Peri-Urban Interface of Indian Cities
Growth, Governance and Local Initiatives

The outward expansion of larger metros, gradual changes in land use and occupations have transformed the rural hinterland into semi-urban or 'peri-urban' areas. Inhabitants of these 'peri-urban' regions are increasingly threatened by a deteriorating quality of life prompted by deforestation, water depletion and pollution as well as by the poor or almost non-existent mechanisms for sewage disposal. This article highlights the environmental dimensions associated with the spread of urban agglomerations by focusing on the problem of increased solid wastes in India's peri-urban regions. It looks at two local level initiatives formed to create a sustainable solid waste management system. But tasks such as solid waste management cannot be left to local level initiatives as community organisations lack sufficient resources or capacity to provide such a service in its entirety. Policy-makers need to give such areas more civic autonomy or provide, via the state government, a modicum of basic environmental services.

ANNAPURNA SHAW

I Introduction

Over the first half of the 20th century, growth in Indian cities remained largely confined within municipal boundaries [Brush 1968]. Even as late as the 1970s, Brush (1977:64) noted that in India, as contrasted with the west, "much of the population growth and migration to cities has been accommodated by crowding more and more people into existing urban areas rather than by expansion of cities into suburbs and fringe areas." This pattern of growth and population absorption has, however, changed significantly over the last two to three decades and the change has been the sharpest in the largest metropolitan cities. The four metropolitan cities of Mumbai, Kolkata, Chennai and Delhi have grown not only in population but also in their areal spread [Shaw 1999]. The lateral spread of the larger cities in India is reflected in the census data which indicate that the area for urban uses has increased from 38,504 sq kms in 1961 to 64,026 sq kms in 1991 [Shaw 2003:304]. There has been a sharp increase in area under urban use since 1971 with the decadal rate of growth of urban land area rising from 8.72 per cent during 1961-71 to 20.54 per cent during 1971-81 to 21.81 per cent between 1981-91.

Recent work, based on the 2001 census data, by Sita and Bhagat (forthcoming, 2005) shows that most large metropolitan cities in India have continued to expand laterally and are better described by the census term 'urban agglomeration' (UA). This term denotes a continuous urban spread and generally comprises of a town/city and its adjoining outgrowths. Of the 35 metropolitan cities in 2001 with a population of over a million, only three, Jaipur, Ludhiana and Faridabad did not have such outgrowths. Comparing the rates of growth of the UA and the city proper for the 35 cities with a million-plus population, Sita and Bhagat (forthcoming, 2005) found that in the largest cities, that is, the 'primary metros', the UA was growing faster than the city proper. In the smaller million-plus population cities, 'the secondary metros', for instance, Meerut, Nasik, Dhanbad, Allahabad, Faridabad and Rajkot, the reverse was true with higher growth rates in the city proper. Thus smaller metropolitan cities in India still continue to experience in-filling within city limits, while the large metros mostly show declining growth in the core and continue to expand outwards engulfing many villages and smaller towns in the surrounding area.

Kundu (2003b) has noted that the contribution of lateral spread to incremental urban population during 1991-2001 has been substantial. The lateral spread of the city can be captured by the growth in urban population due to the merging of towns and by jurisdictional changes in the urban agglomerations. Conceptually, this is the addition to the urban population due to the extension of municipal limits, the merging of old towns or the inclusion of new towns in old UAs. He has pointed out that the number of towns merged with neighbouring towns/cities was 221 in 2001 which was twice that of 1991. Also, the share of this component to incremental urban population has gone up from 7.6 per cent in 1991 to 13 per cent 2001. In 1961-71 it was only 2.9 per cent. Quite clearly, the lateral spread of the city is occurring at a faster rate now than in the recent past.

The outward expansion of the largest metros has meant increasing and more complex interactions with the surrounding rural areas and gradual changes in their land uses and occupations, transforming them into semi-urban or 'peri-urban' areas. Such areas have been studied in the past, particularly in terms of their economic and social linkages with the city [Ramchandran 1988]. In an early study by Nangia (1976), the metropolitan region of influence was demarcated on the basis of flows of goods and people. The positive aspects of these flows and interactions at the rural-urban fringe are also captured in McGee's concept of the 'desakotta' where both regions gain, the rural areas through increased earnings and larger markets and the urban areas through savings on housing cost and less congestion in the built-up areas [Ginsburg, Koppel and McGee 1991].

Since the 1990s, however, concerns have been raised about the possible negative impact of spreading urbanisation and this has come from scholars working on the environmental impact

of the spreading city and its effects on the peri-urban [Bentinck 1996]. These effects are the result of the processes of change that such areas experience with spreading urbanisation and they include changes in land use from agricultural to residential and industrial/commercial, changes in the use of natural resources, for instance, deforestation, water depletion and pollution, land levelling because of excessive quarrying, land degradation because of brick kilns and increased solid and liquid wastes. Such concerns are also voiced by international development agencies for they seem to be common to developing countries, threatening the quality of life of a significant proportion of the population, and endangering life systems over considerable areas [Allen 2003]. Yet, these same areas, located at the fringe of the city, far away from the corridors of political power and often without any official urban status, generally lack the institutional capacities and governance structures to enable them to respond to the processes of change in a positive way and not be overcome by them.

The objective of this paper is to highlight the environmental dimension of spreading urbanisation by focusing on the problem of increased solid wastes in the peri-urban areas of India and examining the role of governance and local initiatives and their capacities to cushion these impacts. In Sections II and III, the peri-urban interface and its environmental vulnerability, particularly, in the context of solid waste management is presented while in Section IV, the reasons for the environmental neglect of peri-urban areas are discussed. Section V focuses on the issue of governance, social capital and the role of local-level initiatives. In Section VI, two case studies are analysed; one of the success of local-level initiatives in providing a basic waste management service and the other of the lack of success in doing so. In the final section, lessons from the two cases are summarised and some policy directions indicated.

II
Peri-Urban Interface and Its Environmental Vulnerability

Where the city ends and the rural area begins has become more and more blurred as the phenomenon of mixed landuse with rural and urban features coexist in areas surrounding cities. Such areas are particularly vulnerable to environmental damage because of their proximity to the city which could be degrading their land and water resources, for instance, through the dumping of solid and liquid wastes or where population growth has spilled over from the city and the increased population has strained the carrying capacity of surrounding areas.

While our urban areas as a whole, that is, the built-up area and areas within city limits as well as outlying areas and outgrowths, have an unsatisfactory level of environmental infrastructure services,such as water supply, sanitation, drainage, solid waste management, transport and air pollution control, many of these problems are much worse in the outlying areas or the peri-urban areas. The basic infrastructure networks that cover the built-up areas of the city do not reach the outer boundaries of the city. Peri-urban areas often lie outside the legal jurisdiction of the city and sometimes, even outside the legal jurisdiction of any urban local body. They are thus not provided with many of the basic services taken for granted in the city. They must make do on their own and this results in increasing levels of local inequities as large companies and public institutions as well as the upper income group can install privatised basic services but there is a complete absence of these services for the poor and smaller businesses/workshops.

Electricity is often the first service to be provided by the government in peri-urban areas, but these areas generally, lack piped water supply and have to obtain it from local rivers, lakes and ponds or through tube wells. Such water is not treated and if the sources are polluted, then the water supply is not safe and is of poor quality. Regarding sanitation, private homeowners and institutions located in the peri-urban area create their own facilities with the building of septic tanks and surface drains that empty into local streams or nullahs. But what about solid wastes produced in these areas? With no municipal services, solid wastes lie uncollected along roadsides, or if collected, are dumped in any low-lying land. These practices are not only despoiling the local landscape but are an immense health hazard. The rapid growth of population in peri-urban areas in the last decade has meant that the volume of solid and liquid wastes has increased, but the institutional capacities to handle them, rermain largely absent. Thus, it is easy to see the contrast in environmental hygiene between the outlying areas and the built-up city. In addition, there is the contrast in other socio-economic indicators, all of which as Kundu et al (2002:5046) and Kundu (2003:364) have very aptly observed, is resulting in the systematic creation of a 'degenerated periphery'.

Peri-urban areas could be situated within the larger metropolitan region and yet not have any basic services other than electricity. This makes them no different from the villages of rural India but unlike these villages, they face a bigger environmental burden stemming from their transitional nature. The spilling over of population from the city into these areas has been occurring quite rapidly in the 1990s in almost all large cities in India with middle class housing demand driving the move to the outskirts of the city where land is cheaper. In addition to home owners building homes in small plots and residential complexes with multiple families, the peri-urban has also seen the incursion of services that need cheaper land, such as hotels, hospitals and schools. In this sense, the peri-urban is more urban than rural. Non-agricultural use of land produce their own kinds of solid and liquid wastes which unless collected and disposed of with the similar seriousness with which wastes are disposed in the main city, is going to cause a slow poisoning of local life systems. Yet, in terms of existing environmental infrastructure, the peri-urban is still treated like a rural area. Quite clearly, this official attitude must change if our expanding cities are to become healthy and livable places.

There is very little information regarding solid wastes produced in the peri-urban areas of India. The existing information on the quantum and type of solid wastes produced in urban India comes primarily from municipalities and municipal corporations and other types of urban local bodies, for instance, notified areas. Even this data has been criticised as having 'serious problems' [Vira and Vira 2004] because of the ways in which the amount of solid waste generated is calculated by the urban bodies.

Nevertheless, they can be taken as 'roughly indicative' of the actual quantities of solid waste generated in Indian cities. In the case of peri-urban areas, the data is largely non-existent because most of these areas lie outside the legal limits of the city or town and yet particularly, along the larger metropolitan cities, such areas do produce sizeable quantities of waste which

go unrecorded. Any plan to provide a regular and systematic service would require these data.

III
Reasons for Official Neglect of the Peri-Urban

The unsatisfactory state of the environmental situation in most peri-urban areas is largely due to official neglect and non-recognition of these areas as deserving of urban civic status. This again has been the outcome of the dichotomous way the census has defined urban areas [Bhagat 2003]. The census has two kinds of urban definition: one, an administrative criteria, that is, all statutory towns and urban local bodies are considered as urban; secondly, demographic and economic criteria, that is, settlements with a population exceeding 5,000 persons, with a population density of 450 persons per sq km and with three-fourths of the male workforce in nonagricultural activity, are considered urban. The latter are referred to as 'census towns'. However, only the statutory towns are accorded municipal status while the census towns (or those settlements that are economically and demographically urban) are not granted urban civic status and are governed by rural local bodies. Many of the census towns are urban outgrowths and though they are organically a part of neighbouring cities or large towns, they are not governed by municipal administration.

Thus, a large part of the peri-urban fringe of cities in India is not governed by municipal administration but by rural bodies. Services such as water supply, sanitation, garbage collection and disposal, street cleaning and lighting, etc, are not a part of the responsibilities of rural bodies. They are considered urban responsibilities.

With the 74th Constitution Amendment Act of 1992, some hope for peri-urban areas has emerged with the Act's recognition of 'transitional' areas and the granting of civic status to them as 'nagar panchayats' or town panchayats. However, the central act has left it to the different states to create this new category for the proper governance of peri-urban areas. While some states have gone ahead and classified many such areas as 'nagar/town panchayats', many states have still not created this new civic category in spite of the rapidly changing configuration of areas adjoining the largest metropolitan cities. Data on levels of urban local bodies, as on April 1, 1998, for 25 states in the country, indicate that two of the largest and most urbanised states, Maharashtra and West Bengal, do not have even a single nagar/town panchayat. As shown in Table 1, most of the smaller states have created this civic category. Among the larger states that have created this category are the following: Andhra Pradesh, Gujarat, Karnataka, Madhya Pradesh, Uttar Pradesh and Tamil Nadu. This last state has been the most alert and responsive to the emergence of peri-urban areas. It has created a total of 636 town panchayats, the largest for any state in the country and has also begun to streamline administrative rules for such areas. The proportion of town panchayats to the total number of urban local bodies is as high as 85.48 per cent indicating the importance of transitional areas in Tamil Nadu. Partly because of the creation and recognition of the town panchayats as urban civic bodies, the percentage increase of urbanisation in the state has been the highest in the last decade. The Census 2001 data show that Tamil Nadu now has an urbanisation level of 43.86 per cent, an increase of 9.66 per cent from 1991 when it was at 34.20 per cent. In contrast, the non-creation and non-recognition of transitional areas has led to the underestimation of the level of urbanisation in many states [Bhagat 2003]. For instance, in the case of West Bengal, where there are no town panchayats, the level of urbanisation rose only marginally between 1991 and 2001, from 26.47 to 27.39 per cent.

As pointed out by Bhagat (2003), there is as yet no data collected on 'transitional areas' by the census. This needs to be done at the earliest to facilitate decentralised governance. Having considered the administrative aspects of governance at the peri-urban, it is now necessary to turn to some of the prevailing ideas about improving conditions of living in cities in developing countries.

IV
Governance, Social Capital and Role of Local Initiative

In the last 20 years, there has been a considerable shift in thinking on how to solve the problems of cities in developing countries and make them more liveable, equitable and environmentally sustainable. Dissatisfaction with government has given way to a concern with governance. This is essentially "the relationship between the state and civil society, rulers and the ruled, government and the governed" [Rakodi 2001:344] with good governance being described as the "means through which inhabitants and the political and bureaucratic apparatus of government institutions in any urban area reach agreement on how to progress towards the achievement of multiple goals and how best to use limited public resources and capacities" [Nunan and Satterthwaite 2001:410]. There is implicit in these concepts, the need for cooperation rather than competition between the different stakeholders of the urban milieu. Also, given the current capacity constraints of many local bodies, implicit is the idea of looking beyond dependence on government and attempting to solve problems through community or local involvement. This has spawned a growing literature on social capital and how this might help local communities in the development process. Such changes in ideas, involving a switch away from reliance on the state to non-state actors and the mechanisms and institutions enabling such a process, were often prompted by changes in the macroeconomic environment. In many developing countries, the 1980s and the early 1990s saw the adoption of structural adjustment policies, privatisation and deregulation which have reduced the scope or changed the nature of government intervention on behalf of the poor. With the state retreating from several traditional areas, other actors emerged to take its place, for instance, non-governmental organisations (NGOs), community-based organisations (CBOs) or grass roots organisations (GROs) and the private sector. A critical question is whether the focus on governance, which highlights the importance of these other actors vis-à-vis the state, has been justified by the actual performance of these groups in the delivery of better environmental services to the ordinary citizen. We have, by now, a considerable amount of research on these groups and their capacities and limitations to improve the living conditions of the urban poor in developing countries. I will focus on a few important studies and findings.

One of the most important studies in this regard has been a comparative study of nine cities in Africa, Asia and Latin America which examined the concepts of governance, social capital and civil society among other concepts, and reported on how and the extent to which the organisations, mechanisms and institutions

pertaining to these concepts were able to address poverty, deprivation and inequality [Rakodi 2001]. I will discuss a few of the articles published from this research project which covered the following cities through detailed case studies conducted between 1998 and 1999: Ahmedabad, Bangalore, Cebu City (Philippines), Colombo, Johannesburg, Kumasi (Ghana), Mombasa (Kenya), Santiago (Chile) and Vishakapatnam.

Nunan and Satterthwaite's (2001) article examined the influence of governance on the provision of urban environmental infrastructure and services for low-income groups in the nine cities. Its main focus was on how the nature of governance influenced the extent and quality of provision for water, sanitation, drainage and garbage collection to households and neighbourhoods. Have emphasised the important role that local government continues to play observing, from their findings, that "urban local governments have a major influence on the extent to which low-income households can obtain basic infrastructure and services that are critical to health" [ibid:416]. Turning to the role of actors beyond government, they note that this has varied between the cities. However, even in cities with an active civil society and many NGOs, it is clear that "NGOs cannot implement citywide infrastructure" and also, that it is easier for NGOs to focus on healthcare facilities, education and income-generating projects rather than on environmental infrastructure and services [ibid:422]. Projects to improve water and sanitation are more difficult to implement, technically, institutionally and politically than providing services such as healthcare or education. Mitlin's (2001) detailed examination of civil society organisations in these nine cities highlights other issues such as the personal agendas of NGOs and their insensitivity to political and power struggles within a community. Her findings (p 389) "raise questions about the effectiveness of many NGOs and GROs in participatory development and poverty reduction."

Private sector attempts to deliver environmental infrastructure have also varied in the cities with some success in Santiago and Johannesburg but with mixed results from the cities selected from Africa and Asia [Nunan and Satterthwaite 2001]. In Ahmedabad, private contractors for solid waste collection have left out the slum areas while in Mombasa, they raised charges so high that it is unaffordable for low-income people who have continued to deposit waste along the roads. It is widely acknowledged now that privatisation per se, of basic environmental services, without a stronger, more effective and more representative local government will not help poorer groups [Nunan and Satterthwaite 2001; Lee 1997].

Turning now to the concept of social capital, Beall's (2001) study is a sobering account. She observes how in recent years (p 358) "faith in the development potential of social networks and community level institutions for urban management and local governance seems to know no bounds" and with this, there has been a rush to create social networks and organisational structures, particularly among the poor. Examples include the formation of neighbourhood committees and community development forums to involve citizens in problem identification, prioritisation of needs and delivery of local services. She points out that (p 359) "the social capital framework is underpinned by an implicit rationale that allows for the unburdening of fiscal responsibility onto lower-order institutions and citizens themselves." In this sense, social capital has a narrow and functionalist connotation. It has an instrumental value as the means to achieve development rather than an intrinsic value where a rich associational life is one of the goals of development itself.

Her findings on the nine cities reveal that while family and kin remain important in urban areas, poverty and insecurity reduce the social resources of the poor. Secondly, she highlights the existence of 'anti-social capital' in the form of crime and violence related to inequalities and economic conditions. Thirdly, some informal community-level organisations for addressing immediately felt needs exist but there is no formal public action. Fourthly, she notes the mixed results of state initiated formal community organisations. Fifthly, in the absence of a strong associational life, people in poor communities assigned a high value to external agents such as NGOs and "liaison forged between organisations representing the urban poor and local government has evolved into a serious partnership" (p 368). Finally, she points out that a responsive government creating an enabling environment for public action is very important.

These studies indicate that relying on the local community to take action to improve critical environmental infrastructure has many limitations and could well mean the continued deprivation of outlying urban areas in key basic services. Yet, there is a role for the community, a constructive role, the effectiveness of which will vary from place to place. I now turn to a consideration of two contrasting cases of community action in improving environmental infrastructure in the peri-urban areas of two large metropolitan cities in India.

V
Two Case Studies

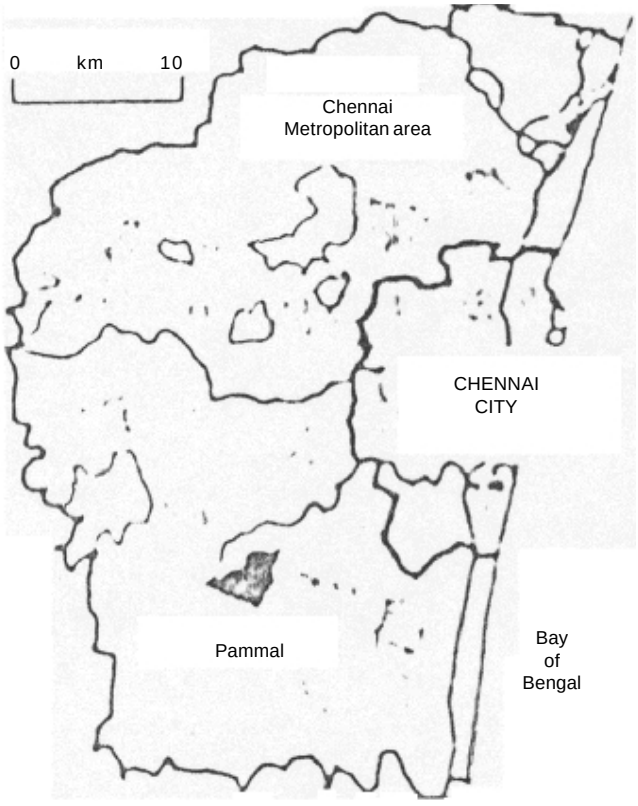
Location: Peri-Urban Region of Chennai, Tamil Nadu

The first case is that of a women-led civil society organisation, the Shri Shankara Nagar Mahalir Manram (SSNMM) in the small town of Pammal, located in the periphery of Chennai [Dahiya 2003]. This town lies within the Chennai metropolitan area but is outside the city limits of Chennai as indicated in Figure 1. The SSNMM took the initiative to provide a community-based solid waste collection service to some neighbourhoods and was remarkably successful. To understand the underpinnings of its success, it is necessary to provide a background to the town, its administrative setup and the relationship between officials and the SSNMM.

Pammal is a 'fast-growing industrial peri-urban centre' [Dahiya 2003:93] with a population of about 58,000 in 1998. With an area of about 13.6 square kilometres and a population density of 4,130 per square kilometres, this small settlement, for administrative purposes, had the status of a 'town panchayat'. As noted in Section III, this is the status given to settlements in transition from a rural to an urban character. At the time of the study, there were 602 town panchayats in Tamil Nadu. The town panchayat of Pammal had an elected and an executive wing. The elected council had 21 councillors, one for each ward and was headed by a chair. Its task was decision-making. An executive officer, appointed by the government of Tamil Nadu, was responsible for the executive wing, that is, the administration.

The town generated about 17 tonnes of solid waste daily. The town panchayat's responsibilities include its collection and disposal as well as the sweeping of roads and streets. For this, the town panchayat had a staff of one sanitary inspector, two

Figure 1



sanitary supervisors and 70 sanitary workers. In the late 1990s, Dahiya (2003:93) found that only about 58.8 per cent of the daily solid waste was collected. The main reasons for the low level of waste collection were inadequate institutional capacity, the poor financial situation of the town panchayat and the lack of a proper disposal site.

These problems, common to many urban local bodies in India, had resulted in the dumping of waste in nearby vacant plots by the residents of the town including those of Shri Shankar Nagar, a middle income neighbourhood in Ward 1 of Pammal. In 1994, Mangalam Balasubramanian, a local resident of the neighbourhood, started a civil society organisation to address the issues of solid waste collection. Ten women joined her and the Shri Shankara Nagar Mahalir Mangram (SSNMM) was formed. They started a campaign to involve local residents in cleaning the area and this necessitated visiting all the families in the area and having face-to-face discussions with them about not throwing garbage all around, segregating the garbage and giving it to the SSNMM. It took SSNMM about six months to do this and a big problem they faced was the reluctance of people to pay even a small amount for the service. However, with a grant from a philanthropic business house in Chennai, the Mahalir Manram bought two tricycles and started house-to-house collection in May 1995. The waste was emptied into the town panchayat bins. In spite of some early resistance, the local residents accepted this service and by mid-1998, more than two-thirds of the residents were paying for it.

However, after 1996, the society was forced to change its strategy from merely collecting household waste and depositing it in the town panchayat bins to recycling and treating the waste. This was because of the pressure put upon them by residents who lived close to the bins and collection-points and faced ill consequences such as bad odour, flies and insects, whenever the town panchayat had not cleared the garbage on time. SSNMM started vermi-composting the garbage on a piece of donated land which helped to reduce its volume by more than 80 per cent and also resulted in manure which was then sold. Another 10 per cent of the garbage, which could be recycled such as paper, plastic, glass and rubber, was separately sold. Thus, only 10 per cent of the total volume of the daily garbage collected, now needed to be thrown into the bins and to be finally disposed of. In the process of vermi-composting, employment was created for two households.

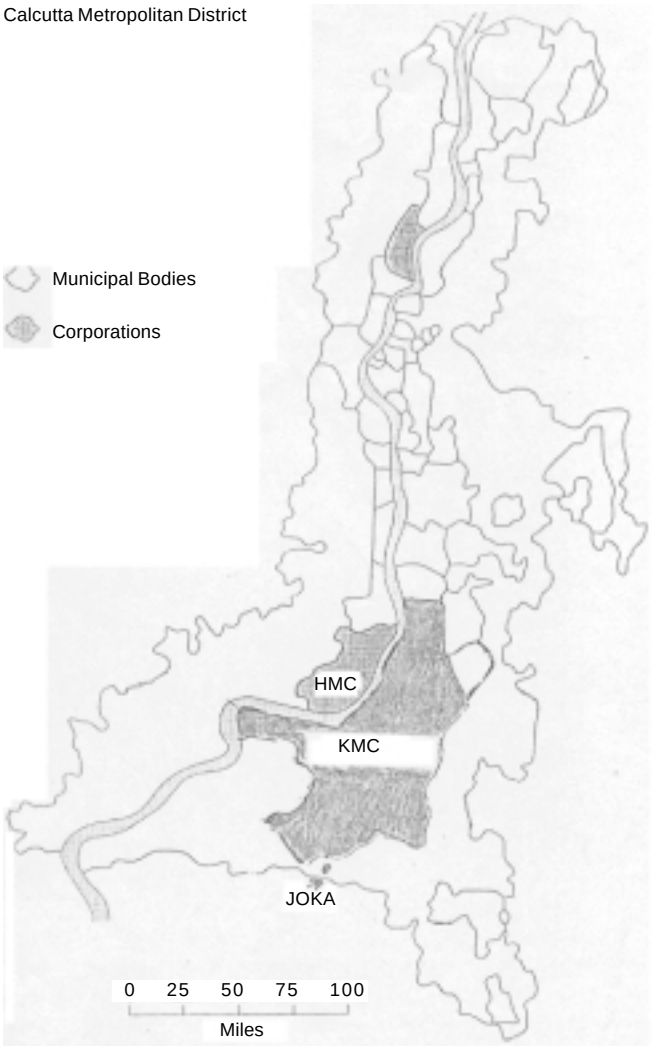
The success of the Mahalir Mangram was noted by the mayor of Chennai city and he visited the vermi-composting project run by them in 2000. He advised the elected council of the Pammal town panchayat to to take up vermi-composting on a larger scale. His visit and his interest popularised the use of this method and encouraged the town panchayat to reduce garbage in the other wards. Also, the relationship of SSNMM with the town panchayat improved as the latter sought the former's advice to improve solid waste management. Plans and schemes, and panchayat funds were now being set aside for the purpose and almost "overnight, solid waste management became the most important issue in the town, whereas previously it had been a burden on the town panchayat administration" [Dahiya 2003:99].

What accounts for this sudden turn around in official attitudes towards solid waste management? According to Dahiya (2003:99) it was "the result of a directive from a higher-level political functionary in the Pammal ruling political party." Here, he is referring to the mayor of Chennai, a well known Dravida Munnettra Kazhagam (DMK) politician. In fact, Dahiya (2003:100) points out that higher level political functionaries "could prove instrumental in resolving political conflicts as well as improving urban governance." When civil society organisations, after all the 'hard struggle' of putting together a system that provides some basic services, network with higher level political functionaries, there are soft gains in the form of added momentum to carry their efforts further and scale-up the results of their work. To sum up, Dahiya's (2003:91) study has clearly shown that, in India's peri-urban areas, "civil society organisations have enormous potential to improve local environmental conditions, to resolve political conflicts in governance, and to scale up environmental management activities."

Peri-Urban Region of Kolkata, West Bengal

The location for the second case is Joka, a census town with a population of 7,678, in the south-western fringe of the Kolkata metropolitan area. This town, as shown in Figure 2, has developed along a major access route into the city from the south, Diamond Harbour Road, which connects the city with the rural hinterland of 24 Parganas South. In the census of 2001, Joka is listed as an 'OG' or outgrowth of Kolkata. It is thus a part of the Kolkata urban agglomeration and yet, as it lies outside the Kolkata Municipal Corporation, it lacks all the basic urban services provided by the corporation, such as, piped water supply, proper sanitation, garbage collection and its proper disposal. Unlike Pammal town in Tamil Nadu which had urban civic status and

Figure 2



was under a town panchayat, Joka's administration is under the control of the Joka gram or village panchayat. As pointed out earlier, West Bengal has not yet created a single town panchayat and this case will bring out the negative consequences of such a policy.

From all the visible evidence, this area is rapidly urbanising. Between 1991 and 2001, it experienced a very high rate of population growth, 91.95 per cent for the decade and 9 per cent on an annual basis [Census of India 2001]. In 1991, its population was only 4,000 and in 10 years, it has almost doubled to 7,681. This rate of demographic growth is considerably higher than the rate for the district in which Joka is located, 24-Parganas South, though the district too, as compared to the rest of West Bengal has also been urbanising quite fast.

In spite of a lack of basic services, the area has attracted house building and settlement by the middle class and by 2000, there were already 38 multi-storied buildings [Goswami 2001] and a large residential complex called Diamond Park with mostly single detached homes. In addition, there are small-scale factories including steel fabrication units, garages and furniture manufacturing units, and numerous small hotels, tea-stalls and restaurants. Joka is also the location of the prestigious Indian Institute of Management which occupies 131 hectares, several schools and a large ESI hospital.

These non-agricultural activities have led to the generation of considerable amounts of solid waste which were being offloaded along the major artery of traffic, Diamond Harbour Road, at the point where the road meets a smaller road called James Long Sarani. A huge mound of uncleared garbage started accumulating at this point since the late 1990s. From this intersection and continuing southwards for one and a half kilometres along this road and in the gullies on the sides of the road, there is uncollected garbage. In fact, as soon as one is outside the boundary of the Kolkata Municipal Corporation, such a scattering of garbage becomes noticeable along roads and ditches. With no urban civic status and with the Joka gram panchayat declaring that solid waste management is outside its purview, the town is facing a problem that epitomises the state of environmental management across much of peri-urban India.

I will first trace the story of local level attempts at rectifying this situation and then consider the reasons for their failure. According to Goswami (2001), the Kolkata Metropolitan Development Authority (KMDA) in June 1997, had decided to undertake a plan to improve infrastructure from Joka to Amtala, further south, but nothing has materialised. In the meantime, residents of the Diamond Park area and a local NGO called Joka-Organisation for Protection of Environment and Development (OPED) decided to initiate some action and approached the Zilla Parishad [Ghosh and Afreen 2002]. Their demand was that unless the five basic amenities comprising of proper drainage and sewerage, road network, drinking water, garbage collection and disposal, and street lighting were met in the area, there should be no further sanctioning of high rise buildings. This led to a tripartite agreement on February 5, 1997 between the Zilla Parishad, the district administration headed by the district magistrate (DM) and Joka-OPED. According to the agreement, all further construction of highrise buildings would come to a standstill as the relevant sanctions were put on hold.

However, the respite provided by the agreement did not last long as the agreement was ignored after a short period and construction work resumed again. On August 27, 2001, the people of the Diamond Park area protested by mass fasting and staging a demonstration [Ghosh and Afreen 2002]. Joka-OPED tried to generate a broad-based community concern with the issue of garbage by organising a technical session on community waste management during a one-day workshop on environmental awareness on February 3, 2002. A suggestion was made for vermi-composting the garbage to reduce its volume and this was enthusiastically accepted by the audience comprising local residents. A research study on the local population and its attitude to solid waste had also revealed the readiness of people in the area to accept a small service charge for garbage collection and disposal services [Ghosh and Afreen 2002]. The stumbling block was the availability of land in which to conduct the activity of vermi-composting and secondly, where to finally dispose of the non-biodigradeable and non-recyclable remnants of the waste. The latter was a major problem because there were no local landfills for garbage disposal and the Kolkata Municipal Corporation had forbidden the use of any of its vats/bins for garbage from areas outside the KMC boundaries.

In early 2002, a solution had been suggested by the KMDA (Prabh Das, CEO) that the local community buy some land for

the purpose of garbage disposal and for vermi-composting activities and the KMDA would help defray some of this cost and also pay for some of the infrastructure to be created. Joka-OPED went in search of such a piece of land and requested several local owners of large pieces of land, lying unused, to donate some for the purpose. In April 2002, the NGO wrote a letter to the general secretary of the Bengal Bratachari Society requesting the long-term lease of 10-12 kottahs of land from the large barren tract belonging to the Trust for the purposes of starting vermiculture. The Trust owned land along side Diamond Harbour Road and, in fact, a large amount of garbage was being dumped into its land at the point of the crossing with James Long Sarani. If any solution to the dumping of garabage was found, the Trust would be a big beneficiary and hence the reason for approaching this particular organisation. However, the Trust refused the request stating that it had impending plans to use the land. The NGO then looked for land further in the interior but till the current moment, that is, two years later, it has not been able to buy any suitable land.

The reasons given are the reluctance of people to sell their land for the purpose of waste recycling and creating a landfill, and also the cost of the land. Land costs are rising because of increasing urbanisation and a plot of sufficient size to serve as landfill and to be used partly for vermi-composting activities, would be unaffordable by an NGO even with some subsidy by the metropolitan authority. Thus, in spite of all the enthusiasm displayed in 2002 by the local community and the efforts of Joka-OPED to solve the problem of garbage accumulation, the problem remains as it was, though the location of the dumping has shifted somewhat.

In June 2004, the Bratachari Society fenced off its open land located along Diamond Harbour Road, to build a sports complex and an automobile engineering college. The old dumping ground at the intersection of James Long Sarani and Diamond Harbour Road has been partly fenced now and so can no longer be used for garbage disposal. A new dumping place has emerged at a point further north, at the crossing of James Long Sarani and Mahatma Gandhi Road. This is in addition to numerous other scattered, smaller piles in this area.

VI
Analysis and Policy Directions

The two cases of local level attempts to improve basic environmental services for the local community provide many interesting insights because of certain similarities they both share with regard to location and the pressures of urbanisation. Yet, they are also a study in contrast, both in terms of their civic status and the outcomes of local level initiatives to improve the existing situation. Clearly, the existence of even a modicum of sanitary staff and services provided by the town panchayat makes the situation in Pammel far better than in Joka where none exists and no government authority seems to be concerned about its condition. The local level initiatives in Pammel may not have been so successful without this rudimentary support. The fact that the SSNMM was able to start a house to house collection system and then dump the garbage in the town panchayat bins is in sharp contrast to Joka, where the main problem is the complete lack of a proper disposal area. Here, although there is house-to-house collection of garbage from the middle class residential complex of Diamond Park, the waste is emptied on the roadside as no vats/bins exist. In fact, the garbage problem in Joka became visible when the newly elected mayor, Subrata Mukherjee of the Trinamul Congress took over the KMC in 1997. Prior to that, Joka residents had been disposing of their waste in the nearest KMC vats/bins. This was disallowed by the mayor on the ground that the existing infrastructure was already strained by population growth within the KMC and if the service was extended to those living outside the boundaries of the city, it would lead to a collapse of the system.

Another contrast lies in the nature of the two community level organisations in the two cases. The success of the community organisation SSNMM in the case of Pammel and the dismal situation in Joka where the local NGO, Joka-OPED's efforts have failed were, partly, due to the differing nature of these two organisations. While the SSNMM 's activities can be regarded as developmental and action-oriented, the activities of Joka-OPED have, so far, been mainly of the awareness-raising type. Its "main purpose has been to increase environmental awareness among people" [Ansbaek and Roiha 2003] through audiocassettes, seminars, workshops and a publication called *Green View*. While raising awareness is important, unless it is followed by some concrete actions, the benefit to the community is not as substantial. Being largely a promotional type of organisation, "until now, Joka-OPED has not been able to bring major changes at the policy level" [Ansbaek and Roiha 2003:25]. This is in contrast to SSNMM, where its success in local waste management led to the mayor of Chennai calling for other localities to follow its example.

A second contrast between the local level organisations in Pammel and Joka is the fact that SSNMM was formed for one purpose, to clean the local area of garbage and create a sustainable solid waste management system. Joka-OPED, in contrast, undertakes numerous activities, largely of a promotional nature, covering issues such as the prevention of water pollution, the building of highrises, felling of trees and destruction of local water bodies. Not being focused single-mindedly, on the issue of solid waste management, its approach to the problem was much more diluted and lacked the urgency and zeal displayed by the women of SSNMM. Without any concrete actions to show regarding the improvement of solid waste management in the local area, local residents lost their enthusiasm and the issue has been buried.

In the final analysis, however, of much greater importance than the differences in the nature and energy of the local level civic organisations, has been the fact that in Tamil Nadu, through the recognition of town panchayats, peri-urban areas have civic status and an elected civic body that has the responsibility to provide basic environmental services to the settlement. There is a budget allocation made for these services as well as some staff. No matter how dynamic, NGOs and other local level organisations cannot replicate this over the entire settlement. Without access to any disposal ground and with no institutional capacity for the collection of garbage and its recycling, a task such as solid waste management cannot be left to local level initiative.

No community organisation will have the resources or capacity to provide such a service in its entirety from the collection of garbage, to its transportation, treatment and ultimate disposal. There are, however, choices for policy planners as well as state-level bureaucrats and politicians that can lead to an amelioration of the current state of utter neglect of peri-urban areas. One is

that peri-urban settlements such as Joka be given town panchayat status so that they can then handle their basic environmental services through an elected committee and with some allocation of state funds. Or, they should ensure that the existing metropolitan development authority, in this case the KMDA, undertakes to provide such areas with basic infrastructure. The KMDA must not only create a suitable disposal ground for the solid waste being generated in the south-western end of the metropolitan area but must also provide some land where an NGO, like Joka-OPED, can undertake vermi-composting or other waste recycling activities.

As Indian cities continue to spread outwards, the problems faced by peri-urban areas will assume greater visibility and importance. Policy-makers must begin to act now and either give such areas more civic autonomy or provide, via the state government a modicum of basic environmental services. Local level initiatives can clearly augment such efforts but local level initiatives with no backing by local government/state are unlikely to succeed. EPW

Address for correspondence:
ashaw@iimcal.ac.in

Appendix

States	No of Nagar/Town Panchayats on April 1, 1998	Percentage of Nagar/Town Panchayats to Total Urban Local Bodies (ULBs) in the State
Andhra Pradesh	15	12.93
Arunachal Pradesh	0	No ULBs here
Assam	50	63.29
Bihar	0	0
Goa	0	0
Gujarat	58	38.93
Haryana	0	0
Himachal Pradesh	28	58.33
Jammu and Kashmir	0	0
Karnataka	88	40.93
Kerala	0	0
Madhya Pradesh	283	70.04
Maharashtra	0	0
Manipur	21	75.0
Meghalaya	0	0
Mizoram	4	66.66
Nagaland	0	0
Orissa	0	0
Punjab	37	27.00
Rajasthan	0	0
Sikkim	0	No ULBs here
Tamil Nadu	636	85.48
Tripura	12	92.31
Uttar Pradesh	447	65.35
West Bengal	0	0

Source: Annexure VIII.8: Structure and Size of Urban Local Bodies in India.

References

Allen, Adriana. (2003): 'Environmental Planning and Management of the Peri-Urban Interface: Perspectives on an Emerging Field', *Environment and Urbanisation*, Vol 15, No 1, pp 135-47.

Ansbaek, Karen and Ulla Roiha (2003): 'The Role of Civil Society in Indian Urban Environment', unpublished Student Term Paper for course RD 230: Urban Management: Issues and Strategies, Indian Institute of Management Calcutta, 33 pages.

Beall, Jo (2001): 'Valuing Social Resources or Capitalising on Them? Limits to Pro-poor Urban Governance in Nine Cities of the South', *International Planning Studies*, Vol 6, No 4, pp 357-75.

Bentinck, Johan V (1996): 'Brick Quarries in Delhi's Rural-Urban Fringe: A Model of Land Degradation in Socioeconomic Terms', paper presented at the 28th International Geographical Congress, The Hague, August 4-10.

Bhagat, R B (2003): 'Challenges of Rural-Urban Classification for Decentralised Governance', Research Report of the International Institute of Population Studies, Mumbai. Downloaded from: www.iipsindia.org/rp/decegovernance.pdf

Brush, John E (1968): 'Spatial Patterns of Population in Indian Cities', *Geographical Review*, Vol 58, pp 362-691.

– (1977): 'Growth and Spatial Structure of Indian Cities' in Allen G Noble and Ashok K Dutt (eds), *Indian Urbanisation and Planning: Vehicles of Modernisation*, TataMcGraw-Hill, New Delhi, pp 64-92.

Census of India (2001): *Series 20, West Bengal: Provisional Population Totals: Distribution of Rural-Urban Population*, Director of Census Operations, West Bengal, Kolkata.

Dahiya, Bharat (2003): 'Hard Struggle and Soft Gains: Environmental Management, Civil Society and Governance in Pammal, South India', *Environment and Urbanisation*, Vol 15, No 1, 91-100.

Ginsburg, N, B Koppel and T G McGee (eds) (1991): *The Extended Metropolis: Settlement Transition in Asia*, University of Hawaii Press, Honolulu.

Ghosh, Nilanjan and Shamma Afreen (2002): 'Waste Disposal in Joka: Towards a Sustainable Management Regime', unpublished Student Term paper for the Fellow Programme in Management, Indian Institute of Management Calcutta, pp 39.

Goswami, Tarun (2001): 'Joka lacks Basic Infrastructure', *The Statesman*, Kolkata. September 13.

Kundu, Amitabh, Basanta K Pradhan and A Subramanian (2002): 'Dichotomy or Continuum: Analysis of Impact of Urban Centres on their Periphery', *Economic and Political Weekly*, December 14, pp 5039-46.

– (2003a): 'Institutional Innovations for Infrastructure Development in India and the Emerging Urban Scenario' in Ramprasad Sengupta and Anup K Sinha (eds), *Challenge of Sustainable Development: The Indian Dynamics*, Manak Publications, New Delhi, pp 339-69.

– (2003b): 'Urbanisation and Urban Governance: Search for a Perspective beyond Neo-liberalism', *Economic and Political Weekly*, July 19, pp 3079-87.

Lee, Yok-Shiu, F (1997): 'The Privatisation of Solid Waste Infrastructure and Services in Asia', *Third World Planning Review*, Vol 19, No 2, pp 139-62.

Mitlin, Diana (2001): 'The Formal and Informal Worlds of State and Civil Society: What Do They Offer to the Urban Poor?', *International Planning Studies*, Vol 6, No 4, pp 377-92.

Nangia, Sudesh (1976): *Delhi Metropolitan Region: A Study in Settlement Geography*, K B Publications, New Delhi.

Nunan, Fiona and Satterthwaite David (2001): 'The Influence of Governance on the Provision of Urban Environmental Infrastructure and Services for Low-income Groups', *International Planning Studies*, Vol 6, No 4, pp 409-26.

Ramachandran, R (1989): *Urbanisation and Urban Systems in India*, Oxford University Press, Delhi.

Rakodi, Carole (2001): 'Urban Governance and Poverty – Addressing Needs, Asserting Claims: An Editorial Introduction', *International Planning Studies*, Vol 6, No 4, pp 343-56.

Sita, K and R B Bhagat (2005, forthcoming): 'Population Change and Economic Restructuring in Indian Metropolitan Cities: A Study of Mumbai' in Annapurna Shaw (ed), *Indian Cities in Transition*, Orient Longman, Hyderabad.

Shaw, Annapurna (1999): 'Emerging Patterns of Urban Growth in India', *Economic and Political Weekly*, Vol 34, Nos 16 and 17, April 17-24, pp 969-78.

– (2003): 'Urban Growth, Basic Amenities and Waste Management in India' in Ramprasad Sengupta and Anup K Sinha (eds), *Challenge of Sustainable Development: The Indian Dynamics*, Manak Publications, New Delhi, pp 298-338.

Vira, Bhaskar and Shiraz Vira (2004): 'India's Urban Environment: Current Knowledge and Future Possibilities' in Tim Dyson, Robert Casssen and Leela Visaria (eds), *Twenty-first Century India: Population, Economy, Human Development, and the Environment*, Oxford University Press, New Delhi, pp 292-311.