

Sustainable urban development in India: an inclusive perspective

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People-centred development, or sustainable human development, has gained increasing acceptance over the last ten years. It emphasises that development should be broad-based and bottom-up; redistributive and just; and empowering and environmentally sustainable, seeking to meet the needs of the present generation without compromising the ability of future generations to meet their own needs (WCED 1987). In 1992, Agenda 21 (UNCED) outlined programmes that go beyond ecological sustainability to include other dimensions of sustainable development, such as equity, economic growth, and popular participation. Indeed, sustainable human development and Agenda 21 are converging.

The concept of 'sustainable cities' derives from that of sustainable development. The world is becoming increasingly urban and urbanisation is shifting to the South. To date, urbanisation has coincided with, and been accompanied by, increased consumption and ecological degradation across the globe. The ecological impact of the shift to the South on the quality of its urban environment has become a major justification for the concept of 'sustainable cities'. This concept is an amalgamation of various independent processes: the urban environmental movement, the decentralisation of local governance, and Agenda 21 followed by Habitat II in 1996. Prior to Habitat II, urban environmental issues were addressed by very few international efforts, namely: the Sustainable City Programme (SCP), the Urban Management Programme (UMP), the Urban Environment Forum (UEF), the International Council for Local Environmental Initiatives (ICLEI), the Local Initiative Facility for Urban Environment (LIFE), and the UNCHS (United Nations Centre on Human Settlements) Best Practices awards.

The pursuit of sustainable development and 'sustainable cities' is set against the backdrop of an increasingly globalised world in which the North dominates the South in economic terms. Most countries of the South have become part of the global economy

through conditionalities and a development model imposed by the multilateral funding agencies under the general régime of structural adjustment programmes (SAPs). These have had adverse impacts on social sectors (Cornia *et al.* 1987) and on the environment (Reed 1995). In the urban context, SAPs have meant privatisation and commercialisation of infrastructure including social sectors, deregulation, and some withdrawal of the state from welfare responsibilities under the guise of decentralisation and popular participation (Stubbs and Clarke 1996; World Bank 1990; WRI *et al.* 1996).

Some have questioned the possibility of achieving sustainable development while the interests of capital dominate over those of people (Clow 1996). The same applies to the concept of 'sustainable cities', and this paper will review the current debate on the subject and then look specifically at the nature of the urban crisis in India and at how this is being addressed in the context of SAPs. India does not have a specific 'sustainable cities' programme, and policy documents refer to this only in the context of the urban environment. The government's failure to address urban environmental issues has led to spontaneous grassroots action and this paper will also review the effectiveness of civil society movements in moving the 'sustainable cities' agenda to centre stage. The final section presents the 'inclusive approach' and suggests the main outstanding issues and immediate action required in order to create 'sustainable cities' in the South.

Unravelling the concept: sustainable cities in the South

'Sustainable development' and 'sustainable cities' are central terms in the rhetoric of development policy making and debates. However, there is little consensus as to what has to be sustained, and how this is to be done. The WCED (1987) definition of sustainable development is considered the most comprehensive by some (Redclift 1992; Vivian 1992; Choguill 1996) and mere 'environmental managerialism' by others (Clow 1996). Stren (1992) suggests that the very ambiguity of the term attracts a wide range of political and intellectual currents across fragmented environmental movements. Chambers (1988) pegs the concept on its ability to create or support sustainable livelihoods for the rural populations of the South. This points to the fact that it is unsustainable development, which emanates from excessive consumption in the North and from the wealth of the South, that has eroded rural livelihoods, so that the rural poor then migrate to towns and live as urban poor.

Making a structural criticism of the concept of sustainable development, Clow (1996) argues that the current global system is organised around the expansion of capital. This endeavour is intrinsically unsustainable. Clow holds that the 'environmental considerations cannot be "tacked on" as an afterthought to a "for profit" economy' (1996: 7). Even UNDP's concept of sustainable human development has been criticised for being 'economistic', for having ideological underpinnings (as it is supposed to take place in a global system where the North dominates the South), and for not having made the development process gender sensitive (Hirway and Mahadevia 1996; 1999). Nicholls (1996) criticises the approach for skirting round the issue of existing power structures at global, national, and local levels and for seeking to achieve sustainable development within structures that in themselves prevent true bottom-up, participatory, holistic, and process-based development initiatives; and for ignoring the reality of self-interested development actors, to be found at every level, who would perpetuate these unequal power structures.

Huckle (1996) groups these diverse definitions of 'sustainable development' into two categories, terming one 'weak sustainability' and the other 'strong sustainability'. The former is supported by conservative and liberal political ideologies, works towards sustainable development within the existing global structure, accepts the free-market ideology, individual property rights, minimum state regulation and intervention, and looks for techno-managerial solutions. Such solutions suit the official development aid agencies, including the World Bank and UNCHS. 'Strong' sustainable development accommodates various approaches, namely those of deep ecologists, 'greens', social ecologists, ecofeminists, postmodernists, political economists, and others. They reject the idea that nature and social systems are at the service of economic development, arguing that this bolsters capital rather than people in the development process. Some of them see sustainable development as a political process while others view it from a moral perspective, suggesting that self-discipline is required to achieve such development.

The concept of 'sustainable cities' can be approached in much the same way. However, there is widespread uncritical acceptance, even in the South, of various UN 'sustainable cities' programmes. In the early 1980s, UNCHS and the United Nations Environment Programme (UNEP) decided to prepare joint Environmental Guidelines for

Settlements' Planning and Management (or EPM) for cities. In the early 1990s, this initiative was converted into the joint SCP. The SCP, launched as a vehicle for implementing Agenda 21 at the city level, works towards building capacities in urban environmental planning and management, and promoting a broad-based participatory process. The aim is to incorporate environmental management into urban development decision making and to strengthen local capacities for doing so through demonstration projects. This is a techno-managerial approach.

The way in which 'sustainable cities' has been understood in the North has led to environment-friendly cities or 'ecological cities', where: (i) economic and environmental costs of urbanisation and urban development are taken into account; (ii) there is self-reliance in terms of resource production and waste absorption; (iii) cities become compact and energy efficient; and (iv) the needs and rights of all are well balanced (Haughton 1997). Proponents of this line of thinking view urban environmental issues in the South through a Northern lens, and so emphasise the reduction of resource consumption, local waste absorption, and the use of renewable resources, but ignore the critical issue of meeting basic human needs (Satterthwaite 1998).

Hardoy *et al.* (1992) hinted at numerous environmental problems in the cities of the South – as one Indian saying puts it 'a weak cow has many bugs'.¹ Many of these problems are the result of poverty and the inability of national and local governments to create institutions to provide sustainable solutions to poverty. They are also the result of a flawed development model, SAP conditionalities, and the pressure to achieve rapid economic growth at any cost. In India, the goal of increasing the rate of economic growth has resulted in the acceptance of many types of investment, some of them highly polluting;² and the granting of permission to transnational companies, such as Toyota, Ford, and Mercedes, to produce diesel cars for the Indian market³ despite the fact that these produce 10–100 times more particulate matter than petrol engines and will lead to more pollution in the already congested cities of the South (*Down to Earth* 1999). The pursuit of economic growth also creates the need for new infrastructure, and hence investment, which in turn leads to privatisation and commercialisation, as the city governments are unable to raise new resources. Instead, they direct their resources to new commercial ventures, the poor are excluded, and the subsidies dry up. The urban environment will not be improved, essentially because globalisation is not conducive to sustainable development in cities of the South.

The SCP and other techno-managerial approaches to sustainable urban development treat the concept of 'sustainable cities' as a partnership among diverse interest groups. Satterthwaite (1996) sums up the Habitat-II consensus to move towards sustainable cities and sustainable human settlements as 'at best an illusion, as different groups gave different meaning to the terms', which allowed the 'international agencies to claim that they were the leaders in promoting sustainable cities, when in reality they have contributed much to the growth of cities where sustainable development goals are not met' (1996: 31). For cities to be genuinely sustainable would mean 'considering the underlying economic, social, and political causes of poverty or social exclusion' (ibid.: 32).

The move towards a 'sustainable city' in the South has to be an 'inclusive approach' based on four pillars:

- environmental sustainability;
- social equity;
- economic growth with redistribution; and
- political empowerment of the disempowered.

This holistic approach incorporates all dimensions of development, including the interests of the poor and the disempowered. It would challenge the existing unequal systems, from global to local, that have led to unsustainable development. In its place it would generate an equitable system to achieve sustainable human development that is employment generating, resource recycling, waste minimising, socially sustainable, and politically just. These four dimensions have to be approached simultaneously in the process of development and not, as at present, with one dimension taking precedence over the others within a fragmented and sectoral approach to sustainable development.

Urban crises in India: the context of structural adjustment programmes

India has a low level of urbanisation (26 per cent in 1991 and expected to reach 33 per cent in 2001), a large urban population in absolute terms (about 330 million in 2001), three of the 20 largest cities in the world (Mumbai, Calcutta, and Delhi) and 23 cities of one million-plus inhabitants, housing one third of the total urban population in 1991 (NIUA 1995). Its urban settlement pattern is concentrated in the western and southern parts of the country (Shaw 1999), and there is a

high incidence of urban poverty – one person in every three overall (Dubey and Gangopadhyay 1998; GOI 1997), and one person in five in the metropolitan cities (Dubey and Mahadevia forthcoming).⁴ Large cities are the focus of urban policies and programmes (Mahadevia 1999a), although poverty is concentrated in the small towns (Dubey and Gangopadhyay 1999; Dubey *et al.* 2000), which also have lower levels of basic services than the large cities (Kundu 1999).⁵ The latter are integrated into the global system and the smaller towns into the local economy, with no continuum between the two (Kundu 1999). Urban employment has become more informal since the early 1980s (Kundu 1996) as the manufacturing sector has become increasingly capital intensive, leading to a decline in formal, secondary sector jobs. Researchers attribute the declining rate of urbanisation during the 1980s to this phenomenon (Kundu 1996; Mohan 1996). Finally, the urban sector contribution to the national economy increased from 29 per cent in 1951 to 55 per cent in 1991 (Suresh 2000).

In 1991, India began implementing its SAP and consequently the urban development strategy shifted to supporting rapid economic growth in place of balanced regional development.

In the era of economic reforms, liberalisation and globalisation, cities and towns are emerging as centres of domestic and international investment. Within this framework, urban development policy calls for an approach that aims to optimise the productive advantages of cities and towns, while at the same time minimise or mitigate the negative impacts of urbanisation. (NIUA 1998: xiii)

The Ninth Five Year Plan (GOI 1998) thus proposed to address existing regional inequalities by funding infrastructure development in the undeveloped regions through raising resources, either from the financial institutions or from the commercial market. It is also proposed to fund social infrastructure in the same way.

In the post-SAP period, the focus has been on urban infrastructure. The *India Infrastructure Report* (Expert Group on the Commercialisation of Infrastructure Projects 1996) states that Rs2803.5 billion (US\$74 billion, or US\$7.5 billion per year at 1994 prices) will be required in order to meet all urban infrastructure needs by 2005. In 1995, a total of only Rs50 billion per year was available, so a strong case was made to privatise the building and maintenance of urban infrastructure.

With respect to urban land, deregulation is underway. The Urban Land Ceiling and Regulation Act of 1976, which sought to socialise

urban land, was repealed in 1999. Land regulations are being gradually relaxed in some cities (Mahadevia 1999b). It is argued that the best way to make land available to the urban poor will be through efficient land markets.

While the government is passing responsibility for urban development to the market and the financial institutions, urban governance has been decentralised through the 74th Constitutional Amendment Act of 1995. This Act allows for local communities to participate in local development processes, but it also legitimises the transfer of responsibility for development to lower levels of government. If only those city governments that can raise market funds will be able to promote development, opportunities to participate in the process will vary across regions and different urban classes. This legislation may therefore increase existing inequalities in urban systems.

Finally, an urban poverty alleviation programme, *Swarna Jayanti Shri Rojgar Yojana* (SJSRY, Golden Jubilee Urban Employment Programme) was introduced in 1997. The SJSRY has two components: self-employment and wage employment. The former consists of financial and training assistance to individuals to set up gainful self-employment ventures, and to groups of poor urban women to set up collective ventures within the so-called Development of Women and Children in the Urban Areas (DWUCA). Financial help takes the form of microcredit from scheduled banks. Wage employment is to be generated through the creation of public assets by local bodies. If the SJSRY succeeds in generating regular wage employment, poverty may decline; this is less likely if such employment is in the casual sector. Throughout the urban sector, poverty is highest among households supported by casual wage labour and self-employment (Dubey and Mahadevia forthcoming). The self-employment component of SJSRY depends on the poor taking out commercial loans from the official banking system on the recommendation of local governments. This does nothing to reduce bureaucracy. And the eradication of poverty through self-employment implies far more than simply providing credit, but includes access to markets and reasonably priced raw materials, and favourable terms of trade for the products. The SJSRY does not address these issues and thus represents a limited approach to urban poverty.

Macro development processes after 1991 encourage economic growth of a certain kind, but do not facilitate the reduction of social and economic disparities or of poverty, nor do they promote sustainable

livelihoods, empowerment, or social justice. Yet this is the context within which environmental programmes for sustainable cities have been undertaken.

Official programmes towards the sustainable city: limited vision

Chennai, Hyderabad, Bangalore, Delhi, and Calcutta have been directly connected with the SCP. While Chennai was the only Indian partner for SCP activities, other cities joined the Urban Environment Forum (UEF) that was set up with the SCP as a primary partner (SCP 2000). Some cities have received UNCHS Best Practice Awards, and three belong to the IULA. All these efforts are the initiatives of city governments, as there is no national programme, only fragmented policies and programmes that come under the 'sustainable cities' umbrella, as well as some city-level initiatives.⁶

Table 1 shows the official programmes and the spontaneous efforts to create 'sustainable cities'. The former are mainly centrally designed programmes. Only a few of the local or state government efforts are mentioned here, and only the environmental programmes listed here will be discussed below.

Legal initiatives

The first law to address urban environmental aspects was the Water Pollution (Prevention and Control) Act passed in 1974. This was followed by the Air Pollution (Prevention and Control) Act in 1981 and the Environment Protection Act of 1986. The latter deals with rules for hazardous material and its disposal, toxic waste handling, and biogenetic material handling. In 1998, Bio-Medical Waste (Managing and Handling) Rules were introduced to deal with hospital waste.

Another recent piece of legislation is the Motor Vehicles Act (MVA) (1998), which is being strictly implemented in the large cities. It requires that vehicles obtain regular 'Pollution Under Check' certificates to monitor levels of suspended particulate matter (SPM) and noxious gas emissions. The Act also stipulates the retirement of old vehicles (as defined by the local government) and the manufacturing of motor vehicles according to European standards. In Delhi, vehicles older than 12 years are banned, while Hyderabad has fixed the level at 15 years. Mumbai now insists that diesel-run taxis be converted to petrol as a condition of registration. Taxi drivers challenged the legislation declaring they could not afford the expense of conversion, but the High

Table 1: Efforts towards 'sustainable cities' in India

Four pillars	Official efforts	Spontaneous actions
Environmental sustainability	Legal initiatives	Legal initiatives
	Sustainable City Programme (SCP)	Protests for environmental protection
	Infrastructure projects	Community-based efforts
	Environmental management	Private sector initiatives
Social equity	Affirmative policies	Rights movements
Economic growth with redistribution	Poverty alleviation	Community-based programmes for addressing poverty
	Housing and shelter programmes	
Political empowerment	Urban governance decentralisation	NGO-led capacity-building activities

Note: The above listed are not recognised as programmes for 'sustainable cities'. They would come under the 'sustainable city' concept if the definition were expanded and made inclusive.

Court gave them six months to do so. In Delhi, loans have been offered to enable taxi drivers and three-wheeler drivers to convert old engines. However, banning these polluting vehicles brings with it the fear of job losses. There is a real conflict of interests here: improvement in air quality for all versus employment for drivers. The solution lies in better city planning, the development of efficient and affordable public transport, job-creation schemes for taxi and three-wheeler drivers, and the retirement of such vehicles from the road.

However, to judge by the pollution levels in Indian cities, this legislation has had only limited impact. For instance, citizens' groups have gone to the higher courts to obtain injunctions against water-polluting activities,⁷ but the Water Act is of limited effect as industrialisation in some states is based on industries that cause water pollution. Similarly, the MVA can only be partially effective because while diesel vehicles are the main culprits of airborne pollution, the government is permitting Indian foreign companies to produce and market diesel vehicles locally.⁸ So, although environment legislation exists, it will have little impact if economic growth continues to be based on polluting activities.

Sustainable City Programme (SCP)

The first city in India to join the SCP UNCHS/UNEP was Madras (now renamed Chennai) in 1995. The programme aims to promote local initiatives for environment management, and to improve the ability of individuals and organisations to identify, understand, and analyse environmental issues and incorporate them into sectoral programmes in an integrated manner. This effort resulted in the preparation of the 1997 Environmental Profile, based upon city-level consultation, and the framing of the Environmental Planning and Management (EPM), *Madras Vision 2000*. The resulting consensus for improving the infrastructural situation was produced in collaboration with the World Bank.

In Hyderabad City, an EPM was carried out while the *Master Plan 2011* was being designed and urban environmental issues were identified for incorporation into the Plan. The Plan proposed the spread of urbanisation throughout the state by decentralising economic development. To this end, the development of small ports and improvement in the financial position of local bodies was proposed, to be funded via an Urban Finance and Infrastructure Development Corporation. Two SCP programmes in India have concluded that more funds should be sought for city-level infrastructure, but of the 23 metropolises, only two have carried out EPM exercises.

Bangalore and Calcutta are members of the UEF due to their past efforts to take up environmental management programmes. In Bangalore, from 1984 onwards, some slums have successfully been relocated with community participation and local NGO help. The Calcutta Metropolitan District (CMD) Environment Management Strategy and Action Plan was prepared with the help of the British ODA in the early 1980s.⁹ The top priority was the management of solid waste. A pilot project was begun in each of the eight participating municipalities, which entailed collection, transportation, and disposal of solid waste through the active co-operation of beneficiaries and local bodies. These pilot projects were successful, and the programme has been extended to other municipalities.

Infrastructure projects

Infrastructural development is considered to be key to improving the urban environment. For example, the construction of flyovers and the widening of roads are expected to ease congestion and reduce air

pollution. Water supply and sanitation infrastructure are supposed to reduce water pollution. These projects are usually funded by international loans. Since only large cities are able to prove that they are creditworthy, they have been the main recipients of these loans.

The World Bank has been supporting urban infrastructure projects throughout India since the early 1970s, principally urban development projects and water supply and sanitation projects. Cumulative credit to date totals US\$1809.6 million (NIUA 1998) and, in some cities, nearly half the capital budget consists of a World Bank loan (for Ahmedabad see Mahadevia and D'Costa 1997). Recently, the Asian Development Bank (ADB) also entered the urban arena and committed itself to support projects in Karnataka¹⁰ and Rajasthan (in six cities), give technical assistance for the Calcutta Municipal Environmental Improvement Programme (under consideration), and set up the Urban Environmental Infrastructure Fund.¹¹

Some foreign agencies advocate the direct participation of the private and commercial sector. For example, USAID sponsors:

- 1 The Financial Institutions Reform and Expansion (FIRE) project which would increase private investment in India's long-term debt market. This also puts emphasis on making the urban environmental infrastructure finance system commercially viable and improving the capacity of local government to plan, operate, maintain, and recover the costs for basic urban services. Under this project, USAID has pledged US\$125 million from the US Housing Guarantee Fund to be channelled through the financial institutions (NIUA 1998) on condition that matching funds are raised locally;
- 2 The Technical Assistance and Support Project which gives grants to organisations engaged in economic policy analysis;¹²
- 3 The Programme for Advancement of Commercial Technology;
- 4 Trade in Environmental Services and Technology that would work towards addressing industrial pollution in India; and
- 5 The Centre for Technology Development (Technical Services US-AEP 1997).

The internationally funded Healthy Cities Programme (HCP), supported by WHO, was started in the 1990s to build the local capacity required for integrating environmental health concerns into all major urban policies and programmes, including the Mega City Scheme, and taking up HCP pilot projects in the five megacities, namely Bangalore,

Calcutta, Chennai, Hyderabad, and Mumbai.¹³ The estimated cost of the project is US\$125 million, but its benefits will accrue only to these five cities.

All large cities in India are keen to take up infrastructure projects to improve the urban environment, an area on which funding agencies concentrate. Interestingly, the sums pledged or invested by various donor agencies are insignificant compared with those available from India's internal sources or even the demand projected by the *India Infrastructure Report*. But these international agencies nevertheless exert a strong influence on official programmes; for example, the FIRE project is already mentioned in urban policy documents as an important option for raising resources (NIUA 1998). The urban problem is framed in such a manner that lack of finance is viewed as the major impediment to improving urban infrastructure and hence the urban environment. However, the capacity of cities to repay commercial loans and the impact of such loans on equitable development within the cities, find no mention.

Increased debt does not lead to sustainable development. Cities that borrow at commercial rates have to invest in projects that give immediate returns. Basic services projects, incorporating the interests of the poor, cannot give the same returns as commercially viable infrastructure projects. Debt-ridden cities will end up diverting their funds and project-handling capabilities to deliver the commercially viable projects, while the poor continue to live in degraded environments. Since cities have just begun to borrow, most of it from international agencies, the impact of such loans remains to be seen.

Environmental management

Solid Waste Management (SWM) projects dominate among environmental management efforts in India. Some local governments have tried to elicit the support of communities, NGOs, and private agencies for such projects. In both Ahmedabad and Mumbai, a private company is contracted to compost part of the city waste; in Mumbai, Bangalore, and Chennai, NGOs are involved in the collection and disposal of waste on behalf of the city government; in Pune, the local government has encouraged the housing colonies to decompose their organic waste; and in Rajkot, the city government is efficiently collecting the solid waste (HSMI/WMC 1996). All these projects began in the early 1990s. In Ahmedabad the World Bank donated Rs38 million to modernise SWM practices and the collection consequently increased by three to

four times, though cases where the NGOs and community groups are participating in composting garbage include only a few hundred households (HSMI/WMC 1996). In Andhra Pradesh, the municipal administration has contracted out solid waste collection to the women's groups formed under SJSRY (Rao 2000). This is a holistic approach whereby local communities and government are participating to address environment and poverty issues together. However, such initiatives are rare.

Limited official vision

While local governments continue to provide basic city-level services, our discussion here has focused only on special programmes. The Government of India (GOI) has an important role in framing policies and programmes for sustainable cities, particularly because the very concept is multisectoral, multidepartmental, and comprehensive. However, this is not the GOI perspective. First, the official vision of sustainable urban development is limited to seeing this as an environmental issue, which is then linked to the development infrastructure through independent funding (GOI 1998). This is a simple, reductionist approach to the sustainable development of cities. To pay for it, the GOI has approached the multilateral and bilateral funding agencies and sees nothing wrong in doing so. In the process, some government programmes have been influenced by the funding agencies, something to which the GOI apparently has no objection.

The GOI approach does not recognise the other three pillars of sustainable development, despite the fact that poverty, the disempowerment of the majority, and poor basic services are serious urban problems. It does not regard these problems as being interrelated or as affecting the quality of the urban environment. The poverty-alleviation programmes and decentralisation of urban governance are not viewed as leading to sustainable urban development because urban development is approached sectorally. That is, poverty alleviation is viewed independently of infrastructure programmes, the decentralisation of governance is not linked with financing of urban development, and so on. Most of the international funding agencies also approach development programmes in a sectoral manner. Given this shared outlook, it is easy for the funding agencies to support sectoral programmes without regard for their impact on other sectors. It may not be far from the truth to say that many of the multilateral and bilateral agencies have taken the opportunity provided by the term

'sustainable cities' to open up new avenues for business in India in the name of improving the urban environment. We see evidence for this in the fact that Chennai and Hyderabad are demanding more financial support, and that the FIRE project has been accepted as the official GOI programme for raising commercial funds for urban infrastructure.

Legislation for improving the urban environment has either not been implemented seriously (as with pollution control laws), in part for fear of driving away new investment, or threatens the interests of certain low-income groups. In legal interventions to improve the urban environment, for example the MVA, techno-managerial solutions have been advocated because the issue is seen in one-dimensional terms. For example, after drivers in Delhi were compelled by law to change their car engines, some fitted engines that run on compressed natural gas (CNG). Demands that industries shift to non-polluting technologies have led USAID to promote US imports under its Trade in Environmental Services and Technology component.¹⁴ Legal solutions are only partial and leave aside the question of what would constitute an appropriate and sustainable model of development. The legal approach to dealing with environmental pollution is neither holistic nor sustainable.

Spontaneous efforts towards sustainability: fragmented efforts

While government efforts are restricted to a few sectors, and the focus remains on improving the urban environment and infrastructure, living conditions are becoming intolerable and problems of the urban poor are not addressed. This situation is leading to spontaneous actions (see Table 1), some of which are discussed below.

Legal initiatives

Many Public Interest Litigations (PILs) have been filed by individual citizens or citizens' groups seeking legal remedies for industrial pollution (Mahadevia 1999c). The relocation of 9038 of the 100,000 industries in Delhi, ordered by the Supreme Court, is a landmark judgment in response to a PIL (Shrivastava 1995). The Ganga Action Plan to clean the River Ganga is the result of a PIL filed in the 1980s. Similar plans have since been drawn up elsewhere. In Calcutta, the fishing co-operative, which has been in existence since 1961 and is involved in managing the wetlands that recycle city waste and support fishing, filed a PIL to halt constructions that were diminishing the size of the wetlands, and won (Development Associates 1996). In addition,

individual citizens have filed suits in the State High Courts and the Supreme Court of India against local urban bodies for neglecting mandatory responsibilities such as enforcing the prohibition of non-conforming land uses (mainly polluting industries) in the city master plans. The shifting of polluting industries out of Delhi is an outcome of such a PIL. Individual citizens' groups have used PILs on the grounds that the local government is failing to stop squatters from defecating on public roads. Environmental groups in Mumbai obtained an eviction order against squatters living in Borivali National Park, in an effort to protect the ecosystem. Having recourse to the law has become a way of protecting the urban environment when government systems have failed. This is an important dimension of the urban environmental movement in India, and the examples cited here are by no means exhaustive.

However, some of the PILs filed by citizens' groups have also been directly or indirectly against the interests of the poor, as illustrated above. And, as we have already seen, legal initiatives have only limited impact.

Grassroots protests for environment protection

Protest or resistance movements are important means by which affected populations make their voices heard in policy making. In India, there are many well-known rural environmental movements that protest against the diversion of essential resources for urban and industrial use and the dumping of urban and industrial waste in rural areas. There have also been collective actions in urban areas, such as the PILs described above.¹⁵ Other protests take the form of direct action. For instance, 'People for Clean Air' in Delhi asked the government to act against industrial and vehicular pollution. In Udaipur City (known as the city of lakes) in Rajasthan, local citizens have organised under the *Jheel Sanrakshan Samiti* (Lake Protection Committee) to protect the lakes from pollution and putrefication caused by economic activities on the lakefront, mainly connected with tourism, and to stop a new hotel being built (Anand 1994). In Bhopal, different citizens' groups and academic and research institutions joined to protest against the pollution of Lake Shahpura, an important source of drinking water, and subsequently to clean it (Development Associates 1996). There are many similar examples throughout the country.

Community-based efforts

There is a long history of community-based efforts and experiments in urban India, but our focus here is on community-based efforts to manage the urban environment, especially the city's solid waste. One successful NGO experiment is Exnora in Chennai. This started in 1989, when citizens expressed concern about deteriorating environmental conditions and drew up an action plan to collect garbage through placing new containers in the street, followed by an awareness-raising campaign. The rag-pickers, renamed city-beautifiers, were given loans by Exnora to purchase tricycles for door-to-door garbage collection and street cleaning. They received monthly salaries from the residents, from which they repaid the loans. Today, the city has 1500 Exnora units, each servicing 75 families or 450,000 people. Many Exnoras have now branched into other environmental activities such as monitoring the pollution of waterways, canal desilting, tree planting, rainwater harvesting for aquifer recharge (Chennai has severe water crises), environmental education in schools, public information campaigns on the environmental impacts of industrial development, slum upgrading, and converting degradable waste into manure. Exnora projects are thus multisectoral and address a wide range of issues (Anand 1999).

Other cities have started similar activities. In Vadodara City in Gujarat, Baroda Citizens' Council, a local NGO, started garbage collection in 1992, engaging local unemployed young people and rag-pickers in garbage collection at a monthly salary of Rs300–400 (US\$7–10), paid by the residents. The recyclable waste (paper, plastic, metal containers, etc.) is carried away by the rag-pickers and sold. The degradable waste is converted to manure, and the rest is dumped as landfill. With the support of USAID, this project has been extended to cover 20,000 households, i.e. 100,000 people in a city of some 1.2 million (Cherail 1994). Similar experiments are being carried out in some areas of Delhi with input from local NGOs such as *Vatavarn* (environment) (Malik 1998). All these efforts address environmental and employment issues simultaneously, but they are limited to a few cities and a few localities within these cities.

Fragmented and localised efforts

The urban environmental movements in India have three basic approaches: direct protest, protest through litigation, and concrete development activities. All of these fit well within Local Agenda 21.

In the case of development activities, the stakeholders themselves participate in the development process and the NGOs act as catalysts. But these are generally localised efforts and their replicability on a larger scale remains a problem: they are simply too few in number and touch only a very small fraction of the city's population (Exnora being an exception). These fragmented efforts address one dimension of development, but their sustainability and wider impacts remain unknown. However, the macro context in which they take place is not favourable to the environment and marginalised sectors of society.

The protest movements or resistance to the prevailing development paradigm are just as important, but do not act in synergy. Development activities are generally fragmented and seldom touch the structural issues. The protest groups, which are engaged in political action, do not convert any gains into policies and programmes for concrete development work. In short, there is fragmentation, lack of synergy, and a dichotomy between protests and spontaneous development initiatives, and also among these initiatives themselves. There is therefore a long way to go in making bottom-up urban development sustainable.

An inclusive perspective from the South

Experience from India suggests that very little conceptual or practical research exists on 'sustainable cities', a term often confused with the SCP and other UN programmes. While 'sustainable development' has been critiqued from a Southern perspective, the same is not true of the concept of 'sustainable cities' which, in practice, is viewed as an environmental concept that is techno-managerial in nature, with aspects such as participation, decentralised governance and so on, regarded as subservient to improving the urban environment. In India, there is major government borrowing in order to build urban or 'environmental' infrastructure, first from international aid agencies, and now from the commercial sector. This creates indebtedness and in the long run excludes the poor from the urban development process. Some of the new infrastructure, such as wide roads, flyovers, and bridges (supposedly to decongest the roads and reduce air pollution), are themselves generated by the flawed development model being pursued. The GOI does not view the role of official aid agencies in this light, however, and is keen to seek funding from them.

Since 'sustainable cities' is understood in such a limited manner, other national initiatives in India, such as poverty-alleviation programmes

and decentralisation, are not viewed as falling within its framework. As a result, there is no synergy between these various efforts, and the lack of convergence in thinking and in action reduces their cumulative impact. (The exception is in Andhra Pradesh where SWM and employment-generation efforts have been simultaneously addressed by the state government, by drawing on two otherwise separate initiatives.)

The Indian urban environmental movement is still nascent and, as we have seen, its three components – direct protests, litigation, and constructive development activities (the latter usually promoted by NGOs) – are fragmented, localised, and too small scale to make a noticeable impact. Seldom do development activities address the multidimensional nature of urban development or succeed in working at a city-wide level. Environmental and citizens' groups tend not to look at the wider development issues, so that their campaigns risk harming the poor. Development groups often ignore environmental issues, while protest movements and community-based development initiatives rarely work together. Hence, the protests are not translated into policies and programmes, while the benefits of community-based development efforts are not sustainable because they fail to address the macro context.

In India, mainstream debates on the subject look at either urban development or at sustainable cities, and tend to overlook people-centred approaches. Urban development and economic growth are regarded as synonymous, with cities viewed as economic entities that contribute to overall economic growth. Efforts to create a clean, liveable environment and to reduce social inequalities are subsumed into this efficiency paradigm.

Outstanding concerns in India

The sustainable development of cities in the South is possible only when the prime development issues are addressed, including steps to protect the environment. In India (and elsewhere in the South), issues that require immediate attention are:

- 1 secure housing rights;
- 2 provision and access to civic amenities, and a clean, safe, and healthy living environment for all;
- 3 adequate provision and access to adequate public health facilities, basic education, safe and sufficient drinking water, and food security;
- 4 freedom from violence and intimidation on the basis of social identity;

- 5 sustainable livelihoods; and
- 6 adequate and appropriate provision of, and access to, social security programmes.

It is possible to address these concerns while also protecting the environment only within a favourable macro development model in which the government can play a significant role. Some of the main requirements are (i) effective government policies to reduce overall inequality in the cities, and between the rural and urban areas; (ii) democratic urban development processes that meet the needs of the disadvantaged, not only those of businesses or funding agencies, and institutions through which the most disadvantaged participate in macro decisions; (iii) economic growth through activities that are non-polluting; (iv) a sound regulatory mechanism to check unsustainable activities through the participation of civil society; and (v) government responsibility for promoting human development.

Inclusive and synergetic approach

The approach to 'sustainable cities' in the South has to be inclusive, placing the vision of the poor and marginalised urban sectors at the centre of urban policy making. Thus, development processes, programmes, and projects need to be multidimensional and multi-sectoral. The term 'inclusive' implies the inclusion of all citizens and all dimensions of development, the convergence of thinking and action and of different aspects of development. This is the only sustainable way in which to address the major concerns listed above, and the only way in which to achieve sustainable human development. In other words, development and empowerment of the poor have to take place in such a manner that the environment is protected. If the urban environment deteriorates, it is the poor who are most affected. The role of the government, especially local government, is to see that synergies are built between development programmes and their various stakeholders – government and civil society, micro- and macro-level institutions, and so on.

This is no straightforward matter, as many conflicting situations need to be addressed at once. For example, if polluting industries whose employees belong to a marginalised group are closed down, then this raises issues of social equity and employment. These contradictions have to be addressed simultaneously, as to look at the pollution problem in isolation will not lead to a sustainable solution.

Similarly, the improvement of urban air quality does not simply mean getting rid of the polluting vehicles, but also creating alternative employment for those who lose their livelihoods as a result, developing a public transport system, discouraging private vehicles, and suspending car production so that even the better-off shift to public transport.

More critical still is a macro development climate that is pro-people, pro-women, pro-poor, and pro-environment so that any achievements will be sustained. Equally important is that organisations of civil society work together – the protest groups, development groups, and environmental groups – so that each builds a holistic vision of development and does not inadvertently harm the interests of the poor. However, in India today, partial (sectoral) vision and a techno-managerial approach exclude the poor.

At the start of this paper, we argued that the concept of ‘sustainable cities’ rests on four pillars, all of which need to be addressed simultaneously in development processes, programmes, and projects. For example, environmental programmes should link in with employment, poverty alleviation, and social equity programmes. Micro-level initiatives should be linked with wider strategies. Political empowerment has to be comprehensive and not only at the local level, as envisaged by the current urban governance approach. Environmental sustainability is not just about ‘managing’ the environment but also about finding a development model that does not generate unmanageable waste, an impossibility when there is such inequality between the North and the South and within the North. Inequality generates unsustainable consumption levels – too low among the poor of the South and unsustainably high among the rich of the South and the North in general. An inclusive approach to ‘sustainable cities’ in the South addresses development and sustainability in a holistic manner at every level, from the global to the local.

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Notes

- 1 The proverb is in Gujarati.
- 2 For example, in the state of Gujarat, the second most industrialised state of India, from 1991 onwards, 79 per cent of new investment is generated by polluting industries (Mahadevia 1999c).

- 3 Diesel cars are cheaper to run than petrol cars. By giving permission to increase the production of diesel cars, the government wants to increase the purchases of cars, which will in turn improve the growth statistics.
- 4 In India, varying estimates of poverty, rural as well as urban, derive from disagreements on how to calculate the poverty line. The poverty ratios are calculated on the basis of consumer expenditure surveys. These figures are for 1993–4, the last year such consumption expenditure surveys were available.
- 5 Small towns are defined as having fewer than 50,000 inhabitants.
- 6 There is no national urban policy document. Urban policies can be discerned from the Five Year Plans, annual reports of the Central Ministry of Urban Development, and national-level urban policy and research institutes such as the National Institute of Urban Affairs. The Ninth Five Year Plan (GOI 1998) treats urban development under Land, Housing, and Basic Services, and is concerned with the growing gap between the demand and supply of basic services. The NIUA document mentions Agenda 21 as a global action plan to ‘integrate environmental considerations in the development process’ (NIUA 1998: 131). It identifies the importance of promoting sustainable human settlement and the initiatives of local authorities. The latter is of particular interest as it calls for interaction, participation, and involvement of the community and local authorities in the planning and management of the urban ecosystem. The action areas identified are environmental management, pollution control, and environmental protection. The vision of urban development here states that cities and towns have to be economically efficient, socially equitable, and environmentally sustainable (NIUA 1998: xiii). The focus is thus on the urban environment rather than on sustainable cities.
- 7 In Gujarat, citizens’ groups have been very active in approaching the Gujarat High Court, seeking legal remedies for water pollution (Mahadevia 1999c).
- 8 This is partially effective because new vehicles, including the diesel ones, arrive with new technology (Reddy 2000).
- 9 Now the Department for International Development (DFID).
- 10 The Project costs US\$132 million (ADB loan US\$85 million) and the main focus is to decentralise economic growth from the rapidly expanding Bangalore city to four selected towns.
- 11 This is to assist the GOI to develop urban and environmental infrastructure, to leverage private sector and external resources for urban development and environmental improvement, and to prepare suitable projects involving public–private investment for financing under the Fund.
- 12 One of the programmes is support to the Centre for Environmental Planning and Technology (CEPT), an academic institution, to assist city governments to prepare their baseline reports and develop strategies for solid waste management. USAID took the opportunity arising from an Expert Committee Report prepared at the behest of the Supreme Court that gave guidelines for SWM in 300 Class-I cities in India in April 1999.
- 13 The Mega City Scheme is applicable to Bangalore, Calcutta, Chennai, Hyderabad, and Mumbai and would

- make loans available from the fund set aside by central government.
- 14 One initiative is the signing of the Indian-US treaty, to which the Confederation of Indian Industry was party, for the import of environment-friendly technology from the USA (Banerji 1995).
 - 15 For example, in the state of Gujarat, a number of PILs were filed by individuals against chemical pollution from industrial estates. The High Court of Gujarat in most cases directed the estates to set up Common Effluent Treatment Plants (CETPs). The CETPs dilute the industrial waste but do not treat the toxic and hazardous chemicals it contains. Such CETPs are therefore not the solution to the pollution caused by the rapid growth of chemical industries in the state (Mahadevia 1999c).

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