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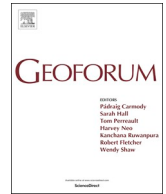
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Circulating waste, circulating bodies? A critical review of E-waste trade

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ABSTRACT

This review article uses India's e-waste economy to examine changes in the circular economy. Today, due to a mix of consumptive economies, urban ecological concerns and its disposal in the informal economy, e-waste governance is a critical issue for the country like it is elsewhere. Drawing on preliminary ethnographic findings in the e-waste sector in Jaipur, this review challenges some of the findings on surplus labour by observing the longstanding domination of caste and kinship structures in the domestic e-waste trade. I argue that we need to study expanding spatialities of e-waste through multi-site ethnographies and a focus on context specificities that would enrich our theorization of waste.

1. Introduction

E-waste is a complex category of waste, which is difficult to define, due to its material diversity and varied product lifecycle. The difficulty in determining the type of material and the differentiated product cycle means that e-waste challenges the notion that commodity chains associated with e-waste is necessarily linear and simple. Where this is the case, what then of the laboring bodies involved in the e-waste trade sector? My review attempts to motivate some brief thoughts on circulating waste via laboring bodies.

Early scholarships in the field of economic geography on e-waste flows argued for a network analysis because of the impossibility of pinning down a linear life for e-waste products (see [Gregson and Crang, 2010](#); [Crang et al. 2013](#); [Reddy 2016](#)). These interventions have significantly contributed to a focus shift in its conceptualization from being perceived as hazardous and toxic substance to a resource, something that has an afterlife with value ([Gidwani and Reddy 2011](#); [Bhattacharya 2018](#)). Moreover, its materiality was connected to global capital flows through discussions on its “ongoingness”, waste-value dialectic, waste mining among others ([Lepawsky and Mather 2011](#); [Gidwani and Maringanti 2016](#); [Labban 2014](#) respectively).

This emphasis has also complicated the perspectives on e-waste trade from the Global North to the Global South as a form of environmental and social injustice. They have hence highlighted the shifting geographies of e-waste global trade with a highly regionalized (intra-regional trade in Asia) and even reverse pattern of trade flows ([Lepawsky and Billah 2011](#)). These studies have also diverted attention to reuse and recovery economy, which in India is a sector functionally

distinct from recycling ([Corwin 2018](#)).

In the sections to follow, I start by reviewing the literature on e-waste governance in India. I then query some of these findings using preliminary ethnographic data from Jaipur. I argue for multi-site ethnographies of waste-work through a focus on the nodal points in waste-value chains, and to bring in context specific realities. I specifically call attention to caste and kinship relations in the realm of e-waste research, which will expand our socio-political understanding of e-waste flows.

2. E-Waste Governance in India: Prevailing Vision of the Informal Sector

India produces around two million tons of e-waste annually and is ranked as the fifth largest producer of e-waste ([ASSOCHAM-KPMG 2016](#)). This is a result of domestic growth facilitated by programmed obsolescence and falling prices of newer products ([Ghosh et al. 2015](#)). It is the world's second largest Internet and smart phone market, with an estimated 333 million users and 260 million mobile broadband subscriptions ([Borthakur and Govind 2019](#)). E-waste was only belatedly recognized as a source of “corporate capital” and an important policy issue in India. Yet the interim has witnessed a flourishing trade, driven by the workings of the country's informal sector, which processes 90% of its e-waste ([Gill 2009](#)). Or, empirical work in India positions e-waste “in evolving dynamics of consumerism, informal sector livelihoods, and urban ecology” ([Gidwani and Corwin 2017: 46](#)).

Generic accounts of e-waste governance have focused on its polluting and toxic nature ([Agarwal et al. 2003](#)), and have argued against the persistence of formal-informal dichotomies and have tried to define

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informality along the formal-informal continuum (Harriss-White, 2017). They have also noted that the idea of sustainability promoted by the E-waste Management and Handling Rules (2016) is narrow, and efforts at formalization and professionalization are wanting (Gupt and Sahai, 2019; Laser 2016). While these rules have addressed the issue of multiple stakeholders (such as producers, dealers, refurbishers) and made producers accountable through extended producer responsibility (EPR), they have failed to include those operating in the unorganized sector jeopardizing their “right to waste”. The sheer number of players involved in the informal supply chain and their scattered geographies makes it painstaking and financially difficult to identify, monitor and regulate them under the pollution control board purview. It also affects the implementation of an effective EPR framework by producers.

Unavailability of reliable data on commodity movement, on its recycling and the decentralized character of e-waste trading makes e-waste-workers invisible. Besides, bureaucratic pressure for environmental inspections, market competition and high material prices set hurdles to business. Informal recyclers are either forced to shut down, move business elsewhere or operate illegally outside of any regulated system. Additionally, efforts to integrate the informal into the formal sector as in the case of Bangalore have failed (Reddy 2015).

Nevertheless, the rise of an exponential e-waste economy, its weak governance and its expanding spatiality raises questions on wider social transformations. Who gets access to jobs created in the expanding universe of e-waste? While laboring bodies have been sidelined in the regulatory framework, interest in scholarship has also however narrowly focused on waste-workers (Fredericks 2014). The e-waste industry lends itself to unregulated self-employment. Consequently, the key emphasis has been on splintered, precarious self-employed workers belonging to socially stigmatized, vulnerable groups of migrants, children and women. Contextualized in a broader framework of neoliberalism, here the focal point is their physical labor, health hazards, abjection and toxic bodies (Reddy 2015).

Yet, some of this scholarship has also drawn attention to waste-worker agency through accounts of organized movements and creation of unions, which have allowed them recognition from state institutions (Agarwala 2016; Shankar and Sahni 2018). While all this cannot be ignored, it only gives us a partial rendering of what e-waste-work entails. For instance, what do we know of the labor conditions and social practices that characterize the informal wastework? How do existing structures of caste and dependency contribute to it? In other words, another strand of work presents waste-work as a source of livelihood, which is an area in need of further investigation.

3. Connected Geographies, Connected bodies: E-waste trade from below

My research contributes to this scholarship through an ethnographic focus on a segment of domestic e-waste trade and labor networks between Jaipur to New Delhi. The fieldwork was conducted over a period of four months spread over two years (2018-2019) in the e-scrap trading market called *kabadi* in Jaipur and Delhi. I observed daily dealings of the market’s 50 odd shops and conducted 15 semi-structured interviews with scrap dealers, which were never complete without the participation of four-five scrap dealers from the neighborhood. This review shifts attention from e-waste commodity to labor and reflects on an industry where few rely on regular wages. It throws light on some of the socio-economic and political conditions under which adult e-waste traders appropriate waste-work in the city are remunerated, manage their finances and debt, and send remittances back home.

New Delhi is one of the three biggest e-waste recycling hubs of the country. However, stricter enforcement of environmental laws has dislodged its “negative environmental externalities” to neighboring states. The dislocation of waste industries along with its migrant and working-class population is a feature of Delhi and is supported by its

middle-class residents and activists (Ghertner 2015; Baviskar and Ray 2011). Consequently, multiple e-waste recycling nodal points have developed in “ordinary” cities around Delhi in Uttar Pradesh, Haryana and Gujarat from where trading with the capital takes place. Jaipur, partly due to its proximity to Delhi, is one case in point.

Secondly, the image of waste-workers as those facing acute poverty, which leads them to “stumble” into waste-work in bigger cities is one that can be contested using fieldwork. Over the past two decades, Jaipur’s e-scrap industry has attracted considerable entrepreneurial investment from Muslim men migrating from Western Uttar Pradesh. They belong to a trading caste of oil pressers (*teli*) or Malik, which has been traditionally engaged in various forms of self-employment, particularly in radio and transistor scrap business. This made the transition to e-waste easy. Today, the community specializes in and has established itself in e-scrap business in parts of Gujarat, New Delhi and also in South India.

Workwise, material is procured domestically through various sources like regional and local scrap dealers, repair shops, private auctions and government biddings. Working on these sites, hence, means needing to have to establish contacts and develop relations (called “setting”) with government and private officials (Reddy 2013). Yet because of manual dismantling, use of rudimentary extractive technologies, cheap and small labor force and family workers, economic activity on e-waste recycling is also lucrative. Mostly, it has relied on a deep pool of teenagers and young adults, who have developed expertise through apprentice-like arrangements. This cadre of workers know which electronics are worth refurbishing vs. dismantling, the current metal prices, among other industry specific knowledge. With increased visibility and scrutiny of waste-work, the Jaipur e-waste dealers have been quick to adopt ecological narrative in their work. Many of these traders mentioned how, “we contribute to the cleaning of the city. Without us you would be living in a stream of trash”. Moreover, they present themselves as e-waste traders and not e-waste recyclers, in order to bypass the fussy paperwork to register themselves as authorized recyclers and to escape scrutiny from environmental agencies.

4. Concluding thoughts

The upshot of my preliminary research is the creation of family businesses and importance of caste networks, which are not unique to e-waste sector but a culturally resonant model within many caste-based enterprises in India (Prakash, 2014; Carswell and De Neve, 2014). Harriss-White (2019) and Butt (2019), for instance, have signaled the importance of family networks of Nadar caste in a South Indian town and of the Chuhra in Lahore’s waste-work facilities respectively. In Jaipur too, family business, caste and kinship relations remain central to trade relations facilitating migration of caste members to Jaipur in search of e-waste as well as subsequent access to income through kinship ties with East Delhi based Maliks.

My research therefore reveals a division of labor that is complex, caste based as well as vertically and horizontally embedded in broader networks of e-waste sourcing and trading. Despite low social strata of their trading community, these workers did not belong to the urban poor and can be best described as “middle migrants” and “unsettled settlers” (Gidwani and Ramamurthy 2018; De Haan 1997 respectively). They do not face the social stigma often experienced by the Dalit waste-workers in the city (Rathore 2017; Mahalingam et al. 2018). Moreover, their entry into waste-work is not due to availability of surplus labor, which is easily replaceable (Gidwani 2015); rather it is a result of the domination and specialization of a community group in e-waste trading. Hence, having carved out a space for themselves in the urban Indian economy, e-waste work has enabled them to buy extra plots of land as investment and a sign of status symbol in the native place (see also Oberhauser and Yeboah, 2011; Mustapha 1992).

Henceforth, for a comprehensive understanding of e-wastework, it

has to be situated in existing networks of waste value supply chains. Conditional on the position that one occupied in the chain, the trajectories of waste-workers would vary. Those at the bottom (eg. gleaners at landfill) without experience, capital and social connections barely make a living. In contrast, others occupying higher positions in the waste flow chain with experience, capital and trans-local kinship connections, are wired in the global trade markets and make handsome returns (see Grant and Oteng-Ababio 2012). If a hierarchy of waste-work is drawn, the e-waste recyclers would be at the top of the “circuits of value” in Jaipur, with Dalits in the municipal solid waste management and the gleaners at the landfills occupying the lowest position of the waste value chain.

It further raises a series of questions: How are positions “lost” or “improved on” in these value chains? How is caste domination explained in a neo-liberal e-waste context? What is specific to migrant life and e-waste work in contrast to non-migrant waste worker lives? Also, given that Muslims constitute a high proportion of urban marginal, could e-waste work fulfil Muslim aspirations of being the mainstream (Gayer and Jaffrelot, 2012)?

These findings thus call for a focus on vital channels and nodes of commodity and labor flows in the domestic geographies of e-waste. I argue that we need multi-site ethnographies that trace the links not of material flows but rather the assemblage of people, places and material and how they interact and intersect to create value. We need to focus not only on caste segmentation in e-waste market but rather the relationship between the city, caste and waste-work. It is this perusal that will facilitate the possibility of critical examining the multi-layered appreciation for laboring and circulating bodies around waste governance.

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