Producing abjection: E-waste improvement schemes and informal recyclers of Bangalore

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A B S T R A C T

This article focuses upon informal e-waste recyclers who subsidise the environmental costs of Bangalore's information technology boom. It illustrates how improvement schemes devised by development agencies, to make Bangalore's e-waste disposal practices more sustainable, reproduced the effects of bourgeois environmentalism and effectively cast off informal recyclers from having a substantial role in the city's emerging regime of e-waste management. Being cast out and rendered superfluous has been a deeply degrading experience for Bangalore's informal recyclers. In order to foreground this experience I draw upon the notion of abjection and show how informal recyclers are constituted as abject residents who must be confined to collecting and processing waste from the most marginal frontiers of the city's e-waste circuits.

1. Introduction

Information technology (IT) is the most prominent sector of Bangalore's knowledge economy. The celebratory narrative around IT locates in the development of the IT sector a signature moment in India's postcolonial modernity, namely its imminent passage from a developing nation to a world economic power entering the time of global capital. In this narrative, entrepreneurs of the city's prominent IT firms, such as Narayana Murthy of Infosys and Azim Premji of Wipro, are anointed as visionaries who have harnessed the power of software to catapult Bangalore to global prominence and transformed it into a dynamic world city. The IT entrepreneurs are held in high esteem by pundits, policymakers and politicians alike who believe that the IT sector will serve as the linchpin of a new post-industrial knowledge economy that will boost India's stature in the world, lift Indians out of poverty and enable sustainable growth. Overall, the triumphant narratives of IT attribute Bangalore's emergence as India's "Silicon Valley" to the ingenuity, hard work and dynamism of larger-than-life knowledge entrepreneurs.

Yet, along with knowledge entrepreneurs, Bangalore is also home to waste entrepreneurs and informal recyclers who undertake the work of disassembling and recycling obsolete computers.

Obsolete computers, which contain toxic substances such as lead, cadmium and mercury, are a key component of electronic waste, or e-waste. In Bangalore, along with the growth of the IT sector there is a steady increase in the quantity of e-waste generated in the city, and informal recyclers toil daily to recycle this waste. However, perhaps because e-waste recyclers work with obsolete hardware rather than trendy software, their contribution to the city's development and its urban sustainability barely registers in mainstream narratives of Bangalore's transformation into a world city. In this paper, instead of bypassing e-waste recyclers, I focus upon their effaced labour to show how these workers, who played a crucial role in the disposal of large quantities of the city's e-waste, were rendered abject residents of the city by improvement schemes designed by experts under the aegis of a project titled the Indo-German-Swiss E-Waste Initiative (hereafter IGS).

Specifically, I make two main arguments in this paper. First, I argue that the well-intentioned improvement scheme devised by IGS experts to make Bangalore's e-waste disposal practices sustainable and safe, by failing to adopt a plural understanding of environmental justice and by giving a large e-waste company preferential access to e-waste generated in Bangalore's premier IT enclaves, reproduces the injurious, anti-poor effects of "bourgeois environmentalism" (Baviskar, 2002). Second, I argue that as the direct consequence of this the survival of recyclers who pioneered e-waste recycling in Bangalore was undermined, leading to their expulsion from the city's most lucrative circuits of e-waste.

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Dispossessed of their sources of e-waste, these recyclers were constituted as abject residents of the city.

These arguments are drawn from twelve months of fieldwork conducted between September 2006 and May 2008 in Bangalore. During the fieldwork, I collected relevant documents and also conducted semi-structured interviews with e-waste recyclers, development experts, consultants, government officials and NGOs involved in e-waste management. As part of my fieldwork, I also worked as an intern with the IGS for a period of three months and went on field visits to "authorised" recycling facilities.

Before turning to my main arguments, however, I will provide a detailed account of the grim underside of Bangalore's IT sector and show that the IT sector, generally perceived to be a sustainable knowledge-based economy, actually generates sizeable quantities of toxic e-waste. Additionally, I will also highlight the crucial role that informal e-waste recyclers played in removing and recycling Bangalore's e-waste and underscore the ecological and economic services they offered to the city.

2. Informal recyclers and the underside of Bangalore's hi-tech IT growth

In the mid-2000s, the dire prediction of a few commentators was that Bangalore was fast becoming a cyber-wasteland (Dutta, 2006). What then seemed a hyperbolic prediction now appears to be coming true. The United Nations Environment Programme identified the IT sector as one of the largest bulk producers of e-waste in India (UNEP, 2007). It follows that as Bangalore's IT sector grew in the past decade, the amount of e-waste generated in the city also grew. In 2005, it was estimated that 30 per cent of the computers used in Bangalore's IT sector become obsolete every year and that 8000 tonnes of toxic e-waste are generated per annum (Deccan Herald, 2005). By 2009, the quantity of e-waste generated in the city annually had risen to over 14,000 tonnes (WEEE, undated). By 2013, the quantity of e-waste generated in the city annually was estimated to be a staggering 37,000 tonnes making Bangalore the third-largest producer of e-waste in India, after Mumbai and Delhi (Deccan Herald, 2013).

As e-waste piled up, Saahas, an environmental non-governmental organisation, conducted a study to determine the fate of the e-waste generated in Bangalore's IT sector. Saahas' investigation revealed that IT companies auctioned or sold off e-waste to recyclers in the informal sector who then dismantled and processed it (Saahas, 2005). As per Saahas' study, the city's informal e-waste sector comprised 150 e-waste recyclers and 250 scrap dealers (Rodrigues and Gantenbein, 2008). Saahas's study also noted that these recyclers and scrap dealers were clustered in a dense neighbourhood off of the old city market of Bangalore. Because this neighbourhood had a high density of informal recyclers, experts from the IGS chose it as the right target for implementing the e-waste improvement project. Since the old city market neighbourhood became the target of improvement schemes, I also focused my fieldwork in this area and my goals were: First, to understand how this neighbourhood emerged as a hub of informal e-waste recycling in the city; second, to understand how informal recyclers dismantled and recycled IT waste; and third and most importantly, to ascertain whether the e-waste improvement project actually improved the lives of informal recyclers.

As I began fieldwork in the neighbourhood, I soon discovered that most of the recyclers who were concentrated in the old city market neighbourhood came from the neighbourhood's impoverished Muslim community. These recyclers traced the origin of e-waste recycling in the neighbourhood to the 1980s, when a few people began to collect and recycle older desktop computers. For the early pioneers, e-waste collection and recycling proved to be a lucrative business; indeed, profits were high enough to buy small plots of land on which they incrementally constructed rental units. The early pioneers' success in leveraging e-waste profits into rental units that yielded a fixed monthly income proved to be an important pull factor for unemployed and under-employed Muslim neighbours, relatives and friends who perceived e-waste work as their path to economic success in the city. Soon Muslim neighbours and friends of the early pioneers rushed to start e-waste recycling businesses, and in this way the neighbourhood emerged as a recycling hub.

The budding e-waste entrepreneurs who set up shop in the neighbourhood worked hard to make their recycling ventures a success. One recycler noted that in order to be successful, recyclers had to be like "eagles" and be on the constant look out for "material," i.e. e-waste. Consequently, informal recyclers spent significant chunks of their days trying to locate and secure access to lucrative sources of e-waste. In pursuit of profitable stocks of e-waste, they regularly traversed Electronics City and the International Tech Park – Bangalore's two prominent IT parks. The informal recyclers targeted these two IT parks as they are home to some of Bangalore's largest IT firms and informal recyclers rightly anticipated that the large IT firms would regularly discard substantial numbers of obsolete computers. As they made repeated visits to the IT parks, informal recyclers also sought to establish direct connections and develop personal relationships with the facility managers of large IT companies, in hopes that facility managers who knew them personally would treat them as favoured recyclers, notify them as obsolete computers piled up in their firms and give them the first opportunity to buy this waste. This strategy paid off, and informal recyclers who had invested time and effort into establishing a good rapport with facility managers warded off competitors while securing preferential access to obsolete computers from these firms.

After acquiring e-waste, informal recyclers processed the obsolete computers in two distinct ways.

- One group of recyclers focused their work on dismantling and recovering re-useable working parts from discarded computers. Dismantlers first meticulously took apart obsolete computers and retrieved reusable working components. Working components that were thus recovered were then sold to makers of assembled computers or to computer-repair shops. The remaining non-working parts were then stripped and segregated into recyclable materials, such as plastic, glass and metal, and then sold off to recyclers of these materials.
- In contrast to the dismantlers, a second group of recyclers developed a specialised sub-niche by focusing upon recovering precious metals from obsolete computers. These recyclers often burned and then processed the constituent parts of old computers, including printed circuit boards, in acids to recover the precious metals, including gold and silver, embedded in them.

On the whole, the labours of these two groups, that led to the extension of the useful life of obsolete computers and to the extraction of useful metals from e-waste, resulted in the creation of extensive secondary circuits of value from circuits of e-waste. The creation of secondary circuits of value was possible because in informal recyclers' view, e-waste was first and foremost a resource rather than a hazard.

In the past few years, as waste has emerged as an important field of study in the discipline of geography, scholars have emphasised the dialectical relationship between waste and value (Gidwani, 2012). Moore (2012) provides a comprehensive overview of the scholarship on waste, and argues that the diverse concepts that have emerged to interrogate the new geographies of waste provide a "parallax view" of waste. In the parallax view, waste emerges as "something that 'disturbs the smooth running of things'... [And