGO takes on the risk of loan default and relies on the formal-sector institution to provide the loan. One example is the Housing and Local Management Unit (EVGL) in Chile that has operated such a guarantee successfully, persuading a commercial bank to commit its own money.[20] Another, working at international level, is Homeless International which is developing a loan guarantee to support housing programmes in the South.[21] Another method of facilitating the integration of low-income groups into the formal sector is shown by the Fundación Carvajal in Colombia which offers training in self-build

techniques and a materials bank with the loans being provided by a formal bank.[22] The case of the Villa El Salvador Self-managed Urban Community (CURVES) illustrates a different kind of support. In this case, credit was received from the formal sector but conditions imposed by this institution became too onerous for the community after an economic crisis in Peru. CURVES helped negotiate a more acceptable solution.[23]

The relationship between any innovative credit scheme and the formal sector clearly depends on the particular strategy chosen. There are no obvious lessons emerging in regard to whether one strategy is more successful than another. Some schemes have successfully managed to integrate low-income groups into the formal sector, others have been less successful. Some attempts to set up alternative institutions have worked, others have not. The necessary conditions for success are dependent on the particular context within which the scheme is operating.

## Subsidies and loan finance

VVhile there appears to be broad agreement among many NGOs and international agencies that subsidized credit should be avoided for micro-enterprise loans, there is less agreement in regard to housing finance.[24] Most NGO housing finance programmes use fixed interest rates. In some cases, these are intentionally subsidized at below market rates. In others, the loan becomes subsidized as inflation levels increase and the real interest rate is not maintained. Within some large NGO credit programmes, housing is treated as a special case with subsidized loans being available for housing investment but not for income-generation activities.

## Additional measures and support

Many innovative credit schemes include a package of additional measures to supplement and enhance the provision of credit. Some are multi-faceted community development programmes within which credit provision has a small part; others are primarily for the provision of credit with some small-scale extra support services being offered.

In the case of programmes where the main focus is on credit provision, the kinds of additional services frequently offered include assistance in obtaining legal tenure, and training in the activities for which credit is being extended or in financial/business management. For example, communities may require assistance in financial management so that they can handle large amounts of money without creating dissension within the community. Households that are using the finance for housing

improvement are likely to benefit from technical advice in materials and methods to use.[25] For example, EVGL in Chile offered technical assistance to improve the quality of housing development.[26] They also set up a materials bank to ensure that households received maximum benefit from the funds by being able to obtain discounted prices by bulk purchase of materials and saving on transport costs.

Some of the more ambitious credit schemes use group development techniques to establish a structure through which borrowing can take place. In many cases, the group also provides a guarantee of repayment. In such cases, it may be several years before credit can be provided. In Bombay, three agencies, SPARC, the National Slum Dwellers' Federation and *Mahila Milan* (a collective of grassroots women's organizations) work together in low-income communities to establish two complementary loan programmes, the first for emergency credit and income-generation loans, and the second for housing investment.[27] The agencies estimate that it takes between three and six months working with a new community to establish the savings programme and associated financial management skills prior to emergency and income-generation loans being operational. Housing loans take significantly longer as a new site needs to be identified and additional sources of finance obtained.

A number of integrated urban community-development programmes have included housing loan components.[28] Such programmes commonly provide infrastructure improvements such as water and sanitation, health services, improved employment opportunities and support for housing improvements such as technical assistance, material banks and/or housing credit. Such programmes can be structured to maximize the benefits to each individual component. For example, housing investment can assist in achieving income generation objectives in several ways:

- training courses can enhance the construction skills of building labourers within the community;

- credit for income-generation can assist such informal sector workers to obtain the tools they need; and

- providing finance directly to households ensures that it will be spent within the immediate community thereby supporting the local economy.

Box 11.8 describes the Toilet Block Project of three agencies working collectively in India, SPARC, the National Slum Dwellers' Federation and *Mahila Milan*. This project is just one component within the comprehensive strategy of these agencies to provide infrastructure, services, improved employment opportunities and housing

to low-income communities. Within the component, multiple objectives have been achieved; in particular, the strengthening of community organization, the provision of sanitation and enhancement of incomes. The promotion of communal toilet blocks was also something that was initially opposed by various international agencies, despite the difficulties identified with individual toilets (see below).

## Risk and repayment

In housing projects (which may include the provision or improvement of infrastructure for individual housing units), there are a number of special characteristics that affect risk and repayment. The large capital cost and slow depreciation of the capital asset mean that repayments are often spread over an extended period. In some housing projects, loan periods are often significantly longer than in loans for income-generating activities. For example, those participating with FLTPROVI and Koperasi Kredit Borromeus repay their housing loans over 15 years.[29] In many other cases, much shorter loan periods are used; for example, Catholic Social Services requires their borrowers to repay the loan in three years.[30] For the household, the shorter the period of repayment the higher the monthly repayments and the smaller the loan which can be afforded. But longer loan periods raise the amount of capital needed by the NGO to reach a given number of people.

A second characteristic is that housing construction or improvement does not usually add directly to household income, although such investments may improve the magnitude and stability of such income. In general, the investment does not generate additional funds to help meet the costs of repayment. For this reason, the requirement that participants save at a rate equivalent to their future repayments for a period before obtaining a loan may be particularly important to ensure that households who cannot afford the repayments do not participate. In many NGO housing loan programmes, loans are only available to households that have successfully completed a savings programme.

A third characteristic is that the money may be invested in a property for which the residents lack legal tenure. In most urban centres, projects which only offer loans to those households with legal tenure of the house site will not reach a high proportion of low-income households. It is common for between 30 and 60 per cent of a city's population (and a much higher proportion of the low income population) to live in illegal settlements.[31] For this reason, the NGO may also need to assist participants in obtaining legal tenure. In several case studies-for instance that of Barrio San Jorge in Argentina described in Chapter 10-the NGO

## BOX 11.8
## The construction of toilet blocks in Bombay

The development of a model communal toilet block began in 1987, when SPARC, the National Slum Dwellers' Federation and Mahila Milan were working with women pavement dwellers to consider how best to provide infrastructure and services within new housing developments. It immediately became apparent that there were a number of problems with the individual household toilets that were included in conventional development plans for low-income communities. The major problems include (1) the size of the houses, which are often too small for toilets to be easily accommodated; (2) sporadic water supply and low pressure compound the problems of ensuring that the toilets are kept clean; (3) The individual toilets are expensive and add 15-20 per cent to the cost of the basic dwelling unit, and houses with individual toilets are more desirable to richer groups, with the result that low-income households are under greater pressure to sell and find alternative accommodation.

The women pavement dwellers argued in favour of communal toilets. Although these had not been successful in previous projects, the women believed that this was because they had been appropriated by powerful individuals within the settlement who charged a fee for use. The women believed that communal toilets would help to develop a sense of community awareness and solidarity. Such solidarity is an invaluable asset in

reducing the vulnerability of low-income households both individually and collectively. As women, they also valued a common washing area within the settlement. In order that the facilities were not over-used, it was estimated that there should be one toilet block for every 20 households and one toilet for every four households. Separate facilities should be provided for men, women and children. Where needed, water stand-pipes and refuse collection points were also provided.

In Bombay, the Municipal Corporation has been much criticized both for a failure to provide and maintain toilet blocks. When SPARC started working in Dharavi, one of the largest informal settlements, there was one toilet for every 800 people. Unable to obtain state funds, SPARC looked elsewhere and obtained assistance from a Northern NGO. The funds were used to construct five blocks and the Corporation agreed to refund the costs once the toilets were completed.

Mahila Milan with SPARC and the National Slum Dwellers' Federation suggested to the Corporation that the communities are best placed to ensure that the toilets were kept clean and functioning. However, in order to ensure a sense of ownership, communities need to be involved in developing and constructing the toilet blocks. SPARC have targeted women construction workers living in the settlements to be involved in working on the model toilet blocks. Experience on the first sites has shown that women can learn the techniques fully after participating in the construction process of three blocks. The skills they learn enable them to obtain a 200

per cent increase in their wages.

Some four to five blocks have been built in Bombay. In each of the locations there is a community organization with membership of the Federation to provide local management for the project. Although progress has been slow because of bureaucracy within the local government offices responsible for approving plans and connections, these model toilet blocks together with those constructed in other cities in India have demonstrated that communities can both build the blocks and can collect contributions (of between 2-5 Rps a month) from members for cleaning and small maintenance costs. There are significant cost savings compared to the private sector. Construction costs in the pilot toilet blocks are only 40 per cent of the cost charged by a private contractor and costs are likely to fall further as production systems become more efficient. More income is also generated by toilet blocks that are on main roads or thoroughfares, from their use by passers-by.

The long-term intended model is that the government will contribute the land and the costs of the construction, and the community will build the structure themselves. In this way they will be involved in the process and will therefore feel a commitment to maintaining it. In January 1995, the Bombay Municipal Corporation agreed to support the scaling-up of this programme to provide a total of 2,000 toilet blocks throughout the city. Similar programmes for these communal toilet blocks are also being developed in Kanpur and Bangalore, among other cities.

is working with the inhabitants to secure the transfer of tenure to the inhabitants.[32] The experience of FUPROVI in Costa Rica is interesting in this respect because the organization offers possibilities to those who cannot achieve legal status. In other cases, the land may be legally owned but the housing design may infringe building regulations. The NGO may have to support the community in negotiations with the city or municipal authorities.

A fourth characteristic occurs in much infrastructure and basic services provision where the investment is, by necessity, provided to the community as a whole. The provision of credit for investment in infrastructure or services which benefit a group of households or community clearly has different characteristics to the provision of credit for individuals. Certain services may be funded through charges made to residents as they use the service-for instance, building-materials stores set up within low-income settlements which obtain wholesale or discount prices through bulk purchase; the materials can be purchased by the inhabitants, as they require them. Other services for which there is a constant demand might also be financed in this way-for example, child-care centres and the collection of garbage. Loans for larger, more capital intensive schemes that depend on regular repayments from most or all inhabitants in a settlement may be more problematic, although there are case studies of settlement-wide piped water supply schemes which have had good records of cost recovery. Certain forms of infrastructure such as roads and site drains can present particular problems in terms of recovering costs from all beneficiaries since their use cannot be denied to those who do not pay. There may be little incentive for individual households to repay once the investment has been made. One possibility, evident in some upgrading schemes, is a regular payment levied on all households to recover costs for an integrated package of infrastructure and service improvements. Although costs per household can be kept down, especially where all inhabitants are

prepared to contribute to the improvements, such integrated schemes for whole settlements or neighbourhoods will still demand relatively large amounts of capital up-front, with repayment having to take place over a number of years. If cost recovery is sought from such integrated schemes-or from the more capital intensive aspects such as piped water systems and sewers-the inhabitants must be fully involved in discussions about what should be done and the cost implications of different options. Consensus reached within low-income settlements as to what should be done and its cost implications for each household are obviously more likely to produce good cost recovery.

## Conclusion

The NGO experience in the last twenty years provided a basis for many of the innovative government programmes described earlier. The weight of experience has been in housing rather than infrastructure provision and it is this aspect that many government programmes have sought to replicate. Such experiences have demonstrated that lack of loan finance for housing is an important factor in increasing household expenditures and delaying house consolidation. As well as demonstrating the need for appropriate housing finance, they have also demonstrated that low-income households are willing and able to repay-and indeed often achieve repayment rates that are much higher than wealthier groups repaying to many commercial banks or housing finance institutions. The household's involvement in loan repayments achieves important development objectives at both a micro- and macro-level. At the micro-level, it enables households and communities to participate directly in the development process and reinforce a sense of self-reliance and independence. Through community-based loan repayment structures, communities are brought together in a forum that enables households to identify and explore the benefits of collective action. At the macro-level, loan programmes enable governments to recover some funds for use by other communities. Few development programmes offer support to more than a small number of households and, if programmes are to be able to respond to the scale of needs, resources need to be allocated efficiently and recycled wherever possible.

## 11.4 International Finance for Housing, Infrastructure and Services[33]

### Introduction

Funding for human settlements projects from development assistance agencies comes from three principal sources. The first (and much the largest) is from multilateral agencies, especially development banks with the World Bank Group being much the largest single source. The second is from the bilateral agencies of donor governments-for instance the bilateral agencies of the US, German, Japanese, French and British governments. The third is from the enormous number and range of international private voluntary organizations such as MISEREOR (Germany), CEBEMO (Netherlands), CARE (the United States), Christian Aid (UK)-and the different Save the Children and OXFAM organizations that exist in different OECD countries. Although total funding-flows from these are much smaller than those from the first two sources, the priority they give to basic services makes them significant in total funding for such services. Arab-funded bilateral and multilateral agencies are also important in total development assistance but less so in funding for human settlements projects.

Before describing the scale and nature of these funding-flows, two points should be noted: first, how in most international agencies, funding for human settlements lacks any coherent framework and second how low a priority funding for human settlements receives.[34] In most agencies, there is no department that provides a coherent framework for funding for human settlements projects, although in some agencies, initiatives are underway to develop these. Few agencies have a special section for `human settlements' or for `urban'. For official projects (that need the approval of the recipient government), funding for human settlements is simply the aggregate of a great range of projects initiated by different ministries or agencies in the recipient government and different sectors or country offices in the donor agencies. However, most fall within two broad categories:

- Funding for the basic infrastructure and services that is central to adequate housing and living conditions and health-water supply, sanitation, drainage, health care and, where needed, solid-waste collection. These are justified in terms of improving housing and living conditions and reducing ill health and premature death.

- Funding for large urban infrastructure projects such as ports, airports, underground or light-rail city transit systems, highways and city electrification, or urban services such as hospitals and centres of higher education in recognition of the importance of urban infrastructure for economic growth.

This overview of funding-flows to housing, infrastructure and services to both rural and urban areas from multilateral banks, bilateral agencies and international Private Voluntary Agencies is organized in four sections. The first looks at fund-

ing to shelter projects and how the scale and nature of this funding has changed since 1980. The second considers funding-flows to the infrastructure and services associated with residential areas; short subsections also consider funding-flows to social funds and to `women in development' projects. The third is funding-flows to urban infrastructure and services. The final section considers what constrains a greater flow of funding to projects that reach lower-income groups with improved housing and basic services.

## Shelter

In recent years, shelter projects and housing finance combined have attracted less than 3 per cent of the commitments of most development assistance agencies. Table 11.1 gives figures for selected multilateral and bilateral agencies. The largest sources of donor-funding for shelter have come from the World Bank Group, the Inter-American Development Bank and US AID's Housing Guaranty Programme. Some bilateral agencies fund projects that seek to reach

low-income groups with improved housing conditions but in general, these receive a very low priority. An OECD estimate suggested that the total commitment to urban housing projects of all the bilateral aid programmes of OECD countries averaged less than $90 million a year between 1986 and 1990;[35] this represents less than one-eighth of the annual average commitments of the World Bank to housing projects and housing finance during these same years. Overall, the proportion of funds allocated to shelter from multilateral and bilateral agencies is declining.

During the period 1980-1993 a few donor agencies provided considerable sums to low-income housing projects in urban areas, most of them in large cities. Perhaps more importantly, most went to projects that differed considerably from conventional public housing. For instance, support was provided for `slum' and `squatter' upgrading schemes that sought to improve conditions within existing low-income settlements by providing or improving water supply, provision for sanitation and drainage and often community facilities. Many such projects also provided

TABLE 11.1 The proportion of aid and non-concessional loan commitments to shelter projects and housing finance, 1980-93

| Agency | Total funding (US$ billion) | Proportion of commitments to SHELTER PROJECTS | HOUSING FINANCE | Proportion of total commitments to shelter projects & housing finance 1980-93 | 1990-91 | 1992-93 |
|---|---|---|---|---|---|---|
| **Aid (concessional loans or grants)** | | | | | | |
| International Development Association | | | | | | |
| Africa | 27.9 | 1.2 | 0.0 | 1.2 | 1.4 | 1.1 |
| ** Asia | 38.6 | 1.3 | 0.0 | 1.3 | 0.1 | 0.0 |
| ** Latin America & Caribbean | 1.9 | 1.4 | 0.0 | 1.4 | 0.0 | 0.0 |
| African Development Bank | 10.2 | 0.4 | 0.0 | 0.4 | 0.0 | 0.0 |
| Asian Development Fund | 14.3 | 0.9 | 0.1 | 1.0 | 0.7 | 0.0 |
| Inter-American Development Bank | 6.5 | 3.4 | 0.0 | 3.4 | 0.0 | 4.4 |
| Caribbean Development Bank | 0.7 | 0.0 | 1.2 | 1.2 | 1.8 | 0.6 |
| Arab Fund for Economic & Social Develt (1980-91) | 4.7 | 1.2 | 0.0 | 1.2* | 0.0 | |
| Overseas Economic Cooperation Fund, Japan (1987-91) | 36.5 | 0.8 | 0.1 | | 0.1 | |
| **Non-concessional loans** | | | | | | |
| International Bank for Reconstruction and Development (IBRD) | | | | | | |
| ** Africa | 29.6 | 2.1 | 1.2 | 3.3 | 0.3 | 11.4 |
| ** Asia | 90.6 | 1.3 | 0.9 | 2.3 | 1.5 | 0.0 |
| ** Latin America & Caribbean | 68.7 | 1.7 | 2.1 | 3.8 | 3.3 | 4.5 |
| African Development Bank | 17.6 | 0.1 | 0.0 | 0.1 | 0.0 | 0.0 |
| Asian Development Bank | 30.9 | 1.2 | 0.0 | 1.2 | 0.0 | 0.0 |
| Inter-American Development Bank | 41.7 | 2.1 | 0.0 | 2.1 | 0.4 | 0.9 |
| Caribbean Development Bank | 0.5 | 0.0 | 1.0 | 1.0 | 0.0 | 0.5 |

**\*1980-91**

**Notes and Sources: Satterthwaite, David, The scale and nature of international donor assistance to housing, basic services and other human-settlements related projects', Paper presented at the UNU/WIDER Conference on 'Human Settlements in the changing global political and economic processes', August 1995. Shelter projects include slum-and squatter-upgrading, serviced-site schemes, core-housing schemes and community-development projects which include housing improvement. These funding-flows only apply to commitments to countries in the South-for instance, they do not include World Bank commitments to East and Southern European nations. The figures are based on analyses drawn from two computer databases. The first contains each agency's total annual commitments to each nation, with total commitments converted into $US at their 1990 value. The second database is an aid project database with details of all human settlement projects or projects with human settlements components.**

secure tenure to the inhabitants whose house or occupation of the land (or both) had previously been considered `illegal'. Although upgrading projects did improve conditions for several million urban households at a relatively low cost, there  were often problems with maintaining the upgraded infrastructure and services. These programmes made up for a lack of investment in the past that should have been made on a continuous basis by local authorities and while they improved conditions considerably, rarely did they also increase the capacity of local authorities and citizen groups to maintain them.[36]

Site and service projects provided cheaper units than public housing units by providing only a house site within a residential subdivision with roads, often electricity and some provision for water supply (and sometimes provision for sanitation). The construction of the shelter was left to the households who received the plot. The hope was that unit costs would come down to the point where these could be provided to relatively low-income households who could pay their full costs. Core housing schemes included a one room `core' as well.

Donor agencies faced many difficulties with serviced-site schemes. Under pressure to reduce unit costs, recipient governments often developed them on cheap land sites that were in locations too distant from employment sources to suit poorer households. And governments rarely took these up as a form of housing intervention that was implemented on a large enough scale to have much impact.[37]  While the particular projects could reduce unit costs by being exempt from zoning and land use regulations, few efforts were made to change these regulations as they affected all other sites.[38] In addition, the fact that many serviced-site projects obtained government land at below market prices also meant they were not easily replicable.[39] The priority given to such projects by the few agencies that had funded them declined-for instance, most of the World Bank and US AID commitments to serviced site projects  were made between 1975 and 1985. Both upgrading projects and serviced site projects also `projectized' city problems when more fundamental reforms were needed-for instance in changing building codes, improving the availability of housing finance and reforming city and municipal government to address all the weaknesses noted in Chapter 5.[40]

One of the first responses by the agencies involved in supporting shelter was to channel funding to support housing finance-in recognition of how many countries lacked an efficient housing finance system. For instance, between 1980 and 1993, the World Bank Group made commitments totalling $6.5 billion to shelter: two-fifths  went to support housing finance

with around 30 per cent to slum- and squatter-upgrading, serviced sites and core-housing projects; most of the rest went to what can be termed `integrated community development' projects that contained too many components to be classified as `shelter' or `water and sanitation.'[41] This contrasts with the period 1972-84 when housing finance received very little support and most funding for shelter was for projects, i.e. for upgrading slums or squatter settlements, serviced sites or low-cost housing. The average size of loans also increased considerably, and an increasing proportion of loans went to middle income groups.[42]

However, in the longer term, within the World Bank Group there was a third shift to `housing policy development' that sought to address some of the city-wide structural constraints that had limited the impact of `projects'. In this third shift, the aim of loans is to improve the performance of the housing sector as a whole-see Box 11.9. It appears that the Bank, in general, is giving less priority to shelter in recent years; total commitments in 1991 and 1993 were among the lowest since 1980 and no commitment to housing finance was made in 1993. A recent sector report stated that upgrading projects will remain a critical component of Bank lending in the future.[43]

This new emphasis locates support for shelter within the broader macro-economic framework and includes within it explicit goals for improving macro-economic performance as well as improving housing conditions.[44] It couches support for housing within a broader framework of `enabling markets to work'.[45] This evolution in the World Bank's housing policies is consistent with broader changes of thinking about development within and outside the Bank.[46]

Changes within US AID also reflect broader changes in thinking. US AID's Housing Guaranty Programme made much fewer loan commitments to shelter in the years 1989-93 compared to the period 1980-88. Loan commitments to shelter projects made between 1980 and 1993 totalled close to $1.8 billion. However, this Programme has, in recent years, given increasing importance to finance for environmental infrastructure and improved municipal management as will be described below.

The Inter-American Development Bank was the first multilateral agency to have a major programme to fund shelter projects. This dates back to the 1960s and the Alliance for Progress during which a considerable number of housing projects were funded in both rural and urban areas. During the 1980s and early 1990s, the emphasis changed away from `shelter' projects to projects to improve shelter-related infrastructure and services. During the period 1980-93, loans to shelter projects totalled some $1.1 billion, three-fifths of them for

## BOX 11.9
## Changes in the World Bank's housing policy: 1970s to 1990s

### Objectives

**1970s:** Implement projects to achieve affordable land and housing for the poor; achieve cost recovery, create conditions for large-scale replicability of projects

**1980s:** Create self-supporting financial intermediaries capable of making long-term mortgage loans to low- and moderate-income households; reduce and restructure housing subsidies

**1990s:** Create a well-functioning housing sector that serves the needs of consumers, producers, financiers and local and central governments; and that enhances economic development, alleviates poverty and supports a sustainable environment

### Role of Government

**1970s:** Emphasis on direct provision by government of land, housing and finance to facilitate progressive development of housing conditions by project beneficiaries

**1980s:** Emphasis on provision of housing finance, mainly by public institutions, and rationalization of housing subsidies (reduction, improved targeting and shift from financial to fiscal)

**1990s:** Adoption by government agencies with policy-making co-ordination and regulatory responsibilities of an enabling role, to facilitate the provision of land and housing by the private sector; and improved co-ordination of sector and macro-economic policy

### Policy and Lending Instruments

**1970s:** Sites and services demonstration projects emphasizing affordable housing and infrastructure standards, tenure security and internal cross-subsidies

**1980s:** Housing finance projects emphasizing interest-rate reform (to enhance resource mobilization and improve mortgage-instrument design); subsidy design and improved institutional financial performance of public agencies involved in direct provision of land, infrastructure and housing

**1990s:** Integrated array of policy and lending instruments to stimulate demand (property-rights development, housing finance, and targeted subsidies); facilitate supply (infrastructure provision, regulatory reform; and building industry organization); and manage the housing sector as a whole (institutional reform and co-ordination with macro-economic policy).

Source: Mayo, Stephen K. and Shlonno Angel, Enabling Housing Markets to Work, A World Bank Policy Paper, The World Bank, Washington DC, 1993.

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integrated community-development projects and most of the rest for serviced sites or upgrading. Nearly two-thirds of this was committed in the years 1986, 1987 and 1989 and annual commitments since then have fallen off.

The low priority given by other multilateral agencies to shelter-related projects is evident in Table 11.1. The Asian Development Bank has given a very low priority to shelter and made no commitments to shelter projects during 1992 and 1993.

Among other bilateral programmes, many examples can be cited of shelter projects that received bilateral support, especially where official bilateral aid was channelled through international private voluntary organizations such as SELAVIP, MISEREOR and Homeless International. However, shelter has never been a priority of any bilateral agency except the US AID Housing Guaranty Programme. This is borne out by an analysis of who co-financed projects with the World Bank and the regional development banks which found less interest among bilateral agencies on co-financing shelter projects than co-financing urban infrastructure and services.[47] The shelter programme of the Swedish International Development Cooperation Agency (SIDA) in Latin America, and the United Kingdom Overseas Development Administration's expanded support to India for slum- and squatter-improvement programmes are two examples of shelter projects that received direct bilateral support. Among other bilateral agencies, the German technical co-operation agency GTZ has a long established and varied programme of support for shelter projects, targeted at poorer groups. Swiss Development Cooperation has also supported some urban shelter projects including -squatter-upgrading in Douala and social housing in Bujumbura. FINNIDA has provided support for the preparation of national shelter strategies in six countries, in co-operation with UNCHS.

Many international Private Voluntary Organizations allocate a higher priority to shelter projects or community-based housing finance schemes than official agencies. Although their contribution within total aid flow is not very large-an estimate for 1991 suggested a total aid flow of $US5.2 billion compared to official development assistance of $55.8 billion[48]-they have financed many innovative projects and have also developed new ways of reaching low-income groups and working in partnership with local community organizations and NGOs.

## Infrastructure and services for shelter

When analysing international donor **flows** to infrastructure and services for shelter, the decision was made to include not only funding to water supply, sanitation and drainage but also to two other kinds of projects that are not normally associated with housing: primary health-care centres including dispensaries, health centres and initiatives to control infectious or parasitic diseases; and primary schools and other educational programmes aimed at literacy or primary education. Although health care and education investments are not under the control of housing or public works ministries or agencies-and in many

countries, these are the direct responsibility of ministries of health and education-these are among the most important interventions to improve living conditions and among the most important in reducing disease, disablement and premature death within shelters and the residential areas in which they are located. Primary health-care centres and literacy are central to improving health and controlling disease within villages and urban residential areas.

The infrastructure and services associated with housing and residential areas receive a higher priority from both multilateral and bilateral agencies than housing itself or housing finance. In some agencies, these do receive a high priority (see Table 11.2). This table also shows the noticeable increase in the priority given to such infrastructure and services in the early 1990s.

The World Bank is much the largest donor for this group of projects both in terms of aid (through its concessional loans) and in terms of non-concessional loans. Around $22 billion was committed to the infrastructure and services associated with shelter between 1980 and 1993, most of it to urban areas. Close to half went to water supply, sanitation and drainage with around a quarter to primary health care and just over a

fifth to basic education and literacy. Virtually all the rest went to social funds or social employment schemes that are described in a later section. For the non-concessional loans, three-fifths of commitments during these fourteen years were for water and sanitation with close to a fifth for primary health care and for primary or basic education. Thus, while the scale of the World Bank's commitments specifically to shelter have declined, the scale of the commitments to interventions that are central to improving housing and living conditions and providing services that every village or urban settlement needs (primary health care and schools) has increased considerably.

Among the other multilateral agencies, the Inter-American Development Bank with loan commitments of $4.4 billion in these fourteen years is the largest donor; Table 11.2 also shows the high priority that this Bank gave to shelter-related infrastructure and services in recent years. The Asian Development Bank generally gives a low priority to these kinds of projects although as Table 11.2 shows, these received an unusually high proportion of total commitments for soft loans for 1992 and 1993. Just over half were for water supply and sanitation. The African

TABLE 11.2 The proportion of aid and non-concessional loan commitments to shelter-related infrastructure and basic services, 1980-93.

| Agency | Total funding (US$ billion) | Proportion of total project commitments | | | | Percent of total commitments | | |
|---|---|---|---|---|---|---|---|---|
| | | WATER AND SANITATION | PRIMARY HEALTH CARE | BASIC EDUCN | POVERTY REDN & JOBS | 1980-93 | 1990-91 | 1992-93 |
| **Aid (concessional loans or grants)** | | | | | | | | |
| International Development Association | | | | | | | | |
| ** Africa | 27.9 | 3.6 | 2.7 | 4.3 | 1.9 | 12.7 | 20.0 | 15.3 |
| ** Asia | 38.6 | 5.5 | 5.3 | 2.7 | 1.4 | 15.0 | 22.1 | 36.2 |
| ** Latin America & Caribbean | 1.9 | 3.8 | 3.5 | 1.8 | 7.6 | 16.8 | 41.1 | 11.8 |
| African Development Bank | 10.2 | 7.3 | 2.7 | 4.3 | 1.3 | 15.7 | 15.8 | 15.3 |
| Asian Development Fund | 14.3 | 4.4 | 1.6 | 1.7 | 0.3 | 7.9 | 7.7 | 22.6 |
| Inter-American Development Bank | 6.5 | 18.0 | 1.4 | 3.1 | 1.3 | 29.6 | 28.0 | 37.8 |
| Caribbean Development Bank | 0.7 | 4.1 | — | — | 0.5 | 4.9 | 3.1 | 2.2 |
| UNICEF | 6.6 | 13.7 | 33.5 | 7.9 | — | 55.1 | 57.4 | 47.9 |
| Overseas Economic Cooperation Fund, Japan (1987-91) | 36.5 | 3.8 | — | 0.4 | — | 4.5 | 3.7 | |
| **Non-concessional loans** | | | | | | | | |
| International Bank for Reconstruction and Development (IBRD) | | | | | | | | |
| ** Africa | 29.6 | 8.0 | 1.2 | 0.9 | 0.1 | 10.4 | 12.3 | 12.9 |
| ** Asia | 90.6 | 3.3 | 0.9 | 0.9 | 0.04 | 5.1 | 7.9 | 6.6 |
| ** Latin America & Caribbean | 68.7 | 5.1 | 1.6 | 2.1 | 0.0 | 8.9 | 12.2 | 11.1 |
| African Development Bank | 17.6 | 9.0 | 0.4 | 1.6 | 0.4 | 11.5 | 13.5 | 14.5 |
| Asian Development Bank | 30.9 | 4.5 | 1.0 | — | — | 5.6 | 1.3 | 0.7 |
| Inter-American Development Bank | 41.7 | 6.3 | 0.3 | 0.3 | 0.6 | 7.5 | 13.0 | 17.3 |
| Caribbean Development Bank | 0.5 | 6.7 | 0.0 | 0.0 | 0.0 | 6.7 | 8.5 | 0.0 |

Notes and Sources: Satterthwaite, David, The scale and nature of international donor assistance to housing, basic services and other human-settlements related projects', Paper presented at the UNU/WIDER Conference on'Human Settlements in the changing global political and economic processes', Helsinki, 1995. Water and sanitation are part of Primary Health Care so the column headed Primary Health Care includes all its components other than water and sanitation. Basic education is taken to include primary education, literacy programmes and basic education programmes. UNICEF figures are for disbursements, not commitments so they are not directly comparable; they are included here to give an idea of the scale and relative importance of UNICEF funding in this project category. The disbursements for basic health care include support for child health and nutrition and for child and family basic health services. The funding totals noted above including funding for both rural and urban projects. For the totals reported here for water supply, sanitation and drainage, these only included projects whose main focus was delivering or improving these for residential areas. City-wide investments in improved drainage and investments in water supplies whose main focus was not improving supplies to residential areas are included in Table 11.4. These funding-flows do not include commitments to East and Southern European nations.

Development Bank Group has, historically, given a relatively high priority to water supply and sanitation and it continues to do so. This bank allocated close to $4 billion to shelter-related infrastructure and services with most going to water and sanitation. However, in recent years, primary health care, primary or basic education and social funds have received more support and the proportion to water and sanitation has declined. The priority given to basic education has also increased in recent years.

UNICEF disbursements to shelter-related infrastructure and services totalled over $4.5 billion during these fourteen years, three-fifths of the support going to primary/basic health care services (including support for child health and nutrition and for community or family basic health services). This makes it the second largest multilateral aid programme to projects in this category, despite the fact that UNICEF's total annual funding commitments appear small relative to most multilateral and bilateral agencies.

Among all the largest multilateral banks (the World Bank, the African, Asian and Inter-American Development Bank), non-concessional loans represent a larger source of funding for shelter related infrastructure and services and most of these loan commitments are with countries with relatively high per capita incomes and most such support goes to urban projects.

When viewing trends in the support given to these kinds of projects by the different agencies listed in Table 11.2, in general, they received a higher priority when comparing the years 1990-1 and 1992-3 to the average for 1980-93. This is the case for the World Bank for all three regions (Africa, Asia, Latin America and the Caribbean) and for the Inter-American and African Development Banks.

There were also some notable changes in priority among the different kinds of project within this category. Within the World Bank, the most noticeable change is the higher priority given to primary health care and to primary or basic education. The World Bank had become the single most important source of funding for primary health care worldwide. The increased funding to primary health care was particularly noticeable in Asia. The change in priority to primary and basic education is comparable with total commitments being especially high for the years 1988-93; for each year from 1991 to 1993, annual commitments exceeded $650 million. The increased priority to primary and basic education was particularly noticeable in Latin America.

It is much more difficult to provide a comprehensive overview of the commitment of bilateral agencies to human settlements projects. Unlike the multilateral agencies, few publish details of all the projects they fund with enough detail to allow an analysis comparable to that provided above for the agencies listed in Table 11.2. [49] The most up-to-date figures available for the bilateral agencies' priorities in this area are shown in Table 11.3. They are reported under a category termed `social and administrative infrastructure' under which health and population, education, planning and public administration and water supply and `other' fall. This is the category used by the OECD Development Assistance Committee to report on funding flows from the bilateral aid programmes of OECD countries and no more detailed statistics are available that allow comparisons between these bilateral agencies. These statistics show a low priority to water and sanitation, and to health and population. Water supply did not receive much more; the average for water supply and `other' was 4.9 per cent with ten of the nineteen bilateral programmes giving less than 5 per cent. Education receives a higher priority but in most bilateral programmes, this does not reflect a priority to basic education since most bilateral assistance to education goes to support scholarships for students from the South to study in the higher education institutions in the donor country. As such, most of the donor assistance to education remains in the donor country.

In recent years, several bilateral and multilateral agencies have shown a greater interest in urban poverty, even if this had not yet become apparent in the latest statistics showing their sectoral priorities. For instance, the Dutch Government's bilateral aid programme has a new programme on urban poverty while the United Nations Development Program launched a new funding initiative in 1992 to support local initiatives to improve the urban environment-see Box 11.10.

Overall, the scale of funding that has gone into water, sanitation and health care has been well below what is needed to achieve the ambitious goals set by the International Drinking Water Supply and Sanitation Decade and the World Health Organization's `Health for All'. For the Decade, the primary goal was to ensure full access to water supply and sanitation to all inhabitants of the South by 1990;[50] Chapter 8 described how large the shortfall remains in the early 1990s. There were also important lessons learned during the 1980s about how difficult it is to improve water supply and sanitation provision where local authorities remain weak and where the institutional structure to maintain new investments is simply not there. One review of the Decade's performance suggested too much attention to the `hardware', i.e. the capital equipment and too little to the 'software'-the institutional structure

**TABLE 11.3 The priority given by bilateral aid programmes to different project categories within 'social and administrative infrastructure' in 1991**

| Countries | The % of official development assistance to | | | | |
| --- | --- | --- | --- | --- | --- |
| | Educ-ation | Health & Popn. | Planning & public Admin. | Water Supply & other | Total for social and administrative infrastructure |
| Australia | 30.1 | 1.1 | 4.8 | 7.9 | 43.9 |
| Austria | 22.3 | 0.6 | 0.2 | 5.4 | 28.5 |
| Belgium | 14.9 | 12.6 | 3.8 | 1.6 | 32.9 |
| Canada | 7.1 | 1.8 | 0.5 | 4.9 | 14.3 |
| Denmark | 9.4 | 11.9 | 0.4 | 17.9 | 39.6 |
| Finland | 4.9 | 1.2 | 2.7 | 11.1 | 19.9 |
| France | 22.5 | 3.2 | 2.4 | 3.8 | 31.9 |
| Germany | 12.9 | 1.6 | 2.4 | 7.8 | 24.7 |
| Ireland | 21.3 | 6.2 | 5.1 | 3.7 | 36.3 |
| Italy | 6.6 | 4.4 | 0.7 | 8.4 | 20.1 |
| Japan | 6.3 | 1.6 | 0.4 | 3.9 | 12.2 |
| Netherlands | 12.3 | 2.0 | 2.8 | 8.3 | 25.4 |
| New Zealand | 41.3 | 2.5 | 5.3 | 2.3 | 51.4 |
| Norway | 5.0 | 2.2 | 1.1 | 3.3 | 11.6 |
| Spain | 5.0 | 1.5 | 1.1 | 4.4 | 12.0 |
| Sweden | 9.1 | 8.8 | 2.8 | 5.4 | 26.1 |
| Switzerland | 6.4 | 3.6 | 0.2 | 4.5 | 14.7 |
| United Kingdom | 12.6 | 2.7 | 3.3 | 5.4 | 24.0 |
| USA | 2.8 | 4.4 | 4.4 | 3.6 | 15.2 |
| Total DAC | 8.7 | 3.2 | 2.4 | 4.9 | 19.2 |

Source: OECD Development Assistance. Committee, Development Cooperation 1993 Efforts and Policies of the Members of the Development Assistance Committee, Paris, 1994, table 26, pp. 190-1.

that must operate to ensure efficient operation and maintenance-whether by a public authority, a private company or a community organiza-tion.[51] But here, perhaps the most important rea-son is the low priority given by governments in the South to water supply and sanitation. An analysis of who funded capital investments in water supply and sanitation based on a sample of countries found that the total contributions from international funding agencies were comparable to those of governments both for new systems and for rehabilitating existing ones and both in water supply and sanitation.[52] Here, donor agen-cies' priorities to water supply and sanitation is likely to have increased, if recipient governments had given these a higher priority in their negotia-tions for development assistance.

Most international private voluntary organiza-tions give a higher priority to water supply, sani-tation,  health care and basic education than official development assistance agencies.  Most have been oriented to rural settlements although in recent years, an increasing number of these organizations have increased the scale and scope of their work in low-income urban settlements, especially illegal and informal settlements.

### Social funds

A new kind of project or programme became increasingly important in the last ten years at the World Bank and in certain other multilateral

and bilateral agencies: social-action programmes targeted at poorer groups, most of them aimed at protecting poorer groups who would otherwise be adversely affected by structural adjustment programmes. These include donor support for Social  Funds (sometimes called Social and Economic Funds) and employment programmes targeted at poorer groups. These usually seek to combine support for a wide range of social pro-jects (for instance health care centres, schools) with employment generation. The World Bank is the single largest contributor to these funds; these only began to receive support in the second half of the 1980s but by 1990 they had become a regular and significant part of commitments; total commitments exceeded $200 million in 1991 and 1992 and exceeding $570 million in 1993.[53] Most commitments have been to African countries although in 1993, three Latin American countries also received loan com-

mitments for this (Guatemala, Nicaragua and Bolivia). Commitments from the Inter-American Development Bank to social funds totalled over $300 million; most were non-concessional loans and also made in recent years.

### Women in development

Another important innovation in many bilateral and some multilateral programmes is a greater attention to the needs and priorities of women in development. A greater understanding of women's needs may be one reason for the increased priority given by several agencies to primary health care since in societies where most or the responsibility for child-rearing and caring for the sick falls to women, effective, easily accessible health care is one of women's most immediate practical needs.

Certain agencies also seek to better meet women's strategic needs, i.e. to lessen the discrimination against women in terms of access to employment, credit and land ownership.[54] One example is employment and credit programmes targeted at women to increase their income-earning opportunities. In some social fund and emergency employment programmes, special attempts are made to ensure that women's practical and strategic needs are met. However, the strength of donor agencies' commitment to women in development cannot be measured by the proportion of funding allocated to women's programmes. A more fundamental realignment is to ensure that all projects consider whether they make sufficient provision for women's needs-as is now done in the Netherlands' aid programme. The Swedish International Development Cooperation Agency (SIDA) has sought to ensure that women's practical and strategic needs are met in all its aid projects, with both its staff and the staff of agencies who work with them undergoing training in gender awareness and with gender-programme officers now working in SIDAs development co-operation offices.[55]

NORAD and the UK Overseas Development Administration are also among the bilateral agencies which seek to give due attention to women's practical and strategic needs in their aid programmes and both have supported training in gender awareness for their staff. In 1991, an estimated 12 per cent of Norway's total bilateral development assistance went to measures `where women were defined as a target group and where women participated actively in the planning of projects'.[56] However, a recent paper which discussed how to integrate the gender variable into urban development noted the need not only for more gender awareness from professionals but also for more consultation with women at all levels in the formulation and implementation of development interventions and for

more attention within capacity building to ensuring that women and men have equal representation on the staff of institutions and equal access to the services, resources and technical assistance that they provide.[57]

## Urban infrastructure and services

Many of the agencies listed in Table 11.4 have increased the priority they give to urban infrastructure and services other than that directly related to shelter. Table 11.4 also includes commitments made to urban management and to integrated urban development projects that combine investments in different kinds of urban infrastructure and services, often in more than one city, and often include components to train local government staff and strengthen local institutions. Many integrated urban development projects are in cities that have been badly hit by a natural disaster and the project is to help rebuild or repair the damage.

Among the multilateral agencies listed, the World Bank remains much the largest source of development assistance to urban infrastructure and services with commitments totalling close to $27 billion between 1980 and 1993. Urban services such as secondary and higher education and hospitals received around two-fifths of the funding with a third to urban infrastructure, 18 per cent to integrated urban development and 7.5 per cent to improving urban management. The trend over these fourteen years has been a shift away from large infrastructure projects to support for secondary and higher education, strengthening the capacity and competence of city or municipal authorities in urban management and integrated urban development.

The World Bank has also been giving a greater priority to pollution control in urban areas in recent years. Although loan commitments were made before 1990-indeed, a loan commitment to Sao Paulo to help control river pollution is recorded in the Bank's 1971 Annual Report-it is only since 1990 that one or two projects received funding each year. In 1993, three projects received support with commitments totalling more than $700 million.

The Inter-American Development Bank made commitments totalling $4.2 billion during these fourteen years. Commitments were almost evenly divided between urban infrastructure (especially urban electrification and city water supply schemes[58]), urban services (especially secondary and higher education and hospitals) and integrated urban development projects. The priority given to health and to secondary and tertiary education has grown in recent years, while that given to integrated urban development has diminished.

TABLE 11.4 The proportion of aid and non-concessional loan commitments to urban infrastructure, urban services and urban management, 1980-93

| Agency | Total funding (US$ bill. | Proportion of total project commitments | | | | | Per cent of total commitments | | |
|---|---|---|---|---|---|---|---|---|---|
| | | URBAN INFRA-STRUCTURE | COLLEGES AND HOSPITALS | PUBLIC TRANS-PORT | URBAN MANAGEMENT INTEGD. URBAN | DEVELT. | 1980-93 | 1990-91 | 1992-93 |
| **Aid (concessional loans or grants)** | | | | | | | | | |
| International Development Association | | | | | | | | | |
| ** Africa | 27.9 | 1.8 | 4.4 | 0.0 | 2.6 | | 8.8 | 10.0 | 11.3 |
| ** Asia | 38.6 | 1.1 | 5.3 | 0.3 | 3.6 | | 10.3 | 16.1 | 12.4 |
| ** Latin America & Caribbean | 1.9 | 4.0 | 0.0 | 0.0 | 2.7 | | 6.5 | 0.0 | 0.0 |
| African Development Bank | 10.2 | 3.5 | 9.1 | 0.0 | 0.5 | | 13.1 | 14.7 | 14.7 |
| Asian Development Fund | 14.3 | 2.7 | 6.2 | 0.0 | 2.8 | | 11.8 | 12.9 | 17.7 |
| Inter-American Development Bank | 6.5 | 2.9 | 8.0 | 0.0 | 6.0 | | 16.9 | 8.3 | 7.1 |
| Caribbean Development Bank | 0.7 | 4.4 | 2.6 | 0.0 | 6.3 | | 14.3 | 8.2 | 15.4 |
| Arab Fund for Economic & Social Develt | 4.7 | 9.1 | 2.3 | 0.0 | 0.5 | | 11.8 | 7.6 | |
| Overseas Economic Cooperation Fund, Japan (1987-91) | 36.5 | 6.6 | 1.4 | 2.4 | 2.2 | | n.a. | 20.1 | |
| **Non-concessional loans** | | | | | | | | | |
| International Bank for Reconstruction and Development (IBRD) | | | | | | | | | |
| ** Africa | 29.6 | 4.0 | 3.8 | 0.1 | 3.4 | | 11.3 | 15.4 | 15.3 |
| ** Asia | 90.6 | 3.9 | 3.2 | 0.2 | 3.0 | | 10.3 | 16.6 | 14.9 |
| ** Latin America & Caribbean | 68.7 | 4.0 | 1.4 | 1.5 | 3.9 | | 10.8 | 5.8 | 16.8 |
| African Development Bank | 17.6 | 4.4 | 3.6 | 0.1 | 0.1 | | 8.2 | 3.4 | 9.1 |
| Asian Development Bank | 30.9 | 6.9 | 4.4 | 0.0 | 3.4 | | 14.8 | 18.4 | 16.1 |
| Inter-American Development Bank | 41.7 | 2.5 | 1.7 | 0.0 | 3.1 | | 7.4 | 4.2 | 3.3 |
| Caribbean Development Bank | 0.5 | 13.0 | 0.2 | 0.0 | 5.0 | | 18.6 | 20.4 | 3.8 |

Notes and Sources: Satterthwaite, David, 'The scale and nature of international donor assistance to housing, basic services and other human-settlements related projects', Paper presented at the UNU/WIDER Conference on'Human Settlements in the changing global political and economic processes', Helsinki, 1995: Urban infrastructure includes ports, airports, urban electricity and water supply projects that were not included in Table 11.2. Urban electricity includes all projects with major electrification components in urban areas and/or electricity generating facilities directly linked to improving the service in a city or group of cities; it does not include general investments in power or in national or regional grids. Funding for colleges and hospitals do not include support for primary education, literacy programmes and primary health care which were included in Table 11.2. Public transport includes buses, intracity and commuter-line railways and subways. Funding for urban management includes projects or programmes whose main focus was urban cadastral surveys, institution building, training or research at city/municipal level, urban government finance, urban planning and urban traffic management. Integrated urban development: when a multi-sectoral or multipurpose project has components which come under four or more of the other categories listed in this table or table 11.2, it is categorized as an 'integrated urban development' project. The category on urban management and integrated urban development also includes funding for urban markets and industrial estates, city-wide investments in solid-waste collection and management and in pollution control and in urban gas supplies. Aid and non-concessional loan commitments to each of these can be disaggregated separately, but space does not permit this in this report. The database on which this table is based also records commitments to intra-urban roads and bridges and to building material industries although these too are not reported here.

The Asian Development Bank made commitments totalling $6.4 billion between 1980 and 1993. just over two-fifths went to urban infrastructure (mainly ports and urban electrification) with just under two-fifths to urban services (mainly secondary and higher education) and 20 per cent to integrated urban development. The Bank also made its first loan for a comprehensive urban environmental improvement project in 1992-to Qingdao in China. The African Development Bank Group committed about $2.9 billion during these fourteen years. Most went to secondary and higher education, hospitals and city electrification.

US AID's Office of Housing and Urban Programs made large commitments to urban infrastructure, especially water and sanitation, during the period 1990-3. For instance, during 1992-3, over $400 million was authorized for various initiatives to support private sector or municipal investments in water, sanitation and other forms of urban environmental infrastructure. In 1994, this Office became a unit within a new Environment Centre that US AID has set up to provide technical and programmatic leadership and support to itself (including its field missions) and its `domestic and international development partners on global and sustainable development environmental problems'.[59] The Office of Housing and Urban Programs has been renamed as the `Office of Environment and Urban Programs'.[60]

The data available on other bilateral agencies was too incomplete to permit a detailed analysis of funding to urban infrastructure and services. One source of information about bilateral aid to urban development comes from the Development Assistance Committee of the OECD which drew from their own database to come up with figures on the scale of support from bilateral agencies to urban development. Their calculations are based on a more aggregated set of project categories over a more limited time period and their findings are presented in Table 11.5. These figures suggest that multilateral donors are far more significant sources of funding for urban infrastructure and services than bilateral donors.

BOX 11.11
**Examples of project loans made
in 1993 by the World Bank for
the control of pollution**

China: $250 million committed to the Southern Jiangsu
Environmental Protection Project that will focus on
cost-effective water-pollution control investments in urban
and industrial projects. It will also strengthen the
institutional, regulatory and environmental management
capabilities of local agencies. Southern Jiangsu region is
one of China's most industrialized areas.

Mexico: $220 million committed to the Transport Air
Quality Management Project for Mexico City Metropolitan
Area. This is the government's programme to reduce
pollution in Mexico City that is being supported by technical
and financial assistance in developing low-emission
vehicles and in the conversion or replacement of old
high-use vehicles. It will also help finance the installation of
vapour-recovery systems at gas stations.

Brazil: $245 million committed to the Sao Paulo
Water-Quality and Pollution-Control Project. This seeks to
implement a cost-effective approach to controlling water
pollution in two of the most congested and polluted
metropolitan areas of the country. This will be achieved
through the creation of two urban water-basin authorities-
for the Guarapiranga river near Sao Paulo and for the upper
Iguacu river in Curitiba-and the financing of water pollu-
tion-control investments.

**Sources: The World Bank, Annual Report 1993, Washington DC, 1993;
Monthly Operational Summary of Bank and IDA Proposed Projects, IBRD, 4
January, 1993**

TABLE 11.5 Bilateral agencies' official development finance commitments for
urban development by purpose,  1986-1990 ($US million constant-1990 value)

|  | 86 | 87 | 88 | 89 | 90 | ALL |
|---|---|---|---|---|---|---|
| Urban development | 93.9 | 33.3 | 66.6 | 31.7 | 26.0 | 251.5 |
| Housing | 52.7 | 74.4 | 73.0 | 168.6 | 62.0 | 430.7 |
| Water and waste management | 617.2 | 741.5 | 1,195.4 | 998.5 | 917.0 | 4,469.5 |
| Transport | 72.1 | 138.8 | 120.3 | 457.9 | 540.0 | 1,329.0 |
| Gas distribution | 38.9 | 0.0 | 576.7 | 68.5 | 1.0 | 685.1 |
| Electricitydistribution | 175.2 | 570.5 | 522.0 | 984.2 | 397.0 | 2,648.9 |
| Pollution control | 0.0 | 0.0 | 0.0 | 0.0 | 5.0 | 5.0 |
| Harbours/docks/ airports | 478.6 | 652.7 | 629.4 | 716.4 | 334.0 | 2,811.1 |
| Health | 95.0 | 108.8 | 165.4 | 191.1 | 100.0 | 660.3 |
| Cultural activities | 35.5 | 93.2 | 68.7 | 35.8 | 21.0 | 254.2 |
| TOTAL | 1,659.1 | 2,413.1 | 3,417.5 | 3,652.6 | 2,403.0 | 13,545.3 |

**Note: The figures in this table differ from the original for two reasons.  First, all totals have been
converted to $US at their  1990 value. Second, support for telecommunications  has been excluded.[61]**

**Source: OECD Development Co-operation Directorate,   Urban Development Donor Roles and
Responsibilities Issues Paper, note by the secretariat, Paris, 1992.**

## Constraints on increased development assistance to human settlements

Various factors constrain a greater priority to
human settlements from donor agencies. One.
reason is simply that recipient governments
and/or development assistance agencies do not
view human settlements projects as a priority or
they equate `human settlements' with `urban' and
choose to give a low priority to urban invest-
ments. There was certainly an 'anti-urban' bias
among many development assistance agencies
during the late 1970s and for much of the 1980s.
Some changes can be detected in the attitude of
agencies towards human settlements projects.
One reason may be a better understanding of
the economic role of cities (and urban systems)
and the difficulty for any nation in achieving
a successful economic performance without a
well-functioning urban system which includes
adequate provision for the infrastructure that
enterprises need. Another may be an acknow-
ledgement within agencies that `human settle-
ments' is not a sector but the physical context
within  which virtually all their development
investments take place and a critical determinant
both of economic growth and of people's quality
of life.

A more intractable constraint is the operational
difficulties experienced by development assis-
tance agencies in expanding their commitments
to human settlements projects. One study that
included interviews with a range of staff from dif-
ferent development assistance agencies found a
variety of institutional constraints in increasing
the priority to many human settlements pro-
jects-especially for shelter, water supply and
sanitation, primary schools and primary health
care and community development.[62] One reason
is that human settlements specialists within the
agencies find it difficult to convince others in
the agency that a higher priority should be given
to human settlements projects. A second reason is
that  many agencies' institutional structures do
not allow them to expand their funding to a mul-
tiplicity of small scale projects; this is especially
the case in development banks where one impor-
tant measure of their `efficiency' is the scale of
their lending relative to their staff costs.

A third reason is the inability or reluctance of
donor agencies to fund recurrent costs, often part
of an institutional legacy as they were set up to
fund capital projects. Yet the capital cost of build-
ing a school, community centre or health clinic
within a low income area is relatively modest but
the recurrent costs are often much more difficult
to fund.

Box 11.12 summarizes some characteristics of
successful shelter and basic services projects that
reached poorer households and contrasts them
with project characteristics that the institutional
structure  of development assistance agencies
tends to favour. For instance, slum- or squatter-
upgrading projects which seek to be participa-
tory,  working with community organizations
formed by poorer groups in the settlement, take
many years to implement and require a -high

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BOX 11.12
**Most important aid project
characteristics from two different
viewpoints**

**Characteristics of Many Successful Basic Needs
Projects**

**Small-scale and multi-sectoral-addressing multiple
needs of poorer groups**

Implementation over many years-less of a project and
more of a longer term continuous process to improve
housing and living conditions

Substantial involvement of local people (and usually their
own community organizations) in project design and
implementation

Project implemented collaboratively with beneficiaries,
their local government and certain national agencies

High ratio of staff costs to total project cost

Difficult to evaluate using conventional cost-benefit
analysis

Little or no direct import of goods or services from
abroad

**Project Characteristics which Make Implementation
Easy for Outside Funding Agency**

**Large-scale and single-sector**

Rapid implementation (internal evaluations of staff
performance in funding agencies often based on volume
of funding supervised)

Project designed by agency staff (usually in offices in
Europe or North America) or by consultants from funding
agency's own nation

Project implemented by one construction company or
government agency

Low ratio of staff costs to total project cost

Easy to evaluate

High degree of import of goods or services from funding
agency's own nation

Source: Jorge E. Hardoy and David Satterthwaite, 'Aid and Human
Settlements', report prepared for the Institute for Research on Public
Policy, Canada, 1988.

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input of staff time relative to the project cost. Yet there are great pressures on virtually all development assistance agencies to minimize the amount of staff time per unit of expenditure. Such pressures will mean that agencies tend to favour large, easily supervised projects. In addition, the fact that most development assistance agencies have a relatively small proportion of their staff based in recipient nations and that these staff have relatively small decision-making powers make it difficult to design projects which mesh with the local context and local processes.

Development assistance agencies would find it easier to increase the scale of their human settlements commitments if there were effective counterpart institutions within recipient nations who could take on most of the responsibility for project formulation, implementation and evaluation and could do so working closely with the project-households and their community organizations. This is one reason why a greater priority has been given to building the capacity and competence of local authorities most of which are weak and ineffective as was described in Chapter 5. The development of stronger, more competent and more representative local governments within recipient nations would remove a major constraint on increasing development assistance flows to human settlements and would certainly increase the quality of donor-assisted urban projects. However, many donor agencies find it difficult to strengthen `institutional capacity' since again their main expertise and experience is in project-funding.

Another constraint is the poor match between the `project orientation' of most development assistance agencies and the funding needs of local institutions. Inadequate provision for infrastructure and services within most urban centres in the South can be attributed largely to a lack of resources and trained personnel at the level of the city and municipal authorities. An aid project can remedy such deficiencies within a project site-but in effect, it makes up for a failure of local bodies to make such investments in previous years. The project may improve conditions considerably at first but rarely does it increase the capacity of local bodies to maintain the new infrastructure and services and to make similar investments in other areas of the city. Urban authorities need a continuous capacity to invest in and maintain infrastructure and services-or to oversee other bodies (private enterprises, community organizations, cooperatives etc) which provide some services. Funds available on an irregular basis for specific projects are not an effective substitute. This suggests not only a need for increased priority among development assistance agencies for shelter (including the basic infrastructure and services which are part of shelter) but also that such development assistance should be provided within a long-term strategy to develop the capacity of national and local governments to plan, invest in and manage infrastructure and service provision and to involve other key local actors in this process (including private sector institutions, NGOs and community organizations).[63]

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5.  Remenyi 1991 and ESCAP 1991, op. *cit.*

6.  Arrossi, Silvina, Felix Bombarolo, Jorge E. Hardoy, Diana Mitlin, Luis Perez Coscio and David Satterthwaite, *Funding Community Initiatives,* Earthscan Publications, London, 1994.

7.  Asian Coalition for Housing Rights and Habitat International Coalition, `Finance and resource mobilization for low income housing and neighbourhood development: a workshop report', Pagtambayayong Foundation, Philippines, 1994.

8.  *Ibid.*

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11. Khan, Akhter Hameed, *Orangi Pilot Project Programs, OPP,* Karachi, 1991.

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13. Hardoy Jorge E. and David Satterthwaite, *Squatter Citizen: Life in the Urban Third World,* Earthscan

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14. See for instance details of COPEVI, CENVI and Ciudad Alternativa in Connolly, Priscilla, `The go between; CENVI, a Habitat NGO in Mexico City', *Environment and Urbanization,* vol. 5, no. 1, 1993, 68-90; Turner, Bertha (ed.), *Building Community -A Third World Case Book from Habitat International Coalition,* Habitat International Coalition, London, 1988; and ACHR/HIC 1994, op. *cit.*

15. UNCHS (Habitat), *The Urban Poor as Agents of Development: Community Action Planning in Sri Lanka,* Nairobi, 1993.

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17. Ghouri, Naeem Shahid and Hector Nihal, `The housing loan programme of the Catholic Social Services', *Environment and Urbanization, vol.* 5, no. 1, 1993, 9-17.

18. The speech at Global Forum '94 by Mohamed Yunus, Executive Director of the Grameen Bank, Bangladesh.

19. Arrossi and others 1994, op. *cit.;* and Sevilla, Manuel, `New approaches for aid agencies: FUPROVI's community based shelter programme', *Environment and Urbanization, vol.* 5, no. 1, 1993, 111-21.

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21. See the NGO profile of Homeless International, *Environment and Urbanization, vol.* 4, no. 2, 1992, 168-175.

22. Cruz, Luis Fernando, Tundacion Carvajal: the Carvajal Foundation', *Environment and Urbanization*, vol. 6, no. 2, 1994, 175-82.

23. Arrossi and others 1994, op. *cit.*

24. *Ibid.;* also the papers included in the special issue, `Funding Community Level Initiatives: the role of NGOs and other intermediate institutions in funding and supporting low-income households to improve shelter, infrastructure and services', *Environment and Urbanization,* vol. 5, no. 1, 1993.

25. *Ibid.*

26. *Ibid.*

27. Patel, Sheela and Celine D'Cruz, `The Mahila Milan crisis credit scheme: from a seed to a tree', *Environment and Urbanization,* 1993, 9-17.

28. See Arrossi and others 1994, op. *cit.;* and Anzorena, Jorge, *Housing the Poor. the Asian Experience,* Asian Coalition for Housing Rights, 1994.

29. Arrossi and others 1994, op. *cit.*

30. Ghouri and Nihal 1993, op. *cit.*

31. Hardoy and Satterthwaite 1989, op. *cit.*

32. Hardoy, Ana, Jorge E. Hardoy and Ricardo Schusterman, `Building community organization: the history of a squatter settlement and its own organizations in Buenos Aires', *Environment and Urbanization, vol.* 3, no. 2, Oct 1991,104-20.

33. This section is based on Satterthwaite, David, `The scale and nature of international donor assistance to housing, basic services and other human-settlements related projects,' Paper presented to the UN U/WIDER Conference on `Human Settlements in the changing global political and economic processes', Helsinki, Aug. 1995.

34. See the last few `Financial and other assistance provided to and among developing countries on human settlements and on the human settlements activities of the United Nations system' prepared by UNCHS; also Satterthwaite, David, `La Ayuda Internacional'-chapter in *Construccion y Administracion de la Ciudad Latinoamericano-Nora* Clichevsky and others GEL, Buenos Aires, 1990, and Arrossi and others 1994, op. cit.

35. OECD Development Cooperation Directorate, *Urban Development-Donor Roles and Responsibilities Issues Paper,* note by the secretariat, Paris, 1992.

36. There are exceptions, including the upgrading programme in Surabaja described in Chapter 10.

37. Payne, G. K., `Introduction', G. K. Payne (ed.), Low *Income Housing in the Developing World-the Role of Sites and Services and Settlement Upgrading,* John Wiley and Sons, Chichester, 1984.

38. Mayo, Stephen K. and Shlomo Angel, *Enabling Housing Markets to Work,* A World Bank Policy Paper, The World Bank, Washington DC, 1993.

39. Mayo and Angel 1993, op. *cit.*

40. Cohen, Michael A., `Macroeconomic adjustment and the city', *Cities, vol.* 7, no. 1, Feb. 1990, 49-59.

41. For instance a project in a squatter settlement may have project components for water, sanitation, garbage disposal, primary health care, housing-tenure regularization and building-material production.

42. Mayo and Angel 1993, op. *cit.*

43. *Ibid.* 55

44. Pugh, Cedric, `Housing policy development in developing countries; the World Bank and internationalization, 1972-93', *Cities, vol. 11,* no. 3, June 1994, 159-80:

45. The title of the most recent World Bank policy paper on Housing was *Housing: Enabling Markets to Work.*

46. Pugh 1994, op. *cit.*

47. The analysis in this section is based on a database that contains details of all human settlements projects that received support from the agencies listed in Tables 11.1, 11.2 and 11.4 between 1980 and 1993. This database also includes details of co-funders and thus allowed an analysis of the involvement of other agencies in co-financing.

48. OECD Development Co-operation Directorate, *Urban Development-Donor Roles and Responsibilities Issues Paper,* note by the secretariat, Paris, 1992.

49. The difficulties of producing accurate, detailed statistics on the sectoral priorities of different development assistance agencies have long been recognized. There are two problems that have to be overcome. The first is that most agencies developed their own classification systems for sectoral priorities; with no common base used in the definition of sectors or sub-sectors, figures for sectoral priorities cannot be compared between agencies. The second is that the sectoral classification systems that do exist-that can form the common base for all agencies-do not have a classification system that is appropriate for monitoring development assistance to human settlements. It is still possible to compare the priorities in human settlements assistance between agencies, where each agency publishes details of each project or programme commitment that it makes since each of these can be classified according to a common human settlements classification system; this is how the statistics in Tables 11.1, 11.2 and 11.4 were developed. However, most bilateral agencies do not publish a complete listing of all the projects or programmes they support with sufficient detail given about each to permit its classification within such a common system.

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51. Warner, D. B. and L. Laugeri, `Health for all: the legacy of the water decade', *Water International, vol.* 16, 1991, 135-41.

52. Water Supply and Sanitation Collaborative Council, *Water Supply and Sanitation Sector Monitoring Report 1993,* World Most Health Organization and UNICEF, 1993. This also reports on how many countries reported on the relative balance of investments into water supply and sanitation coming from governments, international agencies and communities for rehabilitation and new systems

53. Although this was largely the result of a single commitment of $US500 million for a social safety-net programme in India.

54. Women's practical gender needs are `those needs which arise from the concrete conditions of women's positioning, by virtue of their gender, within the sexual division of labour. Within these positions, needs are formulated by women themselves, in response to the living conditions which they face daily. Therefore in many contexts need such as adequate housing, clean water supply or community creche facilities are identified as the practical gender needs of low income women, both by planners as well as by women themselves ... Strategic gender needs are those needs identified from the analysis of women's subordination, and, deriving out of this, the formulation of an alternative more satisfactory organization of society to those which exist at present, in terms of the structure and nature of relationships between men and women.' Moser, Caroline O. N., `Women, human settlements and housing: a conceptual framework for analysis and policy-making', in Caroline O. N. Moser and Linda Peake (eds.) *Women, Housing and Human Settlements,* Tavistock Publications, London and New York, 1987.

55. SIDA, *Striking a Balance: Gender Awareness in Swedish Development Cooperation,* Swedish International Development Authority, Stockholm, 1990.

56. NORAD, *Annual Report NORAD 1991,* Norwegian Agency for Development Cooperation, Oslo, 1992.

57. Beall, Jo, `Integrated the gender variable into urban development', background paper to the DAC Meeting on Aid for Urban Development, Paris, Nov. 1992 and originally drafted at the request of the Expert Group on Women in Development.

58. These did not include city water supply schemes whose main goal was increasing or improving water supplies for households since these were included in Table 11.2.

59. US Agency for International Development, *Proposed Strategic Objectives and Program Outcomes for the Strategic Plan of the Centre for Environment',* Bureau for Global Programs, Field Support and Research, Centre for Environment, Nov. 1994.

60. US Agency for International Development, *Annual Report, 1993,* Office of Housing and Urban Programs, Bureau for Global Programs, Field Support and Research, Washington DC, 1994.

61. Certain kinds of projects-especially projects for electricity supply, electrification and telecommunications-present special difficulties for classifying whether or not there are `urban' projects. The OECD DAC statistics chose to classify telecommunications projects as urban. The database on which Tables 11.1, 11.2 and 11.4 are drawn only includes telecommunication projects which are directly linked to urban services-for instance to installing or improving telephone equipment in a specific city. Similarly, when Table 11.4 reports on `urban electricity', this only includes electrification projects which had a major urban component and electricity generating or other equipment which was specifically to improve coverage or quality of service within urban areas.

62. The initial findings of this study are reported in Satterthwaite, David, `The scale and nature of international donor assistance to housing, basic services and other human-settlements related projects', Paper presented to the UNU/WIDER Conference on `Human Settlements in the changing global political and economic processes', Helsinki, Aug. 1995.

63. For a discussion of the role and relevance of these new actors in urban management, see Lee-Smith, Diana and Richard E. Stren, `New perspectives on African urban management', *Environment and Urbanization,* vol. 3, no. 1, April 1991. See also UNCHS (Habitat), *Shelter for the Homeless: the Role of Non Governmental Organizations,* UNCHS (Habitat), Nairobi, 1987.

# 12 Environmental Protection and Resource Management

## 12.1 Limitations to Current Approaches

There is no shortage of innovative examples of buildings or settlements in which the level of resource use and waste generation has been greatly reduced. There are also many examples of companies and city governments that have greatly reduced resource use and wastes. There are the many traditional buildings and settlements that have always used resources efficiently and kept wastes to a minimum. What is less evident is governments prepared to develop national frameworks to promote resource conservation and waste minimization in all sectors and at all levels. This chapter includes many examples of innovations-for instance the great improvements in energy efficiency in most aspects of housing and housing appliances, the trend towards recognizing waste streams as resource streams and innovations in urban agriculture and urban forestry that reduce cities' 'ecological footprints'. But these tend to be the exceptions rather than the rule.

There is a growing recognition of the need to make all investment decisions by governments and the private sector respond to environmental issues. This is both in the depletion of the different kinds of environmental assets listed in Box 12.1 and in the environmental hazards that arise within human settlements. Chapter 4 described the direct health costs that environmental hazards impose on the population and how such costs are most evident in cities in the South where the level of environmental risk experienced by citizens is strongly associated with their income. Middle- and upper-income households can afford to live in the least polluted areas of the city and to avoid the jobs with the highest levels of environmental risk. The areas in which they live generally enjoy the best provision for basic infrastructure and services-while low-income households often live in the most polluted areas, work in the most dangerous jobs and live in the most dangerous sites (for instance floodplains, steep slopes or sites contaminated with industrial wastes) with little or no infrastructure and services. There are also examples of lower-income groups being more exposed to environmental hazards in the North-for instance in the systematic siting of the more dangerous waste dumps in or close to low-income areas.[1]

Box 12.1
**Different forms of environmental assets**

| **Non-renewable Assets** | **Renewable Assets** |
| --- | --- |
| **RESOURCES** | **RESOURCES** |
| • fossil fuels | • soils |
| • other minerals | • forests |
| • biodiversity | • freshwater |
| | • marine resources |
| **SINK FOR** | **SINK** |
| • Non biodegradable wastes (plastics, persistent chemicals, long-lived nuclear wastes, CFCs, many greenhouse gases) | • capacity to breakdown biodegradable wastes |

There remain many unresolved questions in improving environmental protection and resource management such as how to value the different kinds of environmental assets widely used in production and consumption[2] and how to ensure that this revaluation contributes to greater inter-generational and intea-generational equity. If one considers the four different kinds of environmental assets listed in Box 12.1, most progress in reducing their depletion has been on two of them. The first is limiting the right of industries to use local sinks for wastes-for instance disposing of untreated wastes in rivers, lakes or other local water bodies or in high levels of air pollution. Environmental legislation has restricted this right in virtually all countries, although the extent to which the environmental legislation is enforced varies widely and in some countries, there is little enforcement.[3] The second is a less wasteful use of renewable resources; in many countries where fertile soil and fresh water are in short supply, and forests are being rapidly depleted, measures have been taken to protect them or, in the case of fresh water, to promote less wasteful patterns of use. But Chapter 4 also noted how consumers and businesses in the wealthier nations or cities can `appropriate' the soils and water resources of distant ecosystems by importing the land- and water-intensive goods from these regions. Thus, the depletion of soil and the over-exploitation of fresh water to meet the demands of city consumers and producers may simply be switched from the city's own region to distant regions. On the third

and fourth kinds of environmental assets, the use of non-renewable resources and sinks for non-biodegradable wastes, there has been much less progress. This includes the use of the `global sink' for greenhouse gases and Chapter 4 outlined the direct and indirect economic, social and environmental costs this brings or may bring. The need is to halt or modify investment decisions which imply serious social and environmental costs either in the immediate locality or in distant ecosystems or for future generations. To achieve this implies major changes in ownership rights for land and natural resources.[4] Achieving this is made all the more difficult by incomplete knowledge about the scale and nature of the environmental costs that current production and consumption patterns are passing on to current and future generations.[5]

## 12.2 Resource Conservation and Waste Management

### The opportunities for resource conservation

There is a great range of opportunities for resource conservation and waste reduction in the wealthier nations of both the North and the South. For many actions taken to improve environmental performance, the economic and environmental benefits greatly outweigh the economic and environmental costs.[6] Capital costs are rapidly repaid by lower running costs-as in lower fuel bills for better-insulated buildings or through replacement of inefficient cooling or heating systems-so there is little diminution of economic activity. For others, there are economic and employment costs which will have to be borne in the present or immediate future, but as part of a reduction in the costs passed on to future generations. One example of this is the economic costs of a major programme to cut greenhouse gas emissions-for instance through some dampening in total economic activity as carbon taxes raise the cost of using motor vehicles, of heating and cooling buildings and of most energy-intensive goods. But on the positive side, not only does this diminish the cost passed on to future generations but in addition, technological innovation can certainly diminish these costs and many new jobs will be created.

One of the main resource issues in the North is the transition to a much less fossil fuel intensive society. The policies that can promote such a transition are well known and well documented.[7] They include:

- Strong encouragement for improving the energy efficiency of residential, commercial, industrial and public-sector buildings-working on the basis of installing new equipment and insulation whose cost will be repaid within a few years (or less) from lower fuel bills. This can achieve very substantial reductions in fuel use with no loss in comfort.

- A range of incentives and the provision of technical advice to industries on how to improve energy efficiency; many industries have multiplied several-fold the energy productivity of their processes in recent decades.[8]

- A rethink of pricing and regulation for road vehicles, of pricing for fossil fuels in general, and of provision for public transport and support for increasing bicycling and walking as described in Chapter 9.

Box 12.2 gives examples of energy savings that are possible in different aspects of buildings and domestic appliances, most of which are already being implemented. There are also many examples of much improved performance in terms of resource use for buildings in general. For instance, in the Netherlands, new homes built in recent years require only a third to a quarter of the energy for heating compared to homes built 20 years ago.[9]

Ensuring the widespread adoption of such energy saving technologies or techniques implies changes to building norms and codes to encourage conservation and energy efficient equipment and to public information services to promote this. It also implies the labelling of vehicles and appliances so their energy efficiency (and fuel cost implications) are known to consumers, and the implementation of settlement-planning and traffic-management techniques that have positive social and environmental impacts. Finally, it includes a reappraisal of the energy-producing sector.

One important concept first developed by some utility companies in the United States is to treat potential savings in fuel or electricity as an alternative energy source. This has become a common response by electricity companies that are having difficulty meeting peak demand or that are planning to increase capacity. The costs of increasing electricity generation capacity are very high-especially if stringent environmental standards are met. It often proves much cheaper for the company to encourage its main users to invest in insulation and more resource-efficient equipment than to invest in new generating capacity. Although there are obvious problems in implementing such an approach, especially where a company is privately owned and the conservation option proves less profitable than the option of increasing supply, the advantages to society and to the environment are obvious. For instance, the very rapid expansion in the production and use of refrigerators in China in recent years has also required a large increase in electricity capacity to power them-and the high cost of expanding

BOX 12.2
**Energy savings in different aspects of buildings and domestic appliances and in their construction**

Walls: Improved insulation can be introduced into the walls of many buildings in Europe and North America, with reductions in fuel demand for heating or cooling by up to 25 per cent.

Windows: New window technology is greatly reducing heat loss both through the glass and as a result of gaps. Between 1984 and 1994, advanced windows with two or three panes of glass have claimed 38 per cent of the residential market in the United States-and this has saved the residents some $US5 billion in energy bills each year.[10]

Roof: Installing or upgrading insulation in the roof of many existing buildings in the North can reduce fuel demand for heating by up to 25 per cent with costs often repaid through lower fuel bills in less than a year.

Reducing Space-Heating and Cooling Requirements: In addition to improved insulation of walls, windows and the roof noted above, various other measures can reduce space heating and cooling requirements. For instance, light-coloured roofing and cladding materials that reflect sunlight can cut peak cooling needs by as much as 40 per cent in hot climates-while planting trees around existing buildings can cut cooling needs by up to 30 per cent.

Lighting: New compact fluorescent lamps that can replace conventional light bulbs require less than a quarter of the electricity of the bulbs they replace-and since their introduction in 1982, they have captured a significant portion of the market in Europe and North America; in Japan, where electricity is particularly expensive, these are now used in 80 per cent of home fixtures.[11]

Appliances: Energy use in domestic fridges has fallen significantly, due mainly to better insulation and more efficient electric motors. Electricity use by fridges in the USA fell by around half between 1972 and 1992 while some 1994 models use 30-50 per cent less than the current average. Further improvements are possible so that overall, refrigerators and home freezers can now consume 80-90 per cent less electricity than conventional models. Major savings in-electricity use by televisions, computers and photocopying machines can also be achieved through the use of the most energy-efficient models. [12]

Air-Conditioners: The need for air-conditioning buildings in hot climates can be considerably reduced by the measures noted above which reduce heat gain from the sun and also greatly reduce the amount of waste heat produced by lighting and appliances within the building. Air-conditioners themselves vary greatly in their efficiency; the most efficient use around a third of the electricity of the least efficient ones.

Space-Heating: Major advances have been made in the fuel efficiency of space-heaters in the last two decades. They are not only highly cost effective for new buildings through the fuel costs they save, but in many instances new models can be used to replace inefficient space-heaters in existing buildings.

Building Materials: There have been considerable improvements in the energy efficiency in building materials production-for instance the improved energy efficiency of cement production. Energy inputs into buildings have also been reduced through many innovations in the structural elements of large buildings that reduce the need for energy intensive materials and through measures to recycle building materials.

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power supply could have been much moderated, if a more efficient refrigerator design had been chosen.[13] Similarly, the promotion of energy-efficient lightbulbs in many cities in the South would often considerably reduce the size of the evening peak demand.[14]

In the last few years, several states in the USA have adopted reforms that allow electricity companies to profit from increasing efficiency; in one instance, that of Pacific Gas and Electric in California, three-quarters of its new energy needs during the 1990s should be met through increased energy-efficiency programmes with the rest coming from renewable energy sources.[15]

### Managing the transition to resource efficient cities

In the North and in the wealthier cities in the South, the potential for employment creation in greatly reducing resource use and wastes and in recycling or reusing the wastes that are generated are very considerable. The main reason is that levels of resource use, waste generation and pollution are so high that there are many possibilities for substituting labour and knowledge for resource use and waste. There is great potential for combining employment generation with the transition to a more resource-efficient, minimum waste production and consumption pattern in:

- Improving insulation levels in residential, commercial and industrial buildings and in adopting other innovations which limit electricity or fossil-fuel consumption.

- The manufacture, installation and maintenance of machinery and equipment that are more resource efficient and less polluting.

- The industrial and service enterprises associated with waste minimization, recycling, reuse and resource reclamation.

Extending the life of capital goods to reduce levels of resource use also generally means more employment in maintenance and repair, although for many old capital goods and polluting equipment, the focus should be on replacement (including inefficient, high pollution level motor vehicles, poorly insulated CFC-coolant fridges, and inefficient space- and water-heaters and electric lights).

One of the factors constraining action by governments towards resource conservation and waste reduction is the worry about the employment costs. There are employment losses arising from the greater cost of certain goods or services, especially those whose production or use requires major changes to reduce unacceptable levels of resource use or waste generation. But there are many examples of industrial processes where resource use and pollution levels have been cut with no overall increase in costs and, in some cases, with significant cost savings. In addition, even if costs do rise, they only do so to compensate for environmental costs that previously had been ignored. -

A shift to patterns of production that are far more resource conserving with wastes also minimized implies shifts in employment, including:

- Declining employment in the manufacture of automobiles and the material inputs into this process with expanding employment in public transport equipment and systems, traffic management, air pollution control equipment for motor vehicles and reclamation and recycling of materials used in road vehicles. A study in Germany suggested that investment in public transport equipment and infrastructure creates more jobs than those lost in car manufacture.[16]

- Declining employment in the coal, oil, natural gas and electricity industries and increasing employment in energy conservation in all sectors and in the manufacture and installation of energy-efficient appliances; also in the means to tap renewable energy sources. It is quite feasible in the North for living standards and the number of households to continue growing but with a steady decline in the level of fossil-fuel use.[17] Investments in energy conservation are generally far more labour intensive than investments in increasing the energy supply-especially when comparing the cost of increasing the electricity supply with the cost of reducing demand through conservation or the use of more efficient appliances, so that supplies no longer need to increase.

- Declining employment in mining and primary metals industries and paper and glass industries (and other industries associated with packaging production) and expanding employment in urban management systems that maximize recycling, reuse and reclamation, and promote waste minimization.

- Declining employment in producing and selling the fertilizers and biocides now widely used in industrial agriculture and horticulture but with increased employment in lower-input farming, ecologically based farming and land management, and resource-efficient, high-intensity crop production systems such as those based on hydroponics and permaculture.

In many areas, there are likely to be substantial increases in employment opportunities-for instance in the water supply and sewage treatment industries as higher standards are met and water conservation programmes implemented, and in the managerial and technical staff within municipalities and companies or corporations whose task is environmental management.

There are also the employment benefits that arise from cost-savings in conservation as highlighted by the Rocky Mountain Institute in the United States. For instance, the output from a $7.5 million compact fluorescent lamp factory saves as much electricity as a $1 billion power plant makes, as its products are installed to replace conventional light bulbs. While consuming 140 times less capital, the factory also avoids the power plant's fuel cost and pollution. A $10 million `superglass' factory making windows that block heat but allow light to pass can produce more comfort than the air-conditioners run by $2 billion-worth of generating stations. Over 30 years, a single glass factory's output would save $12.25 billion in power investments.[18]

Although overall there are employment benefits in moving towards more ecologically sustainable patterns of production and consumption, the employment losses fall heavily on certain employees and on urban centres or regions that have the traditional logging, `smokestack' and mining industries. Most of the job losses in these industries in Europe and North America over the last two decades have little to do with environmental regulation and much more to do with the gradual shift in production to cheaper areas or to new technologies that greatly reduce the need for labour. But it is little comfort to the miners and steelworkers and their families, when jobs disappear and there are few prospects for new employment in towns where unemployment rates are often 30 per cent or more, to know that policies promoting resource conservation and waste minimization are creating more employment elsewhere. Thus, one important role for government is addressing the needs of the workforce of the resource- and waste-intensive industries that lose their employment.

Certain cities in the North have managed the transition from centres of `smokestack' industries towards the development of alternative economic bases, as industries close down, move elsewhere or reduce their workforce. There are also examples of city or regional governments which have begun such a process-for instance Hamilton-Wentworth in Canada whose programme is described in the later section on local Agenda 21s[19] or Leicester in the UK,[20] or the state of Nord-Rhine-Westphalia in the Emscher region in the Ruhr valley in Germany[21] or certain `eco-municipalities' in Sweden.[22] Many urban regeneration programmes in Europe have also included ecological goals-from ensuring high levels of energy efficiency and reduced water use in the rebuilt or renovated buildings to the development of new parks or green areas.[23]

There is also an important international dimension to this as resource conservation and waste minimization in the North implies less purchase of goods from the South. For instance, strong support in the North for waste minimization and recycling may substantially reduce demand for paper and pulp from the South while any general tax applied globally on petroleum

fuels would penalize exporters of high-volume low-value goods, most of whom are also in the South. Measures must be sought to reconcile the `green trade' aspects of more sustainable patterns of production and consumption with support for more prosperous economies in the poorer Southern nations.

For practices such as those noted above that are currently the exceptions to become the norm requires a strong commitment and coherent support for local, city and regional action from national government. Such a commitment is also required to address the needs of the inhabitants of cities with the least comparative advantage in the transition to resource conservation and minimum waste. There are likely to be major long-term advantages for cities and nations which are among the first to promote such moves, as enterprises and municipalities there develop the kinds of products, services and knowledge that will be in high demand worldwide. A high-quality living and working environment has also become an increasingly important factor in attracting many kinds of new or expanding enterprises in the North and in some city-regions in the South.

## Resource conservation in the South

In most cities in the South, the potential for new employment in resource conservation (including recycling) is rather less, given that levels of resource use are so much lower and levels of recycling, reclamation and reuse often much higher.[24] Ironically, many cities in the South, where housing and living conditions are very poor, are at the same time models of `ecological sustainability' in that levels of resource use and waste generation are low and so much waste is reused or recycled.[25] Very low levels of resource and waste generation reflect very inadequate incomes for a high proportion of the population. Very low averages for water use per person are usually the result of half or more of the city's population having no piped water supply to their shelter or plot. Having to fetch and carry water from public standpipes greatly reduces consumption levels, often to below that needed for good health. High levels of reclamation and recycling are the result of tens of thousands of people eking out a precarious living from reclaiming or recycling metals, glass, paper, rags and other items from city wastes-and often with very serious health problems for those so engaged and with the work unpleasant and laborious. For instance, as Christine Furedy points out, `Asian cities have extensive "waste economies", structured through itinerant waste buyers, waste pickers, small waste shops, second-hand markets, dealers, transporters, and a range of recycling industries.'[26] Chapter 9 gave several examples of cities where tens of thousands of people make a living from the reclamation, recycling or reuse of waste.

Most city authorities in the South seem set on copying Northern models for solid-waste collection and management-although usually only providing garbage collection services to the middle and upper-income areas and the main commercial and industrial areas. This indicates very little commitment to recycling or waste reduction and no consideration for the current or potential role of those who make their living picking saleable items from waste. Indeed, waste-pickers may lose their source of income as technical changes in waste collection inhibit informal recovery-for instance through requiring that all households put out their garbage in plastic bags making it difficult for pickers to sort through the garbage. The conventional Northern model also collects and compresses all wastes, with waste-pickers only able to obtain access to such waste at municipal dumps; waste-picking is more profitable and less hazardous if waste-pickers can sort through the waste at neighbourhood level `transfer stations' before wastes become too compressed and mixed-up.[27]

However, over the last ten years, an increasing number of city authorities have moved from what can be characterized as `waste management' to `resource recognition'-see Box 12.3. Some city authorities are seeking to introduce social and environmental goals into their solid waste collection and management. In some cities, there is a recognition that the people previously regarded as `scavengers' and `pickers' are in fact recyclers and reclaimers who can be incorporated into city-wide waste management schemes in ways which benefit them and the city environment. For instance, in Bogotá, waste-pickers have formed co-operatives that have successfully bid for some municipal waste collection contracts.[28] In Cairo, as described in Chapter 9, the Environmental Protection Company that developed out of a group of informal garbage collectors (the *zabbaleen)* and local contractors have been awarded the contract for waste collection in several parts of the city and the Cairo Governorate is seeking to extend the company's services to other parts of the city.[29] There may be possibilities for further developing the contribution of waste-pickers towards a clean and resource-efficient city while also improving the returns that they receive from this work and addressing the health problems which accompany this work. An increasing number of initiatives, most started by Southern NGOs, are seeking to improve solid-waste collection and recycling and improve conditions for low-income groups which make a living as waste-pickers.[30] There are obvious linkages to be developed between social goals such as increased employment, better working conditions and higher wages for waste-pickers, and environmental goals such as better quality

collection services, greater coverage for solid-waste collection (especially in the illegal or informal settlements where regular collection services are needed) and improved levels of recycling.

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## Resource recognition, not waste management

**A new philosophy of resource management is beginning to transform solid-waste management worldwide, grounded in what can be called 'resource recognition'. Most waste material can be regarded as unused resources, so environmentally sound waste management entails the reduction of waste in production and distribution processes and the enhancement of reuse and recycling. In Northern cities these principles are being translated into practice through government regulation, stakeholder co-operation and citizens' initiatives. In Southern cities, solid-waste management is still focused on improving the conventional engineering systems (essentially, the collection, transport and disposal of solid wastes). Established environmental movements are not yet much interested in this subject, while city cleansing departments tend to look to higher technology and privatization for solutions to the environmental problems of uncollected and unsafely dumped wastes.**

**However, there are many small-scale non-conventional approaches to solid-waste management in cities of the South which not only change the conventional collect-transport-dispose organization of waste services but also have some general social and ecological goals linking 'resource recognition' to social betterment and attitudinal change at the local level. These include: assisting poor people whose livelihoods depend on wastes to do safer, more acceptable work; promoting the separation of wastes to facilitate more thorough or more efficient recycling (including decentralized compost-making); developing community/private sector/municipal partnerships; furthering environmental education; and pragmatic accommodation of informal activities in waste recovery and recycling.**

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Some caution is needed in setting up recycling schemes as can be seen by the number of schemes that have failed. There are also conflicts or potential conflicts between different goals. For instance, promoting the separation by each household of recyclables and organic wastes from the rest of their wastes ensures much higher levels of recycling-and safer working conditions for those who collect the recyclables, compared to waste-picking. It probably means an overall increase in employment. But it also reduces the returns for waste-pickers-or may even remove their livelihood as most material with any value is removed from the garbage before they can pick through it. The crews of conventional garbage trucks may oppose a separate collection of recyclables from households since they also make money separating out the more valuable recyclables or items that can be resold as they collect garbage. Some schemes to promote household separation have sought to employ former waste-pickers in household collection of recyclable materials,[31] whilst others have concentrated on making the tasks of waste-pickers at city dumps less hazardous.[32]

Perhaps the most important way to promote the successful integration of social and environmental goals into conventional solid-waste collection and management is the careful evaluation of initiatives to date and a greater sharing of experiences.[33] The experiences documented to date suggest that all new initiatives should be based on a detailed city-specific understanding of how wastes are currently generated and managed in each city-formally and informally from household level through to city level. They must recognize that there are often a great range of actors involved in some form of waste separation and reuse or recycling including:

- Households themselves who often keep separate some recyclables for direct sale.

- Waste-pickers who may `pick' from household garbage cans or garbage on the street or at transfer stations or at the city dump.

- The staff of garbage collection trucks who look for the more valuable recyclable materials or items that can be resold as they collect garbage.

- Waste-buyers who range in the scale of their operation from itinerant buyers who go from house to house or from business to business to small waste-purchasing shops or enterprises, to larger buying operations, to factories or businesses who use the waste.

- Those involved in collecting, repairing and selling goods or items working in second-hand markets.

New initiatives need to be assessed in terms of how far they help poorer groups meet their needs and earn sufficient income and how far they reduce exploitation and discrimination against waste-pickers and other people making a living from wastes-as well as how much they increase the efficient use of wastes as resources.[34] The ideal would be for no one to need to make a living picking recyclable or reusable waste from a city dump both because this is a dangerous and unpleasant job and because separation of recyclables at source is a far more efficient way to reduce overall resource use.

## Minimizing wastes[35]

While the initial interest in waste management centred on better ways to collect and dispose of it, there has also been a growing interest in what is

termed `waste minimization'. This seeks to reduce wastes at all points from the extraction of raw materials, their use in production, in packaging and distribution and in use and disposal. As a review of business perspectives on environment and development prepared for the Earth Summit noted:

Under the pressure of tightening regulations, increasingly `green' consumer expectations and new management attitudes towards extended corporate responsibility, companies are recognizing that environmental management now requires the minimization of risks and impacts throughout a product's life cycle, from `cradle to grave'. This is in turn leading to the industrial ideal of an economic system based on `reconsumption'-that is the ability to use and reuse goods in whole or in part over several generations. [36]

Waste minimization can bring many advantages. For instance, there are many examples of industries that reduced costs or increased profits at the same time as reducing solid and liquid wastes.[37] One of the best known examples is that of the 3M Company in the US whose `Pollution Prevention Pays' programme has been applied to more than 3000 projects and which has brought major reductions in air pollution, waste water and solid wastes-with the company managing to save $537 million.[38] New plant designs often allow process chemicals that were formerly dumped as wastes to be recovered and used again. In other instances, what was originally a production-waste from one factory has become a feedstock for another industry-for example the organic residues from many industries serve as feedstock for the manufacture of animal feed, packaging material, chemicals and pharmaceuticals, fertilizers, fuel, food and construction materials.[39]

For a municipality, encouraging waste minimization among households and commercial enterprises can considerably reduce the costs of collecting and disposing of solid wastes. Such encouragement could include providing recycling credits which the local authority pays to a household or business for paper, glass, metal or other materials they separate and make available for collection or lower charges for households or enterprises who generate very little waste for collection. This can be paid for through the amount the authority saves from not having to collect and/or dispose of the waste and through the revenue from selling the materials for recycling. But national governments are often reluctant to encourage waste minimization by, for instance, taxing packaging, as they fear that the increased taxation will dampen economic activity-even though this also means a cleaner environment and less pressure on the authorities responsible for solid-waste collection and management.

Various governments have taken measures to encourage waste minimization within industries. One is the use of 'take-back' agreements through which industry has to take back the waste that it generates. Take-back initiatives have also been developed in voluntary agreements between governments and industry-or between companies themselves, as in the example in Box 12.4. Charging companies the full cost of waste disposal, including paying for the short- and long-term environmental costs, can also promote waste minimization. As the review of business perspectives noted above stresses, one powerful stimulus to waste minimization and to recycling process chemicals within OECD countries is the growing cost of waste disposal; waste processing can cost companies an average of $380 a ton rising to $3,000-10,000 per ton for toxic and hazardous wastes.

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BOX 12.4
**An example of waste minimization**

**The Upper Canada Brewing Company in Toronto has managed to reduce the amount of waste it generates by 99 per cent, resulting in savings of over $US200,000 a year from fees associated with landfill and collection costs. Initiatives to reduce wastes were primarily targeted at the company's suppliers through requests to eliminate excess packaging. For suppliers that were uncooperative, the company sent back excess packaging at the suppliers' expense. The company also arranged for supplies to be shipped using packing material consisting of compostable materials such as popcorn or newspaper. Recycling initiatives focused on fine paper, beverage containers, newsprint, corrugated cardboard, plastics and organic materials. Spent grains generated from the brewing process were used as feed grain. The costs of starting up this initiative was around $15,000.**

Source: McRae, L. S., '3 RS regulations in Ontario; compliance and cost savings', proceedings of R'95 International Congress, Geneva, 1995.

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## Incorporating environmental protection and resource conservation into decisions

During the last 10-15 years, a greater use has been made of environmental impact assessments and of new accounting techniques developed by environmental economics to more fully incorporate environmental issues into decision-making. Recent developments in both are considered briefly below and an example is given as to how environmental economics can feed into urban planning.

Environmental impact assessments (EIAs) are increasingly the means by which governments and development assistance agencies identify and predict the scope of the environmental consequences of a particular development project or

activity.[40] Many also seek to ascertain the social impacts of projects. The objective is to anticipate the consequences and avoid or mitigate them through amending the design or implementation of the project or activity. There are several stages to such an assessment. The first is to accurately identify all possible environmental impacts related to the proposed project, and consider both the natural ecosytems and the different communities affected by the impacts. The second is to measure the severity of the impacts for a range of possible plans each of which realizes the objectives of the development project or activity. Finally the assessment should propose different options through which to minimize harmful environmental impacts. For projects in which the small scale of investment or the minimal predicted environmental impacts do not justify a full environmental impact assessment, estimates of the expected major impacts may be used to make a rapid and/or preliminary investigation. Most Northern countries have some form of EIA guidelines in law or through government regulations. The international bilateral and multilateral development agencies also have regulations which cover the use of EIA for development projects   and the Development Assistance Committee of the OECD is currently working to standardize procedures. The form of such guidelines is not often contentious; the more controversial area is when and where such guidelines should be used.

Environmental impact-assessment techniques were developed during the 1960s in North America and began to spread significantly to other regions in the following decade. Although EIAs for projects in urban areas are common in the  North, most experience with such assessments in the South to date is for rural development projects and activities. The focus on the rural environment reflects the fact that only recently has there been a growing awareness of the scale and severity of environmental problems in urban areas.[41] It is now accepted that large urban development projects have major impacts on natural resources within the urban area. These include increased use and reduction of the area of groundwater recharge zones depleting the water table, over-extending the capacity of the local environment to absorb waste (due to pollution), and significant reductions in the quality of the local environment for residents during construction and perhaps afterwards.[42] For example, the Environmental Guidelines for Hong Kong identifies over 70 different land use activities and scores each into one of three groups, depending on the severity of the environmental impact.[43] A particular problem occurs when urban developments have significant impacts on rural areas-or rural developments on

urban areas-and the planning authorities cannot easily take account of such impacts.[44] More recently, UNCHS (Habitat) has helped Sri Lanka to develop guidelines for environmental impact appraisal of industries and infrastructure projects for use in urban development control. The Urban Management Programme of the World Bank, UNCHS (Habitat) and UNDP has also been developing a framework for environmental planning and management in the South, identifying the particular environmental problems and their causes and major impacts on the livelihoods (both income and well-being) of local populations.[45]

Within environmental economics, there is considerable debate about how to assign appropriate values to natural resources and to ecosystems within economic decision-making. Many environmental goods are rarely bought and sold on the market but they have a very real value. They provide a flow of goods or services for productive activities (for example, water used in industry), they contribute to health and well-being (for example, clean air and access to parks) or they may be such that people value their continued existence without necessarily being able to measure the benefit (for example, access to historic buildings). In cities located in particularly beautiful natural surroundings, there is often a failure to recognize the value of the surroundings and to ensure their protection.[46]

There is a considerable body of literature on project-appraisal techniques and cost-benefit analyses which incorporate estimated valuations of environmental goods[47] although very little of this literature deals specifically with urban environments in the South. Box 12.5 illustrates the possibilities, drawing on a study of Mexico City which was one component of an assessment of the cost of aggregate environmental damage in Mexico.

A number of different techniques can be used to measure environmental values.[48] For example, the health-related costs of water and air pollution can be estimated through days of work lost, medical expenses and lives lost. The value of clean water can be assessed by the price people are willing to pay for bottled water. And the value of clean air can also be considered through examining house price differentials. In some cases, pollution levels are so high that the government is forced to incur direct additional expenses through shutting schools; or the shortage of water   means incurring large infrastructure investment.[49] Although most research in this area has taken place in the North, there is increasing interest in considering such issues in the South.

There are obvious limitations in using such cost-benefit analysis techniques to evaluate projects which include an environmental component. Valuation of environmental benefits is difficult and

**BOX 12.5**
**The costs of environmental damage in Mexico City**

Research in Mexico City has sought to measure the costs of environmental damage using three steps. The first is a measure of the level of environmental quality or degradation. The second is to relate such levels to damage to health, productivity and materials. The third is to assign costs to the predicted damage. The discussion below considers air and water pollution.

Data on air quality is recorded for the city by the Departamento del Distrito Federal and by the air pollution unit of Mexico's environmental agency, SEDUE. One particular problem in assessing the damage is that little is known as to the health effects of different pollutants at high altitudes. In the case of the Mexico City Metropolitan Area the major health impacts of air pollution originate from three major pollutants: suspended particulate matter, ozone (a secondary pollutant) and lead. In regard to particulate matter, the major health effects are restricted activity and increase in overall mortality rates. Restricted activity can be assessed through restricted activity days (i.e. days for which normal activity was not possible), workdays lost, visits to emergency rooms, minor respiratory disease and chronic children's cough. Using data collected from Mexico City and elsewhere, it was estimated

that some 11.2 million work-days would be saved each year by reducing pollution emissions to those specified in legislated standards. Using the average industrial wage in Mexico City the current annual cost associated with this pollution, ignoring suffering and medication expenses, is $US358 million.

Drawing on other studies that have estimated the number of premature deaths associated with particulate matter, 6,400 people a year are dying prematurely with an average of 12.5 years of life being lost because of pollution emissions which exceed legislated standards. The valuation of life is very controversial. The author uses an estimate based on the hourly wage, resulting in an annual aggregate value of $US480 million.

In regard to ozone pollution, respiratory-related restricted-activity days are also the source of a major health cost. There are a number of other serious health problems including asthma attacks, eye irritation, mild cough, sore throat, headache and chest discomfort but little comprehensive data exists on the impacts. Estimated costs arising from pollution levels in excess of legislated standards are $US102 million.

Lead is a particularly dangerous air pollutant. Health studies on children living in Mexico City suggest that the main determinant of blood lead level is the place of residence. Little recent US data is helpful on

predicting health responses because in many cities, gasoline is now lead-free. Nearly 95 per cent of gasoline in the Mexico City Metropolitan Area still contains lead. Using what research is available results in an estimated cost of $US60 million based on screening of all children with a blood lead level above 25 µg/dl and 1 per cent of all children requiring chelation therapy. An additional $US21.5 million is required in compensatory education for children, due to a reduction in IQ as a result of lead poisoning. In adults, high levels of lead result in a number of health problems including high blood pressure and, as a result, myocardial infarctions. Annual costs from these two health problems equal $US47.9 million.

The water supply is another major environmental problem in Mexico City Metropolitan Area. Since the middle of the last century, underground water has been used. At present, only 15 per cent of consumption comes from surface water with the remainder being drawn from underneath the city. The average pumping height is now 80 metres. Significant subsidence damage has been caused in the city itself with the ground level falling by eight metres or more in the historical part of the city. Prices charged by the municipality for water are below the average cost, resulting in a total annual subsidy to those receiving municipal water of $US1 billion in direct costs alone.

Source: Margulis, Sergio, Back-of-the-Envelope Estimates of Environmental Damage Costs in Mexico, Policy Research Working Paper, WPS 824, World Bank, Washington DC, 1992.

therefore the process allows practitioners to distort the results to favour the outcome they prefer.[50] Some of the more fundamental criticisms to cost-benefit analysis are particularly pertinent when considering environmental goods: can environmental systems be treated as divisible; can we assume environmental systems achieve an equilibrium position; and are changes to ecological systems likely to be reversible?[51] The combined effects of two pollutants may also be very different from the simple sum of each individual component.

## 12.3 Developing local Agenda 21s

Hundreds of local authorities around the world are developing `local Agenda 21s' as the means to introduce or strengthen environmental concerns into their plans and operations.[52] Chapter 28 of the Earth Summit's Agenda 21, entitled `Local Authorities Initiatives in Support of Agenda 21' states succinctly why local governments have such an important role in implementing Agenda 21.

Because so many of the problems and solutions being addressed by Agenda 21 have their roots in local activities, the participation and cooperation of local authorities will be a determining factor in fulfilling its objectives. Local authorities construct, operate and maintain economic, social and environmental infrastructure, oversee planning processes, establish local environmental policies and regulations and assist in implementing national and sub-national environmental policies. As the level of governance closest to the people, they play a vital role in educating, mobilizing and responding to the public to promote sustainable development (28.1).[53]

This same chapter listed four objectives, the most important of which is that by 1996, most local authorities in each country should have undertaken a consultative process with their populations and achieved a consensus on a local Agenda 21. Another important objective was the need for all local authorities to implement and monitor programmes which aim to ensure that women and youth are represented in decision-making, planning and implementation processes.

At the meeting of the European Towns and Development Consortium several months after the Earth Summit, this idea received further support.[54] The idea of local strategies for sustainable

BOX 12.6
## Hamilton-Wentworth's plan for sustainable development

Hamilton-Wentworth is a regional municipality in Canada, located in the centre of Canada's manufacturing heartland. Covering an area of 1,140 square kilometres, it has around 452,000 inhabitants. Since 1989, it has been developing its own sustainable development plan with strong social, economic and ecological objectives. These include helping to re-orient its economic base away from steel production towards knowledge based industries and enterprises involved in environmental improvement while also protecting its natural resource base, limiting urban expansion, reducing resource use and greatly improving the quality of the environment.

During the 1950s and 1960s, Hamilton-Wentworth's prosperity depended heavily on the steel mills located there and it was the key steel-maker for Toronto, Canada's largest metropolitan centre, 60 km away. Since then, especially during the 1980s, a new economic base became increasingly necessary with the decline in steel production and with technological changes in steel mills which greatly reduced the number of jobs. Some local industries also closed or moved away after the 1990 Canada-US Free Trade Agreement. There was the legacy of a large steel town with a heavily polluted bay and contaminated land around the steel mills. In recent years, there has been a major clean up with salmon and trout returning to the Hamilton harbour which had become almost devoid of fish. The soil around the harbour was also decontaminated and air pollution considerably reduced. The environmental clean-up also helped develop local enterprises based on waste management or environmental improvement.

In 1989, the regional government's management team found that they lacked a framework with which to evaluate proposals put forward for budget approval. They requested the formation of a Taskforce on Sustainable Development which was set up in 1990 to explore the concept of sustainable development and its application to Hamilton-Wentworth. Over a three-year period, this Task Force sought the opinion of a wide range of local citizens and specialists through town-hall meetings, focus-group discussions, community fora and specialized working teams. They produced a report entitled Vision 2020-A Sustainable Region with two additional reports, the first on directions needed to

achieve this, the second on strategies and actions. These covered topics such as air and water quality, the protection of natural areas, waste reduction, energy consumption, transport, land use planning, agriculture and other economic activities and personal health. They also identified the decisions and actions which the regional government and other levels of government, community groups, business and individual citizens need to make to achieve sustainable development goals. The Task Force's outreach programme also increased people's awareness and knowledge about sustainable development. These documents helped the regional government develop a draft plan Towards a Sustainable Region which is currently being discussed and amended, before implementation begins.

One notable aspect of the draft Plan (and the Task Force documents) is the integration of resource conservation, land-use planning, transport and energy conservation. For instance, energy conservation will be promoted through promoting a compact urban form. The plan seeks to accommodate 96 percent of future growth up to the year 2020 within existing urban areas-with the promotion of compact mixed land use in the regional centre and municipal centres and along corridors. As the draft plan states, mixed forms of development within an urban area are preferable to widespread low density residential development and scattered rural development because:

- growth can be accommodated by building on vacant or redeveloped land, without taking up agricultural lands or natural areas;
- higher density development can reduce per capita servicing costs and makes more efficient use of existing services:
- efficient and affordable public transit systems can be established;
- effective community design can ensure people are close to recreation, natural areas, shopping and their workplace; and a compact community makes walking and bicycling viable options for movement. (p. C-13).

The Plan has a strong commitment to protecting good-quality farmland from urban encroachment, and also of ensuring that farmers can obtain an adequate livelihood through sustainable farming practices. For instance, it supports the establishment of value-added or food-processing facilities on or close to farms and encourages local authorities to support farmer markets.

The linkages between land use, transport, energy and resource conservation are also

explicit in the draft Plan's sub-section on transport which states that'because there is a direct link between land use planning (densities, mix and proximity of uses) and transportation, emphasis will be placed on accessibility and reducing reliance on the automobile by promoting alternative modes of transportation, such as public transit, walking and cycling to all urbanized areas of the Region' (p. C-28). A regional bicycle commuting network plan has been developed to guide improved provision of bicycle lanes and other facilities to support increased bicycle use.

Energy conservation is also encouraged through incorporating energy conservation practices in the design, construction and operation of the regional government's capital works and equipment (and requests that other local government agencies also do so). Public and private agencies, industrial and commercial operations and individuals are also encouraged to take part in energy conservation programmes and the regional authorities aim to promote innovations in housing design to encourage the construction of energy efficient housing and the utilization of solar energy for space heating, where feasible.

Many other initiatives are also planned to continue improving air and water quality. Vision 2020 outlined a plan to develop a system of interconnected protected natural areas threading through both rural and urban areas in the region including natural core areas such as wetlands, forests and other ecologically significant habitats used by local wildlife which will be linked by stream corridors, farm hedgerows and newly created linear links with vegetative buffers. These will allow wildlife to move from one geographic area to another and also link natural areas to municipal parks, rights-of-way, bike paths and hiking trails-making open space and natural areas more easily accessible to a higher proportion of the population. Vision 2020 also emphasises that a new ethic must be adopted on waste reduction, minimizing consumption and substantially reducing the amount of waste.

Apart from the guidance set by Vision 2020 for the different government sectoral plans and reviews, there is also a Staff Working Group on Sustainable Development which is mandated by the Regional government to help integrate the principles of sustainable development into the capital budget and departmental work programmes. There is also a programme to involve the population in evaluating what has been achieved and helping set priorities.

Source: Wilkins, Charles, 'Steeltown charts a new course', Canadian Geographic, vol. 113, no. 4, July/Aug. 1993, 42-55; Regional Municipality of Hamilton-Wentworth, Implementing Vision 2020, Directions for Creating a Sustainable Region, The Regional Chairman's Taskforce on Sustainable Development, 1993; and Regional Municipality of Hamilton-Wentworth, Towards a Sustainable Region: Hamilton-Wentworth Region, Official Plan (Draft), Sept. 1993, Regional Planning and Development Department, September, Hamilton-Wentworth, 1993; Staff Working Group on Sustainable Development, Hamilton-Wentworth's Sustainable Community Decision-Making Guide, Regional Municipality of Hamilton-Wentworth, Aug. 1993.

development was not new to local government representatives. In 1990, the World Congress of Local Governments for a Sustainable Future founded the International Council for Local Environmental Initiatives (ICLEI), and this has been working for some years to support local authorities seeking to resolve environmental problems.[55] Box 12.6 gives an example of how a municipality can develop a sustainable development plan. It describes the plan developed by a Canadian municipality, Hamilton-Wentworth, and serves as an illustration of a local government seeking to address a wide range of sustainable development goals within a coherent planning framework.

Local Agenda 21 processes will differ from city to city since they reflect the different local contexts in which they are working and the existing institutional structures. In some countries, they can build on a considerable experience at local authority level in environmental planning and management; in others, there is no such base on which to develop them and as Chapter 5 described, many municipal governments have few powers and resources. There is also considerable variation as to how many local authorities in any country are developing local Agenda 21 s and as to whether these are becoming integrated into other aspects of urban planning and management.

Some countries have national programmes of support for such initiatives including Australia, the Netherlands, Denmark, Sweden, the UK and Finland.[56] In the UK, such initiatives have several purposes:

- To promote local consultative processes on sustainable development.

- To disseminate guidance for UK local authorities on how to move towards sustainability at a local level and on how to develop models of community consultation, participation and local consensus.

- To involve and fully participate with other sectors and major groups in the local Agenda 21 process at a national level.[57]

In Sweden, all local authorities have environmental strategies that include provision for waste minimization and recycling and most municipalities have started or decided to start work on Local Agenda 21s.[58] Several European countries are exploring the possibilities of linking work on Local Agenda 21 to formal land-use planning systems. For instance, the city of Stockholm is currently preparing a new structure plan which takes a more strategic and longer term view than previous plans and will explicitly promote the integration of environmental, social and economic goals-and the new plan will become

part of the Local Agenda 21 for the city.[59] In Denmark, existing planning instruments are being adapted to Agenda 21 requirements so that municipal plans become overall action plans for the environment.[60]

Certain local authorities in the South have also developed local Agenda 21 s. For instance, each of the municipalities which make up the Bogotá metropolitan area in Colombia are developing their own local environmental agendas, sponsored by the metropolitan authority, NGOs and academics[61]-see Box 12.7. Other urban centres in Colombia such as Manizales also have a well-established local Agenda 21 process.[62] Among other cities in the South that are developing Local Agenda 21s are Cajamarca in Peru, Durban in South Africa, and Santos in Brazil.[63]

To date, there has been no comprehensive assessment of local Agenda 21 processes. ICLEI has recently initiated a research programme to look more closely at this work in 21 cities throughout the world. An obvious constraint on local Agenda 21s is their national context. Chapter 5 noted the lack of resources and technical capacity within most local authorities in the South and the fact that local governments are often restricted by central government both in respect of raising finance and in other activities.[64]

## 12.4 Reducing cities' Ecological Footprint

### Introduction

Chapter 4 described how the `ecological footprint' of wealthy cities draws on the ecological productivity of an area many times that of the city itself. There are obvious measures which permit a reduction in any city's ecological footprint. Most are linked to one of the following:

- Increasing biomass production within the city or its immediate surrounds (e.g. crops, fish, trees).

- Reduced waste or increased use of `waste' as an input into production (e.g. organic waste used for compost; waste water used for urban agriculture; improved performance on reclamation and recycling of materials).

- Increased efficiency in the use of resources imported into the city (e.g. fresh water, fossil fuels and other mineral resources).

Some of these issues have been considered already. For instance, earlier sections discussed how to reduce the use of resources which then implies less resource extraction is needed-and also innovations in waste minimization that reduce the volume of wastes generated within cities that then has to be disposed of in the wider

**Developing Local Environmental Agendas in Santa Fé de Bogotá, Colombia**

In Colombia, in recent years, there has been a considerable strengthening of environmental action-at all levels-and also institutional changes to give a higher priority to local action and to participation. The Colombian legal framework in the 1991 Constitution helped increase the decentralization process from national to regional and local agencies. The approval by Congress for setting up a new Ministry of Environment in December 1993 also implies increased political support for urban environmental policies.

This increased priority to environmental action at local level can be seen in Santa Fe de Bogotá, the capital and much the largest urban area (with 6.4 million inhabitants, according to the 1993 census). Environmental Agendas are being developed by each of the 20 municipalities that make up Bogotá metropolitan area with support from Bogotá's Department of the Environment (DAMA), NGOs and academics. Each district has Local Administrative Councils made up of directly elected councillors on three year terms of

office. They are supported by local development funds which strengthen their decision making powers. Local environmental agendas are seen as ways in which local environmental problems can be identified and acted on, but which also feed into city planning or which allow districts with comparable problems to work together in addressing them.

The first step in developing a Local Agenda within a municipality is to develop a local environmental profile. This identifies environmental resources and problems and locates them within the municipality's physical and socio-economic structure. These are then discussed in workshops and the areas in need of immediate attention are identified. This leads to a priority list for environmental action. The second step is defining the Local Agendas (including the programmes and projects to receive priority, the financial responsibilities of the organizations involved, and a timetable for an investment plan) and developing the partnerships between the Local Administrative Councils and community based organizations, NGOs and other groups within the locality.

One funding source for the Local Agendas is the Ecofondo Corporation which was set up to provide financial and technical support for

citizen's environmental initiatives. In 1994, it had 408 environmental organizations on its register, many of which work in Bogotá. It is providing funds to some of the Local Agenda projects in Bogotá-for instance the Entrenubes park project contained in the Usme and San Cristobal Agendas and the programme to protect the *humedales* of Tibabuyes and Juan Amarillo from unauthorized settlements and the dumping of wastes.

This decentralization of resources and responsibilities and the need for greater co-ordination between local, regional and national bodies has not been without difficulties. For instance, many government departments resisted the emergence of an environmental co-ordinating body for Bogotá and the municipal governments have long had inadequate resources and trained staff for the environment actions they are required by law to undertake. In addition, planning in Bogotá has traditionally been centralized with little participation.

The greater attention given to environmental issues has also been supported by a greater priority given to environmental education at all levels of the education system.

city region. Two aspects which have not been covered and which deserve attention are urban agriculture (see below) and urban forestry (see Box 12.9).

### Urban agriculture

In many urban centres in the South, a high proportion of the population grows a significant proportion of their own food or derives an income from selling crops or livestock. In many cities in both the North and the South, a considerable proportion of the fruits and vegetables and certain other crops consumed in the city are produced within metropolitan boundaries or just outside them.

The importance of urban agriculture has rarely been fully grasped by city authorities or by researchers. As a recent overview of urban agriculture notes,

cities can be transformed from being only consumers of food and other agricultural products into important resource-conserving, health-improving, sustainable generators of these products. In **particular, agriculture** in towns, cities and metropolitan areas can convert urban wastes into resources, put vacant and under-utilised areas into productive use, and conserve natural resources outside cities while improving the environment for urban living.[65]

This overview also noted the tremendous diversity in urban agriculture since it includes:

- Aquaculture in tanks, ponds, rivers and coastal bays.
- Livestock (particularly micro-livestock) raised in backyards, along roadsides, within utility rights-of-way, in poultry sheds and piggeries.
- Orchards, including vineyards, street trees, and backyard trees.
- Vegetables and other crops grown on roof tops, in backyards, in vacant lots of industrial estates, along canals, on the grounds of institutions, on roadsides and in many suburban small farms.[66]

Urban agriculture can combine environmental goals such as reducing the ecological footprint of cities and utilizing city wastes with broader economic and social goals. It can generate or support many jobs and contribute significantly to the food or fuel needed by poorer groups; the review noted above pointed to the many studies which show the extent to which poorer households gain food or income from urban agriculture, even within cities where such agriculture is not encouraged. For instance, a study by Mazingira Institute in Kenya found that almost two-thirds of the 1,500 urban households questioned in six Kenyan towns grew some of their own food or

fuel while about half kept some livestock.[67] In Lusaka, Zambia's capital and largest city, more than half of all households in some low-income areas grew a proportion of their own food either on plots next to their shelters or on plots elsewhere cultivated during the rainy season; for many families in Lusaka, the food they grow themselves provides a vital or useful food supplement although insufficient information is available to gauge its importance.[68]

However, it is not only in the South where urban or peri-urban agriculture is important; in the USA and in many European countries, a significant proportion of the total value of agricultural production is produced within metropolitan boundaries. This is especially so if the value of home-grown produce from gardens, balconies and backyards which is consumed by the household is also taken into account. There are also some innovative examples where urban agriculture has been combined with other services. For instance, the examples given in Box 12.8 include a 4-hectare farm that is right in the middle of a completely urbanized residential area and a series of small gardens developed by a group of neighbours in one of the poorer districts of South Philadelphia. In New York, one estimate suggested that 1,200 vacant lots had been reclaimed for community gardens.[69]

Urban agriculture can also bring other environmental benefits. It can make use of the city's organic wastes (through composting it) and in so doing, reduce considerably the volume of waste

which has to be disposed of. It can reduce water pollution when crop production is integrated with waste water disposal; this also has the advantage of limiting urban agriculture's demand for fresh water in cities where freshwater resources are scarce. Nutrient-rich sewage water is commonly used to irrigate crops or trees or support fishponds-and one in ten of the human population currently consumes food produced by the direct use of waste water.[70] The hazards to human health from pathogens or vectors within sewage water can easily be managed, either through relatively low-cost treatment measures or through the cultivation of non-food crops or crops which can safely be irrigated with sewage water.[71]

Urban agriculture can also make use of land not easily used for any other purpose-for instance land directly under electricity transmission lines as in the case of the successful commercial production of salad vegetables by Produce Gardens in Los Angeles[72] or land with sufficient risk of flooding to discourage permanent structures but where food production can be encouraged. It can also make use of vacant land-sites, until these are to be developed. In many cities, people make use of balconies, rooftops and small internal spaces for vegetables and fruit trees but also for more unusual products such as medicinal herbs (as in Santiago de Chile), silkworms (on balconies in Delhi), orchids in Bangkok and rabbits in Mexico City's informal or illegal settlements.[73] Urban agriculture can also reduce energy inputs into food production and distribution by minimizing the distance between production and consumption.[74]

## Acting on rural-urban interactions

Earlier sections outlined the serious economic and ecological costs to the regions in which cities are located which can arise from urban demand for rural resources, urban pollution and unplanned and uncontrolled city expansion. Many are best addressed by action within the city-for instance the damage to forests, soils and water resources arising from city-generated pollution is generally best addressed through pollution control and waste reduction within the city. Most of the other problems-the loss of agricultural land, the destruction of natural landscapes and public open spaces and the ecological costs inherent in any unplanned low density urban sprawl-need a public control over land-use changes. These have to balance economic, social and ecological goals and resolve potential conflicts between them. For instance, housing prices in any city are much influenced by the availability and cost of land for housing-so too high a priority to halting development with an `ecological belt' around a city where

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BOX 12.8

**Examples of urban agriculture in the United States**

**Fairview Gardens Farm: This 4-hectare farm is within one of California's more fertile valleys that has been surrounded by high-density, urban residential developments on three sides with a highway on the fourth. It is completely surrounded by urban development. The site was undeveloped in 1974, when purchased by a couple who were committed to growing food without chemicals, although the soil had been removed. The land has since been developed into a highly productive farm producing some 75 different varieties of fruit and vegetables. The food produced here feeds some 500 families. In a good year, over 30,000 lbs of peaches, plums and citrus fruits are harvested along with 25,000 lbs of avocadoes and tons of fresh vegetables. The farm also serves as a centre of education for schools in the vicinity.**

**The Garden of Eatin': In one of the poorer areas of Philadelphia, a group of neighbours developed highly productive food gardens on lots on a site that had been left undeveloped. Now, the different plots grow kale, cotton, black-eyed beans, okra, corn, lima beans, sweet potatoes, Jerusalem artichokes and blackberries as well as roses and calla lilies.**

Source: Ableman, Michael, From the Good Earth; a Celebration of Growing Food around the World, Harry N. Abrams, New York, 1993.

demand for housing is growing will drive up housing prices. They must also be flexible enough to respond to different kinds of settlements and differing local needs and priorities. They must also reconcile the different aims and objectives of different local government units and of the populations they represent.

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**BOX 12.9**
## Urban forestry

**Trees are an important part of urban environments. London has almost six million trees and hedges, and more than 65,000 woodlands and stands of trees. About 64 per cent of these trees are in residential areas-often in gardens. The increased awareness of the importance of urban trees has led to tree-planting programmes to increase the tree population in many towns and cities. In Quito, Ecuador the mayor declared a goal of planting 200,000 trees during his administration. In Guatemala City, a campaign to 're-green the city' was initiated in 1986 and over 1.5 million trees were planted. In the UK, tree-planting has been an important part of urban regeneration programmes.**

**The reasons for the considerable number of trees being planted or already existing in urban environments are the benefits they bring to improving the quality of urban life. First there are the material benefits. Trees in the South provide a variety of products that are used by urban dwellers to meet both subsistence and income generation needs. In areas in which the primary source of energy is wood fuel, either as wood or charcoal, the most vital benefit of trees in the South is the production of fuelwood. In both North and South, trees are a valuable source of food-particularly fruits, but also leaves, shoots and flowers. In many countries in the South, they are also used as fodder for livestock grazing in the urban areas. Trees are also important in the construction of urban settlements. Large amounts of timber are consumed for the construction of buildings and furniture. Other benefits include landscape enhancement, educational value, recreation and wildlife habitats. They can act as visual or acoustic screens and help to complement the buildings, and to keep the city in touch with nature. Trees can also provide pollution sinks for contaminants in land and air. Tree-planting has a significant effect in cleansing the air of pollutants and trees have a role in energy conservation by providing shade in summer and reducing the cooling effects of wind in winter. An additional benefit is the control of serious soil erosion and coastal erosion.**

**With the rapid growth of many towns and cities, there have been accompanying environmental problems, but some attempts have been made to improve the urban environments. Tree-planting has a role in this improvement and several schemes have been undertaken to increase the number of trees in these urban areas. In other instances, tree-planting has been used as part of urban regeneration. For instance, Knowsley Borough Council in the UK plants trees on vacant industrial land with the forestry type and treatment closely linked to the length of time the land is likely to remain idle and this initiative has been incorporated into the Mersey Forest, one of several community forests being created around urban areas in Britain.**

**Sources: Countryside Commission, Action For London's Trees, London, 1993; Carter, J. The Potential Of Urban Forestry In Developing Countries: A Concept Paper', Food and Agriculture Organization of the United Nations, 1993; Department of the Environment, Trees in Towns, London, 1993; European Union Expert Group on the Urban Environment, European Sustainable Cities, First report, Oct. 1994, XI/822/94-EN.**

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Here, as in other areas of environmental concern, the needed measures are more easily conceived than implemented. For instance, the loss of agricultural land from urban expansion can usually be avoided or minimized if local government guides the physical expansion and ensures that vacant or under-utilized land within the urbanized area is fully used. In most cities in the South, there is sufficient vacant land left undeveloped or only partially developed within the urbanized area to accommodate a very considerable increase in residential and commercial development with no expansion in the urbanized area.[75] Here, as in low-density suburbs in cities in the North, it is possible to promote higher densities and mix homes, workplaces, and retail and leisure activities around public transport nodes.[76] Even in cities with rapidly expanding populations, city expansion can combine adequate provision of land for housing and urban enterprises on the urban periphery with the protection of natural landscapes and the areas needed as public open space. Provision for urban agriculture and for parks, playgrounds and other forms of open space can be integrated with the protection of watersheds and agricultural land. The new urban developments on the city periphery can promote high energy efficiency in all buildings and energy supplies. Fossil-fuel use in transport can be kept down by ensuring that these relatively dense new developments on the urban periphery are centred around public transport nodes where mixed developments are, encouraged and the use of private automobiles discouraged.[77]

The main difficulties in achieving such measures is in implementation. A recent paper on 'planning the sustainable city region'[78] noted that environmental planning must recognize three crucial characteristics of environmental processes:

- their trans-media nature through air, land and sea

- their trans-sectoral nature which cuts across traditional policy boundaries

- their trans-boundary nature cutting across political frontiers.

Solutions imply co-ordinated action between city authorities and the. public authorities who have jurisdiction over the areas around a city unless there is a metropolitan authority which has jurisdiction over both. The local governments in the provinces, districts or municipalities which surround the urbanized area often have different aims and objectives to those within the urbanized area. Solutions imply integrated action by a wide range of government agencies and private companies who have long pursued their own sectoral goals largely in isolation. Many potential conflicts

are not easily resolved. For instance, most cities have examples of the opposition of wealthier groups living in suburbs or `exburbs' to new developments there-including improved provision of public transport (since this would put at risk the exclusive nature of the area), support for increased supplies of modest-priced housing and encouragement of new commercial or industrial enterprises. There is also the difficulty of developing an appropriate institutional structure to manage this process, especially in most cities in the South where urban authorities at all levels (metropolitan, city and municipal) are weak and ineffective. Making this institutional structure protect the public interest and do so in ways which are transparent and accountable is particularly difficult, given the scale of windfall profits which can accrue to landowners and developers from public decisions about land-use changes, the location of new roads or railways or where they are to be improved, and the kind and density of development permitted. Such decisions-or the failure of public authorities to control the conversion of agricultural land to residential, commercial or industrial use-can mean that land values increase by 100-fold or even 1,000-fold. The scale of possible profits from land transactions and the power of the landowners or developers who are the main beneficiaries help explain the inadequacies of public action on this issue.

## 12.5 International Innovations

Various international innovations have been described in earlier sections of this chapter-for instance the work of the Urban Management Programme in developing a framework for environmental planning and management and the work of the OECD Development Assistance Committee in developing environmental impact-assessment procedures. Chapter 11 also reported on the increasing attention given by various international donor agencies to environmental issues in their funding programmes.

Two other examples are the Sustainable Cities Programme and the Metropolitan Environmental Improvement Programme. The Sustainable Cities programme is a joint initiative of UNCHS (Habitat) and UNEP to provide municipal authorities and their partners in the public, private and community sectors with an improved capacity for environmental planning and management.[79] It has initiated in many cities demonstration projects that seek to involve all the public- and private-sector actors in the city to develop a broadly based environmental strategy and high priority capital investment projects. Each city project also aims to

stimulate comparable initiatives within the same country-and to promote the sharing of know-how between cities in different regions of the world. Sustainable City projects are underway in Dar es Salaam, Accra, Ibadan, Ismailia, Concepcion, Katowice, Jakarta and Madras; examples drawn from Dar es Salaam and Ismailia are given in Box 12.10.

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BOX 12.10
**Sustainable Cities Programmes
in Dar es Salaam and Ismailia**

**Dar Es Salaam (Tanzania): Dar es Salaam has begun to develop and apply new approaches to urban planning and management with an explicit emphasis on sustainable development. Its main areas of work are in solid-waste management, providing services for urban land, improved air and surface water quality, the management of coastal area resources and of recreational and tourism resources and the development of urban agriculture. New urban management techniques have been introduced, working with local authorities. The programme has also brought private sector and community interests into the planning and management process and in so doing, has also helped to mobilize private sector and community resources. The new sustainable development planning process is also developing strategic plans, action plans and packages of investment projects that reinforce each other. This initiative has also stimulated the Government of Tanzania to initiate a national programme for sustainable urban management to replicate the lessons learnt in Dar es Salaam in eight other cities.**

**Ismailia (Egypt): Ismailia is an important administrative capital within the Suez Canal region with a population of 750,000. The Sustainable Cities Project has developed an environmental profile and a city environmental management information system. It also held a city-wide consultation that brought academics, the private sector, NGOs and community-based organizations into discussion with public institutions and politicians. This led to the formation of working groups that included representatives from these diverse groups. A City Environmental Strategy Review Workshop is co-ordinating environmental management and planning strategies based on the recommendations of working groups on**

- **managing land for agricultural development**
- **the management of Lake Timsah**
- **industrial development and**
- **urban strategic planning of the city, with human resource development as a cross cutting issue with particular attention given to generating job opportunities for youth and to the needs and priorities of women.**

**This process is leading to preparation of detailed investment projects, including feasibility studies and the identification of national and transnational sources of funding. A national consultation on Urban Environmental Strategies in Egypt is planned to allow the development of initiatives similar to those in Ismailia in other Egyptian cities.**

The Metropolitan Environmental Improvement Programme is a UNDP-funded programme executed by the World Bank and this initiated work in five Asian cities in 1990 (Beijing, Bombay, Colombo, Jakarta and Manila).[80] It aims to develop and implement an environmental management strategy in each of these cities.

This includes support for strengthening the capacity of pollution control and environmental protection agencies, especially in working with powerful economic planning and sectoral agencies at the local and national levels.

There are also numerous international agencies or networks that promote environmental planning and management or broader sustainable development goals. Box 12.11 gives some examples of the many that do so and of the various international conferences that have helped to generate a greater interest in cities' environmental problems in recent years.

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BOX 12.11

## Networks promoting environmental and sustainable development in urban areas

Formal and informal networking between cities has become increasingly important for the sharing of ideas and experiences in the development, management and implementation of policies and projects. Although both formal and informal city networks and city-twinning arrangements have existed for many years or even decades, as governments and international agencies have given more attention to urban problems, so have urban authorities become more involved in international, regional and national networks.

The international networks include CITYNET in Asia and EUROCITIES in Europe and the Cities for Climate Protection Campaign, whose work is supported by ICLEI. In March 1993, 83 European cities launched the European Cities for Climate Protection campaign. They also include networks that focus on particular issues-for instance the Urban Management Programme run by UNCHS (Habitat), the World Bank and UNDP that within its broader brief has a particular interest in environmental issues and the Healthy Cities network supported by the World

Health Organization that forms a network of cities committed to action on environment and health. The European Union supports a Sustainable Cities project through its Expert Group on the Urban Environment which encourages good practice and the exchange of information and is developing policy recommendations for the Union and member states.

There are many specialized networks operating within particular regions-for instance in Europe: Environet in the field of economic development; ECOS, POLIS, Public Transport Inter-change and the Car-Free Cities Club in Transport; and ROBIS that deals with the recycling of land for residential and commercial development in land use planning. In Asia, the Asia-Pacific 2000 programme is also promoting innovation and inter-city exchanges between groups working in urban areas.[81] The Africa Research Network for Urban Management (ARNUM) links over 300 researchers and urban practitioners in Africa in both national workshops and research projects. Certain agencies are particularly active within countries to promote action on Agenda 21 and an exchange of experiences-for instance the UK Local Government Management Board that is supporting a national programme to help local authorities in the UK to develop Local Agenda 21 plans.

Certain international events have been important in stimulating this networking. These include

- The meeting in Toronto (Canada) in 1991 that led to 130 cities signing the Toronto Declaration on World Cities and the Environment.

- The Berlin Declaration, arising from an expert meeting in Berlin in 1992, that stressed the importance of each city building and updating a local environmental action plan for sustainable urban development.

- The meeting of the World Urban Forum in 1992 where representatives from 45 cities signed the Curitiba Commitment for sustainable urban development.

- The Earth Summit in Rio de Janeiro in 1992 where governments committed themselves, within Agenda 21, to supporting the development of Local Agenda 21s.

- Global Forum '94 in Manchester (UK) where delegations from 50 cities met to discuss how citizen groups, NGOs, the private sector, trade unions and city authorities can work together to achieve sustainable development goals.

- The First European Conference on Sustainable Cities and Towns in Aalborg, Denmark in 1994.

Sources: European Union Expert Group on the Urban Environment, European Sustainable Cities, First report, Oct. 1994, X1/822/94-EN; Parenteau, Rend 'Local action plans for sustainable communities', Environment and Urbanization, vol. 6, no. 2, Oct. 1994; and UNCHS (Habitat), Sustainable Human Settlements Development: Implementing Agenda 21, Paper prepared for the Commission on Sustainable Development, United Nations Centre for Human Settlements (Habitat), Nairobi, 1994.

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# 13 New Directions for Human Settlements: Addressing Sustainable Development Goals

Over the last two and a half decades, the focus of human settlements policies in most countries in the South has shifted several times. In the 1970s, the focus was on housing the urban poor. This was to be achieved largely through national government programmes for upgrading in illegal or informal settlements and for sites and services and core housing programmes that were meant to be affordable by low-income households. By the mid-1980s, the limitations of this approach had become evident; these are now generally well known and they were reviewed in the last Global Report on Human Settlements.[1] Their main shortcoming was the inability of governments to reach sufficient people through such approaches, largely because these did little to address the more fundamental constraints regarding the supply of land, housing finance and building materials and the provision for infrastructure and services. In addition, improvements arising from upgrading projects were often not maintained either by the communities upgraded or by their local authority while serviced site projects often proved inappropriate to the needs of lower income groups. The adoption of the Global Strategy for Shelter to the Year 2000 in 1988 promoted a shift in focus and propelled the `Enabling Approach' and the related idea of `Partnerships' to the forefront of human settlements policy. The latest shift in policy focus has been towards the concept of `Sustainable Development.' This was the central theme and message of Agenda 21, which was adopted in Rio de Janeiro in May 1992 at the United Nations Conference on Environment and Development (UNCED). However, as this chapter will describe, the enabling approach also has great relevance to promoting sustainable development.

Earlier chapters described how these shifts in policy focus have been against the background of an increasingly urbanized world where within the next ten years or so, more than half the world's population will live in urban areas. An increasing proportion live in large cities, including some of unprecedented size. Given this background, and the recent policy changes mentioned above, the main challenge in the next two decades is how to manage the development of human settlements in a rapidly urbanizing world in such a way as to satisfy the social, economic and environmental goals of sustainable development, overcome the limitations of past human settlements policies, and satisfy the growing demand for democratic governance at all levels of society.

## 13.1 A Rapidly Urbanizing World: Cities as Solutions

### Moving away from a negative view of cities

Cities have long been blamed for many human failings. Capital cities are often blamed for the failures or inadequacies of the government institutions located there. The wealthiest cities are often blamed for the inequalities in income that the contrasts between their richest and poorest districts make visible. Cities in general and industrial cities in particular are blamed for environmental degradation. Images such as `exploding cities' and `mushrooming cities' are often used to convey a process of population growth and urbanization that is `out of control'. Cities are often blamed for corroding the social fabric. Within the current concern for `sustainable development', cities are often cited as the main `problem'.

Yet this Report, in surveying the evidence, found little substance to these criticisms. These criticisms forget the central role that cities and urban systems have in stronger and more stable economies, which in turn have underpinned great improvements in living standards for a considerable portion of the world's population over the last few decades. As Chapter 3 described, average life expectancy, worldwide, grew by more than 12 years between 1960 and 1992 while in many countries, it grew by 18 or more years. Chapter 1 showed the close association between urbanization and economic growth and the fact that urbanization is not `out of control'; it also showed the high concentration of the world's largest cities in the world's largest economies. The tendency to consider `rapid urbanization' as a problem forgets that the world's wealthiest nations also underwent periods of rapid urbanization and that the rate of increase in the level of urbanization in countries in the South is rarely larger than that experienced in earlier decades by countries in the North.[2] While it is true that many cities have grown very rapidly, this is largely a reflection of the rate at which their economies grew.[3]

The attempts to imply a link between 'exploding cities' and `rapid population growth' in the South ignore the fact that those who live in or move to cities generally have smaller families than those living elsewhere and that the countries with the largest increase in their level of urban-

ization over the last 20-30 years are also generally those with the largest falls in population growth rates.[4] Chapter 1 also noted that cities are not 'mushrooming'; indeed most of the world's largest cities have long histories and a high proportion of the major cities that do not are in North America and Australia. This hardly suggests that the appearance of major new cities is associated with poverty.

Many cities certainly have a high concentration of poverty and Chapter 3 described how the scale of urban poverty and its depth in terms of the deprivation, ill health and premature death it causes have been greatly under-estimated. But worldwide, the scale and depth of poverty in rural areas remains higher, if sometimes less visible. In general, the higher the level of urbanization in a country, the lower the level of absolute poverty.

Anti-city polemic also obscures the real causes of social or ecological ills. It fails to point to those responsible for resource over-use and environmental degradation, and fails to perceive the great advantages (or potential advantages) that cities offer for greatly reducing resource use and wastes. It is not cities that are responsible for most resource use, waste, pollution and greenhouse-gas emissions-but particular industries and commercial and industrial enterprises (or corporations) and middle- and upper-income groups with high-consumption lifestyles. Most such enterprises and consumers may be concentrated in cities but a considerable (and probably growing) proportion are not. In the North and in the wealthier cities or regions of the South, it is the middle- or upper-income household, with two or three cars living in rural areas or small towns or low-density outer suburbs of cities, that has the highest consumption of resources-generally much more so than those with similar incomes living within cities.

## The positive role and advantages of cities

Cities have the potential to combine safe and healthy living conditions and culturally rich and enjoyable lifestyles with remarkably low levels of energy consumption, resource use and wastes.[5] The fact that cities concentrate production and population gives them some obvious advantages over rural settlements or dispersed populations.

The first advantage is that high densities mean much lower costs per household and per enterprise for the provision of piped, treated water supplies, the collection and disposal of household and human wastes, advanced telecommunications and most forms of health care and education. It also makes much cheaper the provision of emergency services-for instance fire-fighting and the emergency response to acute illness or injury that can greatly reduce the health burden

for the people affected. The concentration of people and production may present problems for waste 'collection and disposal, but these are not problems that are insuperable, especially where a priority is given to minimizing wastes. Chapter 8 also  noted the long-established traditions in many cities in the South which ensure high levels of recycling or reuse of wastes on which governments' solid-waste management can build. Within the largest cities, the concentration of population can make the treatment and disposal of sewage problematic given the volume of excreta and waste water that needs to be disposed of. But this is rarely a major problem in smaller cities and towns-where most of the world's urban population live. There are many examples of the successful and safe utilization of sewage for intensive crop production.[6] There are also an increasing number of examples of effective sanitation systems that do not require high volumes of water, including some that require no water at all[7] (although water is always needed for hand washing and personal hygiene in general). The techniques for enormously reducing the use of fresh water in city homes and enterprises, including recycling or directly reusing waste waters, are well known, where freshwater resources are scarce[8]-although it is agriculture, not cities, that dominate the use of fresh water in most nations.[9]

The second advantage that cities provide is the concentration of production and consumption, which means a greater range and possibility for efficient use of resources-through the reclamation of materials from waste streams and its reuse or recycling-and for the specialist enterprises that ensure this can happen safely. Cities make possible  material  or  waste exchanges between industries. The collection of recyclable or reusable wastes from homes and businesses is generally cheaper, per person served. Cities have cheaper unit costs for many measures to promote the use of reusable containers (and cut down on disposable containers) or to collect chlorofluorocarbons from fridges and other forms of cooling equipment.

The third advantage is that a much higher population concentration in cities means a reduced demand for land relative to population. In most countries, urban areas take up less than 1 per cent of the national territory. The entire world's urban population would fit into an area of 200,000 square kilometres-roughly the size of Senegal or Oman-at densities similar to those of high-class,  much-valued inner-city residential areas in  European cities (for instance Chelsea in London).[10] In most cities around the world, there are examples of high-quality, high-density residential areas and Chapter 9 noted the increased popularity of housing in the central districts of certain cities, as governments controlled private

automobiles, improved public transport and encouraged a rich and diverse street life. Although unchecked urban (or more often suburban) sprawl is often taking place over valuable agricultural land, this can often be avoided. And as Chapter 12 noted, in many cities in the South the scale of urban agriculture is such that a significant proportion of the food consumed by the city is also produced within its boundaries.[11] This chapter also pointed to the many advantages of urban forestry.

The fourth advantage of cities in climates where homes and businesses need to be heated for parts of the year is that the concentration of production and residential areas means a considerable potential for reducing fossil-fuel use-for instance through the use of waste process heat from industry or thermal power stations to provide space-heating for homes and commercial buildings. Certain forms of high-density housing such as terraces and apartment blocks also considerably reduce heat loss from each housing unit, when compared to detached housing. Chapter 12 also noted the many measures that can be taken to reduce heat gain in buildings to eliminate or greatly reduce the demand for electricity for air-conditioning.

The fifth advantage of cities is that they represent a much greater potential for limiting the use of motor vehicles-including greatly reducing the fossil fuels they need and the air pollution and high levels of resource consumption that their use implies. This might sound contradictory, since earlier chapters described how most of the world's largest cities have serious problems with congestion and motor-vehicle generated air pollution. But cities ensure that many more trips can be made through walking or bicycling. They also make possible a much greater use of public transport and make economically feasible a high-quality service. Thus, although cities tend to be associated with a high level of private automobile use, cities and urban systems also represent the greatest potential for allowing their inhabitants quick and cheap access to a great range of locations,   without the need to use private automobiles.

Cities are also among societies' most precious cultural artifacts. This can be seen in the visual and decorative arts, music and dance, theatre and literature that develop there and in the variety and diversity of street life evident in most cities. In most cities, there are buildings, streets, layouts and neighbourhoods that form a central part of the history and culture of that society. Some of the most lively expressions of popular culture are evident in many of the poorer areas in cities-both in art[12] and in music.[13] Many cities or particular city districts demonstrate how cities can provide healthy, stimulating and valued housing

and living environments for their inhabitants without imposing unsustainable demands on natural resources and ecosystems.

Cities are also places in which the `social economy' has developed most-and where it must prosper, not only for the benefits it brings to each street or neighbourhood but also for the economic and social costs it saves the wider society.[14] The social economy is a term given to a great variety of initiatives and actions that are organized and controlled locally and that are not profit-oriented. It includes many activities that are unwaged and unmonetized-including the work of citizen groups, residents' associations, street or barrio clubs, youth clubs, parent associations that support local schools and the voluntary workers who help ensure that a preventive-focused health-care system reaches out to all those in need within its locality. It includes many voluntary groups that provide services for the elderly, the physically disabled or other individuals in need of special support. It often includes many initiatives that make cities safer and more fun-helping provide supervised play space, sport and recreational opportunities for children and youth. It may provide formal or informal supervision or maintenance of parks, squares and other public spaces. But it includes enterprises and initiatives that employ paid workers and sell goods and services-for instance local enterprises which combine social as well as commercial aims, owned by people within a defined locality or who share other forms of common interest. It also includes initiatives to support such enterprises-for instance the many community enterprise development trusts set up in recent years and the local exchange trading systems that are now in evidence in more than 20 countries-see Box 13.1.

The social economy within each locality creates a dense fabric of relationships that allow local citizens to work together in identifying and acting on local problems or in taking local initiatives.[15] Its value to city life is often enormous, but this is often forgotten by governments and international agencies, as it is almost impossible to calculate its value in monetary terms. A considerable proportion of the economic growth in the wealthier countries in recent decades has come from shifting functions from the social economy where their value was not counted in economic terms (and not recorded in GNP statistics)  to the market economy. Energies once invested in developing and maintaining family and  community relationships and in building or supporting local initiatives and institutions had to be redirected to earn sufficient income to pay the taxes that then funded government responses to the problems the social economy had helped address or keep in check-for instance struetural

**Local exchange trading systems (LETS)**

Many cities have various forms of community exchanges operating within particular localities. During the 1980s and early 1990s, Local Exchange Trading Systems became increasingly popular as formal systems by which people in any locality or neighbourhood could exchange goods and services without money. These serve, in effect, to increase the purchasing power of those involved and the range of goods and services they can afford, while also retaining value within the locality.

LETS schemes function by publishing a list of goods and services offered for sale by their members, priced in particular units of account set up by their particular scheme. This allows members to exchange goods and services with no money changing hands. As a member provides goods or services to another member, so they run up credit that is recorded by the scheme. A member that 'purchases' these goods or services has a debit that is then paid off by providing goods or services to another member. All members receive regular statements to keep them informed of their position.

There are LETS groups in many countries-including more than 200 LETS groups in the UK and close to 200 in Australia. Some have grown to a considerable size-for instance one in the Blue Mountains in Australia has 1,000 accounts involving more than 2,000 people. A survey in the UK found that the average membership is 70 and that groups tend to double in size in a year until they reach a membership of around 250, when their growth rate slows down. In this same survey, 25 per cent of members were unemployed, and 12 per cent worked part time. Over a third of the LETS have businesses as members-rather than individuals.

Sources: Graham Boyd, 'The urban social economy', Urban Examples, UNICEF, New York, 1995; and Long, Peter, Lets Work; Rebuilding the Local Economy, Grover Books, Bristol, 1994.

unemployment, insecurity, vandalism, crime and a sense, among many low-income households and youth, of being excluded from social and political processes.

## The role of governance

Perhaps the single most important-and difficult-aspect of urban development is developing the institutional structure to manage it in ways that ensure that the advantages noted above are utilized-and also done in ways that are accountable to urban populations. Most of the problems described in this Report in terms of very poor housing, lack of piped water and provision for sanitation and drainage, the lack of basic services such as health care, the serious and often rising problem of urban violence, the problems of traffic congestion and air and water pollution arise largely from a failure of government institutions to manage rapid change and to tap the knowledge, resources and capacities among the population within each city. Indeed, governments have often helped destroy or stifle the `social economy' in cities that is so central to their prosperity and to the capacity of the inhabitants in each locality to identify and act on their own priorities.

Making full use of the potential that cities have to offer requires `good governance'. The evidence of the 1980s and early 1990s is that `good governance' can bring major economic and social gains, and much less environmental degradation. This can be seen in the extent to which such critical social indicators as infant mortality and life expectancy vary between countries with comparable levels of per capita income or between cities of comparable size and prosperity. As Chapter 3 described, for nations with relatively low incomes per person, `good governance' at the level of a city or nation can deliver a 10-15 year increase in levels of life expectancy above the average. There is also no contradiction between high social achievement and good economic performance; indeed, the link may be that high social achievement is associated with better than average economic performance.

`Good governance' can also be assessed in the extent to which city, regional and national governments ensure that people within their boundaries have safe, sufficient water supplies, provision for sanitation, education and health care. Although, in general, the proportion of the population with access to these rises, the wealthier the city and the higher the country's per capita income, there is great variation in performance between nations and cities with comparable levels of per capita income. In most nations, there has also been a failure to consider the economic costs-as well as the immense social costs-of not ensuring basic service provision to their populations.

A successful city is one where the many different goals of its inhabitants and enterprises are met, without passing on costs to other people (including future generations) or to their regions. It is also one where the social economy is allowed to thrive. But in the absence of `good governance', as Chapter 4 described, cities tend to be centres of pollution and waste. Even when pollution levels are much reduced in the city-as they have been in most cities in the North-this is often because environmental costs are being passed on to other regions-for instance through acid rain and water pollution and dumping wastes generated within the city outside its boundaries. City enterprises and households can also pass on costs to future generations through over-use of scarce resources and through their contributions to greenhouse-gas emissions. Worldwide, city-based enterprises and consumers account for a high proportion of all resource use. They also produce a high proportion of all wastes, including toxic and hazardous wastes and air and water pollution.

In the absence of `good governance', cities can be unhealthy and dangerous places in which to live and work. Each household and enterprise can reduce its costs by passing its environmental problems of solid and liquid wastes and air pollution on to others. At least 600 million urban dwellers in the South live in very poor conditions-many of them in illegal settlements-with very inadequate provision for water, sanitation, drainage, garbage collection and other basic services. Meanwhile, in the absence of a planning framework, city expansion takes place haphazardly and often with urban sprawl over the best quality farmland. Hundreds of millions of low income households live in illegal or informal settlements that developed on land ill-suited to housing-for instance on floodplains or steep slopes with a high risk of landslides or mudslides. They live here because these are the only land sites which they can afford or where their illegal occupation will not be challenged, because the land site is too dangerous for any commercial use. Hundreds of millions of city inhabitants have been forced to find or build homes in illegal settlements, where the threat of forced eviction is always present.

## 13.2 Sustainability in Human Settlements Development

### From environmental concerns to sustainable development

Sustainable development brings together two strands of thought about managing human activity. The first concentrates on development, including a concern for equity, while the second looks to ensuring that development does not damage the planet's life support systems or in other ways jeopardize the interests of future generations.

Within the context of human settlements, a commitment to sustainable development means adding additional goals to those that are the traditional concerns of local authorities. Meeting human needs has long been a central responsibility of city and municipal authorities. Their objectives generally include a desire for greater prosperity, better social conditions (and fewer social problems) and (more recently) better environmental standards within their jurisdiction. These have long been important concerns for urban citizens.

A concern for `sustainable development' retains these conventional concerns but with two more added. The first is a concern for the impact of city-based production and consumption on the needs of all people, not just those within their jurisdiction. The second is an understanding of the finite nature of many resources (or eco-

systems from which they are drawn) and of the capacities of ecosystems in the wider regional, national and international context to absorb or break-down wastes.

Historically, these have not been considered within the remit of city authorities. Indeed, as Chapter 4 described, while many cities in the North have made considerable progress in achieving sustainable development goals within their own boundaries (i.e. reducing poverty, ensuring high-quality living environments, protecting local ecosystems and developing more representative and accountable government), they still have a large `ecological footprint' as they draw heavily on the environmental capital of other regions or nations and on the waste absorption capacity of `the global commons'.[16] But in the long term, no city can remain prosperous if the aggregate impact of all cities' production and their inhabitants' consumption draws on global resources at unsustainable rates and deposits wastes in global sinks at levels that undermine health and disrupt the functioning of ecosystems.

Adding a concern for `ecological sustainability' to existing development concerns means setting limits on the rights of city enterprises or consumers to use scarce resources and to generate non-biodegradable wastes. This has many implications for citizens, businesses and city authorities. Perhaps the most important for cities in the North and the wealthier countries in the South is how to uncouple high standards of living/quality of life from high levels of resource use and waste generation.

### Sustainable development and cities

Figure 13.1 illustrates the multiple goals of sustainable development within cities. It is based on the central goal of sustainable development in *Our Common Future,* the Report of the World Commission on Environment and Development (also known as the Brundtland Commission), published in 1987. This states that we must meet `the needs of the present generation without compromising the ability of future generations to meet their own needs'.[17] Figure 13.1 elaborates on the different social, economic, political and ecological goals that fall under this. The development goals that aim at `meeting the needs of the present' are not new. They include economic, social, cultural, health and political needs. Many city authorities have these broad goals. These are also 'the goals contained in the United Nations Universal Declaration of Human Rights-i.e. meeting each person's right to a standard of living adequate for health and well-being including food, clothing, housing and medical care and necessary social services.[18] This Declaration, subsequent United Nations documents and *Our*

*Common Future* all stress that development goals should include the right to vote within representative government structures.

While the economic dimensions of `sustainable development' are increasingly well understood and strongly woven into the current literature on sustainability, the social dimension is less well formed, although just as crucial. Social equity, social justice, social integration and social stability are of fundamental importance to a well-functioning urban society. Their absence leads not only to social tension and unrest, but also to civil  wars, violent ethnic conflicts and other human-made disasters. Chapter 1 described the very rapid growth in the number of refugees worldwide and the number of people displaced by wars or civil strife within their own national boundaries. Beirut, Jerusalem, Belfast, Sarajevo and Mogadishu and many other cities have hit world headlines as places where opposing communities have engaged in internecine strife. Unless society is at peace, development can be stifled at source or destroyed. Without peace, all development gains are under threat. Strategies for achieving social equity, social integration and social stability are essential underpinnings of sustainable development. In the human settlements context, this implies two things. The first is reducing deprivation and avoiding social exclusion through the creation of adequate income-earning opportunities and improvement of living and working conditions for all social strata. The second is improving governance through the decentralization of decision-making and development implementation to democratic local authorities who remain accountable to their citizens and more transparent in their modes of working.

The `sustainable' component, i.e. ensuring that present needs are met `without compromising the ability of future generations to meet their own needs', requires action to prevent depletion or degradation of environmental assets so that the resource base and ecological base for human activities may be sustained indefinitely. Chapter 12 described the different kinds of environmental assets-the renewable and non-renewable resources and sinks-and the kinds of actions that can ensure ecological sustainability. These are also summarized in Figure 13.1. This implies the need for city and municipal authorities to consider how their policies and actions affect these different kinds of environmental assets and how, in the long term, to avoid depleting them. Some progress has been made in this, as can be seen in the examples given earlier of Local Agenda 21s developed in certain countries, cities and regions. Box 13.2 summarizes some of the specific actions needed at the local, national and international levels in implementing the concept of sustainable human settlements.

In the final analysis, and taking into account both the development and environment components of sustainable development, the main criteria for judging sustainable development in human settlements should be:

- the quality of life of the inhabitants, including existing levels of poverty, social exclusion and integration and socio-political stability;
- the scale of non-renewable resource use, including the extent to which waste recycling or re-use reduces it;
- the scale and nature of renewable resource use, including provisions to ensure sustainable levels of demand for, for instance, freshwater resources and consideration of the settlement's wider ecological footprint; and
- the scale and nature of non-reusable wastes generated by production and consumption

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**FIGURE 13.1
The multiple goals of sustainable development as applied to cities**

Source: Mitlin, Diana and David Satterthwaite, Cities and Sustainable Development, the background paper to Global Forum '94,  Manchester City Council, June 1994.

**Meeting the needs of the present. .**

- Economic needs: includes access to an adequate livelihood or productive assets; also economic security when unemployed, ill, disabled or otherwise unable to secure a livelihood.

- Social, cultural and health needs: includes a shelter which is healthy, safe, affordable and secure, within a neighbourhood with provision for piped water, sanitation, drainage, transport, healthcare, education and child development. Also a home, workplace and living environment protected from environmental hazards, including chemical pollution. Also important are needs related to people's choice and control - including homes and neighbourhoods which they value and where their social and cultural priorities are met. Shelters and services must meet the specific needs of children and of adults responsible for most child-rearing (usually women). Achieving this implies a more equitable distribution of income between nations and, in most, within nations.

- Political needs: includes freedom to participate in national and local politics and in decisions regarding management and development of one's home and neighbourhood -within a broader framework which ensures respect for civil and political rights and the implementation of environmental legislation.

**. . . without compromising the ability of future generations to meet their own needs**

- Minimizing use or wase of non renewable resources: includes minimizing the consumption of fossil fuels in housing, commerce, industry and transport plus substituting renewable sources where feasible. Also, minimizing waste of scarce mineral resources (reduce use, re-use, recycle, reclaim). There are also cultural, historical and natural assets within cities that are irreplaceable and thus nonrenewable -for instance, historic districts and parks and natural landscapes which provide space for play, recreation and access to nature.

- Sustainable use of renewable resources: cities drawing on freshwater resources at levels which can be sustained; keeping to a sustainable  ecological footprint in terms of land area on which producers  and consumers in any city draw for agricultural crops, wood products and biomass fuels.

- Wastes frnm cities keeping within absorptive capacity of local and global sinks: including renewable sinks (e.g. capacity of river to break down biodegradable wastes) and non-renewable sinks (for persistent chemicals; includes greenhouse gases, stratospheric ozone-depleting chemicals and many pesticides).

BOX 13.2

**Implementing the concept of sustainable human settlements in an urbanizing world**

Resolution 15/11, adopted by the United Nations Commission on Human Settlements at its fifteenth session (Nairobi, 25 April to 1 May, 1995), identifies the key measures necessary for the successful implementation of the concept of sustainable development within the context of human settlements, including specific measures relating to urban land and mitigation of natural disasters. The preamble to the resolution outlines the main concerns and premises on which the resolution is based, namely:

(a) The call for sustainable development in Agenda 21 is not simply for environmental protection, but also for a new concept of economic growth which provides for fairness and opportunity for all people in the world without destroying the world's natural resources and without further compromising the carrying capacity of the globe.

(b) Sustainable development rests on three pillars, namely, environmental sustainability, economic sustainability, and social sustainability.

(c) Because of their concentrated nature, human settlements are significant consumers of natural resources and the development and management of human settlements may represent a substantial component in unsustainable production and consumption patterns.

(d) As urban development occurs, it may have severe impacts on land and water resources and on the atmosphere, unless vigorous action is taken to prevent such adverse effects.

(e) In many countries, especially developing ones, the pressure of population growth and urbanization is having adverse implications for the supply of adequate shelter, environmental infrastructure and services.

(f) Cities play a very important role in national economic growth, contribute disproportionately to national productivity and have a valuable role in facilitating cultural advancement and social development.

(g) As part of the rapid increase in urban populations, rural settlements on urban fringes are being absorbed into the urban domain and agricultural areas and forest resources are being converted to urban use, often in wasteful and environmentally damaging ways.

(h) The poor are often unable to afford urban land and that which they can afford is often unsuited to settlement, they often lack security of land tenure, and reside in areas with grossly inadequate infrastructure.

(1) Natural disasters are an outcome of the interaction between natural hazards and vulnerable conditions which cause severe losses to people and their environments and they usually require outside intervention and assistance at national and international levels in addition to individual and communal responses.

(j) The challenge of comprehensive disaster mitigation programmes in urban areas is to continue general economic development and provide jobs, shelter and basic amenities while addressing the environmental and equity problems which are the real causes of vulnerability to natural hazards.

In the first part of the operative section, the resolution recommends that governments adopt and ensure the implementation (at national and local levels) of the following general measures for the sustainable development of human settlements:

(i) Decentralization of decision-making and creation of an enabling environment to support the initiatives of local authorities and community organizations.

(ii) Formulation and implementation of local Agenda 21 plans and improvement of inter-sectoral co-ordination at the local, regional and national levels.

(iii) Establishment of regulatory and incentive structures to encourage sustainable use of resources.

(iv) Promotion of the use of non-polluting appropriate technologies in human settlements activities, particularly in the areas of energy and transport, so as to minimize and to eliminate, if possible, negative impacts on the environment.

(v) Increasing financial resources at the level of the local authority for promoting national sustainable urban development objectives;

In the second part of the operative section, the resolution also calls upon Governments to adopt and facilitate the implementation of the following specific measures for sustainable urban land development and management:

(i) Promotion of access to land and security of tenure for all urban residents, particularly the poor, through improved land market transparency and innovative mechanisms to utilize public and private land, including fiscal incentives to bring unutilized land into use, improved land delivery and tenure systems and, where appropriate, direct government land ownership.

(ii) Decentralization and simplification of land registration and, where appropriate, privatization of land survey departments, as well as improvement of urban land-use planning and management methods.

NO Promotion of land-use planning, taking into account the density factor in a way which allows adequate social services and sustainable infrastructure to be provided, including measures to promote utilization of under-utilized plots.

(iv) Strengthening of conservation measures at all levels, both preventive and remedial, aimed at minimizing physical degradation of land and eliminating pollution, in particular from industrial waste.

(v) Strengthening of the role of land as the cornerstone of urban municipal finance, including measures for more effective taxation of the value added on privately owned land resulting from public infrastructure investments, as well as adoption of land and property taxes designed to encourage more economical use of land and discourage speculative withholding of land suitable for development.

(vi) Compilation of national inventories of land and other ecological resources and formulation of long-term spatial strategies to guide land resources development.

In the third part of the operative section, the resolution further urges governments to promote and facilitate implementation of the following measures specifically for the mitigation of natural disasters.

(i) Setting up of institutional structures and decision-making processes which ensure that mitigation of natural disasters becomes an integral part of sustainable human settlements development.

(ii) Building up of national collective memories of disasters, their effects, methods used to combat them and means to reduce their impacts.

(iii) Improvement and regulation of access to land for housing the poor in order to limit encroachment of residential settlements on to hazardous sites.

(iv) Encouragement of and assistance to local authorities to direct human settlements development on to vacant public land in relatively safe locations through the provision of infrastructure.

(v) Identification of hazardous sites and their conversion into alternative productive uses, thereby protecting them from illegal occupation for residential purposes.

NO Reduction of the threats of already identified hazardous sites.

(vii) Development and use of housing designs, building materials and construction methods which can mitigate the effects of natural disasters.

(viii) Enhancement of technical assistance to regional and local institutions and provision of training in management of natural disasters to technicians, professionals and administrators.

Finally, the resolution urges UNCHS (Habitat) and, by implication, other international organizations, to: increase efforts to assist

activities and the means by which these are disposed of, including the extent to which the wastes impact on human health, natural systems and amenity.

## 13.3 The Enabling Approach and Partnerships

### The enabling framework

The `enabling framework' gives government a central role in setting the framework for urban development but a lesser role in providing the investment. This framework encourages and supports the multiplicity of large and small initiatives, investments and expenditures by individuals, households, communities, businesses and voluntary organizations. By supporting the processes that are building and developing the city and the social economy, what appeared as insurmountable problems begin to appear more manageable.

The `enabling framework' developed in response to housing problems and the failure of conventional public-sector responses.[19] It has a wider relevance to broader issues of city management. The origins of the idea that government actions in regard to housing should concentrate on `enabling' and supporting the efforts of citizens and their community organizations to develop their own housing goes back at least to the 1950s and perhaps earlier. The concept of enablement has also spread to many other sectors-for instance, in the supply and maintenance of water systems and in the promotion of `healthy cities and communities' where individuals' capacity to be able to take effective action and to influence their own environment is seen as central to their well-being.[20]

The concept of enablement is based on the understanding that most human investments, activities and choices, all of which influence the achievement of development goals and the extent of environmental impacts, take place outside `government'. Most are beyond the control of governments, even where governments seek some regulation. In Southern cities, the point is particularly valid since most homes, neighbourhoods, jobs and incomes are created outside of government and often in contravention of official rules and regulations.[21] The emphasis on `enabling policies' has received considerable support from the growing recognition that democratic and participatory government structures are not only important goals of development but also important means for achieving such development. Participation and enablement are inseparable since popular priorities and demands will be a major influence on the development of effective and flexible enabling policies.

The 1980s brought a growing realization that inappropriate government controls and regulations discourage and distort the scale and vitality of individual, family and community investments and activities, all of which are essential for healthy and prosperous cities. But there is also recognition that, without controls and regulations that are scrupulously enforced, individuals, communities and enterprises can impose their externalities on others. Preventing this is one of the main tasks of governance.

One of the key issues is then-what kind of `enabling' institution is needed that best compliments the efforts of individuals, households, communities and voluntary organizations and ensures more coherence between them all so they all contribute towards city-wide improvements. How can funding and technical advice be made available in ways that match the diverse needs and priorities of different settlements-with accountability and transparency built in to their disbursement of funding. Some important precedents have been described already-for instance the large-scale kampung improvement programme in Surabaja that did involve citizens and community organizations in determining priorities, the Million Houses Programme in Sri Lanka and the support for community-level organization and action in its urban sub-programme, and the work of FONHAPO in Mexico, COINAP in Guatemala, the Urban Community Development Office in Thailand, each of which has funded and supported a great diversity of community-level initiatives in housing improvement and site development. Chapter 9 also included a review of the participatory tools and methods now increasingly used in development projects.

### Cities built from the bottom up

All cities are the result of an enormous range of investments of capital, expertise and time by individuals, households, communities, voluntary

organizations, NGOs, private enterprises, investors and government agencies. In most cities in the South, the total value of the investments made by people in their own homes and neighbourhoods usually exceeds many times the total capital investment made by city and municipal authorities. Yet in most cities in Africa, Asia and Latin America, the individual, household and community efforts that have such a central role in building cities and developing services have long been ignored by governments, banks and aid agencies.[22]

Deficits in housing and basic services seem unmanageable when aggregated at the level of the city or nation. Yet housing gets built, new residential areas appear and basic (if inadequate) services are provided in the absence of government action. In most cities in the South, most new housing is being developed by those for whom there is no official support, and no credit or technical assistance available. Any attempt by a government organization to increase the housing stock of a major city by many thousand units a year is unthinkable and yet the housing stock in most of the larger cities in the South is increasing by tens of thousands of new units built outside the law and most with no government help. What can be achieved by supporting the efforts of several hundred community organizations in a single city (and where possible doing so in partnership with municipal agencies) vastly outweighs what any single government agency can do itself. As a prominent Argentine urban specialist has noted,

Much could be achieved in terms of direct improvements to living conditions in urban areas if governments no longer chained and repressed but supported a vast range of activities at present invisible to them-individuals, households and communities building or extending their own homes and creating a living for themselves.[23]

The challenge for city governance is to ensure that this great multiplicity of investments and initiatives, in aggregate, improves living conditions, attracts private sector investment and encourages new enterprises.

The capacity to manage rapid change is one of the key attributes of good governance. The capacity to manage urban change is often confused with the investment capacity of city or municipal authorities. The two are not necessarily the same since such authorities can do much to encourage and support private investment not only in enterprises but also in a city's built environment and in infrastructure and services. As earlier chapters noted, governments in the South that have worked with and supported the investments of individuals, households and community or neighbourhood organizations in their own homes and neighbourhoods have helped improve housing and living conditions and expand the provision of infrastructure and services, despite limited government funds. City authorities can greatly improve the quality of public transport by providing the framework for private firms; it is often forgotten that the public transport system of Curitiba in Brazil that is much admired for its quality and comprehensiveness is provided by private-sector bus companies but within a framework set up by the city authorities.[24] City authorities should also have the main role in enforcing legislation on air and water pollution and occupational health and safety. This does not require large investments by public authorities, but it can do much to improve health and the quality of life in a city.

Good governance also means coping with conflicting goals and the competing claims of different interests. All cities face a variety of contradictions that are not easily managed and for which sophisticated yet accountable regulations and institutions are needed. For instance, the most powerful economic interests on whose prosperity the city depends will want infrastructure and services provided to meet their needs but will also seek to keep down costs and pay as little as possible, both for these and for the infrastructure and services needed by city inhabitants. They will also seek to keep down wages for their workforces yet this in turn diminishes the amount that their workforce can pay for housing and basic services. Enterprises and their workforce will often disagree about the level of provision for occupational health and safety. In competing with other cities for productive investment, each city authority has to keep down costs for residents and enterprises and offer attractive sites for enterprises yet also ensure sufficient funding is available so that infrastructure and services are available and citizen needs are also met. In addition, as the power and resources available to city authorities grow, so too does the potential for their misallocation. The larger and more prosperous the city, the greater the potential for corrupt practices, as government contracts for public services or for infrastructure projects grow ever larger, and as government decisions (about the location of roads or about potential uses of particular land sites) can multiply tenfold, a hundredfold or even a thousandfold the value of particular land sites. But within these areas of disagreement and conflict, there is often a large degree of common ground between enterprises, trade unions (or other forms of workers' organizations) and residents. This is especially as private enterprises are increasingly looking for cities that are well managed with high-quality living environments and good-quality infrastructure and services.

City authorities must also look to encourage local innovation. For example, a local initiative to

improve garbage collection and recycling levels may have immediate beneficial effects for the environment of a local community. Health may improve as rubbish dumps are cleared and breeding sites for disease vectors and pests reduced. The project itself may provide local employment. But if it is to spread beyond one locality, it requires a supportive local authority to encourage similar initiatives in other parts of the city. It also requires regulations to minimise risk from large-scale waste dumps and may require further incentives to encourage local business to use recycled products. National and international controls on waste may also be needed; few local authorities will promote recycling and waste reduction if it remains cheaper to dump untreated wastes or export them to another region or nation. There is also little point in a community reducing locally generated waste if their health is endangered by toxic or otherwise hazardous wastes from other sources.

Achieving the balance between addressing the needs of citizens as consumers and employees and addressing the demands of private enterprises needs a representative political and administrative system through which the views and priorities of citizens and businesses can influence policies and actions. Democratic structures remain among the best checks on the mis-allocation of resources by city and municipal governments. Actively involving a wide range of local groups in developing `city governance' helps ensure that the different priorities of a wide range of groups are addressed. Decentralizing governance from capital cities to regions, cities and municipalities can be one of the best means of promoting participation as government projects become more relevant and more effective, as the communities concerned have a real say in their planning and implementation.[25]

The principle of subsidiarity remains important as responsibilities, tasks and control over resources are decentralized to the lowest level where their implementation will be effective. Agencies that are supra-city, whether state/ provincial or national agencies or ministries or international agencies, often misunderstand the nature of local developments, resources and constraints. They also cannot identify the full range of options from which to choose the most appropriate policies, programmes and plans. External agencies can bring knowledge, expertise, capital and advice. But, without effective local government acting to represent local views, external agencies are unlikely to implement the kinds of projects or programmes that respond directly to the needs and priorities of individuals, households, voluntary groups and the private sector within each locality.

The basis for `good governance' at city and municipal level exists in most of the world's wealthier and more urbanized nations. But it has taken many decades to develop the institutional framework for this, especially in setting up democratic, transparent and accountable decision-making structures, and in moderating the influence of those interests which have the power and resources to form influential lobbies. In most nations in the South, as Chapter 5 described, the basis for `good governance' is much weaker. City and municipal authorities lack the capacity to raise revenue and have tasks and responsibilities assigned to them that are far beyond their technical and financial capabilities. It is common for local government budgets to have little or no funds for capital investments and a great shortage of technical skills. It is rare for a city or municipal government to have any significant capacity for expanding or extending infrastructure and services. At best, significant new investments are occasional and ad hoc, funded by central government or some development assistance agency. Meanwhile, city and municipal authorities fail to control industrial pollution and to ensure good practice in occupational health, to promote environmental health, to ensure that city dwellers have the basic infrastructure and services essential for livelihoods and a decent living environment, to plan in advance to ensure sufficient land is available for housing for low-income groups and for economic development, and to implement preventive measures to reduce environmental problems or their impacts. It is this lack of investment capacity that necessitates a new approach that builds on and supports the `bottom up' processes that are building the cities.

## Partnerships

Governance extends beyond governments. It includes the strengthening of institutions for collective decision-making and the resolution of conflicts. It implies new alliances and partnerships. Good governance develops a framework that succeeds in encouraging and supporting innovation and partnerships at household, community, city and regional levels. The achievement of sustainable development goals within a city will need an enormous range of household or community projects whose individual impact may be small but whose collective impact is significant. City and municipal authorities must develop sustainable development frameworks that encourage and support a sufficient number of such initiatives for their cumulative impact to be significant for particular districts and for whole cities and city-regions. Institutions and partnerships between the different actors (NGOs, community organizations, business and commercial enterprises, professional organizations or associations, national and local government) are

needed to achieve sustainable development across all sectors and geographic scales and promote beneficial inter-project linkages.

The activities of certain groups are particularly influential to urban development: citizen groups and community-based organizations; non governmental organizations (NGOs); city government; commercial and industrial enterprises; and international aid/development assistance agencies.

## Citizen groups

These come under many names and are also known as grassroots groups, community-based organizations, self-help groups and base-level organizations. All represent some form of primary organization by residents or workers in a city (often formed by relatively poor households) to better their opportunities or fight against some hazard. Such groups are usually formed around a residential community or workplace.

The range and relative influence of such groups varies greatly from city to city. In many Southern cities, associations of residents formed within illegal or informal settlements or tenements are much the most important `local authority' for their neighbourhood because of the lack of services provided by local government. In some, associations or federations of these residents' organizations have become powerful political forces,[26] although in most instances governments seek to limit their power and in many seek actively to suppress it. But their importance in many cities has grown in recent years, when long-established citizen movements have been given more scope to organize in countries that have recently instituted or returned to democratic rule, or as new movements have grown in importance-for instance around environmental issues or women's rights or alternative lifestyles.[27] Most such movements challenge the legitimacy of conventional forms of city governments. And despite their volatility, these civic movements may be decisive in ensuring that cities meet the diverse social and collective needs of their inhabitants.[28]

The capacity of citizen groups to identify local problems and their causes, to organize and manage community-based initiatives and to monitor the effectiveness of external agencies working in their locality represents one of the most valuable resources available to city and municipal authorities. This is especially so where municipal authorities remain too weak to ensure the provision of basic services to entire city populations. However, there is also the danger that, where city authorities are weak and ineffective, it is the more prosperous middle- and upper-income areas that are most effective at ensuring they benefit from limited government investment capacity and at avoiding any financial contribution towards the costs of managing a city effectively.

Each city neighbourhood has its own unique range of environmental problems and development priorities-and effective action demands local capabilities to identify problems and their causes and decide on the best use of limited resources. In many societies, this will require far more support channelled direct to citizen and community action. Various examples given in this Report showed how this can deliver immediate benefits to poorer groups more cheaply and effectively than more conventional state actions. It can also contribute to strengthening civil society by reinforcing democracy and participation and by developing partnerships between community-based organizations, NGOs and municipal governments.

Citizen pressure can and often has encouraged city and municipal governments to pursue more sustainable patterns of resource use and waste minimization, where the ecological impacts are local or regional or (on occasion) national. Chapter 9 also noted the role that citizen-groups had in opposing large highway projects and in promoting more attention to public transport-roles that were seen, at the time, as regressive but with the benefit of hindsight have proved very important for the economy and the quality of life of the cities. The influence of citizen pressure can also be seen in the environmental movements and in the role taken by environmental issues in election campaigns in the North. But many have been largely driven by citizen concern for their own health and quality of life. There needs to be sustained citizen pressure on city and municipal governments to press for changes in production and consumption patterns that have their most serious ecological impacts overseas or on global cycles. The achievement of sustainable development depends on cities responding to the ecological damage to which their enterprises and consumers contribute far beyond their boundaries and that affect citizens in other countries.

## Non-governmental organizations

Non-governmental organizations (NGOs) exist in so many forms with such differences in the scale and type of their work that any summary risks being incomplete and inaccurate. In most countries, there are dozens of NGOs involved in urban projects; in many, there are hundreds. NGOs vary in scale from large, well-organized institutions working in many locations to small ones operating in one neighbourhood with a tiny budget and perhaps one (part-time) paid staff member. Some are based only on voluntary, unpaid work. They vary in orientation from those working in participatory ways with low-income

groups and their community organizations developing innovative approaches to development problems to those with very traditional, top-down `welfarist' approaches.

NGOs carry out many different kinds of activities which include emergency relief; technical or financial support to improve income-generating/ expenditure-saving capacity; support for self-help and grassroots democracy; and lobbying and advocacy for political changes to improve the macro-level conditions that have resulted in local and national poverty (for example, debt) and environmental degradation. The scope of their goals varies from those seeking to influence change within one particular urban neighbourhood to those seeking to change the policies of governments and international agencies. Many NGOs follow more than one strategy, with different projects realizing different kinds of needs.[29]

In regard to cities, three roles have been identified for NGOs:

- *Enablers* (i.e. community developers, organizers or consultants) alongside community-based organizations;

- *Mediators* between the people and the authorities which control access to resources, goods and services.

- *Advisers* to state institutions on policy changes to increase local access to resources and greater freedom to use them in locally determined ways.[30]

NGOs have emerged as critical intermediary institutions supporting citizen's organizations to obtain access to resources and to negotiate with local government and other state institutions. In some cases, they may also negotiate on behalf of the citizens with the private sector, for example, when a low-income community has settled on illegally occupied private land and is trying to negotiate legal tenure from the landowner or when the residents in an illegal subdivision seek to negotiate improved provision of infrastructure from the landowners or developers. The role that many NGOs have as intermediaries between citizens and external agencies is sometimes encouraged by the local authority, although it is also viewed with some suspicion by other authorities.

NGOs may help form community organizations within the areas in which they are active or they may respond to the needs of existing citizen groups. NGOs that work with citizen groups may also be involved in building coalitions to address common goals. For instance, coalition building has been used to combat violence in the Prevention Programme at the Contra Costa County Health Services Department (California) which brings together different groups who are either already concentrating on a particular form

of violence (e.g. Battered Women's Alternatives) or serving a population that is particularly at risk. Instead of creating new, stand-alone programmes, existing community-based organizations join with the Programme to form a single coalition that co-ordinates comprehensive, prevention services. These coalitions may also include representatives of governmental agencies, non-profit groups, funding sources, or businesses.[31]

Many NGOs have developed innovative ways to support disadvantaged groups (for instance, pavement dwellers, street children and people with physical disabilities or chronic diseases). NGOs' capacity to work with low-income groups in participatory ways to improve shelter and provide or improve services, to negotiate with governments and donors for funds and to develop the alliances and networks which promote political change (very often with federations or coalitions of community-based organizations) gives them an important role within new models of urban development. As Chapter 9 described, NGOs and citizen groups have also pioneered the development of participatory tools and methods that permit a much more active involvement of citizens and their associations in identifying their needs and priorities and in determining how best to ensure these are met.

Some of the most important research on urban problems and potential solutions in the South have been undertaken by NGOs. This is perhaps most evident in Latin America, as research or action-research NGOs formed and developed during the 1960s and 1970s, largely staffed by researchers who had been expelled from universities or other state institutions under the influence of right-wing non-democratic (and often military) governments. More recently, new NGO models have developed-as in the research, publications and campaigns of the Centre for Science and Environment in India that covers both rural and urban dimensions of sustainable development.[32]

The work of NGOs is sometimes controversial. It often centres on demands for social change, perhaps inevitably if a major part of NGOs' work involves demanding a fairer deal for low-income or disadvantaged groups. Many Southern NGOs working in urban issues have been active in opposing forced evictions of low-income groups-for instance the Urban Poor Associates in Manila, the Urban Resource Centre in Karachi, SPARC in Bombay and the Brazilian Movement for the Defence of Life in Rio de Janeiro.[33] In recent years, NGOs have come to be considered as an important part of a movement of `civil society'; a broad coalition of interests determined to ensure that public interest issues are not monopolized by the state.

Many NGOs whose main work is implementing projects have been criticized for their lack of

accountability to the communities with whom they work. The communities may find that a development project has been defined either by the NGO or their funders, and their own role in determining the direction of the project is marginal. There is also the problem in many countries of limited NGO capacity. This is especially so in many countries where there is no established tradition of NGO involvement in human settlement projects and where official bilateral aid programmes have greatly increased the scale of funding they channel through national or local NGOs.

At an international level, NGOs campaign and lobby to influence governments and international organizations. In this, they have long been active in both environment and development issues, although prior to the Earth Summit in 1992, relatively few sought to combine environment and development and thus work for the simultaneous achievement of the development and ecological sustainability goals that make up sustainable development. In recent years, there has been a much greater awareness of the coalition of interest between development NGOs and environment NGOs.

The strength of international NGO networks has greatly increased in the last decade and networks between NGOs in urban areas are no exception. The Habitat International Coalition is an international network of NGOs working in shelter and settlement-related issues that has been operating for over 20 years;[34] it has over 200 NGO members and a major urban agenda.[35] Ten years ago, a regional network for Africa, Settlement Information Network Africa, was set up.[36] More recently in 1987, an Asian network has been established, the Asian Coalition for Housing Rights.[37] Such networks support local city-based NGOs and community organizations and put pressure on governments and international agencies to address the needs of poorer groups.

## City government

Given the diversity of cities both in terms of their size and population growth rates and in their economic, social, political, cultural and ecological underpinnings, it is difficult to consider 'sustainable development' and cities in general terms. Much of the action to achieve sustainable development has to be formulated and implemented locally. The unique nature of each city and its culture and position within local and regional ecosystems means a need for local resources, knowledge and skills to achieve development goals within a detailed knowledge of the local and regional ecological carrying capacity. This demands a considerable degree of local self-determination, since centralized decision-making structures have great difficulty in developing and implementing plans that respond appropriately to such diversity.[38] However, there are common principles such as the need for good practice in each public agency's planning, project appraisal, budgeting, purchasing and tendering with full consideration given to environmental aspects, including waste minimization and the use of goods made of recycled materials.[39] Another common principle is the need to ensure the integration of environmental goals into all aspects of planning and management.

The achievement of sustainable development goals for any city depends on the capacity of city and district/borough/commune/municipal governments to develop the sustainable development framework outlined earlier in this chapter and to plan and manage the area under their jurisdiction. Both the institutional framework and the planning has to be guided by the needs and priorities of its residents. At local level, the priority is for each society to develop its own response to local environmental problems and resource limitations, using the tools most appropriate to its own unique situation.

As Chapter 9 described, physical plans and land-use management should provide a framework within which local households, enterprises and entrepreneurs can make choices and governments can make long-term plans for infrastructure and service development. Insufficient or poor quality planning implies enormous societal and environmental costs such as those arising from difficulties in installing infrastructure due to the chaotic expansion of cities; the development of illegal settlements in and around cities on flood plains, wetlands and other unsuitable sites due to a lack of affordable alternative sites; and the lack of provision for city dwellers (especially in poorer areas) of open space for recreation. Poor and insufficient physical planning and land use management also implies the development of cities that compound the problems of the urban poor. Only richer groups can afford to live in legal, well-serviced residential areas while most of the poor have to survive on marginal, dangerous and often peripheral sites whose monetary value is too low to prompt their eviction.

It is the city government which has to:

- Promote more sustainable patterns of resource use and waste minimization among consumers and producers.

- Ensure a good match between demand and supply for land for all the different land uses that are part of any city while using its planning and regulatory system to promote resource conserving buildings and settlement patterns.

- Invest in needed infrastructure and services (or

plan and co-ordinate their provision by other agencies/enterprises) again within a resource conserving framework.

- Work with local businesses to enhance the locality's attraction for new productive investment.
- Encourage and develop local partnerships to help achieve the above and other sustainable development goals within the city.

Just as all the actions and policies of city or municipal authorities can seek to improve environmental performance and reduce waste, so too can they all seek ways to contribute to poverty reduction-see Box 13.3.

The quality of governance determines the extent to which a city takes advantage of the potential environmental advantages of its concentration of production and population and avoids the potential disadvantages. City government also has to represent the needs and priorities of its citizens in the broader context-for instance in negotiations with provincial and national governments. It must work with international agencies and businesses considering investing in the city region. And it has to work with regional authorities to identify and minimize negative impacts and maximize positive ones.

### Commercial and industrial enterprises

Governments at both a national and local level must develop the conditions to support and sustain economic prosperity but in most instances they are dependent on the private sector to respond to these opportunities. With the collapse of communist governments in Eastern Europe and the former Soviet Union and the privatization of many government agencies and responsibilities in most countries, investment opportunities are increasingly in the domain of the private sector. The private sector has a clear interest in the economic aspects of sustainable development and in the provision of infrastructure and services, but a more ambiguous position in regard to equity-both within contemporary society and inter-generationally.

Most commercial and industrial enterprises have some direct long-term interest in ecological sustainability as a depleted and degraded environment is likely to raise production costs and increase risks. For some medium and large companies, environmental degradation may also result in increasing costs in the short-term. But the main area of action on the environment among the private sector is in reducing adverse health and environmental impacts within their own facilities and in their immediate surrounds. Here, there is an immediate incentive to intro-

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**BOX 13.3**
**Options for municipal interventions in urban areas**

Municipal governments can have a major role in alleviating or reducing poverty in urban areas, even when they have limited investment capacity at their disposal. A large part of this role is in encouraging and supporting the efforts of community-based organizations, NGOs and private-sector institutions in supplying or improving urban services such as water supply, sanitation, solid-waste management, public transport, health care and education. There is also considerable potential for poverty alleviation through changes in the regulatory framework for land management, urban agriculture and housing. For instance, low-income households often find it difficult to obtain land for housing legally as finding and obtaining (or registering) a legal house plot and obtaining permission to develop it for housing involves time consuming and costly procedures; here regulatory reform could increase the supply and reduce the cost of land for housing. Similarly, regulatory reform on building and planning regulations can reduce the cost of housing. Municipalities can also support urban agriculture and in so doing, improve food supplies and incomes for many low-income households. This can be done by developing and disseminating information on land tenure, land capacity, markets, and water, by providing technical assistance where needed, and by ensuring that provision is made for urban agriculture in urban planning.

Municipal programmes can also make major contributions to employment creation-especially through support for small-scale and informal enterprises. A new and much-neglected aspect of poverty alleviation is also improved access to justice and protection from crime. The urban poor rarely receive protection from the law and often turn to informal systems, as the formal judicial system is seen as slow, unpredictable and often biased against them. There are interesting precedents for municipal action to address the problems of crime and public safety which include community-mobilization and support. For instance, in Cali (Colombia), the municipal programme acknowledged the importance of operating at community level in its three action areas: law enforcement (public safety councils), education for peace (conciliation centres and school programmes), and social development (micro-enterprise development and sites for low-income housing).

Source: Drawn largely from Wegelin, Emiel A. and Karin M. Borgman, 'Options for municipal interventions in urban poverty alleviation', Environment and Urbanization, vol. 7, no. 2, Oct. 1995. The information about Cali is drawn from Guerrero, R., 'Cali's innovative approach to urban violence', The Urban Age (Urban Violence Issue), vol. 1, no. 4, 1993, 12.

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duce environmentally clean technology in their own factories or to pressure government to strengthen controls on other companies. Some of the larger companies have been encouraged to introduce environmental improvements in their production processes due to consumer campaigns and changes in the goods which consumers prefer to purchase. What is termed `green consumerism' in the North has helped to drive a number of new items onto corporate agendas including environmental audits of company's performance (and that of their suppliers) and

eco-labelling (so consumers can identify goods whose production and use minimize harmful environmental impacts).[40] Trade unions have also been active in promoting `eco-audits' at the workplace-see Box 13.4.

In addition, despite recession in much of the North, there is a new vigour to the debate about business and the environment and many business leaders no longer dismiss environmental movements and are even happy to discuss such concepts as full cost accounting (where the environmental and social costs of a company's production process and products must be taken into account) and inter-generational equity.[41] There are also examples of companies in both North and South that have made a major commitment to pursuing sustainable development goals.

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BOX 13.4
## Mobilizing action and eco-audits at the workplace

**The International Confederation of Free Trade Unions (ICFTU) has stressed that the discussions of sustainable development have given too little attention to the workplace and to the role of workers and their trade unions in acting on sustainable development issues. These issues obviously include meeting workers' needs for health and safety but they also include an important role in acting on issues such as resource use (including energy consumption), pollution control and waste management.**

**ICFTU has stressed the importance of eco-audits of the workplace as a way of setting and promoting action on such issues. Eco-auditing can identify the areas where any enterprise can improve its performance in accordance with the goals of Agenda 21 and can also provide a means for involving employers and local trade unions or workers' groups in partnerships towards commonly agreed goals. Community groups and local government authorities can also be involved-for instance, through being invited to review and evaluate the process.**

Source: International Confederation of Free Trade Unions, 'Eco-auditing: sustainable development and the workplace', Discussion paper submitted to the Second Session of the Commission on Sustainable Development, May 1994; and Lambe, Tony, 'Trade Unions and the CSD', Eco, NGO Newsletter at the Second Session of the Commission on Sustainable Development, 20 May 1994, 1.

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While many enterprises will benefit from the shift in employment that is part of achieving sustainable development (and there is already a very large pollution control and waste management industry in Europe and North America)[42] for many, it will result in increasing costs. Companies may be reluctant to adopt environmentally clean production processes if they are not confident that their competitors will face the same increase in costs. A long-term programme of support and regulation can ensure a gradual but continuous improvement-for instance, through the gradual replacement of polluting industrial processes and

plants with new industrial plant designs which eliminate or reduce polluting wastes and recover and reuse process chemicals.

Within an appropriate government framework of incentive and regulation, it is possible to conceive of commercial and industrial sectors greatly decreasing the scale of polluting emissions and toxic and hazardous wastes and minimizing environmental hazards in the workplace. Many private enterprises have chosen to make great progress on this even without government regulation. This has often been encouraged by shareholder pressure or by banks or investment funds that require much improved environmental performance as a precondition for investment. In some instances, it has also been encouraged by the possible scale of liability faced by a company or corporation whose production processes cause or contribute to major health impairments for its workforce or for a section of the population. What is more difficult to foresee is the means to reduce the private sector's depletion of other environmental assets, especially the use of the global sink for greenhouse gases and the use of resources whose ecologically damaging impacts are outside the city or nation in which the enterprise is located. Private enterprises in any city or country cannot afford to accept stringent controls on their use of non-renewable resources or greatly reduce the scale of greenhouse-gas emissions if their competitors in other cities or nations can avoid these.

Different companies display contrasting attitudes towards environmental quality. For instance enterprises (and entrepreneurs) committed to particular cities are likely to have a greater commitment to environmental quality than enterprises that are `footloose', whose commitment to any city is only as long as that city retains cost advantages over alternative locations. Enterprises committed to a city have an incentive to invest in maintaining and improving the quality of that locality.

At the smallest level, small-scale enterprises are critical to the economy of many cities in the North and the South, especially to low-income areas. Many remain small and earn little money for their owner/workers. Programmes of support to help such enterprises typically offer training in new technology and business skills plus credit (generally at market interest rates). Some of these enterprises have an important role in the improvement of conditions in low-income settlements. Small-scale enterprise production processes may result in local pollution[43] but in some instances, improvements are possible for relatively low unit costs, especially where a group of small enterprises share waste management or processing facilities. Sensitive and careful local planning with residents is required. This should

fully recognize and support the important role of small-scale enterprises and, at the same time, minimize conflicts over land use. Certain urban authorities have set up special programmes to help small enterprises improve their environmental performance.[44]

## The role of national governments

It is difficult for any city or municipal authority to act in isolation. There are serious dilemmas facing any city authority that tries harder to meet its global responsibilities for ecological sustainability. Any programme by a single city to improve its overall performance in terms of greenhouse-gas emissions, use of scarce resources and disposal of wastes may impose financial penalties on its residents and businesses that threaten the city's economic prosperity. While this Report has described the many ways in which consumers and businesses in  most cities can improve their `sustainable development' performance without such drastic consequences,   without clear agreement and enforcement at the national and international level to ensure that all cities contribute more to meeting their global responsibilities, those that do contribute may lose business to those that do not.

National governments have the key role in linking local and global ecological sustainability. Internationally, they have the responsibility for reaching agreements to limit each nation's call on the  world's environmental capital.  Nationally, they are responsible for providing the framework to ensure local actions can meet development goals  without compromising local and global sustainability. It is also the task of national government to consider the social and environmental impacts of their macro-economic and sectoral policies which may contribute to the very problems their sustainable development policies are seeking to avoid.

Despite the increased attention given to sustainable development, no national government has set up the regulatory and incentive structure to ensure that the aggregate impact of their economic activities and citizens' consumption is in accordance with global sustainability-although a few in Europe have taken many important steps towards some aspects. For instance, the Netherlands has a long-term environmental policy both to address environmental problems and to address more ambitious sustainable development goals in the long term with the environmental goals integrated into other sectoral policies-such as transport, water management and physical planning.[45] In most nations in the South, national governments still deny city and municipal governments the power and resources they need to promote development.

The achievement of urban development goals that also seek to promote ecological sustainability (or at least minimize the contribution of city-based activities to unsustainability) requires both incentives and regulations. Incentives are needed to encourage the private sector and individual, household and community initiatives to contribute to sustainable development. For instance, promoting a greater commitment among companies to recycling and waste minimization generally needs national action. Regulations are needed so that the workings of the market are not such that the weak and vulnerable are exploited (so development goals are not met) and air and water quality damaged, natural capital depleted and global systems degraded.  Without such a framework, enterprises with good environmental practice will be always at a disadvantage to those which can reduce costs by exploiting the environment. The consumer will always bear a large part of the costs-but the issues are: what is the size of the costs, when do they occur and how are the costs distributed among different consumers?

There are also the policy options that help change the nature of demand for goods and services to those that are more compatible with sustainable development. These include ensuring that consumers are more knowledgeable about the environmental impacts of the goods they purchase or of the process which produced them. This can be achieved through information campaigns including `eco-labelling' schemes. They also include shifting the raising of public finance from employment (as in taxes on employer's wage rolls. or employees' wages) to general consumption and resource use or pollution (e.g. carbon taxes).

The broad regulatory and incentive structure needed to support the achievement of development goals, within a framework which promotes local and global ecological sustainability, is relatively easy to conceive as an abstract exercise. But translating this into reality within nations and globally is far more problematic. Powerful vested interests oppose  most, if not all, the needed policies and priorities. The likely levels of reduction  needed in the use of non-renewable resources (especially fossil fuels) will impinge most on richer groups' lifestyles. Richer groups are unlikely willingly to forsake the comfort and mobility that they currently enjoy, although the innovative public transport schemes described in Chapter 9 show that automobile-dependent cities are not inevitable. As noted earlier, technological change can help reduce resource use and waste without limiting mobility. But if combating atmospheric  warming does demand a rapid reduction in greenhouse-gas emissions and if needs are to be met in the South (implying considerably increased fossil-fuel use overall), this will require changes in consumption patterns

among the wealthier high-consumption house-holds worldwide. This will include limitations on their right to use private automobiles at the levels now common since this cannot be sustained even with new technologies and alternative fuels drawn from renewable resources-at least without a significant increase in costs.

## The role of the international community

National governments in both North and South are unlikely to set the incentives and regulations needed to promote sustainable development outside their national boundaries without international agreements. One of the key international issues for the next few decades will be how to resolve the pursuit of increased wealth by national societies (most of whose members have strong preferences for minimal constraints on their consumption levels) within a global recognition of the material limits of the biosphere. There is little doubt that the world's natural resource endowments and natural systems can sustain the world's population both now and in the near future with absolute poverty eliminated, human needs met and all nations having life expectancies comparable to those in the richer nations. In the richest nations, it is also possible to envisage much more resource-conserving societies without a fall in living standards. What is far more in question is whether the political processes within nations and internationally can put in place both the agreements and the regulatory and incentive structures to ensure that this is achieved. The power and profitability of many major corporations and the authority of national

governments will be reduced by such a move. Many jobs may also be threatened although, as described in Chapter 12, a shift of patterns of production and consumption towards those which greatly reduce the use of non-renewable resources, protect soils, forests and watersheds and promote waste-minimization and recycling also create many new jobs. Some necessary measures are likely to prove politically unpopular. Even when international agreement is reached, the world has little experience of the institutions needed to ensure compliance.

There are also international factors far beyond the competence and capacity of national and municipal governments that influence the quality of city environments. The very poor environmental conditions evident in most Southern cities are an expression of the very difficult circumstances in which most Southern countries find themselves. Stagnant economies and heavy debt burdens do not provide a suitable economic base from which to develop good governance. Governments from the North and international agencies may promote environmental policies but there is little progress on changing the international economic system to permit more economic stability and prosperity among the poorest nations. Many Southern economies have no alternative but to increase the exploitation of their natural resources to earn the foreign exchange to meet debt repayments. In the discussions about new `enabling frameworks' that the City Summit promotes, what must not be forgotten is the `enabling framework' needed at international level that is far more supportive of economic stability and greater prosperity for the lower-income nations.

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3. There are some exceptions, as described in Chapters 1 and 2, but most rapidly growing cities are also cities whose economy is growing.

4. The countries with the largest increases in levels of urbanization during the 1980s are also generally those with the largest increase in their economies-as described in Chapters 1 and 2. These

chapters also described how population growth rates are generally lowest in the countries with the highest per capita incomes and the highest levels of urbanization. Over the last 15-20 years, population growth rates have also generally declined most in the countries with the most rapid economic growth, although there are important exceptions-see Cleland, John, `Population growth in the 21st century; cause for crisis or celebration', Paper presented to the 21st Century Trust meeting on *Population Growth, Health and Development: Problems and Prospects for the 21st Century,* Oxford, 1995.

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9. See Table 22.1, pp. 330-1 in World Resources Institute, *World Resources 1990-91: A Guide to the Global Environment,* Oxford University Press, Oxford, 1990.

10. The example of Chelsea was chosen because it combines very high quality

housing, very little of which is in high rises (and most of which is pre-20th century) with a diverse economic base, large amounts of open space and among the best educational and cultural facilities in London. With a population density of around 120 persons per hectare, it is an example of how relatively high density need not imply overcrowding or poor quality living environments. The world's urban population of around 2.6 billion in 1995 would fit into an area of land similar to that of Senegal (197,000 square kilometres) or Oman (212,000 square kilometres) at a density comparable to that of Chelsea.

11. The scale of agricultural production in any city is obviously dependent on where the boundaries are drawn. Many cities and most metropolitan areas have boundaries that are considerably larger than the central highly built up core and include large areas which are intensively farmed.

12. See as one example the street art developed by young people in Dakar, Senegal that is shown in ENDA, *Set setak des murs qui parlent-nouvelle culture urbaine a Dakar,* no. 143 in series Etudes et Recherches, ENDA, Dakar, 1991.

13. Examples would include the schools of samba within the *favelas* of Rio de Janeiro and the strength and diversity of so much modern African music that originates from poorer areas of African cities, a small proportion of which has found a wider international audience in recent years.

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18. See the Universal Declaration of Human Rights, Article 25 (1), United Nations.

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