

Hard struggle and soft gains: environmental management, civil society and governance in Pammal, South India

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The opinions expressed in this paper are the author's and do not necessarily reflect those of the World Bank.

1. See Bartone, Carl (1991), "Environmental challenges in Third World cities", *Journal of the American Planning Association* Vol 57, No 4, Autumn; also Hardoy, Jorge, Diana Mitlin and David Satterthwaite (2001), *Environmental Problems in an Urbanizing World: Finding Solutions for Cities in Africa, Asia and Latin America*, Earthscan, London.

SUMMARY: This paper analyzes the relationships of a women-led civil society organization (the Shri Shankara Nagar Mahalir Manram) with the local government and with the local residents of Pammal, a small town on the periphery of the city of Chennai in southern India. It examines these relationships with regard to the organization's initiative on community-based solid waste collection and management in a middle-income neighbourhood. This initiative began in response to the inadequacies in the waste collection services provided by local government and, to remain successful, it had to change and develop in response to the changing relationships between this organization, the residents and local government. It also had to overcome opposition from some of the residents and the lack of support from local politicians. When local government stopped collecting the waste that the organization had amassed from house-to-house collections, composting and recycling were developed, greatly reducing waste volumes and generating revenues that helped cover costs. The organization also had to network with higher-level political officials for the resolution of conflicts at the local level. The paper concludes that in peri-urban areas, which are in transition from rural to urban in character and have inadequate institutional cover, civil society organizations have enormous potential to improve local environmental conditions, to resolve political conflicts in governance, and to scale up environmental management activities.

I. INTRODUCTION

SINCE THE MID-1990s, under the general rubric of governance, there has been a sudden increase in literature on urban policy reform, institutional strengthening and capacity building, improvement in infrastructure and service provision, decentralization, democratization, and public-private partnerships. The increasing emphasis on governance in relation to environmental management is due mainly to three factors:

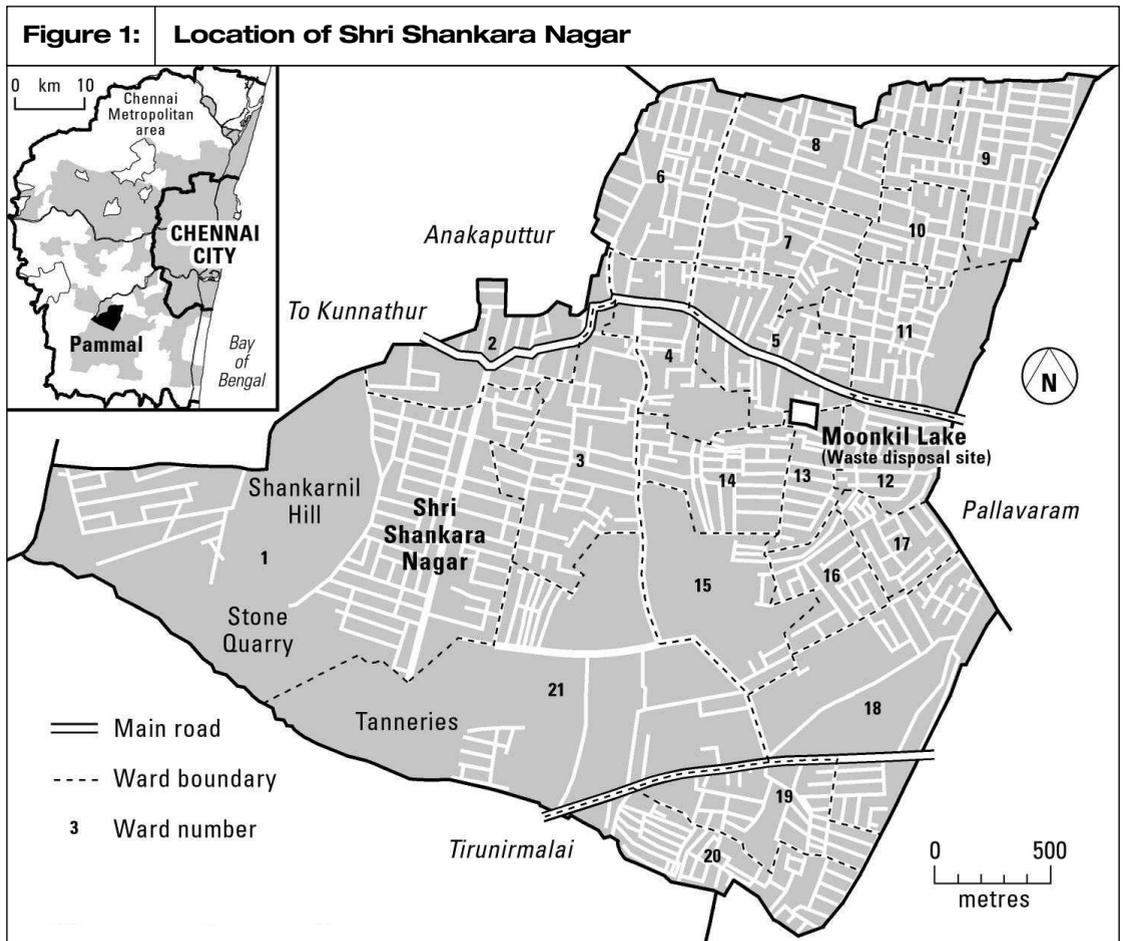
- the worsening living conditions in many urban areas, linked to increasing population pressure and the inadequate capacity of city governments;⁽¹⁾
- civil society's response to this, as it has organized itself into self-help associations (such as neighbourhood organizations); and
- as a result of this, the changing relationship between the state and civil society organizations. Such socioeconomic, institutional and political change has affected cities in almost all low- and middle-income countries.

Interaction between urban local governments and civil society organizations, whether productive or conflict-ridden, has not been so uncom-

mon in larger cities, but it is rare in peri-urban settlements that are in the process of transition from a rural to urban character. In India, this has resulted in *ad hoc* environmental management practices. Although these practices contribute to improving the quality of life in peri-urban centres where the urban service provision by urban local governments is adequate, they have largely escaped researchers' attention. However, it is important to improve understanding of the process by which such *ad hoc* practices are established, the role assumed by different stakeholders in the process of governance of environmental management in these settlements, and the ways in which conflicts are resolved. This can contribute towards improving governance of environmental management in cities and towns in general and in peri-urban areas more particularly.

This paper examines conflicts in solid waste management, and their resolution, and the strategic networking undertaken by a civil society organization in Pammal, a small town located on the periphery of the city of Chennai in South India. It gives an analytical account of the problems faced by the women-led civil society organization – the Shri Shankara Nagar Mahalir Manram² – in community-based solid waste management, with regard to its relationship with the Pammal town *panchayat* (the local government of the town) and the residents of Shri Shankara Nagar (Figure 1). The data for this research were collected during two fieldwork seasons

2. Mahalir Manram means women's organization in Tamil.



in 1998 and 2000. Methods of data collection included a household questionnaire survey, semi-structured interviews and participant observation.

This paper has seven sections. After this brief introduction, the second section examines the adequacy of solid waste management services provided by Pammal town panchayat in relation to its institutional capacity and financial situation. Section III explains the rise of voluntarism in Shri Shankara Nagar, and residents' response to it. Section IV analyzes the Mahalir Manram's relationship with the town panchayat, with reference to the problem of conflicts. The process of making solid waste management environmentally and economically sustainable in Shri Shankara Nagar is discussed in Section V. Section VI looks into the networking undertaken by the Mahalir Manram, not only to improve solid waste management in Pammal but also in Chennai City and other peri-urban settlements. The last section summarizes the main arguments made in the paper.

II. SOLID WASTE MANAGEMENT IN PAMMAL TOWN

PAMMAL IS A fast-growing industrial peri-urban centre located on the southwestern periphery of Chennai urban area – the fourth largest urban region in India. Its population experienced a 56.1 per cent growth, from 36,506 in 1991 to about 58,000 in 1998. With an area of 13.6 square kilometres, it had a density of 4,130 persons per square kilometre in 1998, compared to 24,195 persons per square kilometre in Chennai City.

For administrative purposes, Pammal is designated as a "town panchayat" (literally "town government"). This status is given to settlements in transition from a rural to urban character.³ The Pammal town panchayat has an elected and an executive wing. The elected council, with 21 ward councillors (one for each ward) and headed by a chair, is responsible for decision-making. An executive officer, appointed by the government of Tamil Nadu, is in charge of the executive wing (the administration).

According to official statistics, the town generates a total of 17 tonnes of solid waste daily. In addition to collecting and disposing of the solid waste, the Pammal town panchayat is also responsible for sweeping 72.4 kilometres of roads and streets. For the provision of solid waste management (and street sweeping) services, the town panchayat has a staff of one sanitary inspector, two sanitary supervisors, and 70 sanitary workers.

Official figures show that the Pammal town panchayat collects 10 tonnes, or 58.8 per cent of total solid waste, daily. Compared to an average solid waste collection of 68.3 per cent across 24 peri-urban town panchayats in Chennai City, this figure is low. However, the official figures mask the actual level of services received by the residents and the resultant environmental realities of waste management.⁴ There are three main reasons for this low level of waste collection, as outlined below.

a. Inadequate institutional capacity

In rural India, until the early 1990s, the functions of village panchayats (village governments) were unclear, and different in each state. These functions were defined in 1992, with the addition of the Eleventh Schedule to the Constitution of India through the 73rd Amendment. However,

3. There are 602 town panchayats in Tamil Nadu, the state where Pammal is located.

4. This has been emphasized by Satterthwaite; see Satterthwaite, David (2000), "Official figures do not tell the whole story", *Habitat Debate* Vol 6, No 1.

due to the nature of villages or rural settlements, there is no mention of various functions in the Eleventh Schedule which, in the case of cities and towns, are central to environmental management, for instance, solid waste management and drainage.

When villages grow in size, and their economy diversifies towards secondary and tertiary activities, they are upgraded to town panchayat status.⁽⁵⁾ However, from the outset, these town panchayats have problems of inadequate institutional cover (e.g. for providing drainage, sewer systems and streetlights), poor administrative capacity and a poor resource base.

With regard to solid waste management, in 1998, the Pammal town panchayat had 70 sanitary workers, 22 of whom were permanent and 48 temporary. Of the 48 temporary workers, only 29 worked on waste collection. The other 19 were deputed to other departments: six for water supply, six for streetlight maintenance, four as office clerks and three as drivers. Although an additional 20 workers would have been necessary to ensure adequate waste collection, the Pammal town panchayat could not employ more temporary workers because of a lack of finance (see below). More importantly, in order to create new posts, a town panchayat requires administrative approval from the state government – a lengthy and cumbersome process.

The result was that many town panchayats were unable to provide adequate urban infrastructure and services to their populations. The levels of infrastructure and service provision in Pammal meant that a large number of roads and streets were unpaved, there were no open surface drains or underground sewerage, piped water supply had yet to reach the town (although drinking water was supplied in water tanks), and solid waste management services were inadequate.

b. Poor financial situation

The financial situation of Pammal town panchayat was weak during the 1990s, with years of intermittent debt burden. The main reason was that it supplied drinking water worth 1.8 million rupees to the residents every year, but was able to collect on average only Rs 800,000 per year from the public. Over time, a debt of Rs 8 million was accumulated.

In 1997–98, the revenue account started improving, with some impact on the overall financial situation, although the proportion of town revenue was below 40 per cent. The growth in revenue receipts was partly because of the devolution grants which stood at Rs 14,670, 25,270 and 39,770 during 1997–98, 1998–99 and 1999–2000 financial years respectively, constituting on average 14.7 per cent of the total revenue receipts over the same period. During 1997–98 and 1998–99, funds were diverted from the increased revenue receipts to the capital account, and investments were made in the improvement of physical infrastructure such as roads, water supply, streetlights, culverts, public health and sanitation. Under public health and sanitation, five waste collection vehicles were bought, which capital investments resulted in a small debt burden of Rs 922,000. This shows that the Pammal town panchayat was not in a position to make such investments in solid waste management regularly.

c. Urban environmental issues

Pammal does not have a solid waste disposal facility, which is a major

5. When the town panchayats urbanize completely, they graduate to fully fledged urban status and are governed by municipalities.

disincentive for regular collection. Solid waste is disposed in Moonkil Eri, a dried lake located within the town, which results in poor living conditions affecting the quality of life (see Figure 1). The situation demands policy focus on reduction, re-use and recycling of solid waste, along with composting of its organic components.

One way of reducing the quantity of waste dumped at disposal sites is to compost the organic part of the waste. During the 1960s, composting of solid waste used to be a day-to-day practice in urban centres in the state of Tamil Nadu, and guidelines were provided to urban local governments by the state government.⁽⁶⁾ However, increased demand for urban land as a result of rapid urban growth led to the closure of the government composting plants. The lack of developed compost markets could also have contributed to this.

d. Solid waste management in Shri Shankara Nagar

Shri Shankara Nagar is a middle-income neighbourhood in Ward 1 of Pammal, located in the town's periphery near Shankarnil Hill (see Figure 1). It has a planned layout, with large plot sizes. However, most of its roads are unpaved, and water supply, drainage and sewerage systems have yet to reach it. Until late 1994, waste collection services were very infrequent in Shri Shankara Nagar:

"[Waste was collected] if any visitor⁽⁷⁾ came to our area, once in six months or once in three months, depending on who visited the area. The first time when I started doing the mass cleaning in our area before we started [daily waste collection], everybody started asking, 'who is going to come to our area?' ... That was the notion people had."⁽⁸⁾

Although the Pammal town panchayat had built a few collection points at which residents could dump waste, the infrequent waste collection was the result of two related factors: the Pammal town panchayat was unable to collect waste regularly due to the factors outlined above and, as a consequence, the residents living near these collection points did not allow other residents to dump waste there.

This resulted in low quantities of waste dumped at collection points and hence, infrequent collection by the Pammal town panchayat. The response of the local people to inadequate and irregular waste collection was to "do nothing". Hence, residents started dumping waste on nearby vacant plots, and new residents who came to live in Shri Shankara Nagar just copied this local custom. Lack of public discipline with regard to waste disposal at collection points added to the problem.

III. RISE OF VOLUNTARISM AND CIVIL SOCIETY ORGANIZATION

A LOCAL RESIDENTS' welfare association existed in Shri Shankara Nagar but it was almost defunct. In 1994, Mangalam Balasubramanian, a local resident, initiated the formation of a civil society organization to address the issues of solid waste collection and cleanliness. Ten women residents, who were also interested in these issues, volunteered and joined Mangalam in establishing the Shri Shankara Nagar Mahalir Manram. They started a campaign to involve the local residents in cleaning the area, and a mass cleaning campaign was organized for the first time in all streets simultaneously in Shri Shankara Nagar:

6. Government of Madras (1963), *Guide Book on Urban Compost*, Department of Agriculture, Madras State, Madras.

7. The visitor could be the president of the Pammal town panchayat or an important politician.

8. Interview with Mangalam Balasubramanian.

"To sustain the interest generated among the residents in keeping their environment clean, the energetic women of the Manram [visited] all... families in the area. They had face-to-face discussions with the residents and impressed upon them the need for keeping the place clean by not throwing their garbage in the open spaces around.

We had a local street play, and with that we started telling the people... 'Please segregate [waste] at source and give it to us in an organized manner.' So that was the starting point in 1994. It took nearly six months to send the pamphlets and to mobilize people in the area."⁽⁹⁾

During the campaign and visits, volunteers from the Mahalir Manram encountered several problems that had to be addressed:

"Number one, we were talking all the time about garbage – so nobody was interested to listen to it. [Second]... basically even to collect Rs 10 as a service charge... was a problem."⁽¹⁰⁾

It was easy for volunteers to enlist residents' support in keeping the surroundings clean but not to mobilize them to pay for the waste collection service which the Mahalir Manram was planning to start. The attitude of local residents with regard to the problem of waste collection in Shri Shankara Nagar was as follows:

"[Almost] everybody, especially those who are retired from government jobs, thinks... that it is the government's duty to do the garbage clearance, or it is the government's duty to do everything for us."⁽¹¹⁾

Since the neighbourhood was fast developing with the arrival of new residents, it took time for the latter to get accustomed to and involved in the local voluntary activities; this hindered the expansion of voluntarism in the neighbourhood and compounded the problem for volunteers. However, the volunteers of the Mahalir Manram, under the leadership of Mangalam, kept up their efforts to sensitize the residents about the need to keep their surroundings clean.

As a second initiative, the Mahalir Manram bought two tricycles with a Rs 3,000 grant from Sterling Tree Magnum,⁽¹²⁾ and appointed two street beautifiers.⁽¹³⁾ In May 1995, they initiated house-to-house waste collection:

"We used to do the [waste] collection [from houses] first; and then we used to collect [and store] it in [town] panchayat bins. Then, on every Friday, we went to the [town] panchayat and requested them to remove the garbage. They were coming regularly."⁽¹⁴⁾

The volunteers were thus able to start providing self-help waste collection services to the residents of Shri Shankara Nagar. However, in order to maintain the process, they had to tackle the problem of "garbage not in front of my house":

"When we started disposing garbage in the [town] panchayat bins, they [residents] were tense about us using all the bins in the area... They were not allowing us to deposit [waste] in the bins which were constructed in front of their houses. They thought the bins belonged to them. This was one of the basic problems. And these men, they started gheraoing [surrounding and threatening the volunteers] and using all kinds of filthy language, saying 'Why should you do it [waste collection] when the [town] panchayat is there? This is not your duty...'. There were a lot of abuses and filthy language... [But] when they thought that these women are really bent upon doing this kind of work, then slowly they stopped saying that... It was a struggle!"⁽¹⁵⁾

Thus, the women volunteers suffered gender-based discrimination from the local residents. Despite residents' unexpected resistance to the self-help waste collection services, the volunteers maintained their efforts to improve the local environment.

9. See reference 8.

10. See reference 8.

11. See reference 8.

12. A philanthropic business house in Chennai.

13. These are workers who are appointed to collect solid waste house by house and to transport it to the dustbins installed by the urban local governments.

14. See reference 8.

15. See reference 8.

Table 1: Reasons for residents' unwillingness to pay a service charge for self-help services	
Reason	Percentage of households
No reason	42
Waste collection time did not suit	25
Waste collection is town panchayat's job	17
Pay taxes	8
Not enough solid waste to dispose	8
Total	100

By mid-1998, as shown in the household survey, more than two-thirds (69 per cent) of residents paid for the waste collection service. Of the 31 per cent of residents who did not pay, 15 per cent indicated that they would be willing to pay the charge, whilst the remaining 16 per cent were not. Residents gave various reasons for their unwillingness to pay, as shown in Table 1.

IV. THE MAHALIR MANRAM'S RELATIONSHIP WITH PAMMAL TOWN PANCHAYAT

IN THE ABSENCE of an elected council prior to October 1996, the Mahalir Manram had a productive relationship with the town *panchayat* administration. The waste collected by the Mahalir Manram was removed regularly by the town *panchayat* vehicles. Such a productive relationship for maintaining a clean environment in Shri Shankara Nagar was based on two factors:

- there was regular interaction between the Mahalir Manram and the Pammal town *panchayat*; and
- the constant demand for waste collection services was put regularly by the volunteers to the town *panchayat* officials.

The town *panchayat* elections of October 1996 significantly changed the process of waste management in Shri Shankara Nagar and the relationship between the Mahalir Manram and the town *panchayat*:

"Now there are 21 wards in Pammal town panchayat; for each ward, a councillor was elected on a political basis. The councillor who was elected in our area is not well educated... Ever since the councillors came, the panchayat lorry stopped coming to collect the garbage. So there the problem started."⁽¹⁶⁾ (emphasis added)

Although Shri Shankara Nagar is a middle-income neighbourhood, this didn't give any political advantage to its residents in lobbying for better waste collection services. In fact, the neighbourhood was viewed as being self-reliant in that its residents were able to organize house-to-house waste collection:

"[The area] where we live, belongs to Ward number 1. Since we have been clearing the garbage every Friday, in the councillors' meeting they said, '... Ward number 1... is already clean. But there are many wards which are not clean. So, why do we have to send the lorry to Ward number 1?' But our councillor did not... put his demand properly. He did not raise his voice. When I asked [him], he used to giggle [and say], 'After all, our ward is very clean.' But he never thought that cleaning has to be done on a continuous basis."⁽¹⁷⁾ Since he did not voice the concern, that is why it stopped."⁽¹⁸⁾

Although the behaviour of the local councillor was unacceptable to the

16. See reference 8.

17. This underlines the importance of sustainability of urban environmental services.

18. See reference 8.

volunteers of the Mahalir Manram, little could be done. In such circumstances, it is difficult to build any institutional relationship between civil society organizations such as the Mahalir Manram and the urban local governments. The councillors' lack of knowledge about their responsibilities, coupled with a lack of training, explains such behaviour:

"Sometimes, it is unfortunate [that] we have councillors who do not have knowledge about the [Urban] Local Bodies Act... it is the first time the [state] government is having this local body election [after a period of ten years] but not very good training has been given to these people. They don't know what is their responsibility... they think it is a very big post [which] they are holding but actually they should see that they are really an interface between the community and the government."⁽¹⁹⁾

This underlines the need for orientation or training of elected representatives on their responsibilities, especially with regard to the new Urban Local Bodies Act of Tamil Nadu that was legislated in 1998.

V. TOWARDS SUSTAINABLE WASTE MANAGEMENT IN PAMMAL

THE ORGANIZED HOUSE-to-house collection of waste by the Mahalir Manram, and its final removal and disposal by the Pammal town panchayat, was to last for only a year and five months. After the town panchayat elections in October 1996, two problems emerged simultaneously. First, the town panchayat stopped collecting and removing waste from Shri Shankara Nagar. Second, the residents blamed the Mahalir Manram because it dumped waste in the collection points in front of their houses but did not ensure its removal by the town panchayat. The Mahalir Manram came under pressure from both sides. It was time for its volunteers to be innovative.

In late 1996, the volunteers considered the question of converting the waste into manure. To do this, they had to learn the technique of vermicomposting or "vermitech":⁽²⁰⁾

"We went to different places like Pune, Bangalore [and] Coimbatore, and met people... who had been doing vermi-composting. Based on... different technologies, we adopted the technique which was suitable to our area. In 1996, we started on an experimental level under a tree because it was problem to get a place to do vermi-composting... In 35 days we got a very good result; [the residents] were coming and seeing whether there were any problems with mosquitoes or flies. Since they didn't find any foul smell or anything, then the Shankara health centre gave us a place which was very close to the hill. It was a very rocky area. We renovated the area, filled it with soil [and] then erected a shed.

All these things were possible because we collected service charges from those [who] were giving garbage. With that money, we were able to pay the salary to the [street] beautifiers as well as erect the shed. Then we started collecting the garbage, segregating it at source and... converting all the compostable waste into manure... We started selling it at a retail price within the colony, to the nearby area and to a government nursery."⁽²¹⁾

The benefits of the vermi-composting process were manifold:

- most importantly, the organic part of the solid waste, which formed more than 80 per cent of total waste generated in Shri Shankara Nagar, was now being composted;
- with the sale of recyclable materials (e.g. paper, plastic, metal, glass and rubber), the quantity of waste dumped at the disposal site was reduced

19. See reference 8.

20. Ismail, Sultan (1996), *Vermitech*, VPS Printers, Chennai.

21. See reference 8.

22. Exnora International is a grassroots organization concerned with environmental issues. It is also an umbrella organization for a network of neighbourhood organizations (Civic Exnoras) engaged in self-help solid waste collection services. It is listed in the "best practice" database of UN-Habitat (see <www.bestpractices.org>). Some aspects of Civic Exnoras in Chennai were studied by Anand (1999); see Anand, P B (1999), "Waste management in Madras revisited", *Environment and Urbanization* Vol 11, No 2, pages 161-177.

23. *The Hindu* (2000), "Pammal to be garbage-free soon", Chennai, October 2, page 3. *The Hindu* is an Indian national daily newspaper.

- to less than 10 per cent of total waste;
- the income generated from the sale of compost made the process economically sustainable;
- the process led to a cleaner environment in the neighbourhood, thus making solid waste management and, in turn, urban environmental management, sustainable; and
- the process generated employment for two households. The sale of recyclable materials added to their incomes.

VI. NETWORKING FOR IMPROVED GOVERNANCE AND ENVIRONMENTAL MANAGEMENT

AS THE SUCCESS story of the Mahalir Manram's community-based solid waste management project was published in the local press, people working on urban environmental issues became aware of it. Most important among these was Exnora International,⁽²²⁾ some of whose office bearers and advisers had links with the mayor of Chennai City. This was to have a significant impact on the solid waste management process not only in Pammal but also in Chennai City.

After the privatization of waste collection in the financial year 1999–2000 in three of the ten municipal zones in Chennai City, the mayor started to take a keen interest in solid waste management. He organized several "walks" in the city, to spread awareness of the new system of waste collection by the private sector agency. The mayor placed Exnora International at the centre of the organized walks, including its office bearers in these awareness campaigns. During this period, the president of the Mahalir Manram, Mangalam Balasubramanian, met the mayor, who was impressed by the success story of the community-based composting project at Pammal, and expressed an interest in visiting the place.

Following a compost yatra (literally, "compost journey") to Pammal, organized by Exnora International for the media in Chennai City, the mayor visited the vermi-composting project run by the Mahalir Manram in Shri Shankara Nagar. He was invited to the annual function of the Mahalir Manram in September 2000 and, in his speech, he identified the Pammal project as a successful example of local women's voluntary efforts to maintain a healthy living environment. He advised the elected council of Pammal town panchayat, which had a majority from the mayor's political party – the Dravida Munnetra Kazhagam (Party for Dravidian Progress) – to take up vermi-composting on a larger scale, and he launched Pasumaiyana Pammal – Green Pammal Zero Waste Programme – to cover six administrative wards in Pammal.⁽²³⁾

This had a significant impact on the governance of environmental management, not only in Shri Shankara Nagar but also in the whole of Pammal. The Mahalir Manram's relationship with the Pammal town panchayat started improving. In October 2000, the author witnessed the main political figures in the town panchayat taking advice from Mangalam on how to improve solid waste management in Pammal. They started drawing up plans and schemes, proposing to set aside town panchayat funds for the purpose. Overnight, solid waste management became the most important issue in the town, whereas previously it had been a burden on the town panchayat administration. This change of perspective was the result of a directive from a higher-level political func-

tionary in the Pammal ruling political party. This demonstrates that if higher-level political functionaries appreciate the value of civil society organizations' efforts towards better urban environmental management, and are able to learn from civil society organizations' initiatives, they could prove instrumental in resolving political conflicts as well as improving urban governance.

VII. CONCLUSIONS

THIS PAPER IDENTIFIES problems of environmental governance in a transitional context, such as the transformation of rural areas into peri-urban locations. These issues relate fundamentally to the different sets of priorities in rural and more diversified peri-urban centres of growth. Such transformations imply a need to change governance strategies and to strengthen the institutional capacity of urban local governments to govern. This transition is complex and requires special attention to environmental management. In a region dominated by upwardly mobile, emerging professional social groups, inadequate attention to capacity building for improved urban governance could produce more active civil society organizations. The rise of civil society organizations may indicate, on the one hand, a new civic consciousness among professional groups but, on the other, could also indicate the emergence of a wider social fault line based on education, occupation and access to resources.

The foregoing shows that peri-urban local governments in India lack the capacity and resources for the adequate provision of basic services and environmental management. In some peri-urban settlements, this has given rise to voluntarism and has led to the formation of civil society organizations that provide self-help basic services to local residents. Such *ad hoc* environmental management practices are not welcomed by all. In specific cases, such as Pammal, some local residents oppose such efforts. The urban local governments ignore areas serviced by the civil society organizations in the process of basic environmental service provision.

Thus, civil society organizations are confronted with conflicting situations. The possibilities for conflict and cooperation – the latter being rarer – characterize the process of governance in urban India.⁽²⁴⁾ The case study demonstrates the importance of voluntarism in spearheading innovations, such as vermi-composting of organic waste in Pammal, and of paving the way towards more environmentally and economically sustainable solid waste management, with little help from outside. The civil society organizations have to carry on with their *hard struggle* for sustainable environmental management, by providing adequate services to the residents and by networking with those in power to build the necessary consensus for public action. Such strategic networking with higher-level political functionaries leads to *soft gains*, in the form of a resolution of conflicts vis-à-vis environmental management while, at the same time, improving the quality of governance of peri-urban settlements.

24. Dahiya, Bhárat (2000), "Managing urban local commons: conflicts and governance in Valasaravakkam town in South India", paper presented at the Conference on Environmental Resources: Conflict, Cooperation and Governance, University of Bradford (UK), 17–18 May.