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Electronic version

URL: <http://poldev.revues.org/2476>

DOI: 10.4000/poldev.2476

ISSN: 1663-9391

Publisher

Institut de hautes études internationales et
du développement

Printed version

ISBN: 978-2-940600-04-5

ISSN: 1663-9375

Brought to you by Université de Genève /
Graduate Institute / Bibliothèque de
Genève



Electronic reference

Christine Lutringer and Shalini Randeria, « How Not to Waste a Garbage Crisis: Food Consumption, Solid Waste Management and Civic Activism in Bangalore/Bengaluru, India », *International Development Policy | Revue internationale de politique de développement* [Online], 8.2 | 2017, Online since 03 November 2017, connection on 05 December 2017. URL : <http://poldev.revues.org/2476> ; DOI : 10.4000/poldev.2476

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How Not to Waste a Garbage Crisis: Food Consumption, Solid Waste Management and Civic Activism in Bangalore/Bengaluru, India

Christine Lutringer and Shalini Randeria

This special e-issue is largely based on a research project ‘Changing patterns, practices and policies among “new consumers” in India and the Philippines’ funded by the Swiss Network for International Studies (SNIS) from 2013-15. It was jointly coordinated by Suren Erkman and Marlyne Sahakian, University of Lausanne, and Shalini Randeria at the Graduate Institute of International and Development Studies. We would like to express our sincere gratitude to the SNIS for its financial support for the research in Bangalore and Manila. We also would like to thank Garrette Clark (UNEP, Sustainable Lifestyles, Cities and Industry Branch) and Uma Rani (ILO, International Institute of Labour Studies), who participated in the project, sharing with us important insights into global debates and the policy implications of changing consumption practices. Besides some of the research carried out in and on Bangalore as part of the project, this special e-issue also includes two further contributions, one by Nivedita Biyani and Manisha Anantharaman, and the other by Carol Upadhya.

1. From ‘Garden City’ to ‘Global City’: Changing Images of Bangalore/Bengaluru

- 1 On 18 June 2014, a leading English language newspaper in Bangalore (or Bengaluru as it is known today¹), the capital of India’s IT industry with a population close to 10 million, reported a sense of alarm gripping the city due to the breakdown of its garbage collection and disposal system: ‘Hearing a petition by Kavitha Shankar and others, the division bench [of the Karnataka High Court] comprising Justice N Kumar and Justice B V Nagarathna said: “The garbage problem is becoming an emergency and might go (sic) out

of hand. We would like to monitor the situation on a weekly basis” (Deccan Herald, 2014). The municipal administration’s inability to deal with the collection and disposal of 4,000 tons of garbage every day had been the prime topic of public conversation and TV reports for months. Stories of the stench of garbage piling up in India’s ‘Garden City’, and the fear of disease spreading under such unhygienic conditions, dominated the front pages of Indian national newspapers. The so-called garbage crisis in Bangalore even made it into the *New York Times* in 2012 (Harris, 2012).

- 2 The problem was perceived to be so serious that the High Court decided to intervene on an emergency footing to solve the crisis, ordering the city administration to submit weekly reports in court on garbage collection and disposal. The crisis provided momentum to a sustained civic mobilisation for an efficient and sustainable solid waste management system. Hence, the role of the city’s middle classes, as consumers and as citizens, in shaping the politics of ecological transformation in post-liberalisation India merits scrutiny. For if double-income middle-class households with high disposable incomes and a consumerist lifestyle are responsible for the generation of large amounts of solid waste, the same class (though not necessarily the same sections of it) has developed sensitivity towards urban (and often also rural) environmental issues.
- 3 The educated, professional middle class employed in the IT sector, many of whose members have spent considerable time in Europe and the USA, lives in high-rise apartment blocks and ‘gated communities’. Its engagement in ‘greening’ practices and its influence on urban environmental policies through legal activism, neighbourhood mobilisation and media usage has shaped public perceptions as well as policies in very specific ways in Bangalore as in other metropolitan areas of the global South, as we argue here. Delineating the intertwining of practices of food consumption and waste management, this issue underscores the importance of mega-cities as sites in which to study sustainability, middle-class environmental activism, modernity and citizenship rights, participation but also exclusions in urban governance. Bangalore, with its large new upwardly mobile middle class and its aspirations to be a ‘global city’, is thus a good case to study in detail these dynamics. Here as elsewhere middle-class initiatives often remain fragmented, confined as they are to their immediate neighbourhoods. Aimed often at exercising pressure on local politicians and city administrations, these are less oriented towards curbing wasteful consumerism or decreasing resource use along with reducing one’s ecological footprint.
- 4 Inadequate and ineffective urban waste management along with poor and deteriorating infrastructure certainly plagues many Indian cities as it does cities in the global South more generally (Hoorweg and Bhada-Tata, 2012; Chaturvedi et al., 2015; Van Beukering et al., 1999). However, the poor bear the brunt of the lack of public services much more than the middle classes do. Bangalore, the southern Indian ‘Garden City’ with global aspirations, became a victim of its own success in the last couple of decades in attracting domestic and foreign capital to set up large IT businesses in and outside the city. It is one of India’s fastest growing metropolises and has undergone unprecedented urbanisation with an increase in population from 4.1 million (1991) to 5.7 million (2001), and then to 9.6 million (2011) (India, 2014). Rapid expansion, high population density and relatively high per capita income compared to the national average all contributed to a growing middle class that not only consumes more but also produces more waste. In Bangalore, as elsewhere in the global South, urban infrastructural service provision has not kept pace with this rapid expansion due to a paucity of resources, inefficient management systems,

and corruption, as well as vested interests. Infrastructure provision is not merely a technical question (Véron, 2010; Björkman, 2015); for instance, in the solid waste sector it is also a matter of having enough trucks for garbage collection and modern incineration facilities (Cornea et al., 2016; Abarca Guerrero et al., 2013). Socio-political factors, cultural practices and policy considerations are equally important as the authors emphasise here.

- 5 As urban governance increasingly focuses on pathways to sustainable urban development worldwide, the links between service providers and consumers/users have been re-conceptualised (McFarlane and Rutherford, 2008, 365) to stress ever more the pivotal role of environmentally conscious citizens. New movements around bicycling, organic food consumption, terrace gardening or composting at the household level are gaining momentum and exercising the public imagination in Bangalore (Anantharaman, 2014; 2016). Collective and individual practices of garbage disposal, and more recently of waste segregation at the level of the household, are today increasingly related to notions of responsibility and citizenship. In many European societies today these practices have come to be considered so central a marker of responsible membership of a local community that the municipality of Zurich employs so-called garbage detectives to trace and fine households for non-segregation of waste. The Austrian government has recently instituted courses in waste segregation for refugees and asylum seekers as part of the process of integrating them into 'Austrian culture' (Hall, 2016). As Dipesh Chakrabarty (1992) reminds us, changing understandings of 'waste' are intimately interwoven with the worldwide diffusion of notions of Western modernity. In the (post-)colony these also mark the distinction between the private realm 'inside' the home, which is kept meticulously clean following traditional rules, and the public world 'outside', which is governed by a different set of norms that involve little personal responsibility. Public discourse on waste in various urban milieus in the global South is often constructed around this axis of difference with varying representations of household responsibility. Designing policies to address the environmental impact of food and solid waste thus requires careful analysis of households' practices at various sites of consumption and waste disposal, within the home but also outside it, as is shown here.
- 6 This special e-issue brings together five papers, an interview and an afterword that explore the current changes in practices and policies towards more sustainable food consumption and waste management in Bangalore. The project within which this research was conducted aimed to understand changes in food consumption patterns and practices in terms both of their interplay with changes in solid waste generation patterns and disposal practices and of solid waste management policies in two megacities of South and South-East Asia—Bangalore in India and Metro Manila in the Philippines. With the exception of the paper by Biyani and Anantharaman and the afterword by Upadhya, all the other contributions published here are based on empirical material generated during qualitative research for this project in Bangalore.² Food ethnographies served to illuminate societal processes such as symbolic value-creation, redefinition of gender roles and the social construction of food consumption and as well as a variety of economic and political aspects that affect dietary change (Mintz and du Bois, 2002). The papers draw on two of the theoretical perspectives that were brought into dialogue with one another in the larger research project that was carried out in Bangalore and Metro Manila, namely the anthropology of policy and social practice theory. While the former focuses on the circulation and domestication of policies relevant to 'sustainable food consumption' and solid waste management, the latter is concerned with analysing the changing

sociocultural meanings and practices of food consumption in the home as well as outside it.³ The articles by members of the project's Bangalore team (two political scientists, a sociologist and a social anthropologist) are complemented by a contribution by Nivedita Biyani (an environmental engineer) and Manisha Anantharaman (a political scientist) that addresses the same set of issues, albeit using a rather different management studies perspective. The long interview with Leo Saldanha and Bhargavi Rao, leading environmental activists of the NGO Environmental Support Group, highlights characteristics of civil society engagement specific to the city by giving voice to two actors involved in legal activism and political mobilisation on urban environmental matters. The special e-issue closes with an afterword by Carol Upadhyaya, whose comments on the contributions are based not only on her intimate knowledge of living in the city but also on her decade-long study of its IT sector. Moving beyond the specificities of the city, the afterword raises some fundamental questions of political economy and models of (urban) development. It asks, for example, if ad hoc, piecemeal protest on environmental or urban governance issues is not due to the middle-class tendency to bypass local democratic bodies and broad-based consultative processes in favour of quick-fix technological solutions or expensive litigation, and whether a more radical critique of neo-liberal urban planning and exclusionary development models is not called for instead if the realities of urban environmental degradation are to be taken seriously.

- 7 The authors in this special e-issue examine not only discursive shifts in policy but also material changes in solid waste management practices in the city. These changes are situated in the larger context of growing civic activism among the middle classes in India, on the one hand, and transformations in their food consumption patterns, on the other.

2. The Ambivalence of Environmental Activism Among Urban Middle Classes

- 8 In many regions of the world, a neo-liberal paradigm of urban governance has been responsible for the privatisation of public services and for public-private partnerships, but also for greater decentralisation and civic participation (Baud and de Wit, 2008). This is true of Bangalore, where changes in waste disposal have meant the inclusion of private companies and contractors to partially replace public provision. It has also meant the increasingly intensive involvement of citizens and civil society organisations in urban governance including in processes of policy formulation and implementation. However, the increased participation of activists as well as vocal middle-class citizens as 'makers and shapers' (Cornwall and Gaventa, 2000) influencing political decision-making is a mixed blessing, as the authors here suggest. While the urban poor and slum dwellers have long mobilised politically in order to access basic infrastructure facilities, like roads, water, electricity and schools, or to have their homes 'regularised' (Das and Walton, 2015), middle-class citizen initiatives for improving basic service provision are a more recent feature of urban politics in India (Weinstein et al., 2014). These are not only bottom-up civil society initiatives; they often include top-down schemes as part of the new global paradigm of urban planning and governance tied to loans made by international financial institutions.
- 9 Middle classes, defined economically or sociologically (Banerjee and Duflo, 2008; Lange and Meier, 2009), are the new consumer class in all emerging economies. Their needs,

aspirations and consumption preferences have a strong bearing on the national economy and the environment and a significant impact on the global use of raw materials and resources, renewable and non-renewable (Hubacek et al., 2007). Therefore, they constitute a key target group in national and global policies for sustainable consumption and production (Clark, 2007, 494). As globalisation shapes the employment and consumption opportunities of the new middle classes (Ganguly-Scrase and Scrase, 2009), media flows shape their imaginations and consumption practices beyond national borders (Chua, 2009). Given the problems of defining the middle classes across the vast and varied subcontinent, consumption patterns have been central to defining a middle-class identity in India (Fernandes, 2009; Brosius, 2010). Members of the largely urban middle class share ways of life and common concerns (Donner, 2012), rather than a linguistic or cultural background.

- 10 Understanding India's urban middle classes is not only important because they represent a sizable part of the national as well as the world population; their increasingly consumerist lifestyles along with their growing ecological consciousness and civic activism have a significant environmental impact too (Mawdsley, 2004). The authors of this special e-issue show the priorities and new norms of the middle classes to be highly influential in shaping public policies and urban planning priorities as well as infrastructure provisions. These parallel trends are perhaps best exemplified in Bangalore, where middle classes aspire in tandem with political elites to transform their home into a 'global city' (Nair, 2005, 130). Our empirical research concentrated on the city's IT sector, which employs more than 250,000 skilled workers and professionals from all over India and abroad, hosting some 1,600 information and communication technology companies along with numerous service and supplier firms (Dittrich, 2010, 237). As Upadhyaya (2009; 2016) points out, the IT industry and IT professionals have been crucial in shaping the 'global' character of this fast-growing city. However, the privileging of the IT sector by all actors, public and private, has created not only new disparities but also a fragmented and polarised city (Upadhyaya, 2016; Benjamin, 2000). IT workplaces seem 'largely delinked from the local environment, giving rise to contradictions and conflicts around control over urban space, planning and governance' (Upadhyaya, 2009, 263). Scholars have also pointed to the growing polarisation of Bangalore society along cultural and linguistic lines, a tendency that coexists with the city's celebrated cosmopolitanism (Singh, 2008). The spatial analysis of the city's development undertaken by Mehta et al. (2013) reveals that Bangalore is highly divided along social and economic and also demographic lines. Not surprising then, the increasing demand for water, energy and waste management services has been only partially and selectively met by municipal authorities.
- 11 In Bangalore, middle classes and the corporate sector have played a key role in shaping the urban environmental agenda. Aurélie Varrel (2008) observes how lakes and parks have been used to promote, among foreign investors, the image of Bangalore as a 'Garden City'. Her analysis also documents how real estate groups have attempted to secure exclusive access to some of these green areas for the residents of their luxury housing complexes. Public-private partnerships have driven municipal initiatives to maintain public parks and roundabouts, where advertisements announce the names of the companies that organise their maintenance. Some of these attempts to privatise or to restrict access to lakes and parks have given rise to protests and civic activism. For instance, a strong protest movement took place in November 2009, when the Government

of Karnataka announced that an ID card would be required to enter Cubbon Park and Lalbagh, Bangalore's largest public parks.⁴ About 30,000 citizens signed letters of protest against this attempted privatisation of public space. The mobilisation, in which women played a leading role, involved a variety of groups and public figures, including NGOs,⁵ civic groups, corporate executives, writers, artists, and animal welfare groups (Nair, 2005, 294-296). This wave of middle-class protests was framed as a mobilisation to save the parks from enclosure and highlighted the importance of green spaces for the population at large, including the poor. This could be seen as an instance of 'inclusive environmentalism' foregrounded in the activism of Bangalore's middle classes.

- 12 However, it has been argued that middle-class environmentalism in Indian cities is often geared towards so-called beautification, which focuses on cleaning and greening the city along with relocating the poor to the peripheries. The inequalities generated by differential (or lack of) access to urban infrastructure need to be taken into account if we are to understand the impact of policies and decisions concerning the environment in different neighbourhoods and on different classes. Municipal authorities often channel public funds reserved for providing or improving basic infrastructure and services, such as sewers and piped water, to accommodate middle-class interests at the expense of the needs of the urban poor (Chaplin, 2011). Middle-class activism can entail exclusionary strategies/modi at the expense of poorer sections of the city's population, as Anjaria (2009) has shown in the case of Mumbai, where several court cases were filed by NGOs, consumer rights organisations and middle-class Residents Welfare Associations (RWAs) for cleaning and greening the city to complain against the so-called 'encroachment' on 'public lands' by the poor (Randeria and Grunder, 2011). Middle-class residents and activists organised effective media campaigns and court action to reduce air and water pollution in Delhi in the 1990s. As a result of court judgements ordering the closure of polluting industries, many poor migrant workers lost their livelihoods. These workers were unable to organise or make their voices heard. Thus they remained 'invisible' in the public debate and in the media. The construction of 'public interest' around the problem of air pollution was biased in favour of the interests of middle-class residents of the Indian capital (Baviskar et al., 2006; Véron, 2006). It is, therefore, their priorities and their vision of the city that have shaped environmental policies in Delhi. In similar ways although using different political means, middle classes in Chennai and Mumbai have managed to promote their economic and political interests in the field of urban environmental governance (Baud, 2015).
- 13 Conflicts over access to, or distribution or maintenance of urban infrastructure, fuel a dynamic of 'negotiation, tension and struggle between a variety of interest groups', as suggested by McFarlane and Rutherford (2008, 369). Given the diversity within Bangalore's middle class-based civil society it comes as no surprise that it has championed a variety of causes (Singh, 2008). Experience of living abroad certainly seems to be a driver of neighbourhood initiatives towards waste segregation by residents in gated communities (see Ganguly and Lutringer, this issue). Ganguly and Lutringer also show how workshops organised by companies for employees, for example, have sensitised participants to environmental problems in the city. Thus, we suggest that the work environment may also have an indirect influence on environmental awareness, as it has had on other practices. Karanth (this issue) argues that the influence of the workplace on changing food consumption patterns is significant. In addition, as we have observed in our fieldwork, many IT companies, especially the larger ones, seem keen on

displaying 'green practices' on their premises. By constructing an image of 'environmental responsibility' they are obviously aiming at customers and public authorities, but may also transform the daily practices of their employees. Hence, the working environment may also in diffuse ways inform the initiatives taken by civic groups.

- 14 Middle-class groups, empowered by new prosperity and decentralisation policies to make political claims (Anjaria, 2009, 392–393), have also entered into formal relationships with the state, whereby 'local governments request citizens to work with them in determining local needs and in providing basic services' (Baud and Nainan, 2008, 483). So-called crises and reforms constitute fruitful vantage points from which to explore these larger processes. In this issue we ask how Bangalore's 'garbage crisis' has shaped the environmental consciousness and civic engagement of its middle-class residents, who in turn have influenced new policies and practices of solid waste management. We examine how these relate to changing food consumption and food disposal practices within households and restaurants. The contributors also reflect on how the growing awareness and political engagement of urban middle classes have changed the ways in which environmental issues have taken, albeit in a highly selective fashion, centre stage in urban governance. Middle-class expectations regarding the involvement of public authorities in these issues have influenced the mediatised public discourse on waste management, urban development and beautification just as they have also led to highly publicised court cases that have impacted public decision-making and policy formation and implementation. The articles in this issue offer insights into changing food consumption patterns, new forms of civic activism and emerging policy responses. Against the backdrop of larger changes in urban governance, they examine how new social practices are informed by ideas and policies of 'sustainability'.

3. The Interplay of Sustainable Food Consumption Patterns with Solid Waste Management Practices and Policies

- 15 Several of the contributions in this issue deal with the question of the sustainability of consumption patterns and practices in view of their environmental and/or social effects. Studying a variety of sites in Bangalore, including gated communities, IT firms and restaurants, this special e-issue integrates two strands of research that are usually not brought to bear on one another; namely (i) food systems and food consumption and (ii) urban waste management systems. While the literature on the former focuses on varieties of agricultural production and sources of food, transportation and the marketing of food as well as on issues of food safety (Smit, 2016), it overlooks waste production and its environmental consequences (Guiller et al., 2016; Shenoy, 2016). The literature dealing with urban waste management, usually based on the waste hierarchy model, fails to connect it to issues of food consumption.⁶ This influential model in waste and resource management proposes a priority order for management options based on their assumed environmental impacts (Van Ewijk and Stegemann, 2016). It thus addresses various methods of waste reduction and recycling by assessing them in relation to their sustainability. Prioritising practices of waste prevention and the need to diversify waste disposal to include options other than landfills, the model has increasingly informed legislation and policy formulation. As food waste is acknowledged to be a significant

problem worldwide (Garrone et al., 2014), Papargyropoulou et al. (2014) use the waste hierarchy model to assess management options for food surplus and food waste, considering its materiality and temporality. They distinguish food surplus (the oversupply of food, which needs to be reduced to attain global sustainability) from food waste (avoidable and unavoidable), a distinction that is important for the research presented in this special e-issue. An understanding of levels of waste prevention requires, moreover, a detailed analysis of food production, storage, transportation, marketing and consumption along with data on implications for waste generation or the prevention of resource use.⁷ Since much of the existing literature on sustainable consumption only focuses on individual behaviour in a particular phase of the food consumption chain—that is to say, food purchase or food disposal—recent contributions have tried to broaden the scope of analysis. Chakraborty et al. (2016), for instance, in their article based in part on material generated from our research project comparing Bangalore and Metro Manila using the theoretical framework we developed in the project, integrate the analysis of practices, patterns and the impact of waste generation in Metro Manila, providing a quantification of waste generation both within households and while eating out. The contributions to this special e-issue that use qualitative analysis focus on the household as the key site for an understanding of waste generation and reduction. However, they do not confine their analysis to the physical space of the home but also consider food consumption patterns and waste generation and disposal in the workplace as well as in upmarket restaurants and other places regularly frequented for eating out, as new middle-class consumption patterns lead to food waste being increasingly generated outside the household. This special e-issue, therefore, also explores how food and food-related waste (whether leftovers from meals at home or in restaurants, unused food, or food packaging waste) is variously defined and disposed of by households and restaurateurs. Contributions deal with both wet and dry waste, thus providing a comprehensive analysis of the food waste generated and disposed of by Bangalore's middle-class households.

- 16 Linking consumption patterns to waste generation practices is important if we are to understand various aspects of waste management, but this also needs to be complemented by analyses of the policy dimension, as this special e-issue attempts to do. We therefore also focus here on the formulation and (obstacles to) the implementation of solid waste management policies. Of course, a consideration of food policies is equally relevant in this context, but is beyond the scope of this issue as it was not included in our research project. The articles in this issue combine insights into some important aspects of domestic and restaurant food production and consumption, which are often overlooked, with an analysis of their implications for waste production and disposal. This special e-issue thus ties together in a novel fashion questions of food consumption patterns, of waste production/prevention, and of wet (food) waste segregation and disposal. It examines the circulation of ideas as well as the influence of social and institutional innovations on Bangalore's solid waste management policy. Exploring composting and the use of technological innovations in this regard at a neighbourhood level, the authors relate the change in solid waste management practices at the community level to the broader political engagement of the middle-class families of IT professionals in the city. They enquire into the extent to which urban elites and middle classes have used new political and institutional spaces to influence the provision of waste management services and, more broadly, the urban environmental agenda in

Bangalore. The emerging literature interrogating the role of middle classes in ‘sustainable’ consumption or ‘inclusive’ development both in the global North and in the global South suggests that further research is needed (Knorrinda, 2015). As highlighted by Lange and Meier, given the ‘heterogeneity of the new middle classes in terms of both socio-economic differences [...] as well as differences deriving from the interplay of interacting cultural influences [...], there cannot be such a thing as *the* cultural and social self-understanding and *the* political concerns of *the* new middle class’ (2009, 16); hence the need for context-specific analyses, such as those presented here, that assess the politics of the urban middle classes (Wiemann, 2015) and its impact on urban environmental governance.

4. Overview of Contributions

- 17 The articles in this issue address three interwoven themes: (i) the delineation of changes in food consumption among Bangalore’s middle classes, by tracing subtle changes in household practices of eating out and in shopping, storing, cooking and the disposal of leftovers and solid waste within the home (Ganguly and Karanth); (ii) changes in environmental consciousness, as well as in understandings and public advocacy of ‘greening’ practices and sustainable technologies related to solid waste management at the levels of the household, the neighbourhood and the city (Ganguly and Lutringer; Biyani and Anatharaman); (iii) the role of legal activism in the crafting and monitoring of new norms around solid waste management and their deployment by various actors (municipal authorities and courts, residents’ associations and individual consumers, restaurant owners, NGOs and IT firms) (Lutringer and Randeria; Interview with Rao and Saldanha).
- 18 ‘Making sustainability palatable?’ by Ganguly challenges the conventional narrative of the new middle class engaging in unsustainable conspicuous consumption. Its focus is on household level practices of buying, cooking, eating and storing food and disposing of food waste in families employed in the IT sector in the city. Sunayana Ganguly is interested less in how class shapes food practices than in how food practices are informed by cultural traditions. Using fine-grained material based on 127 qualitative interviews with members of these new middle-class families, the author, on the one hand, argues that food consumption at home is a matter of negotiating new identities between the local/regional and the global, and between the post-colony and the West. On the other hand, she shows that contrary to assumptions regarding new, wasteful lifestyles, food consumption patterns continue to be relatively sustainable. This is because they are shaped by cultural beliefs, such as the Hindu emphasis on the ‘freshness’ of food (i.e. food being bought on the very day on which it is cooked and eaten rather than stored overnight or frozen and then reheated) and norms of handling and handing over of food left over from a meal to a domestic help or the neighbourhood poor. Ganguly’s paper thus also highlights the complexity of the practices related to leftovers as well as the need to differentiate between various kinds of food ‘waste’ in the Indian context. Culturally rooted strong vegetarian preferences also curb a preference—prevalent among the (newly) wealthy and observed the world over—for eating larger amounts of meat.⁸
- 19 Even as some traditional values are reconstituted, the food practices of the new middle class in Bangalore remain sustainable as household waste (which is mostly organic) remains low, and the high energy costs incurred by refrigerating or freezing food are

avoided due to a strong preference for fresh food, cooked afresh for each meal, which also reduces the consumption of processed foods with a high energy cost. With rising incomes, however, there is a steep increase in 'eating out', which is far more wasteful and thus less sustainable. These insights resonate with Upadhya's (2009) observation with regard to non-food consumption practices among Bangalore's IT professionals, where she notes, 'despite obvious changes in consumption patterns and visible transformations in lifestyles, many members of the new middle class have not fully bought into the ideology of consumerism, which appears to be in conflict with "old middle class" values of family and society' (Upadhya, 2009, 261).

- 20 Karanth's contribution to the issue, "'Foodscapes' in Bengaluru" provides an interesting counterpoint to this. It deals with the changing culture of 'eating out' using qualitative data obtained through formal and informal interviews and focus groups, both with middle-class consumers and with restaurant owners. It draws attention to three key, interlinked factors: (i) a correlation between eating out and changes in household composition and gender roles within families, (ii) innovative adaptation by the restaurant industry to these changing trends in families and food habits, and (iii) the effects these trends have on solid waste and waste management. At the level of the family, it is not only the increase in the number of single-person households, often recent migrants to the city, and the numbers of working women in the middle class and thus of double-income households, that plays a role. The changing food tastes of children are an equally strong driver of increased visits to restaurants and a growing trend of ordering cooked food using the large infrastructure of takeaway and home delivery services that cater to these demographic changes and new culinary preferences in the city. Restaurants of all kinds—from pavement eating places to internationally established fast food chains—that have adapted to Indian tastes and luxurious, expensive air-conditioned eating places serving buffets and à la carte menus have sprung up offering a wide variety of cuisines from other regions of India and other national cuisines (Chinese, Italian, Thai, etc.). These changes result in a significant shift from household waste to restaurant waste, which consists not only of large quantities of leftover food but also of plastic and packaging, and in high-energy consumption due to the needs of cold storage. Interestingly, restaurant owners are much more optimistic about the potential success of solutions at the micro-level of individual establishments or a neighbourhood than they are about a policy change at the city level, which they consider to have been a failure. In terms of policy implications, Karanth's material leads us to reflect on the practicality of macro-level urban solid waste management versus micro-level waste management. It also points to the importance, with regard to waste reduction strategies, of addressing food waste in the service sector.
- 21 While the paper by Biyani and Anantharaman presents a nuanced picture of the complexity and ambivalence of some of the policy changes implemented and their impact at the city level, the contribution by Ganguly and Lutringer addresses 'Changing Practices in Water and Waste Management' in gated communities in Bangalore. The authors' ethnographic study shows the emergence in the gated communities of community leaders whose engagement extends beyond the immediate concerns of their own Residents Welfare Associations (RWAs) to effectively mobilise support for water and waste management initiatives in the city as a whole. Sensitivity towards issues of the urban environment and its governance do not necessarily remain confined to the gated community from which they originate, but can have a spill over effect, changing practices of water and waste management in neighbouring communities or in the city as a whole as

these leaders join forces with activists campaigning for policy changes and monitoring their implementation across the city. This would lead us to revise the conventional view of the new middle class as either indifferent to socio-political and environmental issues or only interested in securing its own consumption, comfort, and well-being. In contrast, many of the civic activists advocating for change on environmental issues come from Bangalore's vocal and influential IT sector. Interestingly, many of those at the forefront of this activism, those who advocate, monitor and enforce waste segregation in their neighbourhoods, have lived abroad for long periods and thus bring ideas of waste management and civic responsibility to the city from Europe and the USA. Ganguly and Lutringer's paper highlights the influence of professional experiences and expertise, which inform the management of certain environmental projects initiated by IT professionals in their housing complexes.

- 22 In 'Aligning Stakeholder Frames', Biyani and Anantharaman adopt a more normative approach in order to analyse the implementation of policy changes in Solid Waste Management (SWM) in Bangalore. They show why the transition to better SWM has been very slow, and why the SWM Handling Rules of 2000 have been difficult to implement. The authors build on the literature on transition management (TM)—a tool offering a multilevel decision-making model to facilitate sustainability transitions (ST)—which has so far primarily been used and studied in Euro-American contexts. By incorporating an analysis of asymmetrical power relations between different actors, the authors attempt to make the TM framework more relevant to the global South. The main actors they identify for the success of more sustainable SWM are local government; large commercial companies involved in waste collection as well as small informal sector actors involved in collection, transport and recycling; private sector service providers; bulk waste producers and individual citizens. In view of the differential power and often competing interests of these various actors, the authors emphasise the need for inclusive 'stakeholder engagement', which could thus give voice and representation to diverse castes, classes and social groups. They also advocate the establishment of a facilitating body to further communicate and 'frame alignment' between the actors if the garbage crisis is to pave the way for more permanent productive changes.
- 23 Lutringer and Randeria's 'Garbage is Good to Think With' is an ethnographic study of the policymaking process of decentralised solid waste management as introduced in Bangalore in 2012 after the 'garbage crisis'. It delineates the complex configuration of actors—ranging from civil society to local government and from IT firms to community leaders—who formed a heterogeneous 'policy community'. The article portrays the interplay between middle-class environmental activism and judicial interventions in the policymaking process. On the one hand, it situates the Bangalore case study in the larger context of middle-class environmental activism in urban India. On the other, it examines some specificities of the Bangalore case, where middle-class activism was driven by an eclectic mix of economic interests and civic responsibility (what Anantharaman (2014) has termed 'ecological citizenship') along with the desire to implement smart technological solutions. The case of Bangalore thus deviated from the usual Nimby ('not in my backyard') pattern of 'cleaning up' middle-class neighbourhoods, as it was also informed by a sense of civic and environmental responsibility for both the stigmatised workers dealing with waste and the surrounding rural areas affected by the city's poor waste management. This framing of the city's 'garbage crisis' also led the judiciary to address larger environmental and social issues across the rural-urban divide, which

constitutes the subject of the long interview with Bhargavi Rao and Leo Saldanha that follows.

- 24 As the new institutional context calls for new arrangements in Bangalore's solid waste management system, the role of NGOs and social movements deserves specific attention. The interview with Leo Saldanha and Bhargavi Rao⁹ of the Environment Support Group (ESG), a public charitable trust that has been engaged in campaigns and advocacy for environmental justice in Bangalore since the late 1990s, is particularly relevant given the significant role that they have played in the formalisation of waste management policy. This interview, on the subject of their effective campaign for a new solid waste management policy in Bangalore, foregrounds not only the role of civil society actors in policymaking, but also the significance of legal activism in this process. In 2012, the court case filed by the ESG, which has been working with the city's waste workers since 1999, led to the shutting down of the illegal landfill in Mavallipura, a village on the outskirts of Bangalore. The court's decision to close the landfill, which was polluting the water and destroying the common land of the village, set a chain of unintended consequences in motion. In the absence of alternative sites for solid waste disposal and of incineration facilities, the outlawing of the landfill produced a 'garbage crisis' in the city, a crisis that was compounded by unprecedented media coverage of the uncollected waste piling up everywhere.
- 25 As Saldanha and Rao argue, the city's inadequate solid waste management is a result of the privatisation of its waste management system at the behest of the World Bank, which provided the city administration with loans for the purposes of urban and infrastructure development. ESG's Public Interest Litigation, filed before the Karnataka High Court, involved not only middle-class activists but also the highly stigmatised waste workers and the villagers affected by the pollution coming from the landfill. In the view of both Rao and Saldanha, the court's progressive ruling resulted in a decentralisation of solid waste management, making it more transparent and sustainable, even if the implementation of the judgement and the new policy formulated in its wake leave a lot to be desired. Yet the two ESG activists remain optimistic given the changes in policies and practices brought about thanks to a mix of civic mobilisation and legal, environmental activism; growing ecological awareness and judicial intervention; media attention; and the resistance put up by the affected municipal waste workers and villagers—factors whose interplay is explored extensively in this special e-issue.
- 26 The afterword by Carol Upadhyia draws attention to the broader socio-political framework in which changing consumption practices and environmental activism need to be situated. Bangalore has a history of civic activism that is part of the city's civic culture and has long influenced the strong environmental awareness present among its middle classes, who are caught between environmental sustainability and the attractions of consumerist lifestyles. Bangalore's rapid economic, demographic and spatial growth has made some environmental problems acute, in particular due to significant increases in water consumption and waste generation. However, the problems faced by the city are also similar to those of other megacities across India and in other parts of the global South, which are plagued by inadequate infrastructure, poor civic services, widening inequalities and exclusion. Upadhyia argues that only by locating analysis within the larger patterns of urban development more generally can one capture the dynamics of urban environmental problems. As political and business interests influence the priorities and the very functioning of public institutions, the line between the public and private is

increasingly blurred. Therefore, a ‘critical understanding of waste generation and disposal [is] not simply a management or technical problem but also one of equity and political participation’ (Upadhya, 2017, this issue). Upadhya also points to the crisis in local democracy in Indian cities, where legally mandated institutions are rendered dysfunctional by vested interests. While civic activism has certainly contributed to the mitigation of some urban problems, it has usually been confined to small areas, such as gated communities and middle-class neighbourhoods. She points out that middle-class activism has thus often remained aloof from ordinary politics and the democratic institutions of local governance. Finally, she raises the larger question of the costs and the sustainability of the iniquitous hegemonic visions of neo-liberal urban development, here as all over the global South.

- 27 The contributions to this special e-issue thus provide a variety of perspectives on practices and policies aimed at sustainable consumption, which are analysed against the backdrop of larger processes of the transformation of the political economy, urban governance and civic engagement in India. Both as consumers and as citizens the emerging middle classes are increasingly influential in shaping political priorities and agendas in India’s cities. Interestingly, judicial interventions as a result of middle-class activism on urban environmental governance have played a pivotal role in formulating new norms and enacting formal rules and policies. We explore here the implementation of these new policies as well as the reform of practices of solid waste management in Bangalore, tracing some of the complexities of these processes of transformation on the ground.

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NOTES

1. Bangalore has been officially known as Bengaluru since 2014. We have retained Bangalore in our text and in the title of the special e-issue as almost all our authors use the older name, which is also likely to be more familiar to an international readership.
2. The interview with Bhargavi Rao and Leo Saldanha and the articles by Ganguly, Karanth, Ganguly and Lutringer as well as that authored by Lutringer and Randeria are based on empirical material collected in Bangalore within the framework of the project. Publications on changing food consumption practices and patterns in Metro Manila include Saloma and Akpedonu (2016), Favis and Estanislao (2016) and Chakraborty et al. (2016), and use an industrial ecology approach to assess resource consumption within the home (e.g. food and drink volume and frequency). Food consumption and solid waste

were understood in terms of both biophysical patterns and social practices, using quantitative and qualitative data.

3. Six short films were also made as part of the project with a view to disseminate the research findings widely (Eating in and food waste in Bangalore; Eating out and food waste in Bangalore; Waste management and recycling in Bangalore; Distinctly Filipino food; Eating out and food waste in metro Manila; Organic food in metro Manila). They can be found at: <http://foodconsumption.snis.ch/> (accessed on 10 April 2017).
 4. This coincided with a government effort to promote the introduction of ID cards, issued for a fee of INR 200 (approximately USD 4.25 at the time).
 5. The Environment Support Group, whose activities in relation to solid waste management are explored in the interview with ESG activists Bhargavi Rao and Leo Saldanha (see interview, this issue), was involved in the campaign.
 6. We would like to thank the anonymous reviewer for drawing our attention to this point as well as to recent literature on the subject.
 7. We are indebted to the anonymous reviewer for this important point.
 8. See Bruckert (2016) for an analysis carried out in Chennai, South India, on this subject.
 9. Bhargavi Rao worked with ESG until 2016.
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ABSTRACTS

The editorial introduction by Christine Lutringer and Shalini Randeria delineates the overarching themes that are the foci of this special e-issue, namely the policy shifts and changes in practices of solid waste management in Bangalore following the 2012 'garbage crisis'. It suggests that civic mobilisation among the middle classes (and especially legal activism) have played a crucial role in the demand for, and partial implementation of, an efficient and sustainable solid waste management system. Crises and subsequent reforms thus constitute fruitful vantage points from which to explore larger processes of policy change. The contributions to this issue offer insights into the interplay between changing food consumption patterns, social practices of sustainable consumption, new forms of civic activism and emerging policy responses. On the one hand, they examine how middle-class engagement, through legal activism and neighbourhood mobilisation, has shaped public perceptions as well as public policies. On the other, the contributions combine insights into some important aspects of domestic and restaurant food production and consumption with an analysis of their implications for waste generation and disposal. Designing sustainable policies to address the environmental impact of changing food consumption patterns thus requires careful analysis of not only consumption practices at the level of the household but also of practices related to waste generation, prevention, segregation and disposal.

AUTHORS

CHRISTINE LUTRINGER

Christine Lutringer is Senior Research Fellow at the Albert Hirschman Centre on Democracy of the Graduate Institute of International and Development Studies, Geneva. At the time of writing this paper, she was a researcher at the University of Lausanne (Switzerland) with the Industrial Ecology Group, working on an interdisciplinary research project on the dynamics of consumption patterns, practices and policies among new consumers in two megacities of South and South-East Asia: Bangalore in India and Metro Manila in the Philippines. She has studied in Strasbourg (Institut d'études politiques), Rome (University 'La Sapienza' and LUISS) and Geneva, at the Graduate Institute where she received her PhD in International History and Politics. Her research explores themes related to civil society, social movements and local democracy, with a focus on South Asia.

SHALINI RANDERIA

Shalini Randeria is Rector of the Institute for Human Sciences (IWM) in Vienna and Director of the Albert Hirschman Centre on Democracy at the Graduate Institute of International and Development Studies in Geneva, where she is Professor of Social Anthropology and Sociology. She is a past president of the European Association of Social Anthropologists (EASA) and a former deputy chair of the World Council of Anthropological Associations. She has served on the editorial board of the *Annual Review of Anthropology* and is currently a member of the editorial board of *American Ethnologist*. She is a member of the board of trustees of the Central European University (CEU), Budapest. Her research in the field of the anthropology of the state, law and policy addresses the themes of globalisation and social movements with a regional focus on India.