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Delhi's Slum- Dwellers

Deprivation,
Preferences and
Political Engagement
among the Urban
Poor



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I. Introduction.

Today, India is one of the world's fastest growing economies and, increasingly, an industrial and service-oriented economy.¹ Reflecting this, between 2001 and 2008 India's urban population increased from 290 million to 340 million. Yet, India remains under-urbanized relative to her income level, leading to widespread expectations of large-scale rural-to-urban migration in coming years (McKinsey Global Institute 2010). Some estimates suggest that the urban population may be close to 600 million by 2030 (High Powered Expert Committee 2011).

Many countries have stumbled in the transition from lower-middle income to higher-middle income status, experiencing growth slowdowns as they failed to effect the institutional and infrastructural changes necessary to support this shift. In the case of India, it is likely that the critical changes will be in the governance of urban areas and the provision of services to the growing numbers of migrants settling in urban slums.

This paper uses detailed survey data on the quality of social services available to Delhi slum-dwellers to highlight the governance constraints currently faced by low-income households in a large Indian city and to provide evidence on some of the contributing factors. Delhi is India's second largest metropolis, with a population of around 18 million (High Powered Expert Committee 2011). Like most cities in low-income countries, a significant portion of Delhi's population are recent migrants and some 20 percent were slum-dwellers in 2001 according to the Census definition. More recent estimates suggest numbers as high as 50 percent (Delhi Human Development Report 2006). Importantly, Delhi is designated as an independent state and has a two-tier elected governance structure.

An old and new literature (Jacobs 1970, Glaeser 2008) supports the view that cities underpin long-term economic dynamism, through the spatial concentration of skills and ideas, and other gains from agglomeration of production (also see Moretti 2010). We focus on the constraints placed on such dynamism by low-quality infrastructure available to the urban poor. In India, this group is large — over a quarter of the urban population report consumption levels that place them below the official poverty line (Tendulkar 2009). Moreover, they face significant shelter poverty — roughly 67 percent of India's urban population lives in accommodations with two rooms or less and 37 percent in one room or without a roof (High Powered Expert Committee 2011).

¹ Between 2001 and 2011, growth in India's industrial and service sectors was 9.4 percent, compared to 3.1 percent in the agricultural sector.

Our focus is on slum-dwellers. Slums are often the first destination of rural-urban migrants. Failure to solve problems in urban slums is not only an issue of human deprivation but also an impediment to India's continuing growth for several reasons. First, poor urban living conditions might explain the relatively slow urbanization in India and in particular the presence of large numbers of temporary migrants. For example, a survey of households in rural North India documents that 58 percent of the poorest families reported that the head of household had migrated, with the median length of a completed migration being only one month (Banerjee and Duflo 2006). Temporary migration means temporary work and limits the scope for on-the-job skill formation. Second, poor access to good education and health facilities in slums limits human capital formation among the slum-dwellers and especially their children. This is particularly unfortunate because India, like many developing countries, does a poor job of supplying public services in rural areas (Chaudhury et al 2006) and emigrating to the city is one way to access better healthcare and schooling for one's children. Low-quality services for slum-dwellers limit the value of this option and may even discourage parents from trying to move their families to the city. Finally, it might create disaffection among the slum-dwellers, which has the potential to destabilize both the economy and the polity.

Our analysis draws upon two recent surveys that we conducted in Delhi during 2010. It is indeed unique in India in that the Delhi State is coterminous with Delhi city. As a result, the city has a two-tier elected governance structure — a state legislature and a municipal corporation — each of which controls a different set of public services. Some domains also remain under the control of the central (Union) government. In principle, a voter can approach any one of three politicians — the national legislator, state legislator and municipal councilor representing his area — for help with different problems. Both national and local legislators have access to discretionary constituency development funds to spend in their areas of the city (Banerjee et al. 2010). Furthermore, the state government of Delhi has introduced a formal mechanism for neighborhood associations to be formed and to interact with state agencies, known as the Bhagidari scheme (Government of National Capital Territory of Delhi 2011). The so-called Resident Welfare Associations (RWAs) were predominantly formed outside slum areas.

The first survey covers a sample of over 5,000 slum-dwelling households in a random sample of 102 wards of Delhi and asks them questions about their access to various services and transfer schemes, what they do about the various problems they face, and about their engagement with the political system more generally. Our sample consists of current slum-dwellers and therefore, does not engage with issues of past slum evictions, which have been an important area of contention. The second is a survey of 250 heads or members of RWAs who were asked about the problems they faced and how they dealt with them.

We start by examining the main problems that Delhi slum-dwellers experience with respect to the quality of public services and access to transfers. We then ask if ranking of problems differs across various groups. Here, we examine preference heterogeneity among slum-dwellers living in the same slum, across slums in the same political jurisdiction and between slum-dwellers and more affluent communities in the same area. This evidence is important for two reasons: First, for understanding whether there is discontent about the quality of the services people are getting (it could be that while the general impression that services are bad is correct, people are not particularly bothered about them). Second, in establishing the possibility of collective action; if residents within a slum (or political jurisdiction) have very different priorities, then collective action is going to be harder to organize (Alesina et al. 1999).

We find significant evidence of low-quality public good provision and relatively similar (and coherent) preferences at the slum level. Slum-dwellers report significant discontent about some aspects of slum life, most notably access to water and sanitation but, interestingly, not about others like education and healthcare. Access to government transfer schemes is highly imperfect — many people do not get the transfers they are entitled to, and even those who do often get only part of the legal amount. There is significant concordance in ranking of problems within slums, irrespective of economic status. However, a slum is not a political jurisdiction. When we compare individuals within the same ward, which is the smallest political jurisdiction (represented by a municipal councilor), we see somewhat reduced, but still very substantial, alignment of problems and complaints. In over half the wards there is a match between the most frequently cited problem among slum-dwellers and that of the RWAs. Moreover, the fraction of variation in the problems experienced explained by inter-slum differences (obtained by regressions with slum fixed effects) is substantially higher with the infrastructure variables than they were with respect to transfers (since infrastructure is provided at the slum level).

Given the relatively high degree of alignment of political preferences within the slum and even the ward, we might have expected that political competition would drive the representatives to do the best they could to deliver to potential voters. Indeed the political science literature on India has emphasized the clientelistic relationship between politicians and poor voters — politicians, often acting through their agents (slumlords, fixers and local leaders) provide voters with goods and services that they cannot access through the normal bureaucratic system, in return for political support (Wilkinson 2006; Chandra 2004). Chatterjee (2004, 2008) expresses one specific version of this view when he argues that the poor work through political channels whereas more affluent citizens stake their claims through directly engaging with the bureaucracy and government agencies.

Of course, this does not mean that every slum-dweller will have access to every service he wants. Clearly the city has a limited budget and it may be unable to supply all the services at the desired level, and there is therefore a limit to what politicians can deliver. Pensions, for instance, are explicitly rationed and a substantial fraction of the eligible respondents do not receive them. However we also observe large shortfalls between entitlements and actual receipts for subsidized food grains, even though they are fully funded by the Central Government. While it is true that elected officials have limited control over parts of the bureaucracy and corporatized or privatized agencies, such as the Delhi's water board and (privatized) electricity companies, there are some areas (notably local sanitation and garbage removal) where it is highly likely that they could exert some influence. Moreover, both state and city legislators receive a significant annual discretionary fund to be used to repair infrastructure problems in their jurisdiction. Therefore, it is very unlikely that resource constraints are the only reason behind the problems of slum-dwellers that we observe in the data.

Why, then, do politicians do not deliver more? One possibility is that slum-dwellers are disengaged from the political process and do not vote. But that does not seem correct, based on what they say. Moreover, it does not appear that voters have fixed loyalties to politicians. They say that they vote based on performance and not according to caste or other identity-based loyalties. They report very little in the way of payments that could indicate vote buying. On the other hand, it is true that most people cannot name their legislator, and report few political discussions as part of their every day life.

Another possibility is that these problems are not salient for the legislators, because most voters do not approach them with their problems. There is mixed support for this in the data: some 30 percent of slum-dwellers have approached a political representative on at least one problem, but only 15 percent have done so for the most important problem of water. This is also true of RWA officials. However, what is not clear is whether the reluctance to approach politicians is a result of past experience. Of those who have approached politicians, the most common response is that the politician listens, says he will help, and does nothing. Either way, this seems inconsistent with the clientelist view of the India's poor embedded in networks of patronage for political support. In particular, slum-dwellers report very low levels of use of intermediaries, such as fixers, or pradhans, to solve problems. It is also striking that NGOs are very rarely reported as providing help to slum-dwellers; there seem to be unexploited spaces for development entrepreneurs to intermediate access to service and transfer entitlements.

Returning to the issue of information, it appears that voters are unaware of several schemes available to them. Under the current rules in Delhi, both private schools and private hospitals are obliged to serve a certain number of poor people for free.

However, only about 5 percent of slum-dwellers are aware of these schemes. Only a third of the slum-dwellers know that municipal councilors are allocated money to spend on the ward, and only a handful (3 percent) are aware of the approximate size of the discretionary fund. The urban poor's lack of awareness of schemes and funds would explain why they are not putting pressure on politicians to deliver them. Thus, while they state an eagerness to hold politicians electorally accountable for their performance, they are unable to discern what their politician can do. But for the politician, on the other hand, this is free private-sector money to give away. Perhaps what is most surprising is that politicians respond to the lack of voter knowledge with apathy rather than by seeking to use the resources at their disposal to curry electoral favor. This might require effort, however, and perhaps politicians would prefer to have voting based on something less strenuous than delivering services and informing voters about their performance. In this way, our paper ends by posing several open questions for future research.

The rest of the paper is structured as follows. In Section II we provide the relevant background for our analysis. We describe the governance structure in Delhi, some salient features of Delhi slums and finally our survey. In Section III we describe the levels of access and quality of public infrastructure and access to private transfers. We examine the extent of heterogeneity in both access to these services and problem ranking.

II. Background

II.1 Governance Structure and Service Delivery in Delhi

The city of Delhi is characterized by multiple layers of formal governance, due to the general federal structure of India's government and a number of peculiarities associated with the city's status as the capital of the country.²

India is a federal system, with powers constitutionally divided between the central (or union) government and state governments. After the 74th amendment to the constitution of 1992, the third level of government for urban areas, the municipality, became an elected body. The first municipal elections were held in Delhi in 1997.

Delhi is unusual in many respects. The state government, referred to as the Government of the National Capital Territory (here referred to just as the Delhi state government), covers an area that is coterminous with the boundaries of the city of Delhi. In addition, there are two municipalities for the city. The Municipal Corporation of Delhi (MCD) covers most of Delhi's population, but does not cover an important area in the center, that includes the major national and state official

² This section draws in particular on Singh (2010)

buildings, parliament, the prime minister's home, nearby (highly prestigious) residential areas and some commercial areas. This area falls under the New Delhi Municipal Corporation of Delhi (NDMC), under a 1994 act. Finally, some areas associated with the military fall under the Delhi Cantonment. In terms of spatial coverage, all the survey was conducted in areas that fall under the MCD.

The Delhi state government has an elected assembly of 70 members of the legislative assembly (MLAs) and is headed by a Chief Minister. There are important areas of responsibility that are shared with the central government, that differ from all other states. In particular, the central government is responsible for land and for law and order. Moreover, the two municipal corporations report directly to the central government, as opposed to the state. The central government appoints the municipal commissioner of MCD, who reports to the Lieutenant-Governor of Delhi (also appointed by the central government). The municipal commissioner is a powerful administrative position held by a bureaucrat.

The MCD is divided into electoral wards, from which ward councilors are elected. In 2007 there were 272 wards and average population per ward was 50,000. A mayor is elected from among the ward councilors for a one-year term.

Elections are held at different times for the central, state and municipal government. The most recent state-level election was in 2008 and returned the incumbent Congress party. The last municipal elections were in 2007, and involved a change in power from Congress to the other main party in Delhi, the Bharatiya Janata Party (BJP).

Design and implementation of governmental policy is generally driven by the executive rather than the legislative branch — at all levels of government. Politicians have a formal legislative role, but in practice their more important activity is intermediation in the implementation of activities in their districts. At all levels, there are discretionary constituency funds at the disposal of politicians. The following quotation from the Delhi Human Development Report illustrates:

“The role of Councilors in policymaking is minimal and entails ‘getting things done’ through their interface with citizens on the one hand, and the executive wing of the MCD, on the other. The councilors enjoy a greater status, as they control the constituency funds and this enables them to decide which works will be undertaken and where. The councilors also exercise some power over officials: directing them, causing transfers to be effected, and reporting accounts of corrupt practices or of insensitivity towards citizen demands.” (DHDR 2006, Singh 2010)

In addition to the bureaucracy at various levels of government, there are a number of parastatal agencies that have major responsibilities within the city governance structure. Three are highlighted here.

The Delhi Development Authority (DDA) is a central government parastatal with responsibility for the planning and development of land in Delhi. It is the most important land developer for the city, effectively removing a large range of land management issues from local government control.

Generation and distribution of electricity was handed to the Delhi Vidyut Board in 1996, and is also the responsibility of the state. This Board was unbundled and privatized in 2002, and distribution was divided between three private companies in different geographic parts of Delhi; all are active in distribution within the slum areas surveyed. These are regulated by the Delhi Electricity Regulatory Commission, which has responsibility for protecting consumer interests, and has issued instructions to the privatized companies over ensuring coverage.

Water supply and drainage is the responsibility of the Delhi Jal Board, which was formed in 1998 as a state agency, when responsibilities for these areas were transferred from the MCD. Formally the Delhi Jal Board is only allowed to make private in-house connections in legal settlements, though it is required to provide communal supplies (from public taps) to all citizens.

Citizens are expected to deal with organizations from many levels of government, often with overlapping responsibilities. Water and electricity are responsibilities of the Delhi state government, as are a variety of transfer schemes, including old age, widows and disabled pensions, and some school-related transfers. Local sanitation, garbage removal and local roads fall under the MCD. The police are a central government responsibility, as is the provision of subsidized food under the Public Distribution System (PDS). However, eligibility for both pensions and the various levels of ration cards (that determine entitlements under the PDS) is generally determined at local levels. More broadly, local politicians, both MLAs from the Delhi state and ward councilors from the MCD, can play an intermediation role in access to services and entitlements. It is unclear from past work just how important this is in practice, and one of the purposes of the survey was to find out.

In addition to these formal governmental structures, there have been some significant initiatives from the Delhi state government that relate to interactions with civil society. One is of particular relevance to this study.

The Bhagidari initiative was launched in 1998 in Chief Minister Sheila Dikshit's first government, as a scheme to provide a structured forum for "people's participation."

The main organizational form on the citizen side was the Resident Welfare Association (RWA), a neighborhood-based organization. Since formation of RWAs became associated with potential access to benefits in government services, there was rapid growth in their numbers, from 20 in 2000 to more than 1900 in 2007 (Chakrabarti 2008). In order to be recognized as an RWA by the state government, an organization had to have three years of accounts and an electoral process for its officials (Singh 2010). This effectively excluded most slum-dwellers, and has led to some criticism of RWAs as representing only “middle class” interests. There has also been an ongoing fight over political engagement and formal recognition: an RWA-linked party fought the 2008 elections, and RWAs have sought formal recognition in planning processes, so far without success.

Two other recent initiatives (which do not directly relate to our study) are Samajik Suvidha Sangam, or Mission Convergence, which was introduced by the state government in 2009 and the Delhi Urban Shelter Improvement Board, which was created in 2010. We describe these in more detail in Appendix II.

II.2 Slums in Delhi

There are varying estimates of the number and population of slums in the city, largely reflecting differences in the criteria used to determine a slum. The Government of the National Capital Territory of Delhi estimated approximately 580,000 households in 4390 slums in urban Delhi in 2008-2009 (Government of the National Capital Territory of Delhi 2010). The Delhi Urban Shelter and Improvement Board also gives a ballpark figure of 3 million people living in 600,000 households in urban slums. On the other hand, the Delhi Human Development Report (2006) provides a much higher estimate of 45 percent of the city’s population (of an estimated 14 million in the report) residing in slums that include informal settlements – squatter settlements and illegal sub-divisions as well as unauthorized colonies.

In terms of legal status, slums can be categorized as notified or non-notified. Notified slums were legally notified or declared as slum areas under the Slum Areas (Improvement and Clearance) Act of 1956. On the other hand, non-notified slums such as JJ clusters are considered to be an illegal encroachment on land (DUSIB 2010). Contrary to popular belief, most slums are not located on private land. About 78% of slums are built on public land – owned by municipal bodies (54%), railways (14%), state government, or other public entities. Approximately 64% of slums are surrounded by residential areas (Government of the National Capital Territory of Delhi 2010, UNDP 2009).

II.3. Survey Design

Our survey was conducted in 2010 and covered 5481 urban slum-dwelling households in all slums in a random sample of 102 of Delhi's 272 municipal wards. We carried out extensive fieldwork to establish a sample frame of urban slums³, following a methodology based on the UN-HABITAT and Indian census⁴ definition of slums. A list of nine common criteria closely correlated to the census definition of slums were drawn up and included high density of housing⁵, poor quality housing structure and material⁶, lack of internal household infrastructure⁷, poor road infrastructure⁸, access to water and water infrastructure⁹, uncovered and unimproved drains, low coverage of private toilet facilities, high incidence of trash piles and frequent cohabitation with animals¹⁰. We used a two-stage process: First, we compiled a list of potential areas from inspection of the visual appearance from aerial photographs of Delhi using satellite imagery, based on housing density and appearance, complemented by Delhi government listings. This was then verified by field visits; locations that prominently featured at least five of these nine characteristics were marked as slums.

³ The existing list of slums from the Delhi government misses many recently constructed slums and includes some areas that should arguably not be classified as slums. An income criterion is neither available nor appropriate, since slums are essentially about public services and housing conditions rather than private incomes.

⁴ The 2011 Indian census defines a slum as a "compact housing cluster or settlement of at least 20 households with a collection of poorly built tenements which are, mostly temporary in nature with inadequate sanitary, drinking water facilities and unhygienic conditions will be termed as slums."; UN-HABITAT defines a slum household as a group of individuals living under the same roof that lacks any one of meet the following conditions: insecure residential status, inadequate access to safe water, inadequate access to sanitation and other infrastructure, poor structural quality of housing and overcrowding." The main difference between the two is UN-HABITAT's inclusion of insecure residential status; this is an issue that will be explored within the survey work, but since this is the case to some degree in most Delhi slums, we safely omit it.

⁵ For this the criterion was whether the space separating households was sufficiently wide for vehicles larger than motorcycles.

⁶ For this we looked at whether the majority of houses are made of unimproved brick or lower quality material, including housing made of metal and plastic sheeting.

⁷ For this the criterion was whether household chores (e.g. washing, cooking) were frequently done outside of the house as a proxy for the quality of households' internal infrastructure, since households who conduct these activities outside tend to lack household water supply/drainage or ventilation for cooking smoke.

⁸ For this, we looked at whether the majority of roads in the area were unpaved, badly maintained and of poor quality.

⁹ For this, we looked at whether households receive water from hand pumps, tanker trucks or lower-grade options.

¹⁰ Whether non-domestic animals (buffalo, goats, pigs, donkeys) resided in the same tenements as people.

At least fifty households were surveyed in each ward¹¹, with the exact number in a slum dependent on the number of slums in each ward and the population in the slum. Slums were selected based on their size in the satellite images: to the extent that population density is similar across different slums, this approximates a Probability Proportional to Size (PPS) sampling procedure. To select households within slums we also used a spatial method: an overall map of each slum was created, and then surveyors were stationed at randomly selected points within the slums. Surveyors then followed the “right hand rule,” where each surveyor moves from their start point along the right hand side of the wall, interviewing every X households (where X is determined by the population of the slum). The survey was typically carried out with the household head (in 48% of the cases) or, in the case where the household head was unavailable or away on two consecutive visits made to the household, with his spouse (45% of the cases). If a household proved unwilling or unavailable after multiple visits, another was selected using the same method. GPS coordinates of households were taken and the location of every survey was plotted using GIS software. Appendix IV provides two GIS maps: the first is for the whole of Delhi and shows the distribution of all the slums in the sample; the second provides one example of an area in which four slums were surveyed showing the spatial location of sampled households.

II.4 Data and Descriptive Statistics

The survey collected extensive data on slum-dwellers’ access, usage and difficulties with respect to social services (such as health facilities, sanitation, schools, water, electricity and law and order) and transfers (such as subsidized food rations and pensions) as well as their knowledge of the local government system, interactions with public officials and politicians, and political preferences and participation.

In our analysis, we often examine the distribution of responses across wealth quintiles. We measure wealth by a private asset index which was based on the methodology set out by the DHS and used by the NFHS (we used 11 of the 40 indicators used in the NFHS index, details are in the appendix). Asset quintiles were created using the private asset index score and household size weighting.

In Table 1 we report salient descriptive statistics for our sample. On average, Delhi slum-dwellers have lived in their current residence for many years, are relatively poor, work in a variety of mainly informal sector activities, and have low levels of education, though, on the other hand, almost all of their children below 14 are in

¹¹ In ten wards, it was found that surveys had been conducted in the wrong areas. In these cases, surveyors were sent back out, and the surveys were redone in the proper areas. In some cases, the incorrect surveys were still conducted in slum areas, so have been included in the dataset; thus ten wards have sixty or more surveys. In other cases, the wrongly done surveys were dropped.

school. We observe substantial diversity with respect to personal characteristics, and several households which are not poor in terms of their private assets and incomes.

Most slum-dwellers are long-term migrants, typically from the Hindi-speaking belt in North India.¹² On average, a slum dweller has lived in his current residence 17 years. That said, many have lived there for much longer, and only 6% arrived in the last year. Recent migrants are overrepresented in the bottom quintile of the wealth distribution. Conversely, the richest quintile of households has been in their current residence for 19 years compared with 14 years for the poorest quintile.

The vast majority (some 90% of households) have some form of legal presence as citizens, especially in terms of voter registration or ownership of ration cards. This too is lower among the poorer households, and it is particularly striking that only 42% in the bottom wealth quintile have a ration card, an issue we explore further in Section III.

We observe very significant ethnic diversity, with socially and economically disadvantaged population groups over-represented among slum-dwellers. 21% are Muslim (compared with 13% for all of India) and almost 40% are Hindu scheduled caste (compared with 16% for all-India). While all groups are present throughout the within-slum wealth distribution, Muslims are disproportionately represented among the poorer asset quintiles, and general castes more common among the richest quintiles. There is essentially no pattern across wealth categories for scheduled castes.

A striking 40% of the adult slum population has no education; this is as high as 58% for the poorest wealth quintile and falls to less than a quarter for the richest quintile. However, there is major shift in education across the generations, as is also occurring in rural India: over 80% of 6-14 year olds are in school. With respect to health, we don't have direct measures of health status, but 90% of households reported visiting a clinic or other health facility for a minor problem in the last six months and roughly a quarter of households report a health facility visit for a major problem in the last year.

Turning to the economic lives of slum-dwellers, we observe surprisingly high levels of unemployment. Considering all household members who are 18 years and above we observe an unemployment rate of 19%. Among women, the most common occupation is being a housewife. Turning to adult household members who work outside the home, there is a wide range of occupations, including daily manual worker, rickshaw driver, vendor, guard, or factory worker. The survey asked income

¹² Only 10% say they are from Delhi, over half are from Uttar Pradesh, some 15% from Bihar and 10% from Rajasthan.

earned by all household members, and we can use this to obtain a single household income. We use this with caution, as income reporting can be unreliable (and use the more reliable asset information for all the analytical results). For what it is worth, reported per capita household income indicates significant inequality *within* the slum population with a Gini coefficient of 0.42 and a poverty incidence of over 50% according to the official urban poverty lines.

There is extensive ownership of a range of moderately expensive private assets: 80% of slum-dwellers own a television, 74% have a mobile phone, and 34% a refrigerator. There is also significant heterogeneity—in the bottom wealth quintile only about a third owns a television and a mobile, and essentially none a refrigerator.

It is also of interest to know how far inequalities in private wealth and incomes are associated with difference within a slum, as opposed to between different slums. For this we can explore a decomposition of an index of inequality (we use the Theil index that can be decomposed) between the two components of within and between slums. For the private asset index, 63% of total inequality is within slums and 37% between slums, while for per capita incomes, a full 84% is within slums.

In terms of property rights, we observe high stated levels of ownership. 80% of households own, as opposed to rent, their dwelling, and of those who own 60% built their house and some 30% purchased (the remainder inherited or received from the government under a resettlement scheme). Overall, this is an established population of homeowners. Importantly, and as we discuss below, ownership is not coterminous with having legal rights. A key indicator of being a legal settlement is the provision of piped water in the household. Over three-quarters of the households in our sample lack this (Table 2).

III. Infrastructure, Service Delivery and Private Transfers: Access, Quality and Problem Ranking

In this section we first describe the physical infrastructure and social services available to slum-dwellers, and then examine their reported problems and the diversity in problem ranking within and across slums.

III.I Access and Quality

A. Basic Infrastructure

In Table 2 we examine slum-dweller access to basic infrastructure and reported quality. We start with water and sanitation (Panel A). Water falls under the purview of the Jal board – a corporatized state entity. Legally recognized houses should be connected to piped water. In our sample, only a quarter of these households have a

tap in their home, which is consistent with the fact that most slums in Delhi remain illegal settlements. The rest make do either with a public tap connected to the municipal supply or to a well. 3% report that they have access to neither a municipal water supply nor a well. In terms of quality indicator, almost half the households (44%) state that they face repeated non-availability of water.

Turning to sanitation, at the time of the survey responsibility for this was with the municipal corporation department. We see that 36% of the households report having a toilet inside their homes, ranging from 15% in the poorest quintile to 69% in the top quintile. With respect to drainage, almost half the households (47%) declare that they have no specific outlet for drainage from their homes and that figure is 66% for the poorest households.

About an equal number of households (around 40%) report taking the garbage to a dumpster and dumping it on an open field, though the poor are more likely to dump on open ground and the rich in a dumpster. When asked about their assessment of service quality of sanitation facilities, 16% say cleanliness is bad and a whopping 90% say that the drain is smelly or overflowing. On the other hand, essentially no one claims that nearest dumpster is emptied less than once a month.

Turning to electricity, provision of this facility has been privatized. Essentially everyone claims to have access to it (Panel C), though 65% mention that there were power cuts of 3 hours or more (not a lot by Indian standards) in June. The one serious complaint that we do encounter is overbilling: 17% say that they received a very high bill. Additionally, 4% of households report illegal electrical connections, based on what we can infer from their reported means of payment. This decreases from 10% to 1% from the poorest to wealthiest quintiles, respectively.

Most slums have narrow and, typically, non-tarmac roads. As a result motor access is another area of complaint: 64% say that there is no access to their house by vehicle bigger than a motorcycle.

B. Human Capital

Education is provided by the city and state governments (who both run schools), but there are also private alternatives. Less than one in five children goes to private school however, a percentage that rises, perhaps unsurprisingly, from 7% among the poorest to 34% among the richest (Panel D). 7% of households whose children go to government school complain about the quality of teaching whereas, 2% of households who send their children to private schools complain of bad quality teaching.

Health, like education, is provided both through government clinics and hospitals as well as private alternatives. Here the pattern is very different from education at

least based on revealed preferences (Panel E): everyone, rich or poor, uses mainly private facilities. In 70% of cases of minor ailments, respondents went to private doctors and 59% of cases in the case of major ailments. Use of government facilities decreases with wealth for both minor and major ailments. This is consistent with the fact that people have a somewhat negative view of the government health facilities (Das and Sanchez 2003). For both minor and major healthcare, roughly 60% of the respondents report problems at their nearest government healthcare facility.

C. Law and Order

Three quarters of slum-dwellers report facing some kind of law and order problem. Of those, the most frequently cited is theft (93%). 65% cite gambling and alcoholism. Both of these diminish with wealth, whereas mentions of violent crimes and domestic abuse, 53% and 42%, respectively, increase with wealth. It is unclear if this increase is due to underreporting of the problems among poorer quintiles.

In terms of seeking help from law enforcement, 9% report having gone to the police (Panel F). Of those, 34% say that the police actually took a report and actively investigated and 37% reported that the problem improved after going to the police. Given this relatively positive assessment of experience with the police, low usage suggests that people do not take these crimes very seriously.

D. Private Transfers

Table 3a – 3f provide information about the three major transfer programs relevant for slum-dwellers: the public distribution (or “ration”) system; pensions for the elderly, widows, and disabled; and cash and non-cash transfers for children in school.

For ration cards there are different categories, and associated entitlements, depending on a household’s material conditions. Yellow and red cards are for the poorest households categorized as “Below Poverty Line (BPL)” (see appendix for more details). White cards are for “Above Poverty Line (APL)”

Table 3a shows that about 30% of the households have a BPL ration card (red or yellow) and are eligible for subsidized rations. This is substantially lower than the fraction of household reporting incomes below the poverty line, which is over 50%, but there may be some underreporting in our income data. Strikingly, however, the probability of having access to a BPL card is *increasing* in wealth over most of the range. A regression of whether or not you have a BPL card on the asset index with slum fixed effects shows that a one-point increase in asset index increases the likelihood of having a BPL card by a very significant 2.6 percentage points (columns 13 and 14 of Table 4). In other words, richer people within the same slum are more likely to have a BPL card, suggesting substantial mis-targeting.

As shown in Panel C of Table 3b, over 90% of cardholders report receiving some rations. However, the vast majority (82%) get less than their stipulated allotment at the stipulated price, at least based on the slum-dwellers' reports. On average they seem to get 2.4 kilos less rice and 5.6 kilos less wheat than they are supposed to, but the shortfall is somewhat less for the poorer people (those with red or yellow cards). On the other hand, poorer people end up paying a higher markup on the (lower) price that they are supposed to pay. The average markup is 26% for rice and 15% for wheat, though the median mark up is very low, implying half or more people get their rations at close to the official price.

Qualification for pensions relies on multiple criteria: an individual must have the actual condition (of being over 60 years, widowed, or disabled), have an income less than Rs. 48,400 per year, and have lived in Delhi for five years or more. An estimate of "potential eligibility" is based on the answer to the question of whether any household member satisfies the first two conditions, and the period of living in the current residence of the respondent. This is a proxy for the true criteria, because in addition to meeting these criteria, people need to go through a certification process to verify their eligibility. Equally important is that there are a restricted number of pensions allocated to each area to be distributed by state legislators and ward councilors. Pensions are therefore potentially rationed, and the politician has a lot of discretion over them.

In Table 3c we see that roughly a quarter of the households in our sample have someone who is eligible for a pension but Table 3d suggests that only 38% of these households with an eligible member actually receive a pension. Looking at receipt as percentage of eligibility by pension type, we see that widows are most likely to receive a pension with the numbers lower for old age and disabled pensions.

Finally, we turn to scholarships for children. Both the state and city government offer various schemes to subsidize education for girls, physically handicapped and SC/ST/OBC/minorities students from underprivileged families. Eligibility criteria for these schemes typically require the child to be studying in a government or government-aided school and for family income to be below Rs. 1 lakh per year.

Table 3e shows that around half of the children attending government schools between the ages of 6 to 14 receive scholarships. However, the proportion that receives non-cash transfers such as free textbooks, uniforms and stationary is much higher. 92% of government school children in this age group receive non-cash transfers, mostly in the form of free textbooks (89%) and uniforms (78%). The proportion of government school beneficiaries does not vary much across asset quintiles for both cash and non-cash transfers. For example, the proportion of

scholarship recipients only drops from 57% in the lowest quintile to 54% in the uppermost quintile.

Among private school children, only 3% receive scholarships, though the proportion diminishes with wealth from 10% at the bottom asset quintile to 1% for the uppermost quintile. Similarly, while only 6% of private school children receive any non-cash transfer on average, a higher proportion of children in the bottom quintile (21%) benefit in comparison to children in the uppermost quintile (2%). The proportion of beneficiaries for cash and non-cash transfers reduces sharply with wealth for private school children in comparison to their government school counterparts.

III.2 Heterogeneity in Provision and Problem Ranking

To what extent do differences in access and quality of public good provision vary within and across slums in the same ward? Significant heterogeneity along these dimensions would provide one explanation for the persistence of poor quality of service provision.

To examine this, we turn to regression-based analysis. The results are reported in Table 4. We estimate a series of regressions where the outcomes are different measures of either service quality or access to transfers. For each of the seven outcome variables, we use two specifications – one with just area fixed effects as explanatory variables and the second with area fixed effects and the household's asset index. In Panel A, we use slum fixed effects, in Panel B we use ward fixed effects and in Panel C we report regressions with slum and ward fixed effects (where we drop one slum fixed effect per ward). We also report the F-test for the joint significance of the fixed effects. In Panel C the F-test can be interpreted as being informative of whether, conditional on ward fixed effects, the slum fixed effects (jointly) have any explanatory power.

While there is variation in what we observe, what is clear that the asset index, while generally statistically significant, explains more than 5% of the variation for only one of 7 services (access to a flush toilet connected to a sewer, where it explains 11%). In Panel C, we can see that the ward fixed effects explain a substantial part of the variation and the slum fixed effects adds significantly to the explanatory power of the ward fixed effects in 13 out of the 14 cases. The proportion explained by ward- and slum-level fixed effects is particularly high for water, sanitation and garbage removal, all of which have strong local network aspects: for example it is over 50% for measures of water access and of garbage removal. R^2 is 20% for electricity, where is little variation given the near-universal supply. Inter-slum differences also explain almost a quarter of the variation in whether potentially eligible pensioners actually receive a pension and more than 15% of the variation in

receipt of a ration card or voter registration card. This is striking, since these transfer entitlements do not have local public good features.

Tables 5a and 5b look at the issue from a different angle—what slum-dwellers say are their most important problems, as well as reports from the RWA leadership. It again shows a broad correspondence in the overall ranking of problems. Each respondent was asked to identify the most problematic issue in their area. Since we asked the RWA heads a similarly worded question we also report their response.

Slum-dwellers identify water as the most problematic issue, followed by sewage and drainage. Private transfer issues (rations, in particular) follow next. Interestingly, there is very little difference in problem ranking across asset quintiles. RWAs also report water and sewage as the top two problems. Neither group considers education or healthcare as key concerns. This may reflect the fact that most slum-dwellers have opted out of the public health service delivery system (Das and Sanchez 2003). More intriguingly, despite the fact that most people report having encountered some crime, people do not rank this a major problem. This is consistent with the fact that most crimes they report are things like theft, gambling, drunkenness, assault and domestic abuse, which they may perceive to be relatively minor.

These analyses show that a lot of the problems faced by slum-dwellers are common to everyone who lives in the same slum and are not necessarily escaped with an increase in wealth. This stands in stark contrast to the results noted above on patterns of variation in private wealth and incomes, where the majority of the variation was within, rather than between, slums.

We have also examined the alignment of preferences, in terms of the top problems. At the level of an individual slum, on average 61% of households have the same top problem, and 95% share at least one issue in their top three problems. When we aggregate over all slums in a ward, the concordance over the top problem falls to 43% (illustrating the between-slum variation again) but it is still true that on average 94% of all slum households in each ward share at least one of their top three problems. Finally, in 56% of wards there is concordance between the most frequently cited problem among slum-dwellers and that of the RWAs in the ward.

IV. Why is the Quality of Provision Low?

Slum-dwellers face extensive problems with provision of basic infrastructure and receipt of private transfers, and have clear opinions over these. To a significant extent slum-dwellers' problems are aligned with broader local preferences in their community. So why does the political process not deliver on their problems?

In this section, we explore three possible reasons for this. First, does the elected representative face constraints in resources or influence in delivering better services?

Second, to the extent that representatives can do better, do they lack political incentives to do so? This could be for two reasons. It may be that improving public services and transfers is an unattractive political strategy relative to a clientelistic or vote-buying alternative. Alternatively, slum-dwellers may be disengaged from the political system, either in terms of voting or through direct interactions with political representatives?

Finally, is lack of information about their rights a significant problem for slum-dwellers?

The evidence from the survey has little that can be directly applied to the first question, precisely because it is drawn from the views of slum-dwellers, supplemented by those of RWAs. As discussed in Section II.1 on governance, there are diverse agencies responsible for delivery of services and transfers. For example, water is a primary responsibility of Delhi's Jal Board, a public agency answerable to the state political process; electricity is provided by three privatized companies, subject to regulatory guidelines (including on access) set by a state-level regulator; garbage removal and local sanitation are the responsibility of the municipal corporation; schools are provided by state and municipality; and so on. Yet all of these are subject to control by the overall political system, at least in principle, either via the electoral and legislative process itself or the intermediation functions that state and municipal legislators have over delivery to their own constituencies.

The direct evidence from the surveys questions the responsiveness of the overall political system. In some areas there may be specific resource constraints—pensions seem to be currently rationed, for example. However, there is evidence to suggest that resource constraints are not the only issue, at least in some areas. Rations are, in principle, fully funded, and yet we observe substantial under-delivery relative to entitlements. At the council level of government, ward councilors receive a pot of money for their discretionary use: they spent over 90% of this in the 2007/08 and 2008/09, but, as discussed below, there seems to be very little alignment between their spending (largely on roads) and the most important problems faced by slum-dwellers or RWAs. As seen in Table 5b, while slum-dwellers report the most problematic issues in their areas to be water (50%), sewage (21%) and garbage (15%), a breakdown of councilor spending shows that a greater part of their discretionary fund (57%) is spent on roads. While the next biggest expense category comprises of the provision of drains and roads, this constitutes a far lower proportion of their funds – 17% only. The next two expense categories do not meet slum-dwellers' interests either – provision and repair of lights (8%) and the

improvement of parks and provision of gates (7%). At least in some areas, politicians could do more to respond to the problems if they chose to.

So what about the second question: is effort on providing public services and transfers to slum-dwellers a good political strategy for politicians? This takes us to the extensive literature on the drivers of political behavior in India (and other developing countries), and in particular the central theme that political interactions are primarily embedded in clientelistic relations between politician and citizen.

The essence of clientelism is the provision of private or local public goods in return for political loyalty, typically within an unequal power relationship. By one definition, political clientelism “represents the distribution of resources (or promise of) by political office holders or political candidates in exchange for political support, primarily – although not exclusively – in the form of the vote” (Gay 1990). It is argued that this can be a superior political strategy than provision of general public goods, especially when a politician can more credibly commit to delivery of such private (or local public goods) and especially where political competition is weak and information is limited (Keefer and Khemani 2005). The role of poverty is also emphasized by Wilkinson (2006) who argues that low levels of economic development facilitates clientelism because the small rewards patrons can offer have greater value, as well as the fact that a relatively poor electorate, such as slum-dwellers, rarely see the benefits of highly participatory voting.

Many authors argue that India is, in general, deeply clientelistic, or, as Chandra (2004) puts it, India is a “patronage democracy.” Three particular aspects of the Indian literature are particularly relevant to this study.

First, there is work arguing that clientelistic relations are intermediated by local political brokers. Baken (2003) finds that the most important group of lower-level political brokers connecting the mass electorate to local (city) leaders is comprised of non-elected popular leaders who generally operate on a neighborhood level: slum leaders. He argues that they operate between slum-dwellers and the political apparatus, mediating in nearly all governmental matters such as getting a license or ration card, obtaining welfare or housing benefits, and dealing with the police in cases of arrest or fines. Slums and slum-dwellers are usually refused full recognition of legitimacy by the state and inhabit uncertain legal and physical spaces (Ramanathan 2006). Jha, Rao and Woolcock (2007) report survey results from Delhi that indicate an extensive intermediation function of local leaders.

Second, it is often argued that people vote on caste or other identity-based lines, to increase the probability of getting benefits for their own group — though this depends on calculations on the size of their voting block (Chandra 2004). However, there is also evidence that such caste-based voting is a consequence of lack of

information over the true qualities of candidates (Banerjee et al. 2010; Banerjee and Pande 2009).

Third, there is a rather different, and influential, argument of Chatterjee (2004, 2008) that in India the poor work through formal political channels, whereas the middle class work through civil society structure to directly access and influence the governmental apparatus.

The data from the surveys provide valuable information on the political behavior of slum-dwellers – whether they say they vote, what factors shape their voting decision, and whether they approach politicians directly to solve daily problems.

Table 6 summarizes the results. The Indian voter-registration campaigns show significant success with over 85% registration among slum-dwellers. In contrast to the view that registration in slums is driven by politicians organizing a local vote bank, the bulk (77%, unreported in tables) of registration was via a “government campaign” (presumably by the Election Commission) — an example of part of the Indian state that is effective. Reported turnout in the last councilor election is also high at 84%. While most studies tend to suggest that self-reported turnout exceeds actual turnout, it is still interesting that reported turnout rates increase with wealth. To the extent that the poorest slum-dwellers are often considered the most likely targets of vote-buying and clientelistic policies, one may have anticipated the opposite. This is, however, consistent with the fact that the poor are also registered less (though, once again, one might wonder why the politicians are not out registering these voters).

We explore this further in Panel B where we examine participation in pre-election events. Almost 70% of slum-dwellers state that they did not participate in any pre-election event. The most common forms of participation are participating in a march (23%) and attending a speech rally (24%). Roughly 20% of those who so participate report receiving non-cash transfers. The incidence of cash transfers as a reward for participation is much lower and does not exceed 5% on average.

Next, we examine stated reasons that were important deciding factors for voting. A number of authors have documented the widespread targeting of slum-dwellers by political parties on the eve of the election. Yet, the candidate’s party is among the least-common reasons cited by slum-dwellers for favoring a particular candidate. What’s more, the likelihood of reporting party as an important factor in deciding to vote is increasing, *not* decreasing, across the asset quintiles. And only 1% of slum-dwellers report identity as a reason for voting. While recognizing the limitations of self-reports, these figures contradict many of the standard theories about the poor Indian voter.

Overall, slum-dwellers express a strong preference for using their electoral clout to ensure higher quality service delivery. Moreover, we observe relatively limited participation by the poor in political party activities prior to elections and very limited reports of direct transfers from parties in return for political participation.

A second form of engagement of slum-dwellers with politicians concerns direct contacts to solve problems. We have seen that slum-dwellers face a whole array of problems affecting their daily lives. Do they use politicians to help solve these problems, and is this a successful strategy? And do they use others — intermediaries such as pradhans or fixers — to connect with the state, as has been documented in ethnographic and other work in some Indian cities? Tables 7a and 7b provide a summary of responses for a variety of services.

Only a minority of slum-dwellers seek help from politicians to resolve problems. For individual areas, the proportion ranges from 1% for access to health schemes, education schemes and issues of crime, to 4% for electricity, 7% for issues over eviction, over 10% for problems with ration cards and sanitation, and 15% for water. This may seem a small number for each area, but 31% of households had approached a politician over some issue. This is quite a substantial number, especially given the likelihood that many households may tacitly support or free-ride on action by others.

For most issues, between two-thirds to three-quarters of meetings were with the MLA, probably reflecting either knowledge that the issue fell under the domain of the Delhi state government or a perception that the MLA held more influence than did the ward councilor. Most other meetings were with the ward councilor, and very few with a member of parliament (representing central government). The exception is sanitation, where slightly over half approached the ward councilor, in line with the fact that local sanitation fell under the responsibility of the MCD — though it is interesting that 46% still approached the MLA. In terms of any contact with a politician, 23% had ever approached an MLA, 13% had ever approached a ward councilor, and only 2% an MP.

There is a clear preference to go in groups: for all cases for which we have information — including ration cards, an essentially individual entitlement — a majority of approaches to politicians was in a group. For threats of eviction it was 100%, and for sanitation, water, and crime, over 90%. These are mainly local public goods (or local public bads in the case of eviction). The fact that slum-dwellers mainly saw politicians in groups on issues of crime suggests that these visits related to general, rather than individual, crime cases. (A somewhat larger proportion of households go to the police directly, as seen above.)

Did the meetings bring about positive results? This varies by area. If we put aside the health and education schemes and crime, which had very small numbers, three things are worth noting. First, in the vast majority of cases, the politician was accessible. It is rare for a politician to refuse to see an individual or group from a slum; the highest proportion of refusals is 10% for appeals over evictions. At that point, the most common response from politicians is to say they will help — or ask someone else to help — and then nothing happens. However, in a substantial minority of cases the situation is reported as improving — from a low of 17% for problems with ration cards, to 33% for sanitation, 48% for water, and 89% for (avoiding) eviction. We cannot tell from this kind of data whether the politician was actually instrumental in effecting change, but nevertheless, these are not bad percentages.

An important element of the account of clientelistic urban structures concerns the role of intermediaries, including pradhans, fixers, slumlords and others, who form an integral part of the societal mechanisms linking slum-dwellers to the state, whether to politicians, agencies, or bureaucrats. The survey only has information on this for a few areas, but it is striking how rarely such intermediaries are named in response to the question, “Who helped you to resolve this problem?” The most common answer — in around 90% of cases involving ration cards and water, for example — is either no one or myself. Pradhans are the next most common answer, but only in about 5% of cases. NGOs are virtually absent (too small a proportion to report on the table).

Accounts of patronage-based networks flow especially from ethnographic studies in other cities — especially Mumbai. It is quite possible that Delhi operates differently, especially because of the very different land situation. It is also possible that the survey’s respondents were reluctant to provide answers over such local sociopolitical connections. But if we take the responses of households at face value, a picture emerges very different from the clientelistic account. Politicians are generally approachable, and a minority of households approaches them. Like politicians everywhere they often promise and don’t deliver, but they also sometimes do deliver, or at least seem to. There is little evidence that households in slums are dependent on intermediaries to solve the frequent problems they face in their daily lives.

Finally, it is notable that where there was action taken — by elected officials, government agents, or others — there is very little reporting of bribery. Across all the areas of service delivery and transfers, only 8% of households reported paying a bribe — in response to the question, “Did you pay anything above the official price?” This would, however, exclude payments for provision of service (such as water) from an illegal source since households almost certainly (and correctly) would not

see them as bribes.

So what creates the disjunction between a desire to use election to enforce accountability and slum-dwellers' ability to do so? This brings us to the possibility that lack of information could be part of the reason. We return to Panel D1 in Table 6 where we examine the levels of political knowledge among slum-dwellers. More than half the slum-dwellers report that they rarely or never discuss politics. Only 29% state that they discuss politics frequently before elections. Moreover, the incidence of political discussion increases with wealth.

Next, in Panel D2 we turn to political knowledge. Starting with the simplest question, knowledge of the name of elected representatives, we find that only a third of slum-dwellers know their representative (MLA or councilor). Only 36% know the councilor has money to spend on local projects, and only 3% are aware of the size of the funds he/she has. In terms of schemes, only a handful are aware of available assistance such as the private hospital scheme (6%) and the Economically Weaker Section education scheme, programs which entitle the poor to free treatment and education at certain private hospitals and schools. Thus, it is clear that one immediate constraint on electoral accountability is the very low level of political knowledge.

V. Conclusion

This paper has presented the results of a survey of the living conditions, strategies and political behavior of Delhi's slum-dwellers. It covers existing slums, and so does not engage with questions either of past evictions or of the homeless. The overall picture is of households that have been living in their current residence for many years. The vast majority state that they own their house, and many built it. Around 90 percent have some form of certification or identification, usually voter registration cards or ration cards.

But slum-dwellers face a wide range of problems in their daily lives, notably with water and sanitation, drainage, garbage collection, rations and, to a lesser extent, electricity (where almost all are connected, but suffer outages). On the other hand most children go to government schools and report high levels of satisfaction. Health problems are very common: most respondents go to private clinics or doctors for small problems and to government hospitals for major concerns. Many households receive some form of government transfer, of which the most important are rations, pensions (for the aged, widows and disabled) and school-based stipends. However, the survey indicates significant under-coverage relative to apparent entitlements: poorer groups are actually less likely to hold below-the-poverty-line (yellow or red) ration cards; many people who seem, from the survey data, to be eligible for pensions do not receive them, and school-based stipends have effectively

no relation to household wealth. The overall picture is of widespread interactions with services delivered or regulated by the state, but often of low quality.

Slums are heterogeneous along some dimensions: there is a wide variation of identity groups, with Muslims and scheduled castes being over-represented relative to the overall Indian population. And there are significant differences within slums with respect to reported incomes and private assets — greater variation than between slums. But this is in sharp contrast to access to public services and transfers. Here the bulk of the variation is explained by inter-slum differences — not surprisingly in local public goods (such as garbage removal or water), but also with transfers such as BPL ration cards. Some slums receive much poorer service from the state than others.

This substantial concordance of problems within a slum tends to apply to all slums within a ward, and notably, between the main problems reported by slums and Resident Welfare Associations within wards. This raises an important question: if there is such concordance, why is the political system not responding and leading to more effective state action?

The survey provides extensive information on the political behavior of slum-dwellers that sheds light onto this question. There is extensive involvement in formal voting, and respondents report that they vote according to the issues and the quality of politicians, with almost none reporting voting on identity (caste or religious lines). There is little interaction with politicians to solve daily problems, but still over 30 percent of households have had some contact with a politician to deal with issues covered in the survey—most commonly the state-level Member of the Legislative Assembly, followed by the municipal Ward Councilor. Politicians are accessible and promise change, but usually nothing happens. Nevertheless, in a significant minority of cases an improvement is reported. Contradicting some accounts of slum-dwellers being dependent on local fixers and leaders, the majority of households report that they seek to solve daily problems themselves. NGOs are also strikingly absent from the picture.

Finally, there are clearly major areas of weak knowledge concerning personal entitlements, the names of elected representatives, and the very existence of some schemes. Substantial opportunities exist for improving public awareness and creating incentives for politicians and other state actors to improve living conditions in the slums.

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Table 1: Descriptive Statistics

	Full Sample	By Private Asset Quintile				
		1	2	3	4	5
Panel A: Identity Group						
Muslim	21%	25%	20%	19%	19%	17%
SC	39%	37%	41%	41%	38%	37%
ST	7%	9%	7%	7%	6%	4%
OBC	14%	15%	14%	15%	14%	13%
GC	20%	14%	18%	18%	23%	29%
Panel B: Migration into Slum						
Years lived in current residence	17 [12]	14	16	18	19	19
Percent who arrived in the slum in the last year	6% [.23]	11%	6%	3%	4%	3%
Panel C: Education status						
6-10 year olds in school	81% [.39]	61%	82%	87%	90%	89%
11-14 year olds in school	80% [.40]	61%	77%	83%	87%	91%
Average % of adults per household with no schooling	43% [.35]	58%	49%	44%	35%	26%
Adults with no schooling	41% [.49]	58%	48%	43%	35%	25%
Panel D: Asset ownership						
TV	80% [.40]	36%	82%	96%	98%	99%
Radio	17% [.38]	5%	10%	11%	27%	41%
Mobile Phone	74% [.44]	34%	68%	86%	94%	97%
Refrigerator	34% [.47]	1%	10%	23%	58%	92%
Own their house	82% [.39]	64%	73%	90%	92%	96%
Panel E: Employment						
Days worked in a month (all members of household/slum)	25 [5]	24	24	24	25	25
Distribution of adults in the top 10 occupations:						
Housewife/Homemaker	30%	28%	30%	30%	31%	33%
Unemployed	19%	15%	16%	18%	21%	22%
Petty Trader, Vendor or Hawker	10%	14%	13%	11%	8%	5%
Other Domestic Worker	9%	11%	8%	9%	8%	8%
Cleaner/Maid	7%	9%	8%	7%	7%	5%
Stitching	5%	5%	6%	5%	5%	4%
Driver	3%	3%	3%	4%	3%	4%
Waiter (in a dhaba)	3%	2%	3%	4%	4%	4%
Mechanic	2%	2%	2%	2%	3%	3%
Cook	2%	2%	2%	1%	2%	2%
Panel F: Fraction with identification						
Any card	90% [.30]	77%	89%	93%	96%	97%
Ration card	63% [.48]	42%	57%	69%	74%	77%
Voter registration	86% [.34]	75%	86%	89%	93%	94%
Panel G: Health status						
Visted a clinic for a minor health problem in the last six months	90% [.26]	89%	90%	91%	92%	91%
Visted a hospital for a major health problem in the last year	24% [.43]	21%	23%	25%	25%	26%

Table 2: Access to Public Facilities and Quality of Access

	Full Sample	By Private Asset Quintile				
		1	2	3	4	5
Panel A: Water and Sanitation						
Indoor household tap	25% [0.43]	13%	21%	23%	32%	43%
Outdoor or shared tap from well	36% [0.48]	40%	38%	33%	35%	33%
Outdoor or shared tap from municipal supply	57% [0.49]	66%	63%	60%	51%	40%
No municipal supply or well	3% [.166]	5%	2%	3%	2%	2%
In house latrine	36% [0.47]	15%	26%	32%	47%	69%
Public toilet	56% [0.49]	56%	61%	64%	56%	40%
Drain in the floor/toilet	19% [0.38]	11%	15%	20%	23%	29%
No specific outlet for drainage	47% [0.49]	66%	53%	49%	37%	25%
Taking garbage to a collection point (dumpster)	38% [0.48]	35%	39%	41%	42%	34%
Dumping in open land	42% [0.49]	54%	45%	40%	35%	33%
Faced non availability of water	44% [0.49]	37%	41%	46%	51%	47%
Reporting cleanliness is bad	16% [0.37]	19%	20%	18%	15%	8%
Reporting drain is smelly or overflowing	90% [0.30]	92%	90%	88%	89%	88%
Report nearest dumpster emptied less than once a month	1% [0.10]	1%	2%	1%	1%	1%
Panel B: Roads						
Largest vehicle possible outside road is no larger than a motorcycle	64% [0.47]	69%	69%	71%	63%	49%
Panel C: Electricity						
Electricity	99% [0.00]	96%	99%	99%	100%	100%
Reporting at least 3 hours of power cuts in June	65% [0.47]	69%	67%	61%	63%	63%
Reporting "very high bill" as a problem	17% [.37]	11%	17%	19%	19%	17%
Reporting illegal electrical connections (determined from mode of payment)	4% [0.20]	10%	4%	4%	2%	1%
Panel D: Education						
HHs with children in government school	54% [0.49]	44%	57%	61%	49%	49%
HHs with children in private school	17% [0.37]	7%	12%	14%	22%	34%
HHs with child in gov school who say teaching quality is bad	7% [0.25]	7%	5%	7%	6%	7%
HHs with child in priv school who say teaching quality is bad	2% [0.13]	0%	1%	4%	3%	0%
Panel E: Health						
Last Minor health problem - visited government facilities	29% [0.45]	32%	33%	29%	25%	22%
Last Minor health problem - visited private facilities	70% [0.45]	67%	66%	69%	74%	77%
Last Major health problem - visited government facilities	41% [0.49]	42%	42%	40%	40%	39%
Last Major health problem - visited private facilities	59% [0.49]	58%	58%	60%	60%	61%
Reporting a problem at the nearest government health center	61% [0.48]	54%	61%	62%	64%	66%
Reporting a problem at a government hospital (conditional on having received care there for the last major health problem)	57% [.49]	52%	58%	58%	58%	58%
Panel F: Security						
Reporting any problem of law and order	74% [0.44]	73%	76%	74%	75%	70%
<i>Of those reporting problems of law and order, specific issues reported</i>						
Theft	93% [0.26]	93%	93%	92%	93%	92%
Gambling	65% [0.48]	71%	68%	67%	61%	57%
Alcoholism/drunkenness	65% [0.48]	66%	65%	66%	66%	61%
Assault/violent crime	43% [0.50]	43%	43%	41%	43%	46%
Domestic violence/abuse	52% [0.50]	49%	50%	52%	54%	54%
Vandalism/destruction of property	7% [0.26]	7%	6%	8%	8%	10%
Illegal drugs	4% [0.19]	5%	3%	4%	4%	3%
Extortion	1% [0.09]	1%	1%	1%	0%	1%
Blackmail	0% [0.06]	0%	0%	0%	0%	0%
Reporting having gone to police for law and order problem	9% [.29]	8%	10%	8%	11%	12%
<i>Of those who went to the police, outcomes reported.</i>						
The police took a report and actively investigated	34% [0.47]	33%	29%	26%	43%	35%
The problem improved after going to the police	37% [0.48]	39%	30%	26%	42%	42%

Table 3a: Income and Ration Card Access

	Full Sample	By Private Asset Quintile				
		1	2	3	4	5
Card Holders						
Any Card	63% [.48]	42%	57%	69%	74%	77%
Below Poverty Line Card						
Red Card	13% [.34]	12%	14%	17%	14%	8%
Yellow card	17% [.38]	14%	18%	22%	19%	13%
Red or Yellow	30% [.46]	25%	32%	38%	33%	21%
Above Poverty Line Card						
White-stamped	21% [.41]	10%	16%	19%	27%	37%
White	12% [.32]	7%	9%	12%	14%	19%

Table 3b: Extent of Fulfillment of Ration Card Benefits

	Any	By Ration Card type		
		Red	Yellow	White stamped
Panel A: Rice				
Percentage of official amount received (Conditional on receiving any benefits)	76% [.31]	86% [.28]	81% [.32]	62% [.26]
Ratio Price Paid to official price (Conditional on receiving any benefits)	1.26 [.57]	1.43 [.87]	1.28 [.41]	1.08 [.25]
Panel B: Wheat				
Percentage of official amount received (Conditional on receiving any benefits)	78% [.20]	86% [.15]	83% [.17]	69% [.20]
Ratio Price Paid to official price (Conditional on receiving any benefits)	1.15 [.49]	1.35 [.86]	1.11 [.25]	1.04 [.16]
Panel C: Rice and Wheat Rations				
Percentage of card holders who received any ration*	92% [.26]	95% [.21]	95% [.22]	89% [.31]
Percentage of card holders who get less than the official amount of rice or wheat (Including those that receive no benefits)	82% [.38]	70% [.45]	78% [.41]	93% [.25]

*Any ration was not limited to rice or wheat but included any good (rice, flour, dal, salt, sugar, edible oil, wheat and kerosene oil) from the ration store.

1)The Red Antyodaya Anna Yojana (AAY) cards are intended to target the poorest of the poor. They cover destitute households with widows, single and destitute women, disabled, infirmed or aged persons with no assured means of subsistence.

(2) The Yellow BPL ration cards cover households with annual family income below Rs 24,200/- p.a.

(3) White-Stamped Cards (Above Poverty Line) are given to families having total family income above Rs 24,200 and below Rs. 1,00,000.

(4) White Unstamped Cards (Above Poverty Line) are given to families having total family income above Rs. 1,00,000. These cardholders are not entitled to rations.

Table 3c: Potential Pension Eligibility

	Full Sample	By Private Asset Quintile				
		1	2	3	4	5
Eligible for any pension	25% [.43]	22%	24%	23%	26%	29%
Eligible for old age pension	15% [.36]	13%	16%	14%	16%	19%
Eligible for widow pension	8% [.27]	7%	7%	8%	9%	10%
Eligible for disabled pension	3% [.18]	4%	4%	3%	3%	3%

Table 3d: Pension Receipt as a Percent of Eligibility

	Full Sample	By Private Asset Quintile				
		1	2	3	4	5
Any Pensions	38% [.48]	36%	32%	36%	45%	40%
Old Age Pension	32% [.46]	36%	24%	29%	36%	33%
Widow Pension	46% [.50]	34%	50%	47%	55%	45%
Disabled Pension	16% [.37]	15%	19%	9%	20%	15%

(1) To be eligible for the old age, widow, or disabled pension, an individual must meet three specifications: they must have an income of less than Rs.48,400 per year and they must have lived in Delhi for five years or more. We used years in current residence as a proxy for the Delhi residency requirement. To qualify for the old age pension, the last specification the individual must meet is to be over 60 years of age. To qualify for the widow or disabled pension, the last specification the individual must meet is to be a widow or disabled, respectively.

Table 3e: School Scholarships and Other Non-cash Transfers Receipt

	Full Sample	By Private Asset Quintile				
		1	2	3	4	5
Percent of children (6-14) in government schools who receive a scholarship	54% [.50]	57%	58%	48%	53%	54%
Percent of children (6-14) in private schools who receive a school scholarship	3% [.18]	10%	7%	4%	1%	1%
Percent of children(6-14) in government schools who receive free textbooks from school	89% [.31]	92%	91%	90%	86%	84%
Percent of children(6-14) in private schools who receive free textbooks from school	6% [.23]	17%	9%	5%	4%	2%
Percent of children(6-14) in government schools who receive free stationary from school	26% [.44]	34%	25%	19%	27%	22%
Percent of children(6-14) in private schools who receive free stationary from school	2% [.13]	5%	7%	1%	1%	0%
Percent of children(6-14) in government schools who receive free uniform from school	78% [.41]	77%	78%	83%	76%	76%
Percent of children(6-14) in private schools who receive free uniform from school	5% [.22]	14%	7%	4%	4%	2%
Percent of children(6-14) in government schools who receive any non-cash school transfer	92% [.27]	95%	93%	93%	90%	89%
Percent of children(6-14) in private schools who receive any non-cash school transfer	6% [.24]	21%	11%	5%	4%	2%

Table 3f: Use of Schemes

	Full Sample	By Asset Private Quintile				
		1	2	3	4	5
Use of EWS education scheme	0.4% [.06]	0.3%	0.4%	0.5%	0.2%	0.7%
Use of hospital scheme	1.3% [.11]	1.2%	1.0%	1.4%	1.5%	1.1%

Table 4: Explanatory Power of Slum-Level versus Ward-Level Fixed Effects

	Use a municipal water supply	Have access to a flush toilet to a piped sewer	Have an electrical connection	Dispose of trash in a dumpster	Receive a pension, if eligible	Has either voter registration or a ration card	Has Red or Yellow ration card							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Panel A: Slum Fixed Effects														
Slum Fixed Effects	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Private Asset index		0.0542*** (0.00518)		0.0734*** (0.00605)		0.0228*** (0.00200)		-0.00399 (0.00712)		0.0152 (0.0174)		0.0503*** (0.00525)		0.0266*** (0.00783)
N	5,383	4,840	5,383	4,840	5,270	4,840	5,379	4,836	1,476	1,335	5,373	4,833	5,383	4,840
R-squared	0.537	0.565	0.431	0.456	0.145	0.198	0.457	0.452	0.230	0.238	0.184	0.150	0.254	0.262
F-test (on Slum Fixed effects only)	24.57	23.34	16.01	12.08	3.49	3.87	17.77	15.57	1.66	1.55	4.76	2.59	7.21	6.56
P-stat (on Slum Fixed effects only)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Panel B: Ward Fixed Effects														
Ward Fixed Effects	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Private Asset index		0.0603*** (0.00508)		0.0918*** (0.00582)		0.0264*** (0.00194)		0.0167** (0.00713)		0.0192 (0.0157)		0.0535*** (0.00484)		0.0164** (0.00734)
N	5,481	4,918	5,481	4,918	5,365	4,918	5,477	4,914	1,505	1,361	5,470	4,910	5,481	4,918
R-squared	0.459	0.489	0.344	0.382	0.045	0.080	0.329	0.325	0.135	0.139	0.132	0.108	0.197	0.202
F-test (on Ward Fixed effects only)	44.77	42.54	27.60	20.84	2.43	2.45	25.87	22.74	2.14	1.93	7.99	3.98	12.96	11.62
P-stat (on Ward Fixed effects only)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Panel C: Slum and Ward FE (with one Slum dropped per ward)														
Slum Fixed Effects	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Private Asset index		0.0595*** (0.00760)		0.0574*** (0.00783)		0.0249*** (0.00302)		-0.0263*** (0.00954)		-0.0241 (0.0263)		0.0529*** (0.00778)		0.0329*** (0.0111)
N	2,924	2,620	2,924	2,620	2,844	2,620	2,920	2,616	767	693	2,918	2,616	2,924	2,620
R-squared	0.560	0.577	0.478	0.502	0.192	0.221	0.513	0.511	0.282	0.293	0.232	0.185	0.280	0.279
F-test (on remaining slum Fixed effects only)	4.02	3.72	3.53	3.64	3.52	3.15	6.28	5.99	1.39	1.39	1.18	1.12	2.42	2.26
P-stat (on Remaining slum Fixed effects only)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.020	0.021	0.096	0.178	0.000	0.000

Table 5a: Most Problematic Issues in areas according to RWA

	Full Sample
Water	33%
Sewage/Drainage	25%
Crime/Thefts/Security	8%
Parks and greenery	6%
Roads	6%
Payment of water/electricity bills	5%
Electricity	4%
Garbage Removal	3%
Education	3%
Encroachment	2%
Stray dogs in colony	2%
Health	1%
Ration	1%
Pension	0%
Street lights	0%

Table 5b: Most Problematic Issues in areas according to DUP

	Full Sample	By Private Asset Quintile				
		1	2	3	4	5
Water	50%	53%	50%	50%	46%	49%
Sewage	21%	17%	21%	23%	23%	20%
Garbage Removal	15%	15%	15%	13%	14%	17%
Rations	9%	8%	10%	10%	10%	7%
Electricity	2%	4%	2%	2%	2%	2%
Law and Order	1%	1%	1%	1%	2%	1%
Pensions	1%	1%	1%	1%	2%	1%
Health	1%	1%	1%	1%	1%	1%
Education	0%	0%	0%	0%	0%	1%

Table 6: Political life of Delhi slum dwellers

	Full Sample	By Asset Private Quintile				
		1	2	3	4	5
Panel A: Political Activism by slum dwellers						
Registered households	86% [34.43]	75% [43.58]	86% [34.95]	89% [31.91]	93% [25.57]	94% [24.62]
Voted in the last municipal election	84% [36.71]	76% [42.85]	84% [36.62]	85% [35.27]	87% [33.41]	87% [33.44]
Panel B: Participation in a political party or candidate's activities						
Attended no event	69% [46.09]	72%	68%	67%	67%	71%
Attended march	23% [41.9]	22%	25%	25%	22%	20%
Received cash (conditional on attending march)	5% [.21]	7%	3%	4%	4%	4%
Received non-cash incentive (conditional on attending march)	23% [.42]	26%	26%	21%	17%	22%
Attended speech/rally	24% [42.5]	19%	25%	26%	26%	22%
Received cash (conditional on attending speech/rally)	3% [.17]	3%	3%	3%	2%	3%
Received non-cash incentive (conditional on attending speech/rally)	19% [.40]	22%	21%	18%	16%	18%
Panel C: Important deciding factors for voting						
Issues only	63% [.48]	68%	66%	62%	61%	59%
Both candidate's character and issues	22% [.41]	18%	21%	21%	23%	26%
Local development	98% [.13]	98%	98%	99%	98%	98%
Crime/Law and order	97% [.16]	96%	97%	97%	97%	97%
Price rise	99% [.09]	99%	99%	99%	99%	99%
Government corruption	94% [.23]	93%	94%	95%	94%	94%
Regularization/sealing	81% [.39]	84%	82%	81%	78%	77%
Candidate's past government work	50% [.50]	48%	53%	52%	50%	43%
Candidate's party	37% [.48]	28%	34%	40%	42%	43%
Caste or Religion	1% [.12]	1%	1%	2%	1%	1%
Panel D1: Discussion of Politics (HH-level)						
Discuss politics/political parties' activities rarely or never	58% [.49]	70%	62%	58%	52%	47%
Discuss politics frequently around elections	29% [.45]	21%	26%	32%	31%	36%
Discuss politics sometimes or often	13% [.32]	9%	12%	10%	17%	17%
Panel D2: Political Awareness						
Knows name of councillor	31% [.46]	21%	26%	32%	37%	45%
Knows name of MLA	37% [.48]	28%	36%	40%	40%	46%
Aware that councilor is given funds to spend in the ward	36% [.50]	27%	34%	33%	40%	49%
Aware of funds and approximate amounts allocated to councilors	3% [.17]	1%	2%	3%	4%	6%
Aware of EWS education scheme	4% [.19]	2%	3%	3%	4%	8%
Aware of hospital scheme	6% [.25]	4%	4%	7%	7%	10%

Table 7a: Public Officials

	Ration Cards	Health Scheme	Education Scheme	Eviction	Sanitation	Water	Electricity	Crime
Approached Public Official	12%	1%	1%	7%	11%	15%	4%	1%
	[.32]	[.09]	[.11]	[.25]	[.31]	[.36]	[.19]	[.11]
<i>Contingent upon approaching a public official...</i>								
Role of Official Approached								
Councilor	22%	27%	24%	14%	51%	27%	21%	23%
MLA	74%	62%	67%	77%	46%	70%	76%	69%
MP	2%	10%	9%	9%	2%	3%	3%	8%
Meeting Composition								
Alone	36%	41%	44%	0%	7%	3%	20%	9%
Group	63%	58%	56%	100%	93%	97%	80%	91%
Outcome of Meeting								
Not in Office	3%	1%	1%	1%	0%	1%	5%	1%
Refused to Speak	1%	0%	1%	1%	2%	1%	-	3%
Could not/Refused/Did not Help	6%	9%	3%	10%	2%	4%	9%	63%
Said would help but nothing happened	41%	18%	22%	-	32%	46%	27%	-
Told someone to help but nothing happ	30%	29%	26%	-	31%	-	34%	-
Problem resolved	17%	18%	29%	89%*	33%	48%	30%	27%
Other	5%	3%	4%	-	-	-	-	3%

*For eviction, problem resolution consisted of 86% slum not cleared, 3% restitution for slum clearing

Table 7b: Help from Public Officials or Others

<i>Person who helped obtain services</i>	Ration Cards	Health Scheme	Education Scheme	Water	EWS Education	
					Scheme	Hospital Scheme
	**			***		
Elected Official	1%	2%	14%	2%	10%	1%
No one/Self	88%	98%	86%	90%	57%	64%
Pradhan	5%	-	-	4%	-	-
Agent	1%	-	-	0%	-	-
Relative/Friend	3%	-	-	2%	-	-

** Who helped obtain a ration card

***Who helped get water restored after it was turned off

Appendix:**I. Responsibility for services**

1. *Water.* Delivered by the Jal board, a corporatized state entity. High ranking problem. Only a quarter have indoor piped water; a majority depend on shared tap or well. Almost half (44%) have experienced nonavailability of water, but only 4% have been threatened with disconnection owing to an illegal connection or failure to pay fees. When faced with nonavailability over two-thirds of households (68%) did nothing; less than 20% talked to Jal board.
2. *Sanitation.* Municipality for local sanitation. High ranking problem. Only 36% have an indoor private toilet, over half have access to a public toilet, and the same access to an outdoor non-toilet. 76% have an open drain in front of their houses; almost all had experienced overflowing.
3. *Garbage removal.* Municipal responsibility. High ranking problem. Infrequent pickup.
4. *Electricity.* Delivered by privatized firms with geographic monopolies. A medium problem, with most households experiencing outages. 92% seem to have a legal connection and to pay for it, mostly directly to the company. Only 8% had been threatened with disconnection, owing to late bills or an illegal connection.
5. *Schools.* 80% of school-going children go to government schools (a mix of state and municipal). Education referred to only by a few as a problem, and satisfaction levels are quite high e.g. an average of 2.4 out of 3 for teaching quality and attendance, compared with 2.7% for private schools. Government transfers are extensive, with 82% of children in government schools receiving free textbooks, 73% receiving free uniform, and 52% a stipend [to check eligibility]. Transfers are very low in private schools. And only 4% are aware that private schools have to provide free education for poor people if they received land at a subsidized price from government.
6. *Health clinics and hospitals.* Municipal government for clinics; Delhi state for hospitals. Health is referred to only by some 7% as a common problem. But 71% choose a private facility for minor health problems, and 51% for a major health problem. People choose facilities based on convenience/location and perceived quality. Two-thirds noticed problems in government hospitals, especially time taken (52%), busy doctor (25%), no medicine (20%), and rude workers (14%)
7. *Pensions.* Some 30% of respondents/individuals [to check] were formally eligible for either old age, widow or disability pensions from the Delhi State; less than half actually received, and much less for disability.
8. *Rations.* 60% have a ration card, generating access to the central government public distribution system for rations. Rations are cited by 28% as a problem.
9. *The police.* While 75% report problems of crime, only 10% have gone to the police over problems (higher than expectations given the general reputation

of the police). Of those who went, about 50% reported the police actively investigated; in almost 40% the situation “got better”.

II. Samajik Suvidha Sangam and Delhi Urban Shelter Improvement Board

Samajik Suvidha Sangam, or Mission Convergence, seeks to bring a number of existing programs into a single process, as an effort to ensure access to those entitled and effective implementation for the disadvantaged, working especially through local “gender resource centres.” Mission Convergence works closely with civil society groups, with different NGOs allocated responsible for each geographic location. This is complemented by a major exercise to develop a listing of all vulnerable households throughout Delhi, including the homeless. To quote the Delhi state government:

“Long-term objective of this program is to package useful social sector welfare entitlement schemes focusing on empowerment of the poor together at delivery level thereby maximizing their impact and efficiently utilizing scarce financial resources through active involvement of community in a concerted and focused manner.” (Delhi Government 2009)

The schemes include the major pension and school-related transfer programs, as well as the ration card system.

In a recent development, a new entity called Delhi Urban Shelter Improvement Board (DUSIB) came into being in July 2010, after an act was passed by the legislative assembly of the Delhi state government. This new board was mandated with resettlement, development, and allotment of low-income housing and provision of infrastructure and basic civic amenities to slums and jhuggi jhopdi clusters. Under this Act, the Slum & JJ Department of the MCD has been transferred to DUSIB, but with MCD representation. However, the exact division of responsibilities in the slum areas between DUSIB and MCD’s General Wing and the implications of this shift are still unclear. These changes occurred after the period covered by the surveys analyzed here.

III. Data Appendix

A. Creation of Asset Index

An asset index was created for the sample using principal component analysis to assign indicator weights. For this analysis, 11 of the 40 indicators in the NFHS index that were included in our survey were used - household possessions (radio, TV, refrigerator, bicycle, motorcycle/scooter, car, landline phone and mobile phone), roof material, wall material and house ownership. Our asset index intentionally does not incorporate access to public goods and services used in the NFHS wealth index

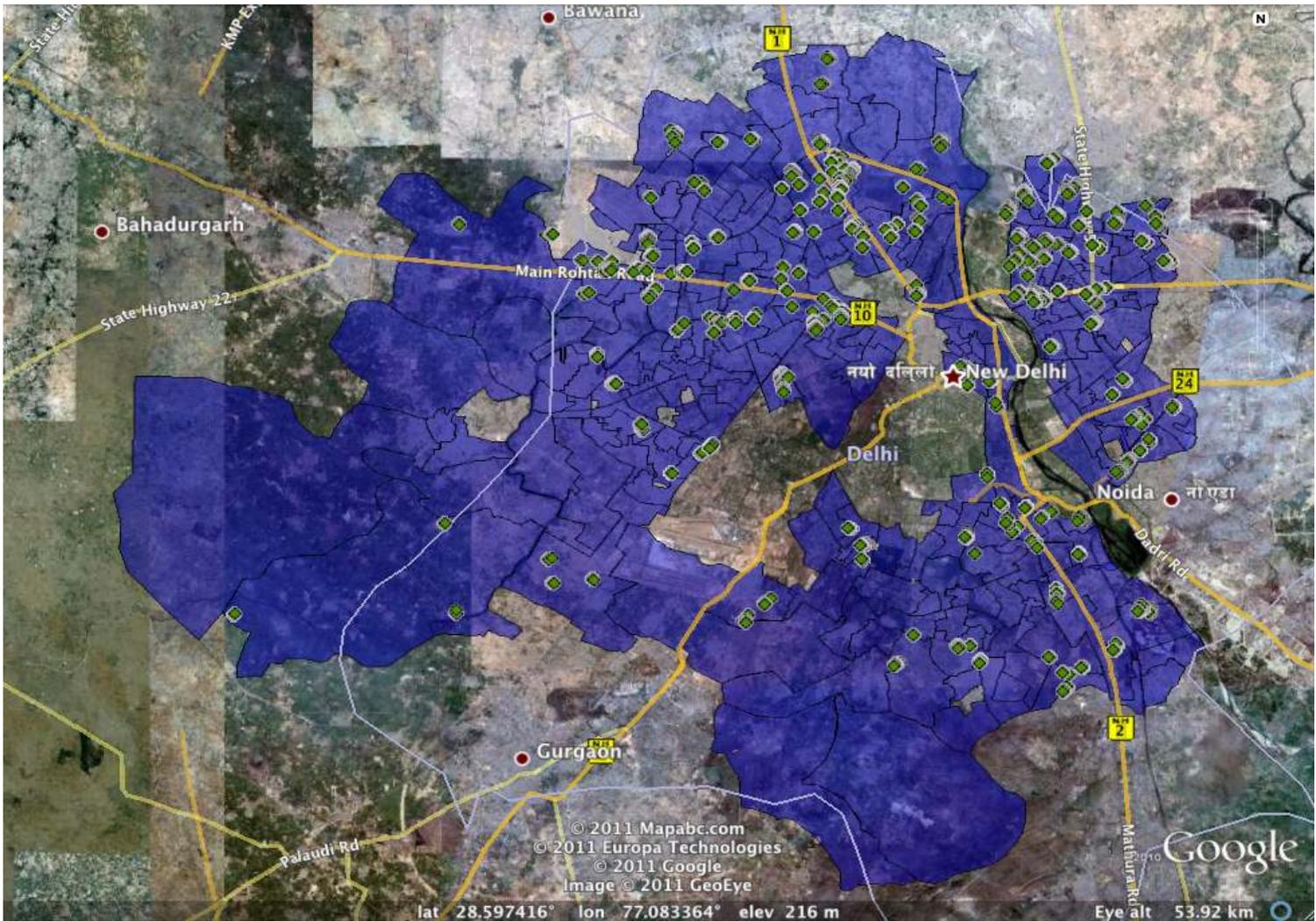
(such as drinking water source, non-drinking water source, toilet facility, household electrification) since these are the very factors the study analyzes (and would have biased any regression results exploring correlates of public service that used an asset index as an independent variable, because the public service would have been on both sides of the regression). Following the NFHS methodology, the sample was also weighted by household size.

B. Details on Ration Cards

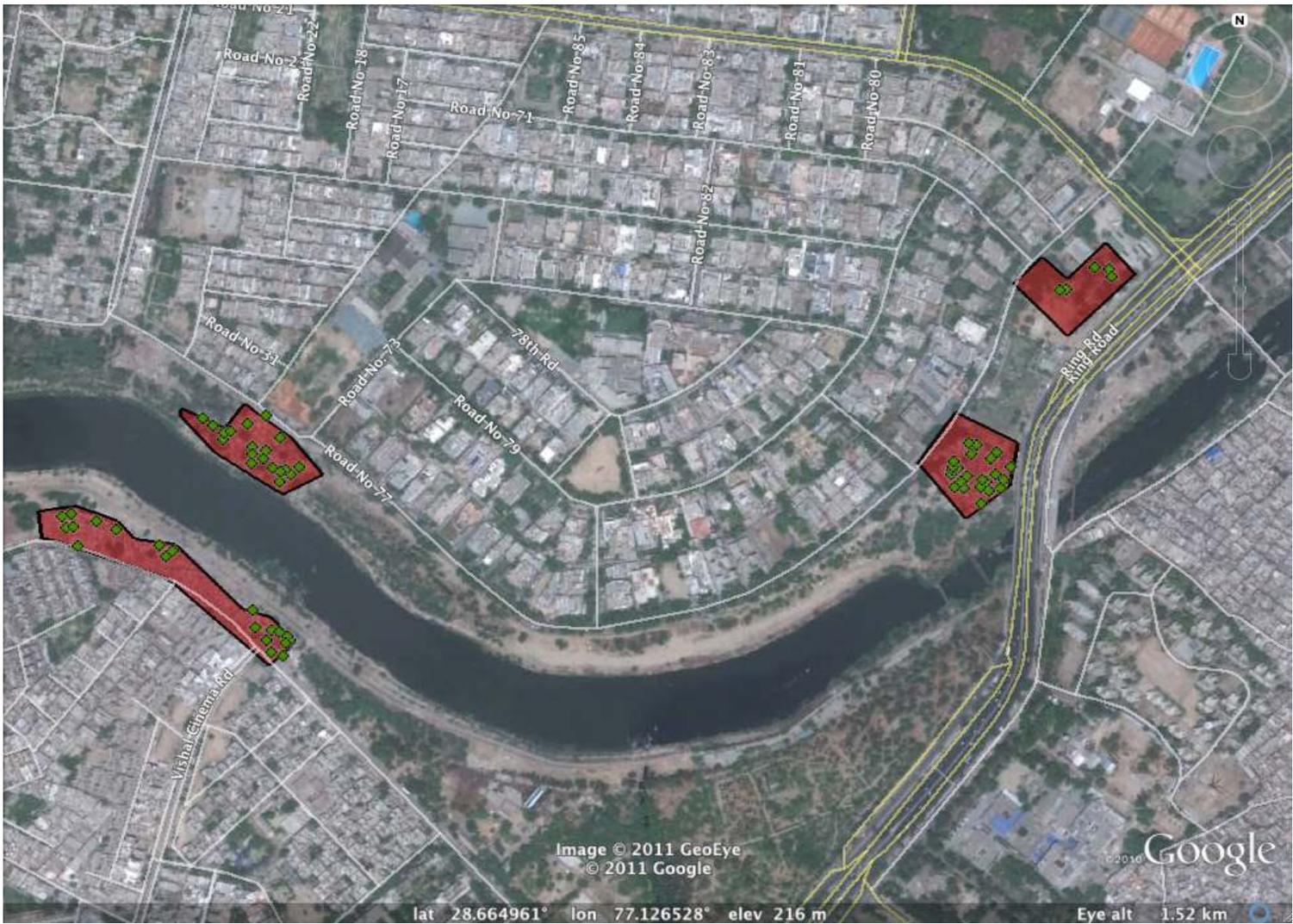
1. The Red Antyodaya Anna Yojana (AAY) cards are intended to target the poorest of the poor. They cover destitute households with widows, single and destitute women, disabled, infirmed or aged persons with no assured means of subsistence. Each beneficiary receives 35kg. of food grains, at a highly subsidized price of Rs. 2/- per kg. for wheat and Rs. 3/- per kg. for rice.
2. The Yellow BPL ration cards cover households with annual family income below Rs 24,200/- p.a. They receive rations at subsidized prices such as Rs 6.15/kg for rice and Rs 4.65/kg for wheat and are entitled to 35 kgs of food grains.
3. White stamped APL cards are given to families having total family income between Rs 24,200 and Rs 1,00,000 per annum. They receive ration at Rs 6.80/kg for wheat and Rs 9/kg for rice and are entitled to 35 kgs of foodgrains as well.
4. White unstamped cards are given to families with total family income above Rs 1,00,000 per annum. These cardholders do not receive rations.

IV. GIS Appendix

- 1) Map of Delhi showing the distribution of all surveyed slum clusters (green dots) in 102 randomly sampled wards



- 2) Map of four slums (red boxes) in Punjabi Bagh, Ward no. 103 in Delhi, showing the spatial location of sampled households (green dots)



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