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# Interrogating data justice on Hyderabad's urban frontier: Information politics and internal differentiation of vulnerable communities

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## **Abstract.**

How does data visibility affect vulnerable communities that face uncertainty over land tenure? Can data justice be realised in settings of acute resource injustice? These are the overarching questions that our case study interrogates by opening up the black box of the community in the volatile and fast-transforming peri-urban fringe of Hyderabad, India. We examine the unfolding of data and information processes through the lens of enumeration and community mapping exercises conducted in a low-income neighbourhood. We argue that the realisation of data justice is mediated by 'information politics', i.e., the ways in which informational resources, as well as the risks and rewards associated with them, are distributed across individual actors and identity groups within the community. The democratizing potential of emerging digital technologies is severely constrained by structural inequities across gender, caste, class, and even linguistic lines. Our case study underlines the importance of such a structural understanding of data justice and also suggests directions for embedding justice in data processes. Our findings reveal an arena of stark informational disparities between vulnerable, indigent populations and the increasingly sophisticated digital data apparatuses used to encode them. Efforts to promote data justice must take explicit cognisance of these disparities and fragmentation and recognise the internal structural differentiation of vulnerable communities. We argue for an explicit mapping of the information flows and associated information politics that characterise such settings.

## Introduction

Social science inquiry situated at the intersection of information technologies (IT) and development increasingly questions not only opportunities afforded to low-income communities through access to IT and IT-enabled services, but risks generated by such engagements, such as surveillance and eviction. Research has asked, for instance, whether increased visibility of informal settlements, e.g., via geo-mapping, or participatory mapping exercises can adversely affect vulnerable communities (Pfeffer et al. 2012; Kamalipour, Dovey 2019), even when this is not the intention. More broadly, it questions whether the increasing prevalence of digital technologies helps realise data justice or rather produces new forms of injustice (Taylor 2017, Heeks & Renken 2018). In examining data processes in low-income communities in the global South, recent scholarship has often focused on issues of justice surrounding data processes in the relationship between the community and external actors. This work has shown that external actors inevitably benefit more from datafication for development, and are in a position to use and control newly generated data (Heeks & Shekhar 2019). But how do internal social structures and relationships mediate datafication processes and shape patterns of opportunity and constraint? This paper aims to open up the black box of the community to understand information flows within it, in order to understand receptivity to digital technologies through the example of data collection exercises.<sup>i</sup>

The location of our study on the volatile peri-urban frontier of Hyderabad, in an area with little presence or activity of non-governmental organisations (NGOs) or community-based organisations (CBOs), allows a reckoning with the role of ‘leaders’ in mediating information flows. We build on existing research that establishes slum leaders as key intermediaries between residents and the state, responsible for arranging patronage and protection from politicians usually in exchange for votes (Jha et al 2007; Auerbach 2016). Thus, we take as our variable of interest not simply data, which is in some forms inaccessible to the innumerate and the illiterate, but the larger landscape of information. The assumption is that our empirically grounded approach will generate insights into a range of questions at the heart of research on data justice in relation to access, receptivity and visibility.

We focus on two adjacent but discrete communities: a *basti* (slum) we call ‘Gachi Basti’ and a recently constructed ‘transit’ housing complex, designated here as the Provisional Housing Complex (PHC).<sup>ii</sup> Together they accommodate approximately 1,800 residents, although lack of basic data about these communities, including population, motivated our decision to undertake an enumeration survey (see below). Both families from

the basti and current residents of the PHC have faced housing evictions in the last few years. The trauma of these evictions, experienced by the evicted families but felt across the settlement, therefore provide the most immediate prism through which we engage with the questions of data and information justice. Our conceptual framework draws closely from the specificity of this setting, and we subscribe to Heeks and Renken's (2018) position that a structural approach offers an appropriate foundation for understanding data justice in a development context.

In particular, our study demonstrates the need to embed a data justice framework within a broader understanding of the politics of information and resource access. From the perspective of distributive or rights-based justice, we focus on the right of the marginalised communities to continue to reside in their self-built settlements and their right to basic amenities provided by the state. In this way, our conceptualisation of distributive justice echoes the notion of a right to the city (Lefebvre 1996, Harvey 2003; for India, see Zérah et al. 2011).

Millions of India's urban residents live in informal/illegal settlements. Although these areas cover a wide range of legal and material situations, they are invariably under-serviced and home to the most socially and economically underprivileged urban residents.<sup>iii</sup> These citizens are increasingly integrated, voluntarily and involuntarily, into large-scale digitisation exercises and databases. In some cases, such as India's unique identification system *Aadhaar*, which is based on an individual's biometric and demographic data, the ostensible aim is to improve access to public services and welfare schemes (Drèze et al 2017; Krishna 2019; Singh 2019). Likewise, their exposure to video surveillance is justified in terms of greater safety and security (Rathi & Tandon 2019).

In other cases, for which there is no solid body of evidence yet, these settlements, often in strategically located areas of the city with rising property values, become coveted objects of spatial mapping on the part of government planners, private property developers and land mafias. Our study is a first attempt to assess how local communities perceive their engagement in these different types of exercises in terms of risks and benefits. We show how knowledge/data about a community's physical occupation of space articulates with justice and rights in a local context. We argue that the residents' lack of occupation rights in conjunction with their lack of reliable information greatly intensifies their sense of insecurity and powerlessness. As Johnson (2014) and others have noted, land records digitisation, upon which officially recognised land rights are based, is accompanied by significant hazards for people without secure tenure.

The context for this analysis is the western Hyderabad landscape also known as Cyberabad. Expected to reach 10 million residents in the next decade, Hyderabad is one of India's IT services boomtowns. The city's development into an IT services powerhouse started in the 1990s when the state (provincial) government of Andhra Pradesh<sup>iv</sup> promoted the iconic HITEC City<sup>v</sup> enclave to house IT and financial services majors. In the ensuing growth push, large tracts of land have been assigned to multinational and national IT-enabled services companies for campuses and Special Economic Zones. Existing communities have found themselves pushed to the margins of these 'world-class landscapes' as older livelihoods and ways of living have been rendered unviable. At the same time, migrants from neighbouring states have arrived to participate both in high skill professional jobs and in low skill services activities such as construction work, housekeeping, driving and domestic help to service the IT economy.

Against this backdrop, the questions raised by our case study about the relationship of new digital and data technologies to issues of distributive justice assume special piquancy. Our primary conceptual frame is one of 'information politics',<sup>vi</sup> i.e., the way information is used to wield power and to perpetuate information inequalities. Our case study offers a grounded empirical examination of these questions through the lens of community mapping exercises in low-income communities located at the fringes of the information technology-led economy of western Hyderabad.

Among the key questions we seek to answer: What are the main structural and contingent factors that shape information politics in local communities? How are the broader information landscapes related to attitudes/perceptions about digitalisation and about the risks and benefits of data collection exercises in particular? Our analysis has a two-fold scalar focus: first, the locality of Gachi Basti and the PHC as social units, with their internal divisions (based on political factions, class, gender, status as migrants or non-migrants). Second, we take into account the basti's relationship to the outside, whether as marginalised 'clients' in larger patronage networks, as low-income residents in an increasingly upscale area, or as citizens vis-à-vis state agencies.

In the following section, we review the literature and outline the conceptual framework we use in our study. Next, we describe the research design and methods for data collection and discuss the comparison of two digitised surveys. We then present our findings, focusing on three key themes - the effects of information politics, receptivity to datafication processes, and access and use of technology in everyday lives. The final section ties together the evidence collected and summarises the main arguments.

## ***Reviewing data justice perspectives***

While the emerging literature on data justice has largely relied on theories developed or conceived in the global North (Taylor 2017, Heeks & Renken 2018), a promising new strand of work evaluates how issues of data justice play out in the cities of the global South. Work in this vein has introduced a valuable element of empirical engagement with themes that animate wider urban governance modalities at the interface of the formal and the informal in these settings (Donovan 2012, Heeks & Shekhar 2019).

Our case study, although located in a larger literature on datafication in informal settlements in cities of the global South, nonetheless departs from this body of knowledge in several respects. Key to the contribution of our study is its setting on the peri-urban frontier of one of India's premier IT hubs. First, this setting allows us an opportunity to assess the existence of channels for the diffusion of digital technologies across physically adjacent spaces. Second, it represents an uncharted terrain as far as NGOs and CBOs are concerned. For the vast majority of existing studies (Lundine et al 2012, Shekhar 2012, Panek & Sobotova 2015, Hagen 2017 and others cited in Heeks & Shekhar 2019 as well as in Patel & Baptist 2012), reliance on a variety of such organisational intermediaries and/or other gatekeepers tends to obscure internal differentiation within the 'community'. Our study thus undertakes to open up the black box of the community to reveal the internal fissures and fragmentation that mark the information landscape.

Given the unique features of our case, our approach has been inductive. The aim has not been primarily to test hypotheses suggested by the data justice literature but to understand and derive a picture of information flows within and beyond the communities under study. As indicated, our variable of interest is not simply data, but the larger landscape of information. Our approach involves examining how social, political and institutional structures condition access to information as well as services and/or resources. Second, we look at how issues of access to data/information intersect with larger power relationships. Together, these dimensions underline the political economy of information in this setting.

Our conceptual frame for understanding the role of structural factors, while allowing for individual agency, is the idea of information politics. We draw on the emerging literature in order to relate our framework to examine various dimensions of data justice, notably Heeks and Renken (2018) and Heeks and Shekhar (2019). Three such dimensions of data justice (alongside rights-based and structural) are: procedural, i.e., "fairness in the way in

which data is handled”; instrumental, or “fairness in the results of data being used”; and distributive, “the (in)equality of data-related outcomes” (Heeks & Shekhar 2019:995).

Although instrumental concerns have been shown to shape data processes in marginalised communities (Heeks & Renken 2018), our analysis suggests the need to qualify this understanding in specific contexts. For example, from the perspective of the residents, “downstream” processes of execution would appear to matter significantly. “Downstream” here refers to later activities in the “information value chain” (Heeks & Shekhar 2019), e.g., the use of processed data in the form of information for decisions and actions about or by basti residents. “Upstream” refers to earlier activities: the gathering, processing and visualisation of data about low-income settlements. As our interviewees repeatedly told us, they believe that previous attempts by government agencies to collect data led to disastrous consequences in terms of demolition and eviction. Thus, our findings would suggest that an instrumental perspective should apply both to risks and rewards that accrue from information sharing.

However, the ostensible salience of instrumental concerns is mediated by issues of distributive justice and undercut by the real structural imbalances in access to data and information across the state agencies and the residents. This is because the distribution of rewards from information exchange depends critically on the individual’s location within the landscape of information politics. As many of our *Dalit*<sup>vii</sup> and female respondents reminded us, they were the ones to bear the brunt of the risks of sharing information with outsiders. In contrast, basti leaders, all male, were often able to capitalise their strategic position within community information flows to consolidate the rewards they accrued for transmitting information to elected representatives at various levels. Thus, structural data injustices both configured and were reconfigured by the broader information politics of this setting.<sup>viii</sup>

#### *A frontier setting of marginality and internal fragmentation*

Two important features of our setting particularly deserve notice. First, unlike several of the case studies of marginalised communities discussed in Heeks and Shekhar (2019), Gachi Basti is a frontier setting which has seen little intervention by community-based organisations or civil society groups. As a result, residents have little experience with instrumentally ‘fair’ data processes mediated by such groups. Second and equally important, the information landscape of the basti is highly fractured on lines of caste, ethnicity, language, gender. The basti leaders occupy important nodes of power, largely by virtue of their links to politicians. These include but are not limited to the elected corporator of Greater Hyderabad municipality and the local Member of Legislative Assembly (MLA). This

differential access to information by different groups within the basti and the tight regulation of information to and from the basti by the leaders have serious consequences for shaping the information inhabitants have about their entitlements.

In other words, the achievement of data justice is fundamentally determined not only by the larger structures of power in terms of state-citizen relationships, which have received attention in the existing literature (Heeks & Renken 2018), but also by the power asymmetries at the micro-level of the basti. The slum's dominant social structures affect data processes, as well as their outcomes. This is the essence of our focus on information politics. As we document in our findings in the latter part of the paper, the choices available to individuals and their capability to exercise control over their lives are enabled and constrained by broader social structures.

#### *Occupancy as a structural factor*

The vast majority of the basti inhabitants have no legal rights but only a tenuous form of occupancy rights over the place they live.<sup>ix</sup> Yet their continuous occupation over several decades has given them a sense of entitlement to this place; their settlement long preceded the arrival of Cyberabad and the high-rise gated communities that now surround them.

In particular, the issue of illegality is central to an understanding of this case and its theoretical significance. The lack of a legally sanctioned presence in this place leaves its residents at the mercy of distant bureaucrats, elected officials *and* members of the community with ambitions. At the same time that residents are distrustful of becoming part of a database, they are desperate to establish their right to stay. To do so, they call upon a collective shared history, which is often implicit, community-based knowledge to corroborate their claims and position themselves in relation to more recent arrivals. Likewise, they make paper claims such as electricity or water bills as proof of residency (see also Ranganathan 2013; Raman et al. 2016). Several respondents whose houses were demolished believe those latter forms of proof should have provided protection. Many told us, “we built our homes and nobody said anything”.<sup>x</sup> In other words, a lack of punitive action on the part of the state was interpreted as consent. Far from irrational, this is emblematic of the way the urban poor navigate in their ‘negotiated’, never fully secured ‘right to the city’ (Benjamin & Raman 2001; Zérah et al 2011).

This case underscores the necessity to recognise how seemingly antagonistic regimes co-exist simultaneously: for instance, one based on private property rights and one based on occupation rights. Occupation rights are de facto recognised in India in specific settings at specific points in time (Benjamin 2008), although they must be constantly renegotiated. A

key question is whether data-intensive development practices can co-exist with the informal ‘management’ of populations by the state (Chatterjee 2004; Roy 2009), based on the implicit recognition of the rights of vulnerable communities to the commons (property or resources). Thus, our notion of information politics resonates with structural approaches to data justice.

Our study can contribute to wider debates on data/information justice. In many respects, it is an extreme case, focused on people with multiple vulnerabilities: social (illiterate, low caste), legal (without legal tenure, squatters) and spatial (located at the urban frontier, in the interstices of rapidly transforming high-value land). Yet although extreme, it is not marginal in the sense that it is emblematic of many situations in India, involving millions of citizens.

### ***Research design and methods of engagement in the field***

As indicated above, our field site comprises Gachi Basti, a locality classified as a slum as per municipal surveys in Greater Hyderabad, and its neighbouring PHC blocks. The background and rationale for our choice of site come from the housing vulnerability that shapes the experience of communities such as these. In August 2018, authorities demolished 56 houses in Gachi Basti in an early morning raid, leaving the residents deeply shaken and rendering numerous families homeless. These families were allotted housing in the PHC at the other end of the basti. There they joined some 200 families who had also been shifted to the PHC from another demolition site, nearly 10 kilometres away, shortly before that, in April 2018. Those families had lost their houses to a demolition drive that occurred after a fire. Before developing our research methods in more detail, a brief description of the field site, based on qualitative interviews with residents, provides important context.

Gradually built up through self-construction starting in the 1980s, the core community of Gachi Basti belongs to a so-called “backward” caste and members of this group worked until recently in the nearby stone quarries. They migrated over time from northern Telangana and the border area with the neighbouring state of Karnataka. Telugu is the native language spoken by the majority of the population.<sup>xi</sup> The area around the basti started rapidly transforming from the late 2000s. The quarries were shut down in 2009 and the land became increasingly occupied by the rapidly expanding IT cluster, which is characterised by large-scale housing compounds and office complexes that accommodate globally-connected firms employing highly educated professionals. Some people from the local communities found jobs in the cluster in “housekeeping” (cleaning and maintenance of office buildings), security services, etc., although most lack the minimum qualifications and skills required.

Since a large proportion of the residents of Gachi Basti belong to a single caste, there is a sense of connection among people, even when they are not directly related. However, our investigation also indicates deep internal divisions, although the nature of the fracture lines - political, ideological, class or ethnicity - is not entirely clear. Basti leaders are aligned to more powerful politicians or movements and individuals appear to be loosely affiliated to one or the other local leader and his 'faction', although there is fluidity and overlap. In addition to the more established third-generation residents, our incomplete enumeration exercise revealed a significant number of non-Telugu-speaking migrants, renting accommodation in the basti. They are engaged in largely unskilled service activities such as construction work, housekeeping, driving and domestic help.

The approach to empirical research adopted here followed a case study strategy, based on mixed qualitative and quantitative research methods (see Table 1). These included observation during frequent visits to the locality, interviews with key informants, and focus group discussions with residents. Our respondents included basti leaders, a leader of a women's self-help group, government functionaries such as *anganwadi* (childcare) workers, water board employees or education inspectors. Interviews conducted outside the community included elected officials and municipal officers. In addition to questions on information flows, we investigated the impacts of new technologies, smartphones and various datafication processes, with the aim to assess how increased access to digital data is shaping social dynamics in the settlement, such as access to employment, information about government schemes and knowledge about rights (to public services and property). Although not initially a focus of our research design, the PHC on the edge of the basti took on significance in light of the fact that evicted residents were resettled there.

**Table 1:** Summary of primary data collected

Method	Site	Number / size
Interviews	Residents and representatives in PHC and Gachi Basti	23 in-depth interviews
Media reports	Reports on eviction in print and television news (TV newsclips uploaded to YouTube)	5 print news reports (in English) and 12 TV news coverage reports (on YouTube)

Focus group discussions	Gachi Basti and PHC	Two; one each with evicted family members of Gachi Basti (five participants) and the evicted residents of the basti where the fire occurred (six participants)
Household enumeration	Gachi Basti	181 households
Ethnography (observation)	Basti community meeting for caste association/ HMWS&SB office, <i>anganwadi</i> centre, basti house construction site	3 situations
Administrative data collection	Telangana Housing Board, HMWS&SB, MRO, ICDS, Municipal Corporators office, Mandal Education Office and GHMC office	Multiple visits to each: data collection (public land records), interviews with key informants

Source: Compiled by the authors.

Notes: HMWS&SB is the Hyderabad Municipal Water Supply and Sewerage Board, an *anganwadi* centre is a government-supported natal and childcare facility, ICDS stands for Integrated Child Development Services, GHMC stands for Greater Hyderabad Municipal Corporation.

### *An unsuccessful enumeration exercise*

We initially planned an enumeration exercise in order to develop a stratified sample survey of residents who could be further interviewed individually. In our first interviews with leaders of the basti and the focus group session with the residents at the PHC blocks, the leaders and other residents expressed openness to sharing information about Gachi Basti and offered to introduce us to other residents. The enumeration survey consisted in obtaining consent from residents, collecting data about their family size and house using smartphones, and geo-tagging each residence (see Table 2). It soon became clear that many residents were beginning to have doubts about the aims of our study despite having given consent. Members of our team were asked about the intentions and end-use of our data collection. In particular, the digital mapping through GPS seemed to generate uneasiness. As we were employing, in parallel, a numbering system on printed Google Maps, residents expressed worry about the need for a geo-referenced survey. On the second day of the exercise, as information and rumours spread in the basti, several households refused to share data unless the basti leaders explicitly gave their permission. Hostility was demonstrated most vocally and persistently from one basti leader, who instructed residents not to cooperate with us. This man insisted that we leave the basti and threatened our team members with physical harm if we continued.<sup>xii</sup> Although several of the other local leaders were open to our presence and

survey, their multiple political affiliations had fragmented into discrete spheres of influence, making it difficult to bring them to common ground.

As we sought to understand the apprehensions of the residents, we learned that a similar exercise was linked in the residents’ minds with the eviction drive conducted by the Mandal Revenue Office (MRO).<sup>xiii</sup> As one resident put it,

Even before the eviction, people like you came in to the basti and took our information posing as government servants and bank officers. Then the result of it was the eviction as you see it. Now we feel afraid to share information with anyone.<sup>xiv</sup>

As this suggests, what residents believe about the consequences of previous data collection processes, and its link to eviction, colours their views on subsequent exercises. Our findings thus speak to the notion of informed refusal highlighted by Benjamin (2016) and Albornoz et al. (2019). The data from the partially completed enumeration are presented in Table 2.

**Table 2:** Data from the enumeration exercise

No. of households (also no. of responses)	Reported no. of residents in the surveyed households	No. of households with at least one mobile phone	No. of families renting out a house/a room (out of 125 responses)
181	770	171	31

Source: Authors’ calculations based on primary data.

Note: We recorded a unit of household based on the Census of India definition, i.e., a group of individuals living together and sharing a common kitchen. In the last column, we were able to collect only 125 responses; in the absence of legal rights over the land on which they have constructed their houses, many families were not willing to reveal whether they lease out a part of their house to others.

In two focus group discussions, we spoke to the families who had been recently evicted from the basti and housed in the PHC. These discussions gave us important insights into the politics of information and data justice more broadly. We observed that, compared to the survey, respondents were more willing to share opinions and information in open-ended qualitative interviews, although they remained wary.

*Comparing our enumeration and a state-sponsored community survey*

We compare and contrast our enumeration exercise with a community survey conducted by the local anganwadi, a government-supported natal and childcare facility, run by the state’s Integrated Child Development Services (ICDS).<sup>xv</sup> The aim of the survey was to record changes in the population in order to deliver adequate services, in particular to provide pre-natal and post-natal services to pregnant women and services to their children (eg

vaccinations). In its prior iterations, the anganwadi survey was conducted on paper to calculate the population and family sizes in the basti.

In 2019 the survey was digitised for the first time via a smartphone app developed by the ICDS. The digitised survey recorded data about the family members along with the geographical coordinates (geotagging) of each household. During the survey, we interviewed the anganwadi surveyors to understand the reception of the basti residents to the new survey method. The surveyors reported that some residents who had recently moved into the basti expressed fear over the use of digital technology and refused to share their data. These specific families were afraid that digitally recording their presence in the basti would make them more vulnerable to eviction. They reminded the surveyors of the eviction that took place in 2018 and said they believed that recording such data posed a threat to them and their homes.<sup>xvi</sup>

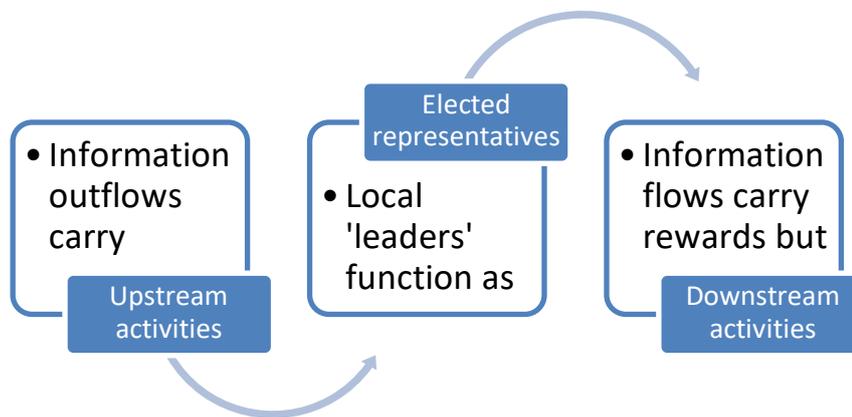
### ***Information politics mediating risks and rewards***

Our case study analysis yielded three main findings corresponding to our research questions outlined at the outset. First, issues of data justice are embedded in informational politics i.e., the ways in which informational resources, as well as the risks and rewards associated with them, are distributed across individual actors and identity groups. This information landscape is shaped by structural factors. Secondly, instrumental concerns shape data processes in this setting to a degree, and in some contexts, downstream processes appear to matter. However, the internal disparities in the community mean that structural factors dominate more than instrumental concerns. Third, residents in the basti have differential access, capabilities and attitudes to digital technology.

#### *Datafication processes and wider power structures*

Data justice is embedded in informational politics, which mediate the risks and rewards that are borne by, or accrue to, individuals and identity sub-groups. Widespread illiteracy and innumeracy are underlying contextual factors that inhibit growing datafication from having a ‘liberating’ effect in the form of access to independent sources of information. The social hierarchy of the community is also a major impediment to the free flow of information, and the community’s internal power structure, therefore, becomes crucial to the analysis. This is consistent with scholarship emphasising the importance of local power structures for determining the amount and quality of amenities in informal settlements (Jha et al. 2007, Auerbach 2016).

Our analysis indicates that basti leaders, who are male, of the majority caste and language, centralise information flows. This convergence is facilitated by the fact that the slum is fragmented in terms of caste, language, gender, ethnicity and political affiliations, an argument also persuasively made by Auerbach (2016; 2018). Here, we argue further that this focalisation of information flows leads to informational disparities among various groups, with implications for their participation in political processes. The ‘gatekeepers’ of the locality exercise tight control over the information value chain, by controlling the inflow and outflow of information (see Figure 1). They act as mediators between residents and officials outside the basti. One woman explained: ‘When we go to meet the MLA [Member of Legislative Assembly], they warn us against raising our voice. First, the leaders go in and speak and only then are we allowed to meet’.<sup>xvii</sup>



**Figure 1:** Upstream and downstream activities within the information politics of the community

As noted above, it is significant that neither of these settings (Gachi Basti or PHC) has active formal CBOs or non-partisan NGOs. A basti Development Committee exists and has officers, but internal differences, mainly affiliation with different political parties, has kept it from convening.<sup>xviii</sup> While the resettled families in the PHC are supported by a church headed by a local pastor, a Hindu nationalist organisation, the Rashtriya Swayamsevak Sangh (RSS), has an active presence in Gachi Basti.<sup>xix</sup> The General Secretary of the Development Committee was himself a staunch supporter of the RSS. The overtly political agenda of the RSS, articulated through the electoral politics of the ascendant Bharatiya Janata Party (BJP), lends a strong ‘political society’ orientation to collective action in the community (Chatterjee 2004).

Party politics is a significant mode through which community grievances and demands find expression. The major political parties install local ‘leaders’ who play a key role in transmitting information from elected party officials higher up in the chain and in turn communicating community issues to elected representatives. For example, immediately following the demolition at the basti, local BJP cadres facilitated a protest by arranging vehicles to bring people to the administrative office and organising the protest. Several women protesters who had been arrested admitted to being completely unaware of the grounds of their conviction or the litigation process, stating that the BJP leaders were handling the legal issues.<sup>xx</sup>

In our focus group discussions, respondents reported that only the basti leaders had direct contact with municipal officials and elected representatives. This forced community reliance on the leaders for all issues pertaining the basti, including housing and development work. One of the women who lost her house in the eviction drive and was arrested in the subsequent clash with the police remarked about the leaders:

[T]hey are all hungry for power. I went to their doors over ten times after my release to ask about our home, but none of them helped me. (...). These leaders even mediate our talks with the MLA and do not allow us to question him directly. Our family has been living here for three generations now, but we still do not have a place in our own basti.<sup>xxi</sup>

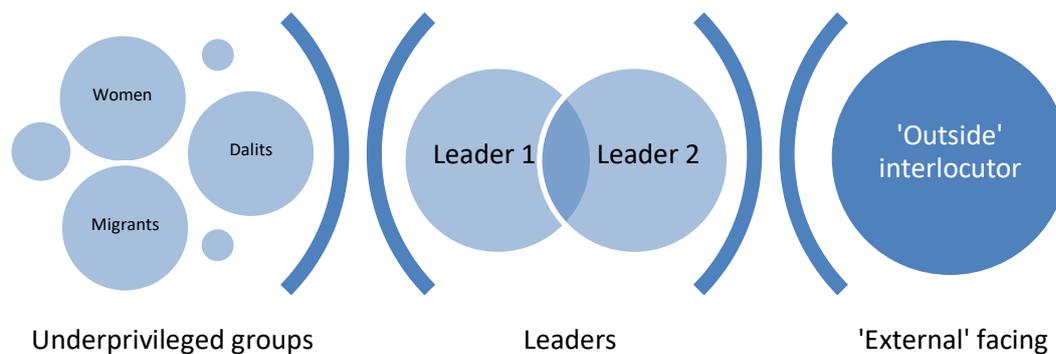
The evictees from the basti at the PHC said that when they tried to meet the elected representatives directly, on their own, they were turned away and told to “behave themselves” and communicate through their leaders.<sup>xxii</sup> The residents of the PHC have no firm knowledge about what the government has planned for their future accommodation; some have understood they will be provided with housing, but they have not been given any proof. Within the basti, almost without exception, respondents lacked certainty about the title deeds or *patta* on the land they occupied. Some claimed they possessed a title, but that the municipality was holding their legal documents as a form of collateral. These claims could not be cross-checked.

If information is power, the political profoundly shapes information flows in these settings. Thus, the politics of information become salient and even central both to spatial resource and data justice agendas. However, collective action is made difficult by the sheer fragmentation of the terrain. Thus, although they live adjacent to each other and share common issues, the people belonging to the main caste group of Gachi Basti do not speak to the Dalit evictees from the fire who live in the PHC. Similarly, although they occupy the

same physical space, language barriers divide the migrant renters from outside the state from local Telugu-speaking communities.

These constraints further reinforce the politics of information. Information transmission for vulnerable groups, in particular, women, the evicted, and Dalits, carries considerable risks. In both our field sites, our interactions with local community actors were often subject to approval and redirection by the ‘leaders’ and occasionally self-appointed gatekeepers who attempted to determine the topics of discussion.

To summarise, the internal structure of power in the slum is a crucial dimension of the analysis. Fragmentation in terms of caste, language, gender and political affiliations contributed to informational disparities among groups along with implications for their participation in politicised informational processes (see Figure 2).



**Figure 2:** Information intermediation in the community

*Downstream effects shape receptivity to upstream activities, but only to a degree*

Our information politics framework pays careful attention to distributive issues of the risks and rewards of information flows. Instrumental concerns, i.e., the perspective of gaining benefits downstream, do appear to shape data processes in this setting. However, this needs to be qualified as expectations about outcomes can lead to cooperation or resistance depending on whether they are perceived positively (benefits) or negatively (risks). It appears quite certain that previous experience conditions the decision of residents to cooperate or resist attempts at data collection. As indicated above, in the sheer informational miasma that characterised residents’ understanding of the outcome of their cooperation with government agencies during earlier data gathering exercises, many were convinced it had led to the eviction. This explained heightened anxiety and resistance from them to further attempts at datafication, both our enumeration and the digitalised ICDS survey. It is worth noting that there may be some grounds to the widespread perception that the pre-demolition survey was

intended to support the eviction. There is considerable evidence available, both from our interviews with residents, as well as the spatial characteristics of the demolition site that the authorities had digitised spatial information on the basti.<sup>xxiii</sup> We were not able to confirm this in our interviews with officials because of the politically sensitive nature of the eviction.<sup>xxiv</sup>

Conversely, we observed greater openness to sharing information when residents perceive tangible benefits. For instance, the water board and the electricity board have information about the basti residents (names, house number, location, phone number), which the latter shared in order to receive services.<sup>xxv</sup> Similarly, if the anganwadi digitised survey did not meet with more resistance than it did, it was probably due to the physical presence of the anganwadi centre in the basti for the past seven years, and the familiarity of the residents with the facilitators (teacher, helper), unlike our own team of enumerators.

Corroborating findings from other studies (e.g. Heeks & Shekhar 2019), we observed among residents an ambivalence between the desire to remain invisible and the desire to be recognised as legitimate citizens, with occupancy rights. For instance, our fieldwork indicated that renting rooms to migrants is an important source of livelihood for the basti residents, and it is one they want to hide from the authorities. Their current anxiety, exacerbated by the recent demolition and eviction, has made them wary and suspicious of data collection exercises also for this reason.

#### *The transformative scope of digital technologies*

As part of our study, we conducted a preliminary investigation of the degree of exposure to digital technology in the basti at various scales, and everyday practices. Not surprisingly, we found that people have differential access, capabilities and attitudes to digital technology. Out of the 181 households covered by our incomplete enumeration exercise, 171 (94.5%) owned at least one mobile phone. Of these, 67 households (37%) owned one mobile phone each, 72 households (40%) owned two and 32 (18%) of those surveyed possessed more than two mobile phones.<sup>xxvi</sup>

The use of technology is deeply gendered, and in most cases it is the men in the household who declared that they owned a mobile phone, which they share with their spouses. Several respondents (men and women) said that women are not educated enough to handle mobile phones.<sup>xxvii</sup> The idea of women's safety was also invoked to discourage women from using digital technology. It was claimed that the use of smartphones by women and their presence on social media can attract unwarranted attention from men in the form of stalking.<sup>xxviii</sup>

Digital technology puts the inhabitants of the basti into big data systems like Aadhaar, Google Maps or open data sources like YouTube. YouTube videos were frequently cited and shared in our interactions with residents. Videos of both the Gachi Basti eviction and the fire that brought evacuees from further afield to the PHC are available on YouTube and were shown to us. On several occasions, respondents directed us to the videos as evidence to substantiate their claims.

We did not find evidence that digital technology is being used for accessing information pertaining to employment opportunities or government schemes, with the exception of one security guard working for a global firm (WhatsApp group). We observed that the migrants residing in the basti, many of whom work in housekeeping or security services in the surrounding IT hub, use mobile phones to keep in touch with their families, irrespective of gender.<sup>xxix</sup> Whereas smartphones seemed to be primarily used for entertainment purposes and local news, inhabitants of the PHC had formed a WhatsApp group.

Under such circumstances, does differential access to technology-enabled information create new divisions among the residents of the slum? Our analysis suggested that rather than subverting the existing power structures in the basti, e.g., by easing access to various types of information among the residents, digital technologies appeared in many instances to strengthen them. It seems likely that the basti leaders, all of whom used smartphones, may use technology as a means of increasing their control over the inhabitants. One example is the RSS youth leader circulating images of our team through WhatsApp to local people instructing them not share any information with us. Similarly, we found that elected representatives and other politicians used digital means such as WhatsApp as a means of communicating exclusively with basti leaders, rather than the community at large.<sup>xxx</sup>

At the same time, being part of the Aadhaar digital database has become central to gaining access to all kinds of government services like admission to a school, water supply, bank accounts, etc. It is symptomatic that some families in the PHC have pasted their Aadhaar cards on their doors. In response to our questions, we were told it is to establish proof of their identity so that no one can question their right to stay in the PHC.<sup>xxxi</sup> It is noteworthy that people working as domestic servants at the gated communities in the neighbourhood are required to present their Aadhaar card each time they enter their workplace, although the employment is entirely private.<sup>xxxii</sup>

In summary, while making these communities more visible to state apparatuses, there is little evidence that digital technologies have empowered them in meaningful ways or subverted the internal power structures in the community.

## **Conclusion**

Our findings suggest an arena of stark informational disparities between vulnerable, indigent populations and the increasingly sophisticated digital data apparatuses used to encode them. Although the availability of digital audio-video technologies through cheap mobile networks among basti residents is rendering traditional hierarchies somewhat more volatile, it has not in any meaningful way disrupted the regulation of information flows by socially, economically and politically powerful actors, mainly local leaders. As we argue, the democratising potential of emerging digital technologies is severely constrained by structural inequities across gender, caste, class, political and even linguistic lines. Therefore, data processes must take explicit cognisance of these disparities and fragmentation to ensure that data justice is realised. Our case study thus offers a cautionary note about data collection exercises that fail to recognise the internal structural differentiation of vulnerable communities. We argue for an explicit mapping of the information flows and associated information politics that characterise such settings.

Employing the lens of information politics, our conceptual framework underscores the pervasive role of gatekeepers in low-income informal settlements. It offers an approach to broaden these concerns to understand how hierarchy and disparity within the black box of the community may play out in the context of datafication processes. In this paper, we have focused our attention on the ramifications of such information politics on community mapping and data collection exercises. However, our larger contention remains that information is a resource, access to which is regulated through structures of power within and outside vulnerable communities.

Following from, but also adding nuance to Heeks and Renken (2018), our findings highlight the centrality of structural issues in shaping the relevance of other approaches to data justice. This is a key component of the information politics framework that we propose. The internal power dynamics as well as the relationship of the basti with the larger institutions of power determine the data-information-decision-action processes i.e., who knows what and to what ends. It conditions the procedural, distributive, institutional and rights-based dimensions leading to information justice (see also Johnson,

2014).

We share the concern that datafication processes and open data policies that render such communities more visible can exacerbate injustice, with potentially high costs for marginalised groups (Johnson, 2014; Raman & Denis, 2013). When basti residents are counted and form part of a system of information, they may become more vulnerable. With eviction being a very real threat, remaining invisible is often perceived as the best form of protection. In this context, we advocate a pragmatic as opposed to a normative stance with regard to data collection activities, one that takes account of specific settings.

By drawing attention to the structural dimensions of data justice, our study contributes to a critique of mainstream views of data justice. Going beyond ‘justice as a set of theoretical principles’ to ‘justice-in-practice’ (Heeks & Renken, 2018, p. 96), our case study speaks directly to the issues raised by these authors: Why is access to data maldistributed in the global South? Why is participation in data processes unequally distributed? Why do the benefits of data systems in developing countries include some and exclude others?

Our study supports the argument that broader forms of resource and distributive injustice can limit the scope for the creation of new datasets about slum communities, with potential implications for improving assets. In our comparative assessment of data collection, we find that the promise of downstream impacts shapes receptivity to upstream activities to a degree but that instrumental or procedural justice approaches only go so far in allaying legitimate concerns and pervasive distrust of data collection in the presence of significant structural injustices. This is because information processes for such vulnerable populations carry material risks and are subject to significant regulation by sometimes self-styled leaders.

Our findings have ethical and methodological implications both for state and nonstate data collection processes, including for researchers in such settings. Dealing with non-literate communities in a setting where structural factors shape or hinder the realisation of data justice requires special precautions. It cannot be assumed that such communities will have the capabilities needed to assess the fallout of data processes. Deep mistrust, especially where previous state-condoned violence has taken place, is to be expected. Only by taking into account underlying information politics can we begin to realise the ‘informational right to the city’ (Shaw & Graham, 2017, p. 907).

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- <sup>i</sup> An earlier version of this work appeared in the Digital Development Working Paper series at the Global Development Institute at the University of Manchester, Paper No. 78/2019: <https://www.gdi.manchester.ac.uk/research/publications/di/>
- <sup>ii</sup> The name of the basti and surrounding place names have been anonymised to protect vulnerable basti dwellers from harm in line with the ethical principle of non-maleficence (Hay 2010).
- <sup>iii</sup> According to 2011 Census of India and National Sample Survey 69th Round, 2012, 65.49 million slum inhabitants live in 13.92 million households. The slum population is 5.4% of the country's total population and 17.4% of the total urban population (MHUPC 2015).
- <sup>iv</sup> Andhra Pradesh was divided in 2014 to form Telangana and Andhra State. Hyderabad is located in the territory of Telangana, and is the state's capital city.
- <sup>v</sup> Acronym for Hyderabad Information Technology and Engineering Consultancy City.
- <sup>vi</sup> The term 'information politics' has been used in various bodies of literature, with different meanings. Rogers (2004) focuses on the "politics of information devices on the Web...[i.e., the] politics behind how a search engine or portal selects or indexes its information." In the context of transnational non-governmental organisations, Ron et al (2005: 561) note that "To be effective, activists must deploy information strategically." In the strategic management literature, Davenport et al (2009) argue that if "information is the primary unit of organisational currency, we should not expect its owners to give it away." Though Davenport et al (1992) framework most closely approximates our own, our conceptual framing is quite independent of these studies.
- <sup>vii</sup> Dalit ('oppressed') is the term used to designate various groups who have suffered institutionalised discrimination because of their position at the bottom of the ritual hierarchy under Brahmanical Hinduism.
- <sup>viii</sup> Our findings also resonate with Kamath (2018).
- <sup>ix</sup> The Basti Development Committee president claimed that the basti land was allotted to them by a previous chief minister but he had no knowledge of any document officially recognising the same. Interview, 25 February 2019.
- <sup>x</sup> Recorded during the focus group discussion with evicted residents at the PHC on 24 February 2019.
- <sup>xi</sup> Some of the families who once spoke Kannada (native to Karnataka), adopted Telugu as their first spoken language.
- <sup>xii</sup> Interaction, 4 March 2019.
- <sup>xiii</sup> A local government office responsible for a variety of state functions within a local area, most notably land management.
- <sup>xiv</sup> Interview with a daily wage worker staying at Gachi Basti on 23 February 2019.
- <sup>xv</sup> This information and the data from the survey was collected from the anganwadi teacher, who acted as surveyor, and her assistant, as well as from ICDS officials.
- <sup>xvi</sup> Interview with the surveyor, 4 June 2019.
- <sup>xvii</sup> Focus group discussion with evicted residents at the PHC on 24 February 2019.
- <sup>xviii</sup> Interview with basti Development Committee General Secretary on 17 February 2019 and interview with President on 29 February 2019.
- <sup>xix</sup> Interview with PHC church pastor on 31<sup>st</sup> March 2019.
- <sup>xx</sup> Focus group discussion with evicted residents at the PHC on 24 February 2019.
- <sup>xxi</sup> Focus group discussion with evicted residents at the PHC on 24 February 2019.
- <sup>xxii</sup> Focus group discussion with evicted residents at the PHC on 24 February 2019.
- <sup>xxiii</sup> Using Google Maps, we could see that the polygon of the evicted site measures exactly the area that officials had claimed was encroached or illegally occupied prior to the eviction.
- <sup>xxiv</sup> Interview at the Mandal Revenue Office, 26 February 2019.
- <sup>xxv</sup> Information collected from the local HMWS&SB office, Hyderabad, 31 March 2019.
- <sup>xxvi</sup> We did not record data on smartphone (as opposed to basic mobile phone) possession because of the reluctance expressed by some respondents to the question. Recorded during our enumeration survey on 3 March 2019.
- <sup>xxvii</sup> Respondents expressed such opinions during interviews and focus group discussions held between 24 February and 5 March 2018 at the PHC when questioned about their use of mobile phones.
- <sup>xxviii</sup> Interviews with migrants residing in the basti and the focus group with the fire victim families in the PHC, 24 February 2019, 9 March 2019.
- <sup>xxix</sup> While most of the interviewed migrant women did not have smartphones, they did possess basic mobile phones that they would use to communicate with their distant families. Interviews conducted with Gachi Basti migrants working as housekeeping staff at a Gachibowli organisation, 10 March 2019.

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<sup>xxx</sup> Interview with local corporator (municipal councillor) and staff, 26 February 2019.

<sup>xxxi</sup> Field visit, 24 February 2019.

<sup>xxxii</sup> Interview with a woman from Gachi Basti on 25 February 2019 and women in PHC during a focus group discussion on 29 February 2019.