

When urban residents gather to manage their refuse: lessons from India

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This paper examines the concept of area-based organisations as a means of promoting a sustainable, integrated waste management system in Indian mega-cities. A local NGO, called EXNORA, has advocated people-centred approaches as an alternative solution for clean cities where urban municipal services are over-loaded. This has led to the formation of CIVIC EXNORAs which aim to implement a zero waste management scheme designed by Indians for the Indian context. As this model has been widely quoted as successful, the study aimed at learning from two communities implementing this model. Field studies reveal that they face many problems, which prevent them from impacting effectively on the overall system of municipal waste management. However, their action has had a significant impact on public awareness.

Solid waste management has emerged as one of the biggest challenges today in urban India. The municipal bodies have been unable to adjust to the rapid changes that have led to both increased quantities and changes in the composition of the waste stream, leading to an over-loading of the service. The current situation, which gives rise to the indiscriminate dumping and burning of wastes, has a serious impact on air, land and water pollution and causes a dramatic increase in health hazards in the urban environment.

As a response, in many cities, non-governmental organisations have started developing neighbourhood waste collection services, as well as initiating composting and recycling activities. These moves are backed up by new municipal solid waste management and handling rules published in 2000, which, among other recommendations, require source segregation and waste recovery.

The study reported here examines one of those NGO initiatives that has been widely quoted as being both innovative and successful, including in the UN-Habitat Best Practices database: the zero waste management system of EXNORA (Anand, 1999; Haan et al, 1998; Maqsood and Enayetullah, 2000). EXNORA has been driving the environmentalist movement for sustainable urban development in Chennai since 1989 and believes that community management is the key for a better environment.

EXNORA's zero waste management model

EXNORA's concept of people-centred household refuse management is based on two key ideas:

- community management by neighbourhood organisations they call CIVIC EXNORAs (CEs);
- maximum waste recovery at the local scale.

The challenge for the CEs is to recover the recyclable fraction of household refuse - 95% of the total amount generated (80% organic wastes, 15% inorganic)¹ - so that only 5% would need to be handled by the Municipal Corporation.

In order to respect the livelihoods of the poorest, waste pickers should be employed by the communities, who, by implementing the scheme, are otherwise likely to deprive them of their livelihood.

Beyond a clean environment, EXNORA wants the implementation of the scheme to result in a 'school of civics', a medium through which to spread environmental, social and civic messages, which would ideally contribute to build up a more equal and responsible society.

EXNORA has been promoting this model in the 1990s and inspired thousands of individuals who formed CEs. Two of them have been studied in depth by the author.

The fieldwork

Fieldwork was carried out by the researcher over a three-month period between July and September 2002. The study aimed at learning by drawing parallels between the ideal picture given by the theoretical model and the real life situations. Data were collected through stakeholder analysis, observations, informal and semi-structured interviews, and surveys among a cross-section of the communities in terms of level of income, type of housing, religion, education and ethnicity.

Two initiatives were chosen among ten identified in the states of Tamil Nadu and Andhra Pradesh:

- the EXNORA Innovators' Club of Nungambakkam in Chennai, capital of Tamil Nadu;
- and the Jubilee Hills CIVIC EXNORA in Hyderabad, capital of Andhra Pradesh.

Studying two communities revealed that the impact of the scheme is totally reliant on the local context.

The EXNORA Innovators' Club of Nungambakkam

Background information

Nungambakkam is a middle-class neighbourhood located in the heart of Chennai, the capital of Tamil Nadu. In 1994, Mr PJ Ramanath decided to start a CE to upgrade his surroundings. Impressed by the cleanliness of his street, the residents of neighbouring streets became interested in the movement. Eight years later, 25 CEs had been set up to organise a primary collection service. As an attempt to coordinate the action of the different CEs, Mr PJ Ramanath formed the EXNORA Innovators' Club of Nungambakkam (EICN), in 2000, including membership from each of the 25 organisations.

In 2001, the zero waste management scheme was started by the EICN with the building of a composting shed in the local public park. So far, four CEs have started source segregation and are supposed to send their organic wastes to the composting plant. The EICN collects the garbage from 192 households.

The zero waste management scheme in Nungambakkam involves the residents, the EICN, the CEs, community workers, the Municipal Corporation and local dealers. No formal legal contract links the different parties. The Municipal Corporation of Chennai plays the role of facilitator, since it provides land and infrastructure for composting. Sweeping, and primary collection, are funded and run by the CEs, and composting by the EICN. The inorganic recyclable items are picked out and sold by the four waste collectors for their own benefit, and one worker is in charge of the composting activities.

The residents pay a fee of Rs502 to their CE. The four CEs collect household refuse from six streets. Each CE runs its own budget for primary collection and pays a Rs50 monthly fee to the EICN to support the waste recovery activities, i.e. the wage of the composting worker and the maintenance of the composting shed.

What the fieldwork revealed

The study gave a very different picture from what was expected.

It is estimated that on average 25% of the residents segregated their refuse regularly. This is the main hindrance to further segregation, hence to waste recovery, which achieved only 6% out of the 460 kg generated; that proportion comprised the recyclable items sold by the community worker to buy their breakfast. The rest of the wastes were deposited in the municipal bins. No composting was done, which leaves the composting plant as a showpiece.

As a result, the financial situation was not sustainable, with no money being generated as it should from the sales of recyclables and compost.

Maintenance payments and wages were very low, leading to a general loss of motivation, especially of the workers, threatening the life of the enterprise.

On top of that, community management barely existed because of the leaders being unable to delegate responsibilities. 78% of the households who were still funding the scheme only expected the workers to clean their area, no matter the fate of their garbage.

Nevertheless, the area is cleaner than it used to be and many residents acknowledged that they had gained enough awareness on waste management to stop littering the streets.

Nungambakkam has also been the first neighbourhood composting experience widely heard about in Chennai, which helped to raise public awareness.

The Jubilee Hills CIVIC EXNORA

Background information

Jubilee Hills is a high-income neighbourhood located in the west of Hyderabad, capital of Andhra Pradesh. In 1998, Mrs I Lingam created a women's association to organise household refuse collection. Being a previous Chennai resident, she gave the name of Jubilee Hills CIVIC EXNORA (JHCE) to this association, although it has no links with EXNORA. JHCE now owns 15 tricycles and covers 800 households. After many vain attempts to start composting, a more favourable context allowed a vermi-composting activity³ to start in May 2002. This was made possible by a substantial donation from a resident and the involvement of a local NGO, SPEQL (Snel, 1998), interested in experimenting in vermi-composting of household refuse. Source segregation has not yet been implemented.

The residents pay a Rs100 quarterly service charge that is collected by one employee. Household refuse is collected daily only from the houses who pay for the service. The waste collectors are supervised by another employee. All 16 waste collectors are previous street-children. JHCE aims to foster their social integration by employing them. Collected refuse is brought to a site lent by the municipality, where it is segregated both by another worker, who picks out the organic matter to be composted, and by a family of waste-pickers allowed on the site, who pick out as many valuable items as they can, before the company employed by the municipality comes to collect the remaining garbage. An agent of SPEQL comes weekly to advise on the composting activity. The municipality provides land, water and electricity for no charge. Active women observe operations daily for supervision.

What the fieldwork revealed

The JHCE is a resourceful organisation in terms of money and management. This group of women had set less ambitious targets than the ones promoted by EXNORA, and achieved them. Their aims were to clean their neighbourhood, develop a composting activity that is stable enough to reach self-sufficiency, and most of all to rehabilitate previous street children.

The quality of their management enabled them to supervise the work, to provide good personal equipment and welfare to the workers. They received any needed technical help from experienced people and achieved political support.

JHCE diverted a quarter of the waste it generated, i.e. 1600 kg daily. The community members were ready to extend the activity as soon as there is a market for the compost and if the quantity sold is enough to recover the processing cost.

The main threat to the sustainability of the organisation was the lack of volunteers ready to replace the committee members.

The main obstacles identified

To source segregation

- Gender issues: the level of education of women is relatively low, which prevents them from reading the messages sent, sometimes in English.
- Ownership: the understanding of source segregation was spread most effectively among the friends and relatives of the committee members, people who had lived in the area for a long time and those living in houses rather than flats, for their contact with the street is more direct.
- Motivation: most residents who do not deal themselves with their garbage said they found it difficult to make their maids segregate. The maids already sell for their own benefit the most valuable wastes and might not see the point in further segregating.

To segregation

- Motivation of the workers : the workers who are not motivated do not see the point in undertaking messy segregation and are in a hurry to finish the job.

To composting

- Poor technical management : there is no monitoring of the quality, quantities and other essential parameters.
- Supervision : in Chennai, the committee members were reluctant to show the workers that the compost could be a valuable product, as they would be unable to check whether the workers then sell it for themselves.
- The NIMBY phenomenon : the extension of the composting activity in Jubilee Hills is hindered by the opposition of neighbours complaining about smell and flies.
- Lack of space : space is scarce in Indian cities.

To participation by residents

Both organisations suffer from a lack of participation by residents; such participation hardly ever goes beyond financial contributions.

- No sense of community as a ‘brotherhood’: in Chennai, as diversity increases, as well as the number of flats in the area, so does the feeling of anonymity.
- Lifestyle : in Jubilee Hills, the lifestyle appears to be very individualistic. Living in large houses surrounded

by expansive gardens does not foster their sensitivity towards the hygiene of public spaces.

- Leadership : the leaders have been unable to delegate responsibility, nor to develop representation.
- Social, gender and caste issues : in Nungambakkam, nearly all the committee members are educated, male, middle-class Brahmins⁴, which makes women who might have time to invest in the running of the organisation afraid to take part in such activities, as they feel inferior and unskilled.
- Tax paying : despite the wealth of the residents of Jubilee Hills, 30% are still not willing to pay extra charges, because they already pay a heavy property tax.
- Taboos : discussions about garbage matters do not interest most people.

To stable financial health

- The scale of operations and the ability to raise funds : the smaller the scale of the operation is, the higher the willingness to pay has to be to achieve a balanced budget.
- Management : the overall supervision and linking between the different actors are crucial.

To sustainable voluntary management

- Heavy burden : considering the time and energy devoted by the current committee members, no other resident is readily willing to replace them.
- Unhealthy purpose of any potential ‘volunteers’: in Jubilee Hills, the people coming forward were more interested in boosting their status than being genuinely concerned with the activities of waste management.
- No proper status : in both cases the replacement of the committee has never been officially instituted.

Reliance on the municipality

- Low waste collection capacity of the municipality.
- Influence of political parties : having been close to the opposition party might make relationships with the current local government difficult.
- Privatisation policy : where companies are employed for collection, neighbourhood organisations tend to collapse whatever is the treatment of the wastes. This happened when Chennai signed a contract with ONYX5.

Complete data and analysis are available in Colon (2002).

Conclusion

Both case studies show that the communities have succeeded in mobilising enough motivation, funds and energy to start an ambitious integrated solid waste management scheme from scratch. Nungambakkam being the first such experience in Chennai helped promoting the system beyond the city and the state. In Hyderabad, this initiative encouraged the municipality to launch the ‘litter-free Hyderabad’ programme,

in August 2002, to expand the model. This provides a valuable impetus for change. Within their neighbourhoods, the organisations have taught many households to stop littering the streets. Finally, the Jubilee Hills CIVIC EXNORA demonstrated that it is possible to fulfil a social goal through integrated solid waste management.

However, the case studies also demonstrated the fragility of those schemes when run by communities. A number of obstacles have been identified, which could be classified in three categories.

The first of these includes the universal ones, i.e. widely quoted in reports on similar projects (Anschütz, 1996; Furedy, 2002; Slater et al, 1999): the difficulty of mobilising residents beyond financial participation; space constraints; the NIMBY6 phenomenon; and the inability to control the quality and quantity of compost produced.

The second set of constraints are specific to the Indian context: the difficulties of communication between people with different educational levels, backgrounds and genders; and the traditional social status of scavengers that renders dealing with waste a highly impure activity. As an example, no effort was made to cooperate with the waste pickers in Nungambakkam, which highlights the major difficulty of breaking caste taboos.

The third set of constraints are the institutional ones, i.e. those that derive from the very nature of the communities. The CEs have no institutional legitimacy. Therefore, their action constantly awakens embedded conflicts between castes and social classes, individual rivalries and general contradictory interests. CEs do not have that neutrality from which an administration benefits; their existence is therefore very fragile.

Finally, but no less significantly, the communities have a limited business orientation. Therefore, strategies are not based on a good understanding of cost-recovery, leading to financial non-viability of the projects.

As a final word, communities obviously need support with management, and with technical and institutional issues, which could be provided by either the private or the public sector.

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Notes

1. These rates were measured during the study and confirmed by figures published by the Municipal Corporation of Chennai.
2. In 2002, US\$ 1 = Rs 48
3. Composting technique by which the organic matter is processed by worms.
4. The Brahmins are the highest caste in India.
5. ONYX is a French corporate group.
6. Not In My Back-Yard.

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