

When do Consumers become Citizens?

Behaviour Change, Collective Action and the New Middle Classes of India

Manisha Anantharaman

Department of Environmental Science Policy and Management, UC Berkeley

Draft version – do not cite or circulate

Abstract: Globalization and economic liberalization are enabling individuals in emerging economies like India and China to access lifestyles similar to the resource-intense West. This spread of consumerism poses substantial ecological challenges, and calls for studies that investigate the potential for transforming the trajectories of consumption in countries like India. In this paper, I use a place-based ethnography to explore emerging sustainable consumption practices in the city of Bangalore, India, among its most affluent consumer class- the New Middle Classes. Using the case of home waste management, I show how household behavior change is made possible by neighbourhood-based coordination involving multiple actors such as motivated residents, domestic servants, hired waste workers and corporate and non-corporate buyers of recyclables. The emergence of city-wide coordination networks, whose members transfer best practices from one site to another facilitate the replication and formalization of waste management models. Drawing on ecological citizenship theory, I discuss how waste management through recycling and composting is being implemented in Bangalore through the work of elite individuals. I argue that the privileged political and economic position of these individuals enables them to be effective agents of change and to move beyond their consumer roles to collectively enact changes in their cultural and structural contexts to enable these sustainable practices. As these elite individuals begin to see their consumption patterns as contributing both to environmental problems, and to their solutions, they become potential agents of change. At the same time, while these individuals are enabling better consumption through citizenship, the role of other actors like domestic servants and waste workers remains critical to the process, but is relatively unacknowledged. I suggest that a careful study of the reworking of class relations in the context of elite sustainability initiatives is an integral aspect of understanding the politics of nascent environmental movements in urban India.

1 Introduction

1.1 The North in the South- The emergence of ‘new’ consumers in India

Globalization and economic liberalization are enabling individuals in emerging economies like India and China to access lifestyles similar to those common in the West. The emergence of this “North in the South” poses major challenges to the project of sustainable consumption

and production. This spread of consumer lifestyles has not only resulted in measurable increases in resource consumption and greenhouse gas emissions but has also made 'development through consumption' the dominant paradigm in these emerging economies.

The 'new' consumers of the developing world have begun to receive increasing attention from business, academia and activism in the past decade. Industry sees these emerging markets as growth opportunities, while academics and activists are concerned about the social and environmental impacts of rising consumption.ⁱ According to one estimate, in year 2000 there were 132 million 'new' consumers in India, constituting 13 % of the population.ⁱⁱ India's 'new' consumers, while accounting only for one eighth of the population, possess two fifths of the country's purchasing power. They are responsible for 85 % of personal transport purchases and have CO₂ emissions 15 times greater than the rest of India, attributable to their high per-capita energy consumption.ⁱⁱⁱ In sharp contrast to these numbers, policymakers have consistently termed India's emissions 'development' emissions, and domestic consumption has not come under much scrutiny in the climate debate.^{iv} Not only are these 'new' consumers important to study from an environmental perspective, but their emergence also has consequences for ecological equity and climate justice.

Rising consumption in India coupled with growing population is likely to bring genuine and pressing environmental challenges and resource constraints.^v The sheer size of the Indian populace makes envisioning the environmental impact of an expanding consumer class a formidable task. A 2007 McKinsey report, "The Bird of Gold", on the Indian consumer market forecasts in a jubilant tone that total consumption in India will quadruple by 2025 (from 2005 levels). The next two decades will see more Indians driving cars, eating meat, owning appliances and embracing various branded goods and services (Ablett et al., 2007).

In neither the climate debate nor discussions around sustainability in India has there been adequate attention paid to the fact that a significant but distinctive section of India's population is consuming almost at par with the West. Instead what we see is the consolidation of the discourse that consumption is critical to the economic health of India and to the aspirations of its people. Consumers are framed as engines of economic growth and consumer ownership of goods is seen as a form of national progress. Advertisements, film and television media, celebrities, businesses and the State promote and reinforce imagery where consumer lifestyles are the symbols of a modern, world-class nation (Fernandes, 2000a; Fernandes, 2009). If marketing reports are to be believed, millions more are in the wings waiting to participate in India's consumption economy. India is set on a development trajectory that fuels and is fuelled by increasing consumption. As the feedback between consumption and development accelerates, more and more unsustainable practices begin to take over. This necessitates an urgent analysis of the potential for transforming the trajectories of consumption in India.

1.2 Conceptualizing sustainable consumption in India

In such a scenario, where might one begin the search for sustainable consumption and production systems in the Indian context? National Geographic's Greendex survey of sustainability and behaviour ranked India no. 1 in its rankings of sustainable consumers.^{vi} This is presumably because the majority of India's population does not consume very much in terms of energy or resources: India's rural and urban poor lead lives that are environmentally sustainable, but unsustainable in terms of their nutritional needs, livelihoods and well-being. For many, the components of a sustainable lifestyle - conserving water and fuel, reusing and recycling materials, relying on local communities to meet needs

collaboratively, and commuting via non-motorized modes of transport etc., are the default options. However, the ‘new’ consumers of India are moving away from these practices. The prevalence of low consumption levels among the economically deprived does not necessarily translate to sustainable consumption among India’s high-footprint consumers.

The lifestyles of India’s ‘new’ consumers are following a similar path to what was seen in the West, especially in the United States in the 1950s and 60s. However, the context of consumption is drastically different in developing nations like India. While the rich and varied literature on sustainable consumption and production in the global North could hold many insights for the Indian case and many ideas might hold cross-cultural valence, theories and frameworks developed in other contexts cannot be transferred en masse. The growing body of literature on the social and cultural determinants of consumption in India identifies certain local dynamics and patterns that are important to consider.^{vii} Also pertinent to a study of sustainable consumption in India are studies on environmentalism and civic society activism, especially in urban areas.^{viii}

However, there have been very few studies that have explicitly looked at sustainable consumption, or the link between environmental concern and lifestyles in India. In a context where there has been next to no research on sustainable consumption, ethnographic studies of consumption practices and environmental behaviours offer a powerful way of understanding, conceptualizing and theorizing sustainable consumption. Ethnographies produce thick descriptions of processes and patterns, and are particularly useful in studying emerging practices in rapidly changing landscapes. They help identify the role of both individual agency and structural factors in constructing and changing consumption practice, and are critical to sketching the terrain, describing processes, critiquing outcomes and identifying points of intervention.

In this paper, I use a place-based ethnography to explore emerging sustainable consumption practices in the city of Bangalore, India, among a group of ‘new’ consumers. I focus my ethnography on tracking how historically rooted social and cultural factors impact the adoption of green consumption practices.^{ix} I examine how different actors participate and are incorporated into the process, and how they work together to set up various community and institutional apparatuses to enable these practices. I relate these findings to recent work on ecological citizenship and neighbourhood networks (Kennedy, 2011) and use this as a frame to ask the question ‘When do consumers become citizens?’ Finally I reflect on what these practices, processes and people tell us about the potential for the emergence of a more sustainable consumption model in India.

2 Bangalore, India: A city in flux

2.1 The new middle classes of Bangalore

The case studies I discuss here are based in the city of Bangalore in India- a once sleepy town of public sector employees and retirees that has transformed to a bustling megapolis in the past two decades. Bangalore’s transformation is emblematic of India’s ‘growth’ story: In the early 1990s, under the leadership of then Prime Minister Rajiv Gandhi, India embarked upon a series of financial reforms that reduced corporate taxes, began disinvestments of

public sector entities and opened the country to foreign direct investment. The liberalization of the Indian economy came at a time when economic globalization was gathering pace, and India caught the wave of a wider transformation in business and industry. India was well-positioned to take advantage of these changes and the Information Technology industry is a case in point (Upadhyaya & Vasavi, 2008). The influx of foreign companies brought with it well-paying jobs and rising incomes. At the same time, with markets becoming increasingly globalized, foreign corporations entered the fray and new consumer goods arrived in the Indian market. Soon, millions had disposable incomes to partake in the consumption of commodities that were previously not available to them at affordable prices.

This moment marked the emergence of the *new middle classes* of India, a globalizing and consuming class, whose identities are intimately tied to the policies and benefits of economic liberalization. These new middle classes are seen as the vanguards of social modernization in Indian society (Mawdsley, 2004).^x Bangalore emerged as the capital of the country's booming technology industry and is home to about 200,000 Information Technology and other professionalized workers who constitute the most visible portion of India's new middle classes.

The new middle classes of Bangalore work in multinational and Indian technology corporations, investment banks, media, healthcare and other service sectors (Fernandes, 2000b; Upadhyaya, 2008). Many of them come to the city from other parts of the country in search of these opportunities. Their lives and lifestyles are highly influenced by globalization—from their working hours which are synced up to US and UK times, to the kind of clothes they wear, the food they eat, where they live and what they buy. Symbols of new middle class consumerism are visible in Bangalore's swanky malls, chic coffee shops, gated communities and car-clogged roads. The city is expanding, changing old neighbourhoods and creating new ones. These rapid changes in the socio-economic landscape of labour, housing, production and consumption have in turn strained Bangalore's waste, water and transportation infrastructure, resulting in frequent traffic jams, over-flowing garbage dumps and other urban ills. Many of Bangalore's urban poor and working classes have suffered displacement and continue to struggle for rights to land, livelihoods and basic services like piped water supply and electricity.^{xi}

2.2 Green lifestyles in Bangalore

It is in this context of westernizing consumption and changing urban landscapes that I investigate the emergence of an interest in eco-friendly lifestyles and sustainable consumption among Bangalore's new middle classes, demonstrated by the presence of communities of city bicyclists, neighbourhood waste management programs, terrace gardening groups and organic food stores in the city. These practices, albeit disparate and sometimes driven by other motivations like health (in the cycling and organic food case), sanitation (in the waste case) or city stewardship (in the cycling and waste case), have one thing in common - they are framed as environmentally-friendly and promoted as a way in which the eco-conscious new middle class individual can contribute to a better city and a better planet. This makes them pertinent to a study of green consumption in India.

While individual lifestyle changes like bicycling, buying organic food or home waste management have sometimes been criticized in the academic literature as inadequate responses to the daunting environmental challenges facing us today I contend that these are important cases to study in the Indian context.^{xii} For one, these practices present interesting cases to examine the evolution and intersection of environmentalism, consumption and

citizenship among a strategic section of the Indian middle classes- the well-heeled, propertied, well-employed, high-consuming urban Indian whose attitudes and actions have the ability to restructure urban spaces.^{xiii} Further, these practices potentially signal interesting deviations from normative ideas on purity, social performance and modernization widely prevalent in India. For these reasons I argue that a close ethnographic study of these eco-friendly behaviours is of value to sustainable consumption and production research. The case studies I present here focus on household and neighbourhood waste management programs in Bangalore. The analysis is based on 12 in-depth semi-structured interviews and multiple participant observation exercises conducted over 5 months of fieldwork in 2011-12 as well as 'online ethnography' of various online materials such as blog posts, websites and news articles.

3 Household and neighbourhood waste management in Bangalore

3.1 Waste and the middle classes

Solid waste management has been a longstanding issue in the cities of India. With population growth, rising consumption and the increasing usage of disposable materials, city municipalities in large metropolises like Bangalore struggle to keep up with the quantity of waste generated by households and businesses on a daily basis. In the absence of state-organized curbside recycling systems, most of the waste generated in homes is sent to landfills or dumped on streets. Waste-picking is also a source of livelihoods for many of India's urban poor. Waste has consequently been at the centre of many debates over urban space, governance and city-making, especially in the liberalization era.

Middle class dispositions on the solid waste problem can be broadly defined as apathetic or distancing. Writings on garbage and the public sphere in India observe that the middle classes neither took responsibility for the streets outside their homes, nor consequently for the rubbish they threw onto those streets (Chakrabarty, 1991; Ghertner, 2011; Kaviraj, 1998). Some of these behaviours can be traced back to the caste system, where waste work was reserved for certain groups of people, Dalits, and contact with certain forms of waste (and the people who handled) were considered impure (Beall, 1997). In contemporary situations, this apathy to waste on the streets has partially given way to a rhetoric of distancing and displacing of responsibility for waste. This is best exemplified by a 'bourgeoisie environmentalism' where middle class 'environmentalists' claim that the urban poor, especially slum dwellers, are the source of urban filth and decay, and that their removal is necessary for the creation and maintenance of green and healthy cities. Solid waste has been used strategically in these efforts to frame aesthetic preferences as environmental and public health concerns (Baviskar, 2003; Ghertner, 2011). This is closely related to the project of world-class city making where urban elites, business leaders and the State work together to fashion Indian metropolises in the image of New York and London. In line with this mission, some middle class groups have distanced and displaced responsibility for environmental decay (i.e. solid waste in city spaces) to the urban poor, and used this as means to consolidate their claims to the urban commons.

In terms of daily practice, within the middle class home, waste work, like most other household chores, is primarily done by women and by domestic servants. Traditionally, this waste work also included the sorting and selling of recyclables to itinerant hawkers or to

raddiwalas (scrap dealers) (Beall, 1997). Recyclables like newspapers, plastic and glass bottles, milk packets and cardboard boxes were sold for small quantities of money or for other goods like plastic buckets or utensils. This was one among the many thrifty habits the middle classes of pre-liberalization India practiced- such as repairing goods several times before throwing them away, covering valuable items like TVs and cars with plastic covers for protection and reusing old clothes to make cleaning cloths (Wilhite, 2008). These thrifty habits are still routinely practiced by other middle class and working class groups.

However, these practices are becoming increasingly rare among the new middle classes, for a number of reasons. High incomes have more or less removed any economic motivation for recycling as the small quantities of money made from selling recyclables are negligible compared to the overall income and expenditure in many new middle class households. Moreover, with the spread of a throw-away consumer culture and the increasing importance of conspicuous consumption, especially among younger consumers, thrift no longer appears to be a valued trait within this class group. As more middle class women join the workforce, waste work in many homes has fallen solely to domestic workers, and recycling is no longer a priority for the middle class householder.^{xiv} Changes in urban architecture and real estate prices have also made this traditional form of recycling through the informal sector less common- for example, many new middle class families live within gated communities or ‘secure’ high rise apartments where itinerant hawkers and other vendors are not allowed entry. Consequently, the practice of hawkers coming to doorsteps to buy recyclables in exchange for money or other goods has reduced considerably. Similarly, rising land prices have forced many small businesses, including *raddiwalas* to move out of the posh localities that the new middle classes inhabit. All these factors have resulted in the decline of these older, traditional recycling systems driven by thrift and supported by the informal waste economy.^{xv}

3.2 Home waste management 2.0

The past decade has seen the emergence of new recycling and composting initiatives that focus on managing waste generated in elite homes. In the city of Bangalore, this has come mainly in the form of decentralized solid waste management programs implemented in middle class neighbourhoods by local Non-Governmental Organizations, Residents Welfare Associations and community groups. Most of these programs require segregation at source, where dry and wet waste is collected separately in the home (primary segregation). The dry waste is further separated into different types of recyclables (secondary and tertiary segregation), and sold to different buyers, while wet waste is either composted, or sometimes sent to the landfill. The term ‘zero-waste’ is often used to describe these waste management programs. In general, most of these initiatives operate without any assistance from government bodies (like the city municipality), and are run by residents in conjunction with NGOs and various vendors. In addition to these waste management programs, other waste related solutions have also begun to gather momentum. Important among these is the *Daily Dump*® home composting system, which enables individual homes to compost organic waste in their gardens, balconies and backyards using earthen pots.^{xvi}

Taken together, these programs and practices represent interesting deviations from the apathy and distancing that typically characterizes middle class attitudes to solid waste. Instead, what is observed is an increasing individualization of responsibility for waste generated within the home, and the rising popularity of ‘scientific’ solutions to the solid waste problem. Managing waste is also increasingly being framed as one of the primary ways in which middle class households can ‘go green’ and reduce the environmental impacts of

their lifestyles. This may be contrasted with prevalent middle class rhetoric that links management of waste with the removal of slum settlements.

In the following sections, I use ethnographic narratives to describe how specific social, cultural and institutional factors influence how home waste management practices through recycling and composting are engendered in new middle class homes and neighbourhoods. The narratives describe how the adoption process requires the mobilization and incorporation of various actors from residents and domestic workers, to corporate companies and the city government. The cases I describe are situated in upscale ‘gated’ communities in Bangalore, i.e. large residential developments consisting of multiple apartments that restrict entry using physical barriers and security guards. These complexes usually have multiple amenities like swimming pools, clubhouses and manicured lawns, and dedicated ‘facilities/housekeeping’ staff employed to manage and maintain these spaces. I study how such neighbourhood-based efforts replicate and scale to city-wide waste management schemes and initiatives. I argue that these practices necessitate the creation and maintenance of communities of practitioners who go beyond individual ‘consumer’ roles to collectively enact changes in structural and social contexts that enable these sustainable practices, i.e. communities who exercise citizenship to enable better consumption. I reflect on what this case tells us about the potential for developing a more sustainable and equitable consumption model in India.

3.2.1 Case 1: Residential waste management: changing behavior in the home and beyond

My search for examples of ‘successful’ waste management through segregation and recycling, led me to Project Green Diamond, a residential waste management program operating in one of Bangalore’s large gated communities called Diamond District. This waste management program was launched in 2009 by a couple of residents who were members of the local chapter of the Rotary Club.^{xvii} The following ethnographic vignette describes my visit to Diamond District and my interviews with some of Project Green Diamond’s leaders.

I arrive at the Diamond District gated complex- a large development consisting of over a thousand upscale residential apartments and some corporate offices. I am scheduled to meet with one of the women who spearheaded the project. I meet her in the parking lot of one of the large apartment blocks (of which there are 16), and she quickly ushers me towards a cart being pushed by two young women in green uniforms. ‘*You’re a little late, but just in time to see the collection*’, she says. She then explains the strategy that Project Green Diamond uses to implement waste segregation in their complex- each household is given three separate bins for different types of waste; a blue one for dry waste, green for wet waste and a black bin for hazardous waste. Apartment residents and the domestic help they employ are required to segregate the garbage at source, making sure never to mix dry with wet. Housekeeping staff employed by the complex go to each of these homes and collect the segregated garbage. Wet waste is collected every day, while dry waste is collected twice a week. The wet waste is then sent to the landfill (though plans are afoot to get an organic waste composter for Diamond District that will make compost out of the waste. Many residents in Diamond District already compost their waste using Daily Dump, I’m told).

The dry waste is taken to a shed in the back of the complex. We follow the cart being pushed by these two quite young women to the shed where we see two other women sitting inside, amidst ceiling high piles of papers and plastics, sorting through the refuse. My interviewee explains to me that the women are employed to do secondary and tertiary levels of segregation, where paper is separated from plastics, and high value items like milk packets, shampoo bottles and glass are set aside. We are joined by a young man who is introduced to me as the supervisor of Project Green Diamond. It is his job to make sure that the whole operation runs smoothly. My contact tells me that the salaries of the supervisor and the women doing the segregation are paid with the money the complex earns from selling the recyclables to different vendors. For example, plastic covers are used to lay tar roads, paper is recycled, milk packets and glass bottles are sold to local recyclers.

After bidding adieu to the supervisor and his assistants, she takes me to the clubhouse and restaurant in the complex. She quickly orders a cup of tea for me, and we sit down for the more formal interview. We are joined by another lady who is also on the project's committee. Both my interviewees are middle-aged housewives and obviously very committed to the waste management cause. They spend a substantial amount of time every week coordinating different aspects of the project. In the course of the interview, I ask them about how the project started, how it is implemented and what the challenges have been. We discuss how the committee tries to encourage and enforce segregation. The ladies tell me that before the project launched, they spent a lot of time educating residents about the need for waste management and recycling. They organized presentations where they invited residents to come and learn about Bangalore's garbage problem and the environmental and economic benefits of recycling. They also focused on training domestic help and housekeeping staff as they are responsible for the hands-on collection and transportation of the waste.

The organizers also have various tactics to encourage and compel segregation. They periodically organize events to reinforce the message of the program. The homes that are part of the initiative have stickers on their mailboxes that say *I am green! Are you?* The committee also organizes surprise bi-monthly checks where block champions (committee members who are in charge in each block) go with housekeeping staff to individual homes to see if garbage is being segregated properly. As my interviewee says: "*The housekeeping staff tells us when an apartment is not segregating as they are supposed to. They don't say anything to them themselves, as the residents will not listen to them. It is our job to follow up*". They tell me that persistence and peer pressure is the key to making sure everyone segregates. Not everyone in the 1000 apartment-strong complex is compliant but there are more apartments segregating their waste, than not.

Project Green Diamond is not alone in how it operates. Many of Bangalore's gated communities and apartment complexes have adopted similar waste management programs. In general, these programs are initiated by a group of motivated residents who voluntarily take on leadership roles and assemble the different components of the waste management apparatus. This involves convincing their neighbors about the need for waste management, contacting 'experts' for best practices, working with complex owners (usually the real estate developer) to build any required infrastructure, and training housekeeping staff and domestic workers to collect and segregate waste. These leaders also take on an active role in monitoring the day-to-day operations of the program. They use multiple tactics to encourage and enforce segregation, such as awareness drives, special events, signage and old-fashioned face-to-face goading. For example, in another apartment complex, the 'Lady Generals' who

run the waste management initiative put up the names of non-compliant residents on a notice board, publically identifying and ‘shaming’ them. Through these actions, these leaders are trying to make waste segregation and recycling the new norm in these neighborhoods. These attempts to create new norms around waste management have not always been successful, and there are some cases where a waste management initiative has been disbanded because of resistance from some residents, usually related to concerns about sanitation and aesthetics. However, it is clear that the success of these programs is highly dependent on the ability of leaders to convince and compel their neighbors, manage workers and monitor the system.

3.2.2 Case 2: Circulation and Institutionalization: Experts, Networks and Policies

The emergence of city-wide coordination groups that promote solid waste management has helped replicate the set-up described here in more elite neighborhoods and complexes. One such group is the Solid Waste Management Roundtable (SWMRT) which is a consortium of non-governmental organizations, advocacy groups, environmental entrepreneurs and individual volunteers who function as waste management facilitators in the city of Bangalore. In a visit with a SWMRT member to an apartment complex that was interested in going ‘zero waste’, I got a sense of how these ideas circulate and replicate, and how SWMRT enables this process.

The complex we visited was a relatively new luxury gated community in outskirts of North Bangalore. During the visit, the SWMRT representative made a presentation to the residents of the apartment complex on why waste management was the need of the hour. His powerpoint slides talked about multiple problems ranging from the threat of global warming (especially in terms of how waste contributes to greenhouse gas emissions), to the plight of ‘landfill villages’ and rag pickers. After this general introduction on *why* waste management is important, he moved on to talking about the *how*. He ran through the different steps that comprise the day-to-day operations of a waste management program. While talking about each of these aspects, he told the assembled audience about tips and techniques that had worked in other waste management programs in Bangalore. For example, he spent a fair amount of time talking about the tactics that other successful waste management programs use to encourage and enforce compliance among residents, such as putting up signs on mailboxes, organizing special events, refusing to collect waste if it is not segregated, getting children involved, and organizing competitions, among others. He also suggested that the apartment complex give whatever money was collected from selling the recyclables to the housekeeping staff and domestic workers, to compensate them for the extra work and motivate them to do it properly.

In addition to aiding the process of behavior change through information provision, one of the most important things that SWMRT does is put the sellers of recyclables (i.e. the gated complexes) in touch with buyers. For instance, we were accompanied on this trip by a contractor from the Indian Tobacco Corporation (ITC). When I asked my interviewee about how this worked, he told me:

This is what we do- we put apartment complexes in touch with vendors like ITC who will go to the apartment once or twice a week, collect the segregated recyclables, pay the stipulated amount for the items and take it to scrap dealers for recycling (a

modern, corporate, formalized hawker or raddiwala, I think). We work with multiple contractors like ITC- different ones for different parts of the city. In the absence of a BBMP (city municipality) recycling system, private vendors like ITC step in and help collect the recyclable. If you don't have infrastructure, use personal relationships.

This SWMRT member and others like him have emerged as 'experts' on waste management in Bangalore. They become the 'go to' people for questions on how to set up and maintain a community waste management program. In the absence of institutionalized government mechanisms for recycling and composting, these people and the organizations they are involved with transfer information, put buyers in touch with sellers, communicate best practices from one site to another and help troubleshoot when problems arise. During our visit, I witnessed an incident that typified this troubleshooting aspect of SWMRTs work.

On our tour of the gated complex, we went to see the sewage treatment plant. The building that housed the plant also had an organic waste composter, which was currently not in operation. The organic waste composter had been put in during construction because of a city ordinance that required all new real estate developments to install and operate one in their complexes. However, this one was not currently being used. When asked about this, the facilities manager of the complex (who is employed by the real estate developer to maintain the complex, deal with water and waste issues, monitor security etc.) told us that he was not able to use the machine as he did not have proper training and had various questions about how to operate it. The SWMRT member immediately stepped in with some answers to his questions, and also said that he would send someone to the complex to train the facilities manager.

SWMRT members focus on both the behavioral and structural barriers that constrain the adoption of waste management practices. In addition to setting buyers up with sellers, SWMRT members emphasize proper training of the facilities staff, i.e. the manager and the workers who are employed to maintain the lawns, clean the pools, sweep the common areas, collect the waste etc. Throughout our visit the SWMRT representative kept communicating with the facilities manager (usually in Kannada, the local language, though. But he switched to English when he spoke to the residents). They, along with the ITC contractor, discussed the nitty-gritties of the process, such as where the dry waste will be stored, what days it will be collected, who will be the point of contact. It is clear that these employed maintenance and waste workers are as critical to the success of this initiative as the residents or the SWMRT expert.

Before we left. I asked the lady who invited SWMRT here how she heard about their work. She told me that before moving here, she used to live in another apartment complex in the city, where SWMRT had made a presentation a year ago and helped the complex become zero waste. She had been in touch with this SWMRT representative ever since, and had even taken him to her children's school to give a talk on waste management and institute a zero waste program there. When she moved to this new complex she wanted to continue managing her waste, and contacted him for help.

SWMRT's message spreads through workplace, neighborhood and online social networks to different parts of the city, and their work has been covered in many media outlets. According to SWMRT's website, they have managed to set up waste management programs in 18,000 households and 180 institutions in the city of Bangalore.^{xviii} In the space of a few

years, this group has emerged as a key player in waste management in the city. In addition to this type of ‘grassroots’ awareness building and organizing, SWMRT has been working through the courts to push for the implementation of policies that will institute waste management across the city. They are currently serving as advisors to the Bangalore Bruhat Mahanagire Pallike (the city municipality) on waste management, and many of their plans have been accepted for implementation. Important among these include initiatives to set-up biogas plants at local markets, and Dry Waste Collection Centers in every ward in Bangalore city.^{xix}

In summary, Bangalore today is witnessing the emergence of a large number of waste management initiatives that focus on segregation at source, the recycling of dry waste and composting of wet waste. These programs are framed as a way in which the eco-conscious middle class individual can contribute to environmental betterment, and are initiated and managed by groups of motivated individuals, with assistance from paid waste workers, recycling vendors and city-wide coordination groups. In the absence of state-sponsored recycling and composting systems, these groups have to take various steps to set up the waste management apparatuses. Through this process, they make substantive changes to their social and structural contexts that enable these practices.

4 Better consumption through citizenship?

The idea of citizens playing a role in sustainable consumption has gained traction through the work of Andrew Dobson, Gil Seyfang, among others (Dobson, 2003; Seyfang, 2005). While the notion of citizenship has been nuanced and debated by scholars, the dominant paradigm remains a rights-based notion of citizenship that concerns the activity and status of individuals in the public sphere. Andrew Dobson extends this notion to develop the idea of a non-territorial, non-reciprocal ecological citizenship that occurs both in the public sphere and the private sphere. Ecological citizenship encompasses activities taken up in the name of the common good that repair or reduce environmental harm and explicitly identifies private ‘consumer’ behavior as an arena for collective action. Ecological citizenship theorists see individual acts like recycling, composting or buying organic food as constituting acts of citizenship as they contribute to the public good, albeit through private action (Dobson, 2003).

However, a major criticism leveled at the ecological citizenship framework is that its focus on individualized responsibility and action does not give adequate consideration to the significance of cultural or institutional change through collective action or political participation. In response to this, recent work in Edmonton, Canada has related ecological citizenship to neighborhood networks to make the argument that when ecological citizens engage in a network, conditions for environmental politics are engendered (Kennedy, 2011). By tracing an informal neighborhood network of households committed to reducing their consumption, Kennedy finds that participation in a network has multiple benefits that make individuals more likely to persist with changing (or reducing) consumption. This includes developing a sense of belonging, sharing knowledge and resources and providing mutual reinforcement. Moreover, ecological citizens who belong to a network have the ability to bring about cultural change, by changing mainstream norms through their collective conspicuous (non) consumption and by actively shaping their neighborhood contexts through various voluntary actions. As Kennedy (2011 Pgs. 856-857) states “ by focusing on a group

of individuals within a neighborhood, the focus of ecological citizenship shifts to seeking to understand the potential for participation in social change than the potential to reduce individual environmental impact”, that is, it moves from being a discussion of individual contributions to collective politics.

My work adds to this emerging body of work that relates sustainable consumption with citizenship, collective action and environmental politics. However, as the narratives from my case studies show, a developing world context, and the privileged position that the new middle classes occupy within India’s cultural, social and economic context complicate some of the assumptions behind what it means to be an ‘ecological citizen’ and the process by which informal networks become social movements or formal institutions.

In the narratives presented here, we see how a small group of motivated individuals take on leadership roles in instituting and managing waste management schemes in their neighborhoods. They do this in multiple ways: they encourage their neighbors to see waste management as an important and meaningful activity by conducting awareness campaigns, they create new discourses around waste and its management, they organize and train employed workers to collect and segregate waste, and they enforce waste management in their localities using multiple tactics. Many of these individuals have also gone on to form and participate in city-wide advocacy and coordination groups, and emerged as ‘experts’ on waste management in Bangalore. These individuals are going beyond their ‘consumer’ roles, to collectively enact changes in their cultural and social contexts to reduce the informational, normative and structural barriers to household behavioral change. In this sense, they could be seen as practicing a form of ecological citizenship, both in the private (by changing their own behaviors) and public (by changing norms and structures) spheres. Moreover, the expression of their citizenship is inherently collective- these individuals reach out to others to form coalitions within their neighborhoods and across the city. As these coalitions grow, their spheres of influence increase, and they begin to attract the attention of government bodies. This makes them potent agents for cultural and institutional change.

In the cases I describe here, the collective dimensions of these processes are essential to its private expression. For one, in the absence of infrastructure, waste management requires collective coordination to ease structural barriers. Also, while some form of waste management has existed among Indians for a long time, waste continues to be met with apathy, distancing or disgust in many quarters of elite Indian society. In such a situation, framing waste as an environmental issue where every individual has a responsibility to take ownership and contribute to its amelioration is a relatively new project. This requires the creation of new norms and discourses to support it, which cannot be done by individuals alone. Finally, through collective action, these initiatives are beginning to scale from the level of households and neighborhoods to city-wide schemes. The work of citizen leaders who work collectively through networks is critical to all these processes.

However, what are the conditions that permit these individuals to exercise citizenship and engage in collective action that results in changes to their structural and social contexts? I argue that these conditions arise out of their elite positions in Indian society. The preferences and actions of urban elites have tangible impacts on urban spaces, as previous work on slum demolitions has shown (Ghertner, 2011). Middle class groups have access to certain key technologies and relationships that enables the sort of collective action we see here. First, internet access has made it much easier for groups across the city to coordinate and share knowledge and resources. It has also enabled the detailed chronicling of various successful efforts on blogs, Facebook and websites, which increases the circulation of these ideas.

Middle class groups have relationships with various media outlets, and their concerns and actions get frequent coverage, giving them more exposure. Middle class individuals also have the ability to access bureaucrats and other government officials, unlike members of the working classes, which means their ability to influence policy agendas are also greater (Harriss, 2006). Recent work in Delhi and elsewhere has also shown that Middle class groups use the Courts and the judiciary to push forward their projects through Public Interest Litigations (Baviskar, 2011), which is observed SWMRT operations too. In summary, the elite positions of middle class individuals, and their access to social, economic and cultural capital enable them to be effective ecological citizens who can affect cultural and institutional change. Even if the total number of waste management adopters or advocates is small compared to the population of Bangalore, they can have effects on urban landscapes that are disproportionate to their size.

The other aspect where the concept of ecological citizenship is problematized is with respect to the role of paid domestic servants and waste workers in home waste management schemes. The systems described in this paper are dependent on a set of actors whose job descriptions have older cultural roots. Waste workers have long performed valuable environmental services, which mostly go unacknowledged. The powerfully connected elite actors are reinforced both by paid workers who sit in sheds and sort through waste and the servants who act as conduits in enforcing good behavior amongst elites. As Ray and Qayum show in their work, the very relationships between new middle class elite and their domestic servants has undergone complex changes in urban India that have to some extent re-inscribed hierarchies and widened the gap between employer and servant (Ray & Qayum, 2011). Given the history of not accounting for lower class good in urban management and improvement schemes, there is some possibility that elite environmentalism may not always be socially just or equitable for all classes of society. In the event a new service sector comes into place to fill the emerging opportunity in waste management, acknowledging the roles of itinerant helpers, rag pickers and domestic servants will make for more equitable and inclusive policy making (and there are some signs of this already occurring, but this is yet to be substantiated). It is therefore critical to investigate the complex ethical dimensions of the social process of elite environmentalism in India's burgeoning urban metropolises.

5 Conclusion

The project of sustainable consumption and production requires a fundamental change in the way societies and governments around the world define and understand well-being, progress and development. This is a social, cultural and political project, as much as it is a material or technical one. While consumption rates in emerging economies like India are small compared those prevalent in the developed world, the discourses of growth and development in these nations emphasize consumption as a primary indicator of progress. Many Indians now have lifestyles comparable to those common in the West. The time to reassess these trajectories of development and suggest alternatives is upon us. This paper aims to draw attention to this emerging problem, and through a case study, look at some of the ways it can be addressed.

The case studies described in this paper show how waste management is being implemented in Bangalore through the work of individuals who move beyond their consumer roles to collectively enact changes in their cultural and structural contexts to enable these

practices. This involves using environmental information to motivate household behaviour change and social norms to encourage and enforce these changes. This process is made possible by neighbourhood-based coordination for collection and disposal, and involves multiple actors including domestic servants, hired waste workers and corporate and non-corporate buyers of recyclables. This system is supported and spread by the emergence of city-wide coordination networks, whose members transfer best practices from one site to another, and facilitate the replication of this waste management model. These city-wide coordination networks and the 'experts' who run them are now working with local government to institutionalize and formalize recycling by setting up Dry Waste Collection Centres across the city. These cases show how waste management is organized at the household, neighbourhood and city levels, going from informal 'personal relationship' based networks at the level of the neighbourhood, to more formal city-wide coordination and advocacy groups, and finally to the emergence of institutionalized, State-run systems. Collective action by elite citizen groups, whose members have emerged as authorities on waste management, is key to this process of behavioural and cultural change.

In this paper I have described the process by which particular type of sustainable consumption practice is emerging among Bangalore's new middle classes, emphasizing the role of citizen leaders and experts in the process. What does this tell us about the potential for the emergence of a sustainable consumption trajectory in India? While many argue that recycling and waste management do not even qualify as sustainable consumption practices (because they often do not result in reduced consumption), I contend that these cases hold important lessons for academics and practitioners. For one, they show us that elite volunteerism is a potent force in urban India, and can produce significant behavioural, cultural and structural changes. They also demonstrate that old practices can be repackaged and re-envisioned using new labels, and this repackaging can help validate and legitimize these activities again (e.g. recycling going from a thrifty practice to a green practice). They also reassure us that normative messaging can be a useful way of encouraging and enforcing behaviour change in developing world contexts, just like they are in the West. However the cases also demonstrate that these systems are highly dependent on local actors whose roles and positions have older cultural roots, such as the domestic servants and waste workers who are often responsible for the actual segregation and waste management.

India and the city of Bangalore in particular are at an interesting juncture. Two decades of liberalization-fuelled economic growth have transformed urban spaces and led to the emergence of a class of people whose identities are tied to discourses around consumption. In Bangalore, India's technology hub, the signs of 'progress' include flyovers, a new metro-rail, multi-lane highways, glittering industrial complexes, modern residences, shopping malls and new educational institutions. However, the past two decades have also taken a tremendous toll on the city's infrastructure and ecology. I see Bangalore as a city in flux- where things are continuously being built and destroyed, trees cut and planted, people immigrating and emigrating. It is this flux that presents an opportunity for those of us invested in the project of a more environmentally sustainable and socially just world.

Where does waste management fit into this wider transformation we seek? To answer this question, I move from the home to debates around the street in Bangalore. Bangalore is now notorious for its traffic jams which often last for multiple hours. The government's main response to this problem has been the capital intensive option of constructing flyovers and widening roads. Most of these projects require the felling of a large number of trees from the roadside. The past few years have seen increasing number of protests by middle class Bangaloreans against this road-widening and tree felling agenda. Interestingly, many of the

individuals and groups involved in these protests are the same ones who advocate for home waste management.

When these groups protest against road-widening, they contest the capital intensive development model that is favoured by the government. More importantly, they see a different imaginary of the city: Bangalore is often referred to as the Garden city of India, because of its large parks and tree-lined avenues. As Bangaloreans see these cherished green monuments threatened by the juggernaut of the car (one of those very symbols of middle classness that too) or by large waste dumps, they are forced to confront their choices and preferences, and the roles they play in this development model. Home waste management brings these questions and other environmental problems to the forefront for many of these individuals. It is also often an entry-point into environmental engagement and activism. As these elite individuals begin to see themselves as contributors both to environmental problems, and to their solutions, they become potential agents of change. Their privileged political and economic position makes them effective agents of change. The project for academics, activists and practitioners is to better understand these movements and push for ways to make them more progressive and inclusive to other class groups.

References

- Ablett, J., Baijal, A., Beinhocker, E., Bose, A., Farrell, D., Gersch, U., .Gupta, S. (2007). The 'Bird of gold': The rise of India's consumer market. San Francisco: McKinsey Global Institute.
- Anon. (2005). Consumer markets in India- the next big thing? Mumbai: KPMG International.
- Baviskar, A. (2011). Cows, cars and cycle-rickshaws: Bourgeois environmentalism and the battle for Delhi's streets. In A. Baviskar, & R. Ray (Eds.), *Elite and everyman: The cultural politics of the Indian middle classes* (pp. 391-418). New Delhi: Routledge.
- Baviskar, A. (2003). Between violence and desire: Space, power, and identity in the making of metropolitan Delhi *International Social Science Journal*, 55(175), 89-98. doi:10.1111/1468-2451.5501009
- Beall, J. (1997). Thoughts on poverty from a south Asian rubbish dump: Gender, inequality and household waste. *IDS Bulletin*, 28, 73-90. doi:10.1111/j.1759-5436.1997.mp28003006.x
- Benjamin, S. (2000). Governance, economic settings and poverty in Bangalore. *Environment and Urbanization*, 12(1), 35-56. doi:10.1177/095624780001200104
- Chakrabarty, D. (1991). Open Space/Public space: Garbage, modernity and India. *South Asia*, 14(1), 15-31.
- Chakravarty, S., & Ramana, M. V. (2012). The hiding behind the poor debate: A synthetic overview. In N. K. Dubash (Ed.), *Handbook of climate change and India: Development, politics and governance* (pp. 218-227). New Delhi: Oxford University Press.
- Davis, S. J., & Caldiera, K. (2010 :). Consumption based accounting of CO2 emissions. *Proceeding of the National Academy of Sciences*, 107(12), 5687-5692.
- Dobson, A. (2003). *Citizenship and the environment*. Oxford: Oxford University Press.
- Fernandes, L. (2000a). Nationalizing 'the global': Media images, cultural politics and the middle class in India *Media, Culture & Society*, 22(5), 611-628. doi:10.1177/016344300022005005
- Fernandes, L. (2000b). Restructuring the new middle class in liberalizing India *Comparative Studies of South Asia, Africa and the Middle East*, 20(1-2), 88-112. doi:10.1215/1089201X-20-1-2-88
- Fernandes, L. (2009). The political economy of lifestyle: Consumption, India's new middle class and state-led development In H. Lange, & L. Meier (Eds.), *The new middle classes: Globalizing lifestyles, consumerism and environmental concern* (pp. 18) Springer Science+Business Media. doi:10.1007/978-1-4020-9938-0_12
- Ghertner, A. D. (2011). Nuisance talk and the propriety of property: Middle class discourses of a slum-free Delhi. *Antipode*. doi:10.1111/j.1467-8330.2011.00956.x
- Harriss, J. (2006). Middle-class activism and the politics of the informal working class. *Critical Asian Studies*, 38(4), 445-465. doi:10.1080/14672710601073002

- Kaviraj, S. (1998). Filth and the public sphere: Concepts and practices about space in Calcutta. *Public Culture*, 10, 83-113.
- Kennedy, E. H. (2011). Rethinking ecological citizenship: The role of neighbourhood networks in cultural change. *Environmental Politics*, 20(6), 843-860. doi:10.1080/09644016.2011.617169
- Mawdsley, E. (2004). India's middle classes and the environment *Development and Change*, 35(1), 79- 103. doi:10.1111/j.1467-7660.2004.00343.x
- Mawdsley, E. (2009). "Environmentality" in the neoliberal city: Attitudes, governance and social justice In H. Lange, & L. Meier (Eds.), *The new middle classes: Globalizing lifestyles, consumerism and environmental concern* (pp. 237-251) doi:10.1007/978-1-4020-9938-0_13
- Myers, N., & Kent, J. (2003). *New consumers: The influence of affluence on the environment* Proceedings of the National Academy of Sciences of the United States of America, 100(8), 4963-4968. doi:10.1073/pnas.0438061100
- Myers, N., & Kent, J. (2004). *New consumers: Influence of affluence on the environment*. Washington D.C.: Island Press.
- NCAER (National Council For Applied Economic Research). (2007). *The great Indian market*. New Delhi: Parikh, J., Panda, M., Ganesh-Kumar, A., & Singh, V. (2009). CO2 emissions structure of Indian economy. *Energy*, 34(8), 1024-1031.
- Ray, R., & Qayum, S. (2011). The middle classes at home. In R. Ray, & A. Baviskar (Eds.), *Elite and everyman: The cultural politics of the Indian middle classes*. (pp. 246-270). New Delhi: Routledge.
- Schultz, P. W. (1999). Changing behaviour with normative feedback interventions: A field experiment on curbside recycling. *Basic and Applied Social Psychology*, 21(1), 25-36.
- Schulz, W. (2002). Knowledge, information, and household recycling: Examining the knowledge-deficit model of behaviour change (67-82). In P. Stern, & T. Diez (Eds.), *New tools for environmental protection: Education, information, and voluntary measures* (pp. 67-82)
- Seyfang, G. (2005). Shopping for sustainability: Can sustainable consumption promote ecological citizenship? *Environmental Politics*, 14(2), 290-306.
- Stern, P. (2000). Toward a coherent theory of environmentally significant behaviour. *Journal of Social Issues*, 56(3), 407-424.
- Upadhy, C. (2008). *Rewriting the code: Software professionals and the reconstitution of the Indian middle class identity* In C. Jaffrelot, & P. van der Veer (Eds.), *Patterns of middle class consumption in India and China*. Sage Publications.
- Upadhy, C., & Vasavi, A. R. (Eds.). (2008). *In an outpost of the global economy: Work and workers in India's information technology industry* New Delhi: Routledge.
- Wiedmann, T., Minx, J., Barrett, J., & Wackernagel, M. (2006). Allocating ecological footprints to final consumption categories with input-output analysis. *Ecological Economics*, 56(1), 28-48. doi:10.1016/j.ecolecon.2005.05.012
- Wilhite, H. (2008). *Consumption and transformation of everyday life: A view from south India*. Great Britain: Palgrave Macmillan.

Notes

- ⁱ For examples of marketing studies and books talking about the emerging consumer markets in India see marketing reports by McKinsey Global Institute (Ablett et al., 2007) and KPMG International (Anon., 2005)
- ⁱⁱ Myers and Kent define new consumers as individuals belonging typically to four member households with a purchasing power of more than \$10,000 per annum in the year 2000. Using this definition, they identify 1.1 billion new consumers in over 20 countries (Myers & Kent, 2003)
- ⁱⁱⁱ Other studies have also produced estimates of emission disparities among different expenditure classes in India. Parikh et al estimate that in 2003-04, the emissions produced by the top 10% of urban India (roughly 30 million people) were about 15 times the bottom 10% of urban India, and about 27 times the emissions of the bottom 10% of rural India (Parikh, Panda, Ganesh-Kumar, & Singh, 2009).
- ^{iv} This 'hiding behind the poor' critique was sparked by a Greenpeace report that calculated emissions across socio-economic classes in India to make an argument that climate injustice existed within India's domestic borders. For a synthetic overview of this debate see Chakravarty & Ramana, 2012.
- ^v For studies that look at consumption drivers of environmental problems like climate change see Davis & Caldiera, 2010 and Wiedmann, Minx, Barrett, & Wackernagel, 2006. Few studies have looked specifically at the effects of rising consumption on the environment in India. Myers and Kent in their book on New Consumers present the following facts: Every time India's economy has doubled air pollution has increased eight-fold. Indian cities are in the danger of collapsing due to poor infrastructure, pollution and overpopulation. In the 1990s, over 10 % of Gross National Income in India was used to cope with environmental problems, and this figure is expected to have increased since then. Air pollution in urban areas results in health costs of 1.3 billion dollars per year (Myers & Kent, 2004).
- ^{vi} Report is available at <http://images.nationalgeographic.com/wpf/media-live/file/India-2010-cb1274454880.pdf>. For more details on the Greendex survey and reports see http://images.nationalgeographic.com/wpf/media-live/file/GS_NGS_2010GreendexHighlights-cb1275487974.pdf
- ^{vii} For example, Wilhite's study of household consumption in Trivandrum, Kerala describes how household composition, gendering of responsibilities and living arrangements have an important role in structuring consumption practices. He also identifies family needs and familial negotiation as bigger drivers of lifestyle choices than individual needs (Wilhite, 2008). Some studies have also looked at the idea of 'consumption as social performance', and how this discourse drives the purchase of items like cars and branded clothing. Related to this are studies on how advertisements in India play on themes of inclusion and exclusion to encourage certain types of consumption (Upadhyia & Vasavi, 2008, Wilhite, 2008).
- ^{viii} The main themes in this literature talk about how environmental concern among the India's elite consumers is predominantly focused on topics like wildlife protection and urban greening and often result in the displacement and disfranchisements of sub-altern peoples like the rural and urban poor. For a review see Mawdsley, 2004. For recent work on how 'bourgeoisie' environmentalism in urban Delhi plays out in its streets and public spaces see Baviskar, 2011.
- ^{ix} I use the terms 'green', 'sustainable' and 'eco-friendly' interchangeably in this paper- all to refer to practices that reduce the environmental impacts of individual and household consumption.
- ^x In India, the origins of the middle class have been traced back to colonial times. The British government promoted the emergence of a professional class involved in civil administration, law and other service sectors. Post-independence, the development of this middle class was directly aided by the state through a rapid expansion of the higher education system, creating a large body of technical and managerial experts to operate

-
- state and public sector enterprises. The new middle classes are distinguished from these 'old' middle classes mainly by higher levels of consumption and a governing association with the policies of liberalization. It is important to note that the term middle class is more than just an income group- it can be defined in multiple ways (using sociological, cultural and economic criterion), and operates as much as a cultural construct as a sociological term. In other words, the discourses around middle classness are as important to their self-definition as how much they earn or what they buy. Consequently, enumerating the number of Indians who qualify/call themselves 'middle class' has always been a tricky proposition. Furthermore, the new middle class likely represent only a small section of the overall population that could count as middle class. However, despite their relatively small numbers (estimated to be about 20 million households or 90 million individuals (Ablett et al., 2007; NCAER (National Council For Applied Economic Research), 2007), they are an important group to not only because of their high consumption levels, but also because new middle class individuals are industry leaders, media professionals and NGO activists who shape public policy and opinion (Fernandes, 2000b; Mawdsley, 2004).
- ^{xi} Benjamin provides an in-depth analysis of how the emergence of this corporate sector and consumer classes have affected working class lives and economies in Bangalore (Benjamin, 2000)
- ^{xii} Many would not even consider recycling or composting 'sustainable' consumption practices because they do not always result in reduced consumption. However, there is a large amount of literature looking at these types of practices in the West, such as Schultz, 1999; Schulz, 2002; Stern, 2000
- ^{xiii} An example of where middle class preferences have had tangible impacts on urban spaces is in the spate of slum demolitions that have occurred in Indian cities in the past decade (Ghertner, 2011; Mawdsley, 2004; Mawdsley, 2009)
- ^{xiv} However, there is evidence to suggest that recyclables are recovered from middle class households and sold by domestic servants themselves.
- ^{xv} Of course, one of the main ways in which waste is still recycled in Indian cities is by the work of ragpickers who sift through garbage dumps to recover recyclable items. This profession continues to be stigmatized, and rag pickers are often women and children who have no other livelihood options. Chintan, a Delhi-based NGO has done a lot of work with waste pickers. One of their initiatives focuses on securing and improving the livelihoods of waste pickers through the creation of 'green jobs', where waste pickers organize the door-to-door collection of recyclables from homes and institutions in Delhi (website: <http://www.chintan-india.org/index.htm>)
- ^{xvi} Website: <http://dailydump.org>
- ^{xvii} Project Green Diamond's website: <http://www.rbdd.info/service-projects>
- ^{xviii} As depicted on this Green Map on their website: http://swmrt.com/index.php?option=com_content&view=article&id=57&Itemid=83
- ^{xix} Many of these initiatives are chronicled in SWMRT's monthly newsletters, available here: http://swmrt.com/index.php?option=com_weblinks&view=category&id=19&Itemid=82. The data described here is assembled from these newsletters, newspaper reports (like this one: <http://www.thehindu.com/todays-paper/tp-national/tp-karnataka/article2371354.ece>), and interviews with SWMRT members.