



An Analysis of Waste Production in Patna

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Abstract

Patna, the capital city of Bihar, though boasts of rich cultural heritage, is unfortunately also known as the garbage city of the country. This paper is drawn from a study conducted to comprehend the current situation about waste production in Patna. We have focused on Municipal Solid Waste (MSW) which is commercial as well as residential and is generated in municipal notified areas. The study illustrates that population growth, rapid urbanisation, and a more sophisticated form of consumerism that detaches conventional practices, are the major factors influencing waste generation in Patna. We also look at the culture of lumpenism and insensitive attitude of the community towards the environment. It is our anticipation that renewed focus of the local Municipal Council, attention by the provincial governance, and commitment by residents for clean and healthy locality can stem the rot and turn the tide for good.

Key words: Consumption, globalisation, knowledge processes, Municipal Solid Wastes, Patna, waste production

Here and now

Production is a social enterprise. To produce, we get into relationship with others in society. Production is sustained with re-production. It perpetuates inequality or precipitates change. These processes de-



Figure 1. Welcome Message for Visitors
Source: Photo taken during fieldwork

fine our time and space. In this paper we focus on Patna, the capital city of the province of Bihar in India, to comprehend the production of waste. The idea for this paper came up when we picked up one of the thread that defined this city.

After attesting to the rich historical heritage, Patna presents itself as what the State High Court declared—the ‘Garbage City’ of the country. Figure 1 shows a street sign in Hindi welcoming people to the city of Patna. The streets of Patna are strewn with garbage (Figure 2 & 3) which is not only displeasing sight but also have several environmental concerns. We analyse the nature of the wastes, the reasons for waste production, as well as the linkages of the local processes with global imperatives.

This paper draws from fieldwork which was conducted as part of the project on ‘Waste Management



Figure 2. Roadside Dumping of Garbage in Patna
Source: Photo taken during fieldwork



Figure 3. Common Scene in Patna
Source: Photo taken during fieldwork

Training to Reduce Health Hazards of Solid Wastes in Patna' funded by the Centre for Energy and Environment, Indian Institute of Technology Patna. The locus of the study was the New Patna/*Nutan Anchal* that covers the largest geographical spread and has relatively affluence. It is also this milieu which has the most unplanned waste disposal. We situate this study within the broader framework that locates environmental change with social change. It is certainly necessary and, complementary, to the focus on production and consumption that have been central to Sociology. Emphasis on waste, as Fagan (2003) indicates, is urgently needed as it is vital for understanding the relationship between social and environmental change.

The Context

While waste production is as old as human society, the nature of waste produced has changed with time. Earlier waste materials were from natural habitat or body parts of species. These wastes were mostly biodegradable. With time, the waste generated in our society has become more complex. Now, waste production is guided more by materialistic needs of people than subsistence livelihood practices. Industrial revolution has led to the spurt of production and consumption that has been the key factor influencing an exponential rise in waste. The problem is accentuated

in developing countries such as India. Here, the rapidly rising waste production is due to three interrelated factors, namely, high rates of population growth, rapid urbanisation, and a more sophisticated form of consumerism. On average a resident in developing countries produce up to 0.79kg of waste per capita per day (Hoornweg et al., 2012). The sources of these wastes include industrial, construction, biomedical, as well as municipal solid waste from households, hotels, resorts, restaurants, and other businesses. The waste, therefore, is composed of both organic and inorganic materials such as paper, soil, metal, plastics, glass, stone, wood, cardboard, textiles, and tires. Projections show that over the coming decades both per capita waste production rates and population size will increase, leading to even bigger challenges for relatively low income cities and countries, which currently contribute up to 35% of the total waste production in the world (*ibid*).

Before we proceed with our analysis of waste production, it is pertinent to note that we focus only on solid waste in this paper, which is defined as the unwanted or useless solid materials generated from combined residential, industrial and commercial activities in a given area. It may be categorised according to its origin (domestic, industrial, commercial, construction or institutional); according to its contents (organic material, glass, metal, plastic paper etc) or according to hazard potential (toxic, non-toxin, flammable,

Table 1: Generators and types of solid waste

Source	Typical Waste Generators	Types of Solid Waste
Residential	Single and multifamily dwellings	Food wastes, paper, cardboard, plastics, textiles, leather, yard wastes, wood, glass, metals, ashes, special wastes (e.g., bulky items, consumer electronics, white goods, batteries, oil, tires), and household hazardous wastes (e.g., paints, aerosols, gas tanks, waste containing mercury, motor oil, cleaning agents), e-wastes (e.g., computers, phones, TVs)
Commercial	Stores, hotels, restaurants, markets, office buildings	Paper, cardboard, plastics, wood, food wastes, glass, metals, special wastes, hazardous wastes, e-wastes
Institutional	Schools, hospitals(non-medical waste), prisons, government buildings, airports	Same as commercial
Construction & Demolition	New construction sites, road repairs, renovation sites, demolition of buildings	Wood, steel, concrete, dirt, bricks, tiles

Source: Adapted from World Bank Report, 1999

radioactive, infectious etc). Within various solid wastes, we specifically focus on Municipal Solid Waste (MSW) which is commercial and residential waste generated in municipal or municipal notified areas in either solid or semi-solid form excluding industrial hazardous wastes but including treatable bio-medical waste (The Municipal Solid Wastes Management and Handling Rules, 2000). Table 1 is compiled from a World Bank report and shows the source and types of solid waste.

Various studies (Huntley, 2010) have noted that MSW are the most difficult sources of solid waste to manage because of its diverse range of composite materials. A considerable portion of these wastes consists organic matters resulting from the preparation and consumption of food, including vegetable peelings and leftover food. It also consists plastics, paper, glass, textiles, cellophane, metals and some hazardous waste from household products such as paint, garden pesticides, pharmaceuticals, fluorescent tubes, personal care products, batteries containing heavy metals and discarded wood treated with dangerous substances

such as anti-fungal and anti-termite chemicals. In recent years there has been an increased focus to address issues related to solid waste management in developing countries, especially in terms of methods of disposal, recycling and treatment of waste. However, none of the studies to date have accounted for the factors that lead to production of waste as practices of everyday lifestyle within a specific socio-cultural milieu.

Our research affirms that MSW generations are the result of practices of everyday life. Therefore, MSW management is a complex issue due to changing lifestyle of people, rapid urbanisation, and underestimated contributors and stakeholders (Jha et al., 2011). Our research illustrates that the rate of generation of solid waste is more a functional result of our social activities. As noted earlier, one of the major sources of MSW generations is the households. In here, family is the primary unit of socialisation where individuals develop their understanding of 'what are wastes'. Learning and formation basic habits form the kernel of our social practices. This includes daily

dietary practices including the preparation and consumption of food. They also comprise leisure activities, customs, rituals, hobbies, and other lifestyle choices. These everyday practices are co-related with our environmental practices as their manifest or latent functions effect our environment. Hoornweg et al. (2012) indicate that waste composition and production are related to factors, such as, culture, climate, and state of development. Moreover, Sharan (2006) contends that environment is a fluid concept, linking cultures, populations, materials and spaces in specific ways in particular historical conjunctures.

Like other cities of developing countries, waste production in Patna is also affected by these three interconnected factors of population growth, urbanisation and increased consumption. Patna is the most populated district in Bihar with the decadal growth rate of population (2001-2011) standing at 22.34%, and with a population density of 1,102 persons per square kilometre (Census of India 2011). The increase in population growth rate in Patna is attributed to dual causes of natural increase - due to high fertility rate, as well as high rate of rural to urban migration. Patna is also the most urbanised district in Bihar, with an urbanisation rate of 43.5%, which is much higher than the national average (*ibid*). Patna ranks very high in terms of solid waste generation in India and in Patna (2011) 52% of the waste generated is organic in nature and only 13% of the total waste is recyclable. Due to the lack of industries in Patna, a large proportion of the waste is generated from households, hotels, resorts, restaurants, and other businesses.

The Study

Patna is the capital city of Bihar which, according to Das (1992), is the land of paradoxes. In his book the *Republic of Bihar* (1992), Das recognises that here wealth exists but there is no investment because of lawlessness. In Bihar, plenty also takes a back seat to the comfort of middle men and landlords. This is about the land, we ponder, which has been renowned in the past for good education, good governance, and worthy ways of life. The history of ancient India is the history of ancient Bihar (Thapar 1966). But unfortu-

nately all these significant achievements appear to have left no living legacy for contemporary Bihar. If there are few millimetres of rain in the state capital, Patna, residents are fearful that the city will soon resemble a flooded locale as the drainage system of the city is in abysmal state. To reiterate, there is filth and stink everywhere including New Capital/*Nutan Anchal* region (the study area) where the relatively rich and the affluent reside. Several bureaucrats and political leaders live in this area. Many national and international non-governmental organisations have their regional office in this part of the city. It covers more than half of the total area of the city and has the highest population thus generating maximum amount of solid waste (Municipal Corporation of Patna, 2013).

Both qualitative and quantitative methods were used in the fieldwork. While we did our pilot study with a purposive sample, probability sampling design was adopted to make our study as representative as possible. A total of 200 questionnaires were in the survey employed and they ranged from socio-demographic profile, family income, behaviour patterns, social relations, and their like. Based on preliminary analysis of data collected through the survey, broad themes were identified and 15 in-depth interviews were conducted with different stakeholders in the community. Ethnographic field-notes substantiated our study. Our analysis suggests that the consumption patterns of New Capital/*Nutan Anchal* region in Patna can be broadly categorised under several headings which ultimately are responsible for waste production. Some of the categories of waste that emerged are consumption of food; electrical appliances and gazettes; personal care products; real estate; and transportation vehicles. In the next section, we delve into a detailed delineation of these categories.

Categories Of Waste Produced

Food is the first category. It is one of the most common items of consumption that is directly related to waste production. Apart from what we eat, food involves various other aspects that acquire meaning and significance when examined from the perspectives of waste generation. To start with, common sense

rationality influences the selection of different foods. For example, many of our respondents pointed out that they would prefer to buy vegetables from specific outlets that sell them in plastic bags properly labelled with the price and weight rather than common vendors where one needs to bargain and where even the vegetables are not properly packed.

Most of the families surveyed are nuclear units and often have dual income. In such a situation they lead a very busy life. Also, due to the availability of large amount of disposable incomes, these families tend to engage in eating out more often. Eating out in Patna does not necessarily mean dining at restaurants. Rather, people also prefer to buy fast food from street vendors and small eating joints at the road side. Foods at these joints are served either in aluminium or thermocal plates, which are easily disposable after use but not degradable. Large portions of MSW that are littered on roads in Patna are composed of such items. Interestingly, almost all the small restaurants in Patna offer 'free home delivery services' which have become very popular, as one gets to enjoy restaurant food at home without having to physically travel. All these foods are served in aluminium foiled packets in a plastic bag and accompanied by a latest menu card of the restaurant along with paper napkins, plastic spoon or forks, and pouches of sauce or salad. This practice is not environmental friendly and becomes a big part of the daily waste production at the household level.

More than 70% of the respondents stated that on average the intake of non home-made food is approximately three times a week. Most residents have a competition with those who live in other apartments of the building or with those in the neighbourhood about their cool lifestyle including the practice of eating out. This is quite an alarming rate of consumption generating huge amount of waste. As Baudrillard (1998) notes these are consumptions of 'signs' to reinforce a specific social status. Respondents were given options as to whether they would prefer food to be served in steel or other metal utensils which could be washed and re-used. All of them replied they would not prefer such arrangements as they feel it might not be hygienic. They also gave examples as to why they chose certain restaurants over others for home delivery

mainly because of their 'hygienic packaging'. Respondents were then asked whether they were aware of the environmental effects of using such products. All of them gave an affirmative reply but when they were enquired as to what could be done to minimise the production of waste, none replied that they should check their levels of consumption. Instead, everyone blamed the municipal authority for not implementing better pickup and transport facilities of solid waste.

Waste generation from food consumption is not only limited at the household level but also at the source where food is sold. Here, the roads are infested with numerous eating joints and vendors selling various types of fast food at different price ranges affordable by people of all income groups. Based on participant observation, it was noticed that in the evening time the sale of such fast food items increases and consumers are mostly young adults. There is an increasing trend in Patna for young people to attend academic coaching classes. Most of such classes are held after school or college hours in the evening. This provides a specific type of socialisation among young adults, who hang out after the classes at the road side eating joints. These eating vendors provide a particular space for interaction among young people where along with food, they also enjoy the company of their friends. Under these circumstances, consumption of food is more an act to establish social identity amongst a peer group. However, such consumption practices are a major cause of generating huge amount of solid waste in the region, characterised by 'use and throw' plates, cups, glass, spoon and napkins.

Electrical appliances and gazettes are the next category. In developing countries, due to the widespread availability of electrical and electronic goods, there has been a tremendous increase in the amount of e-waste which has become a serious environmental concern (Pandey and Govind 2014). These electrical goods range between toys; personal care items (such as hair drier, electrical razor); entertainment and/educational products (television, video and CD players, i-pads, laptops, computers, and mobile phones) and appliances that are used for household chores and activities; for example, washing machines, microwave machines, toaster, mixer-grinder, and so

on. All the households surveyed for the study reported having these products, though the quantity and brand varied. One of the respondents replied: 'These days we have become so used to these appliances, like washing machine and microwave that it is impossible to think of a life without these.' Another respondent stated that '...at times I wonder earlier how we managed our lives without cell phones (laughs). I mean now it is so much easier to stay connected with your friends all the time.'

When we asked the respondents whether they were aware that such items generate huge amounts of e-waste and the adverse effect they have on the environment, their responses were interesting. About 43% said that they were aware about e-waste but not specifically about environmental hazards caused by them; while 26% reported they thought only computers and laptops produce e-waste; 19% stated they were not sure about how everyday use of electrical appliances can produce e-waste and the environmental effects were limited only to those who deal with these wastes; and only 12% expressed concern about reducing e-waste production. When respondents were given options as to whether they were willing to use less of these products to minimise e-waste production, their responses were almost unanimous as they stated that one has to lose something for enjoying comforts in life. From in-depth interviews it was evident that the purposes of these goods are as means of communication to express identity and to mark status (Stillman 2003). Lodziak (2002) suggests that nowadays sources of identity dwell in the world of images, symbols and signs. Giddens (1991) thus observes that a new kind of consumer had emerged for whom consumption itself plays a central role in constructing new senses of identity based on and around the possession and ownership of status-conferring goods.

Not far behind we have the category that covers *personal care products and sanitary items*. A large proportion of the MSW comprises personal care items such as cosmetics, deodorants, diapers, and so on. There has been an increase in consumption of these items whose values and comforts are being reinforced through daily advertisements. In every household these items are very common. In fact, from

the survey it was evident that the levels of consumption of these products are almost on par with the household's consumption of grocery items. For example, about 87% of the respondents reported that they buy such products of personal care more than twice every month. This suggests the frequent use of these items. Bourdieu (2003) argues that consumption is the articulation of a sense of identity. According to him our identity is made up by our consumption of goods, which displays our expression of taste. Many people's sense of identities then, are affirmed and contested through specific acts of consumption (Jackson and Thrift 1995). People define themselves by what they buy and by the meaning that they give to the goods and services that they acquire. Lodziak (2002: 51) argues that - for those with the financial means - there exists a 'self-identity industry' that includes health-clubs, fitness gyms, therapy centres, beauty salons, cosmetic surgeries and use of specific products. The same is true for the respondents of this study. They all agreed that their consumption of particular personal care items were influenced more by advertisements to forge a distinct personal identity which is characterised by living a comfortable lifestyle. To illustrate this with an example from another context, and as reported by Colon et al. (2013), all households that had children below three years of age use diapers for them but unfortunately these diapers are not disposed off in a sanitarily hygienic manner, thereby causing adverse environmental affects. The situation is similar even in Patna.

Real estate is another significant category in Patna these days. As mentioned earlier, a large amount of MSW in Patna is also produced through construction and demolition. A tour of Patna illustrates that new buildings and shopping complexes, including malls, are being constructed in various places. With a rise in disposable income among the middle class as well as easy availability of various home loan schemes provided by the banks, Patna has witnessed a steady rise in the real estate market. Another factor that adds to this real estate boom can be contributed to the opening of different offices and state head quarters of various NGOs. There is also an increasing influx of student population from parts of Bihar to Patna in

search of better educational and livelihood opportunities. Almost 35% of the household surveyed lived in a house and/or an apartment which they owned while the rest 65% lived in rental accommodation. Of those who lived in rental accommodation, approximately 85% mentioned that they have pre-booked an apartment in Patna, which was under construction. 72% of those who lived in their own house reported they plan to have some construction in their premises for commercial uses. This could be either to rent it out as office space or as student accommodation. Interestingly, all the respondents were aware that such activities would generate a lot of solid waste, but to them the attraction of income superseded their concern for environment. All these imply that apart from consumption of products to reinstate their social status, people in Patna also indulged in consumption of space (Jackson and Thrift 1995) which is also responsible for generating solid waste in the city.

Transport vehicles can be an environmental problem and an arena in which consumers are both the senders and receivers of symbolic meaning. By choosing to cycle or by selecting one rather than another type of car, individuals convey information about themselves. This is just as they interpret the social meaning of other transport practices. Transport vehicles are important in connecting people between different spatial locations. Population growth in Patna is accompanied by the growth of transport vehicles as well. Among these, the number of personal transport vehicles is ever increasing. Easy loans from different banks serve as a lubricant. However, it is the family's competition to have a better car than the neighbour that sets the process going. Having an expensive car is a conventional symbol of high social status all over the world. The roads here are unable to support the increasing number of vehicles resulting in traffic congestion. Also, while new cars have taken to the road, old means of transportation are still there. Animal-driven cart or human-driven rickshaw or slow moving tractor adds to the slow traffic situation and ever increasing sound and air pollution. What concerns us here in this paper is solid waste. We have found a correlation between a stand-still traffic and the disposal of waste in the city by people using transport vehicles

to connect between two spatial locations. Participant observation at three select traffic points show that throwing of wrappers and other leftovers from a car increases with increasing traffic congestion. Participant observation also guides us to comprehend consumption pattern in Patna, and thereby, waste production reflects a complex admixture of tradition and modernity. We will discuss these and other significant points after we have delineated the consumption pattern and waste production below.

Consumption Patterns and Waste Production

Consumption is a multi-dimensional concept. Its definitions vary according to the academic discipline by which it is perceived. For example, Sociologists have focused on consumption as a social activity rather than as a pure economic activity (Bocock 1993). Once people are influenced by the social and cultural practices associated with the ideology of current day consumerism stemming from westoxicated values, then even if they cannot afford to buy the goods portrayed in films, advertising, and in the media, they still desire them. Consumption is, therefore, seen as being based increasingly upon desires, not simply upon need (Baudrillard 1998). This sows the seed for analysing an exceptional form of consumer behaviour termed *conspicuous consumption*. Mason (1983:3) distinguishes it as 'being motivated by a desire to impress others with the ability to pay particular high prices for prestige products.' He further asserts that it is a form of consumption which is inspired by the social rather than by the economic or physiological utility of products. Conspicuous consumption is not a recent phenomenon although it may be in a new *avatar* in Patna. This concept surfaced as early as 1899 when Veblen (1992), in his seminal work *The Theory of the Leisure Class*, mentioned such consumption behaviour. Veblen contends that wealthy individuals often consume conspicuous goods and services in order to advertise their wealth and thereby achieve greater status. Hence, in conspicuous consumption the commodities consumed are not necessities. They are 'status goods' or 'positional goods'. According to

Baudrillard (1998), such goods are 'signs' or 'sign values' as well as images or messages rather than commodities that are consumed. The purposes of these goods are as means of communication to express identity and mark status (Stillman 2003). Thus, conspicuous consumption feeds off a status system (Mason 1981). Categories of waste produced in Patna, and as discussed in the section above, justify this pattern of consumption.

When Veblen proposed his theory of conspicuous consumption it was designed as a concept applicable only to the rich and wealthy class, but in postmodern society, often termed the 'consumer society' (Clarke 2003), conspicuous consumption is one of the most dominant features of the new middle class. As Mason (1981: 150) states, '...conspicuous consumption may well be confirmed in future as an exclusively middle class form of behaviour.' Ger and Belk (1996: 272) have added 'consumptionscape' to Appadurai's initial five scapes (ethnoscapes, mediascapes, technoscapes, financescapes and ideoscapes) that have defined global cultural flows and disjunctures (Appadurai 2003) and have tried to explain recent global flows of consumption. They state that the global consumptionscape adds to the resources available to people and becomes part of how consumers draw from all available global and local, new and old sources, as they use products to position themselves in local age, gender, social class, religion and ethnic hierarchies. Based on this, Kjeldgaard (2003) situates consumption behaviour within the broader perspective of the global-local nexus, and explains how relations of a particular 'local' with the global cultural economy affect consumption behaviour. Being cool and hanging out may signify global flow, but consuming *litti* (a popular food in Bihar) at a street corner gives a local flavour.

Bocock (1993) asserts that modern patterns of consumption for urban dwellers are, in part, a result of living in the metropolis, the city and its suburbs. The processes involved in living in an urban location increase the awareness of style, of the need to consume within a repertory which is both distinctive to a social group and expressive of individual preferences. Ger (1999) states that in transitional societies they also face tensions in their attempt to face the future

(modernity, progress) rather than the past (poor, rural, backwards, traditional) whilst maintaining their roots and habits. Day in, day out, practices reflect the negotiation of what it is to be modern, to be sensible and thrifty whilst demonstrating success and respectability, and so on. Their argument can be supported by the patterns of conspicuous consumption among urban middle class in Patna. Easy availability and accessibility of materials to the middle class population in cities like Patna allows this group of people to imitate the consumerist values of the West, disregarding their traditional behaviour. This, we believe, is a notable cause of increasing waste generation.

The everyday practices, daily habits, and routine activities can be understood within the framework of acculturalisation and deculturisation (Raj and Raj, 2004). These two processes always go hand-in-hand and never occur in isolation. The first step involves getting comfortable in using packaged products (acculturalisation) thus detaching from earlier ethics of re-use (deculturisation). The effect on behavioural changes is not what we intent to analyse here. Rather, we are interested in what happens after being effected by such changes. We believe that once the process of deculturisation becomes established, the desiring machine (Deleuze and Guattari, 2005) experiences the greatest discomfort when not using these products. The meaning of an object, like a car or organic foods, or a practice such as biking, reflects perceptions and judgements about how and in what ways it differs from or is similar to alternatives, and where, when, how, and by whom it is owned, consumed, or engaged in. Desire gets introduced into thought, discourse, and then into action.

Consumption pattern of food and the kind of waste generated around it leads us to situate the behaviour as hedonism. Packaged food points to an experience of enjoyment. It means that you eat exactly what you want and when you want it. Hedonism can also take an environmental form, as when consumers view the consumption of packaged food as a sensual treat and take pleasure in the experience or at least the association of better quality, taste, and texture. This might be a case that women who spend more time in kitchen preparing food are now busy. *Being busy* is a

sign of having an active and time-scheduled daily life. This is a context where shopping and cooking are designed not to take up too much time. Hence, semi-manufactured goods seem to be necessary. The proliferation of processed foods promises *emancipation from household chores* especially for women. Media and advertising reinforce these symbolic meanings. Moreover, *signs of being modern and Western* are important especially in Patna. Processed foods are associated with a sense of decency and self-respect that comes from not depriving one's family of the good life as seen on TV or as lived by one's more affluent neighbours. All such foods are available at the supermarkets in plastic, tin or aluminium packets. Though it is easy to prepare and consume these food items, their packaging materials are unfortunately neither bio-degradable nor recyclable. As per the Municipal Solid Waste Handling Rule (2000), the minimum time taken for tin and aluminium to degrade is between 100-500 years, while it is one million years for plastic.

It is cultural practice, then, and the knowledge production mechanism that is at the root of the problem. Rapid material and technological growth gave rise to a cultural modernisation with materialism and consumerism at the core. A common theme which emerges from all these cases is the changing definition of what it is to be modern. Throughout, the pattern is one in which the life which people aspire to or expect relies on an increasing number of appliances and environmentally problematic services relating to mobility, hygiene, and increasing standards of indoor comfort. The availability of these services and the technologies which make them possible symbolise modernity. This modernity is the yardstick for normality. Any deviance, either through inability of economic or cultural capital, desires enforcement for achieving normality. Consumers have their own yardsticks with which they measure levels and patterns of sufficient consumption. The moving mark of what is enough and pleasurable is negotiated in moral terms. Consumers legitimise their own high levels of aspirations of personal consumption with reference to a repertoire of justifications and excuses. Justifications include pleasure, connoisseurship, instrumentalism, or altruism while excuses tend to focus on external

forces, including arguments about the way of the modern world, or the need to make up for past deprivation, or to reward success. Paradoxically, the prevalence of these defensive vocabularies highlights the extent to which the ethos of consumption is legitimised.

The process of knowledge production and appropriation is led by the presiding deities of European enlightenment. Dualism leads the way. Either you are good or you are bad. Your modernity may be de-contextual, but you must aspire to be one. Formalistic knowledge production trajectories give emphasis to the Newtonian, Baconian, and Cartesian rationality. It is rooted in everything we produce and consume. This monocultural rationality negates the local context as well as environmental concerns. Also, environmentalism in India has only been mild and controlled by the modernised elite, several budding environmentalists have been integrated into environmental departments in universities and in government agencies and municipalities. Such institutionalisation and professionalisation fostered a consensus-oriented form of environmentalism within the wider society. This background helps explain the proliferation of government initiated programmes for citizen participation in local environmental improvements, new non-radical, professional environmental organisations and a growth in environmental journalism in the mass media.

In the above section, we have tried to connect the missing lines between consumption pattern and waste production. This could be pertinent to comprehend the nature and type of waste produced, especially municipal solid waste. We have seen that it is the misplaced and raging consumption pattern that accounts for increasing waste production. The 'positivistic' knowledge machine only justifies conspicuous consumption and has become a part of way of life of people in places like Patna. In the next section, we would like to examine what reinforces these patterns especially in our research site. We start with a discussion on globalisation.

G-localisation and lumpen-ism

The term globalisation is used by various groups, often loosely, and thus assumes various meanings. Typically, globalisation is described as increased economic, cultural, environmental and social interdependencies, along with new transnational financial and political formations, arising out of the increasing mobility of capital, labour and information, with both homogenising and differentiating tendencies (Mittelman 2001). As Appadurai (1999) rightly states, the word 'globalisation' provokes heated reactions. Some of these reactions concern definitions, others concern whether globalisation has 'gone too far' or not, and still others are about the officialisation of the term and its conversion into a slogan for the forces that support liberalisation, marketisation and reform across the world. Sociologist Robertson's (1992) explanation of globalisation is based on the theory of society as a specific kind of social system. He states that globalisation at the cultural level began to occur because of two things - *compression of the world* and *global consciousness*. Kellner (2000) asserts that the term globalisation is a theoretical construct and argues that the concept entails everything from the Westernisation of the world to the ascendancy of capitalism. He concludes that globalisation is one of the main processes noted in modern and post-modern social theories. By analysing the various views of globalisation held by people in developed countries Kellner demonstrates that while some people view globalisation as increasing the homogeneity of societies, others on the contrary, view globalisation as increasing the hybridisation of cultures and diversity.

In this article, it is not our intent to engage into a detailed discussion about globalisation; rather we would like to reflect upon how the process of globalisation is responsible for the rise of a new middle class which is characterised by specific consumption practices leading to increased intensity of waste generation in developing countries. Globalisation takes local roots here and can be comprehended as glocalisation, especially in the manner that it implicates the class structure. We believe that the growth of the middle class in Patna is based on a pattern where lumpenism as a cultural practice has been the harbinger of social

change. Through history the notion of the middle class has remained highly contentious in the social sciences. The liberal pluralists tend to regard the middle class as primarily a cultural entity defined by values of individualism and rationality, as well as by indicators of status, occupation and income. Accordingly, the middle class cannot be distinguished from the bourgeoisie and there is no means of distinguishing between the type of social power that they derive from property on the one hand, and salaries and qualifications on the other. However, while scholars continue to struggle to provide a comprehensive definition of the middle class, there has emerged in the literature a sub-group within this class, namely the *new middle class*. This conceptual framework originates in opposition to the official Marxist theories of the late nineteenth century. Betz (1992) relates the growth of the new middle class with changing production systems in a society and analyses it against a postmodern background. Betz (1992: 100) points out that 'the theoretical approaches to describe the new middle class in post-industrial, consumer and information society generally characterise the new middle class as a rather homogenous class (the service class of employers, managers and professionals) united in its members' shared pursuit of social status.' He argues that based on this theorisation, the new middle class emerges at a particular stage in a country's economic development where its precise function is to promote consumption ethics. In the present context we contend that globalisation has generated substantial employment in a number of developing countries like India. This in turn has given birth to a new urban middle class in these countries. An important majority of the members of this emerging class are employed in the service sector and constitute a growing and increasingly large proportion of these countries populations (Shurmer-Smith 2000).

Betz (1992: 99) concludes that the new middle class is intricately connected to the growth of the 'societe de consommation.' Featherstone (1987) states that consumption and tastes become vital channels in the struggle between various classes and a particular class, the new middle class, is formed leading to a growing aestheticisation of everyday life via signs,

symbols, and images of pleasure for consumption. Hence, the very nature of the new middle class puts heavy emphasis on consumption. In such a situation the new middle class becomes the 'new heroes of consumer culture'. In developing Asian countries, with economies predominantly based on extensive agriculture, the new middle class did not gain prominence either in number or in interest among researchers, media or politicians due to their insignificant numbers until the 1970s. From that decade onwards globalisation trends triggered a range of liberalisation policies across Asia (albeit to very different degrees and not in Burma) causing a shift in many occupational structures and the rapid growth of export-focused industries leading to an employment boom.

In Asia the term 'new rich' is used interchangeably with 'new middle class'. This term is used to describe broadly the new wealthy social groups that have emerged from industrial changes in Asia, with their social power based either on capital and expertise or rent and/or position in the extensive state apparatus (Gerke 2000). The new rich are thus the professional middle class. Nonetheless, this term is a starting point for examination rather than an analytical tool. This needs to be clarified because the new rich is neither a cohesive category nor does it have common historical roots, and its impacts vary from one country to another depending on the pattern of economic transition in the country. Therefore, there are likely to be several patterns in the emergence of the new rich and its influence on the cultural, social, economic and political life of the country under study (Robinson and Goodman 1996). This group is commonly characterised by a newly emerging lifestyle- a metropolitan, or *nouveau riche* lifestyle - in which the consumption of items such as branded clothes, personal adornments and expensive pleasurable pursuits has become central (Bocock 1993). In this article we suggest that changing consumption patterns is directly linked to their change in lifestyle which has impacted upon the production of waste in these cities.

The new rich in Patna are a product of lumpenism. Lumpen way of life was epitomised during the last few decades when the agrarian and rural classes became the dominant caste. The unequal util-

isation of resources by the previous regimes, mainly led by the upper caste, was rightly resented and giving back was purposely engulfed in behaviour patterns not appreciated by the upper echelons. Investment in infrastructure was stopped as the institutions were so designed, by the earlier political administration, that the benefits would be utilised only by the established classes. Patna, pathetically, became a victim of its own people who in trying to get back to each other took resort in unruly behaviour that can at best be classified as lumpenism. Such behaviour was visible in every walk of life. Cattle on the road became an important signifier of getting back at the urban elite who had neglected rural Bihar. The political class enjoyed the benefits while the rot only stemmed further. The bureaucracy resented but was only concerned with their immediate neighbourhood. The bureaucracy encompassed more funds through increasing corrupt practices. The flow of funds in the market for unparalleled consumerism has direct co-relation with corruption in most branches of the bureaucracy here. The boom in real estate is also aided with incomparable extortion of funds by the lumpen political class and the corrupt bureaucracy. These two are joined by the expatriates of Bihar, especially those who have made a mark for themselves in other localities in India. There are noteworthy instances of contribution of the expatriate Bihari in social work- mostly around education and identity branding. However, the spurt in consumerist behaviour is a gift from them as well.

Use of lumpenism to comprehend the social formation and cultural patterns in Patna may draw from but is not directly related to the concept of lumpenbourgeoise espoused by A.G. Frank (1972). However, like the class discussed by Frank, even the culture of the class in Patna is insensitive to the local need. Whether it is the condition of pollution in the river Ganga or the streets, people are only bothered about themselves and their loved ones. They are insensitive to the community and their environment. They learn from practices of other cultures and try their best to catch up. But when it comes to the practices which sustain their own environment, people feel that by continuing those practices they may not be considered modern. The local word here for adopting the

so-called modern practice is *vikashit* which in English would mean developed. But, as one elderly respondent concluded, this attitude shows *vikrit* (meaning, that which has lost its mainstay) mentality. Overt rowdiness has been curbed during the current political regime but insensitivity and an attitude of communal ownership is missing. While living rooms should be clean, there is however no concern for the streets and the way inappropriate disposal of waste can create different kinds of health hazard, for instance.

Looking Ahead

Chat puja conveys a totally different scenario in Patna. The streets are neat and clean. Production or disposal of waste is done with utmost care. During the build-up to this festival, celebrated six days after *Diwali*, the behaviour patterns and attitudes of residents, governance, and other stakeholders are seen to have totally changed. People seem to care for their locality. Devotes place emphasis on recognising the cosmos and the source of energy. This does provide a silver lining for a better Patna. We believe that a change in attitude will change behaviour patterns of people here in Patna as well as any other place struggling to properly dispose off their wastes. One can have awareness raising programs that can be supported by the community and the local governance. The awareness programmes must place emphasis on connecting people with their local community as well as with the larger environmental hazards. Increasing interest and motivation has no effect if it is not followed up by resources, support and structural improvements which make it possible, sensible, and normal for consumers to change their routines, habits and daily consumption practices.

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