Working paper

The Political Economy of Public Goods Provision in Slums

Mahvish Shami
Hadia Majid

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The Political Economy of Public Goods Provision in Slums

Preliminary results from a field study in urban Pakistan

Mahvish Shami* and Hadia Majid*

For the first time in human history the urban population outnumbers the rural one. This is both due to villages growing to become towns and cities, and migration of the rural population to urban cities. Structural adjustment programs implemented in the 1980s and 90s, which entailed a reduction in rural subsidies and deregulation of the agrarian sector, are argued to have resulted in a fall in rural livelihoods (Davis 2006, UN-HABITAT 2003). This fall in turn made life in the city much more attractive as urban areas offered better facilities in terms of health, education and higher likelihood of more lucrative formal sector employment and resulted in mass rural to urban migration (Bilsborrow 2001, UN-HABITAT 2003). However, what does make the urban migration witnessed in the 20th century surprising is that, unlike the 1800s and 1900s, migration in the developing world has not been driven by rising economic growth (see Beall and Fox 2009 for an overview). According to Davies (2006) with the exception of China, Korea and Taiwan, urban cities in developing countries lack the manufacturing export bases or foreign investment needed to absorb the rising number of urban workers. As a result these migrants to the city, rather than being labourers fuelling industry, find themselves working in the informal sector. The benefits of this sector, along with its ability to pull people out of poverty, are widely debated: while there is

* Department of International Development, London School of Economics and Political Science, Houghton Street, London, WC2A 2AE
consensus that it helps reduce the vulnerability of the poor (Gulyani and Talukdar 2010), there is disagreement regarding whether it enables them to improve their economic wellbeing (see Develtere (2005) for an overview of this literature).

Thus, given their low economic status most of these migrants are unable to afford to rent housing in the formal housing sector and instead find themselves living in illegal settlements such as slums, shantytowns or squatter colonies. Slums as defined by the UN are settlements which have a combination of insecure tenure, non-durable living structures, insufficient living areas and deficient access to adequate water and/or sanitation (UN-Habitat 2003). According to the UN’s calculations, in 2003 870 million people lived in slums, and this figure was estimated to increase to 1.43 billion by 2020. And while up until the 1950s it was thought that these settlements were transitory, providing cheap housing to the poor until they improved their economic circumstances, it soon became apparent that for most slum dwellers these settlements were more permanent residences (Beall et al 2010). This was both due to people being unable to afford the move as well as their unwillingness to do so, where the latter was driven by the convenience of the location and the community network\(^1\) they had established in the slum settlement (Davies 2006).

The perceived transitory nature of slums resulted in most governments adopting a policy of benign neglect (Beall et al 2010, Njoh 2003). This essentially meant ignoring these migrants’ illegal land grabbing activities, but at the same time not providing them with any public

\(^{1}\) These networks are particularly important when the state is not providing social security networks to its citizens.
goods, thereby resulting in these settlements having very unsanitary living conditions. And while the policy outlook on slums has shift significantly, so much so that since 1990s there has been a strong push for slum up-grading – which entails public provision to these communities – inhabitants of these settlements continue to live with grossly under-provided public goods (See for example Beall et al 2010, Abelson 1996; World Bank 2000) While this of course has general implications for poverty reduction, more seriously, unsanitary communities can pose considerable health risks for its residents. Sacquet (2002) for example notes that nearly half the urban residents in Africa, Asia and Latin America are victims of water borne diseases. Similarly, statistics collected by the African Population and Health Research Centre (2002) on Nairobi finds that infant and child mortality tends to be significantly higher in slums than in other formal settlements. This once again is attributed to poor water and sanitation. These findings are corroborated by other researchers looking at slums in different parts of the world (See Davies 2006 for an overview of this research). As noted by Krishna (2010) the effects of bad health can be particularly devastating for the poor as it not only limits their ability to earn a living, but the added expense can push them below the poverty line.

Notwithstanding the health implications for the poor, public goods provision to these settlements may be seen to present policy makers with an interesting conundrum. On the one hand, as mentioned above, these settlements comprise of poor citizens who are particularly disadvantaged by the absence of public goods. On the other hand, most of these residents are illegal squatters and thus providing them with public goods would involve implicitly legitimising their land-grabbing activities. Interestingly, literature on the political economy of
slums does not find the illegality of these settlements to be a contributing factor towards their low levels of provision. Instead, as will be argued below, politicians may find the illegality of these settlements fairly advantageous and may exploit it for their own political advantage (Fox 2014, Baken and Linden 1992, Davies 2006). A more convincing argument regarding under-provision therefore lies in the political economy of corruption and clientelism which create perverse incentives when it comes to public investment in slums.

This paper aims to explore this relationship and its impact on public provision. Focusing on urban Pakistan we find that while slums are indeed under-provided with public goods, certain characteristics, both of the slums and households themselves, precipitate this under-provision. For instance, our results show that slums situated in the periphery of the city are significantly less likely to enjoy public investment. Moreover, within the settlement households that own the land they live on and are aligned with the political party in power are significant more likely to have access to public resources. These are households who have relative high bargaining power and therefore are able to demand some level of public provision from the patronage network. The section that follows gives a theoretical overview of this bargaining game which is played out between slum dwellers and local politicians. The section highlights the main factors influencing relative bargaining powers and ends by laying out two testable hypotheses. Section 2 describes the field study and our empirical strategy. Section 3 highlights our preliminary findings and section 4 concludes the paper.
1. The Political Economy of Patronage in Slums

The bargaining position of slum dwellers is impacted significantly by the illegality of their living situation. Most slum dwellers are found to violate the law and regulations to varying extents. On one end of the spectrum are households that are illegal squatters, while on the other exist households who have property rights but are violating building regulations. Thus while the degree of illegality varies, most households are in fact in violation of the law (Davies 2006). This illegality is likely to place households at a disadvantage when making demands off the state.

For politicians, on the other hand, the illegal nature of slum residences can provide an opportunity for political contracting and patronage as slum households are likely to require high levels of protection from the law. This protection can be provided by local politicians in exchange for guaranteed votes in the election. Thus an exchange relationship can be established where the slum dwellers offer votes in return for legal protection and access to public resources. The terms of the exchange would depend on the relative bargaining power of each party. While households with relatively strong bargaining power should be able to extract public investment from the exchange, those with a weaker standing may get little other than protection from eviction.

The bargaining power of households is likely to vary based on their level of ownership within the settlement. Households with the weakest bargaining power would be those who lack both
property rights and squatter rights\textsuperscript{2}. These are households who are most vulnerable to eviction and thus our expectation is that they would only be able to secure protection against eviction in their contract with the politician. Households with the strongest bargaining power, on the other hand, would be those who enjoy property rights. In order to secure their votes, we would expect that politicians offer some level of public provision. In the middle lie households who have squatter rights. They too should be able to bargain for access to some public resources in return for voting for the politician.

However, households’ tenure security, and thus the bargaining power it brings with it, is also impacted by the type of slum it resides in. Slum recognition was a policy widely popular in the 1980s, whereby governments would recognize the existence of the slum and grant its inhabitants the right to live there (Beall et al. 2010). Hence, at some point or the other, most developing countries have engaged in slum recognition, resulting in some settlements having tenure security. Therefore, households situated in a recognised community should have stronger bargaining power than those living in unrecognised slums and thus should be able to demand higher levels of public provision.

Lastly, we argue that the location of the slum itself should also matter. Slums in developing countries are found both in the periphery and the centre of the city. While those in the periphery are relatively hidden, those found in the centre are highly visible and tend to be an eye-sore. Those situated in the centre of the city should be more likely to receive public

\textsuperscript{2} Squatter rights are determined by the time the household has spent in the area where it is squatting. Those who have lived in a settlement for a long time can claim the right to live there indefinitely.
goods when compared to slums in the periphery. Living in the centre makes these settlements extremely visible, thereby having a twofold effect. First of all, the visibility of inner city slums makes it possible for politicians to demonstrate their pro-poor ideology; they can show their responsiveness to the poor by providing for these settlements. Secondly, demand for provision in inner city slums may come from more influential citizens who suffer from negative externalities from these communities. These would be people living around the slum communities who suffer because of their unhygienic conditions. Hence, our expectation would be that those living in unrecognised communities in the periphery are least likely to enjoy public investment while those living in recognised slums in the centre of town are most like to receive public provision.

Based on this we are then able to draw two testable hypotheses.

1. The type of slum a household resides in should have an impact on their chances of receiving public provision. Tenure security in slums recognised by the state should enable residents to demand state investment in their settlements.
   a. Furthermore, where the slum is located should also matter. Those in the centre of the city should have a higher chance of receiving public goods when compared to those living in the periphery.

2. Within the slum who receives public goods should vary depending on the level of ownership of the household. Those who enjoy property rights should have higher

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3Their first demand may well be to have the slum relocated/removed. However, for those settlements that cannot be moved they may ask to have them cleaned up.
bargaining power which should allow them to demand higher levels of public provision.

Thus while the first hypothesis would require us to look at slums that vary based on distance from the centre and recognition by the state the second one requires an analysis within the slum to determine who is benefitting from higher levels of provision.

2. **Methodology:**

In order to test these two hypotheses we look at public goods provision in slums in Lahore, Pakistan. The literature on slums and patronage extensively documents the presence of patronage politics in slums communities in Pakistan, thus making it a good case study for this paper (see Baken and Van der Linden 1992 for a detailed overview of this literature). Baken and Van der Linden (1992) note how slums in Pakistan are seen as vote banks by politicians who trade votes in exchange for tenure security. Within Pakistan we chose to look at Lahore because of the political party that is in power in the province. The provincial government of Punjab is headed by the Pakistan Muslim League Noon group (PML-N), which is also the party that won the national election in 2013. Moreover, the incumbent Chief Minister is currently serving his fourth term in office, the first being in 1999. This long stretch in power has enabled the party to create strong patronage networks⁴.

Within the city we look at 12 slums that vary based on two criteria, location and whether the slum is recognized by the government. While half of the slums we visited were situated in the

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⁴ These networks may enable them to secure votes without having to provide public goods.
centre of the city, the other half were found in the periphery. Moreover, half of the settlements visited were notified (recognised) in the government records, thereby resulting in the settlement having tenure security. The other 6 were not notified (not recognised). This variation presented us with 4 types of slums; slums in the core of the city that were notified and non-notified and slums in the periphery that were notified and non-notified.

<table>
<thead>
<tr>
<th></th>
<th>Notified</th>
<th>Non-notified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Periphery</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

This two-by-two variation allows us to analyse the differential effect of distance and slum recognition on the households’ chances of receiving public goods. Based on hypothesis 1 we would expect higher levels of provision in slums that are notified when compared to those that are not notified. We would also expect provision levels to be higher in slums situated in the centre of the city. The empirical question then becomes whether non-notified slums in the centre are better off when compared to notified slums in the periphery.

Within the slums the data collection process entailed mapping the slums – which involved identifying the location of every single household within the settlement – and then drawing a random sample of 20% of households. Detailed household level surveys were conducted in the sample households. These surveys asked both closed ended and open ended questions so as to give us a holistic understanding of the political economy of these slums.
3. Empirical evidence

Figure 1 below illustrates the level of public goods provision\(^5\) in the different types of slums. As can be seen, the highest level of provision is found in the core of the city; at least 40% of households living in the core have access to public goods, and this figure is even higher when we look at notified slums in the core. Interestingly, the difference in provision levels in notified and non-notified slums in the core is not statistically significant. Therefore, when living in the centre of the city, tenure security provided by the state does not seem to matter much for households’ chances of receiving public goods. Turning to slums situated in the periphery we find that, not only are provision levels much lower than those in the centre of the city\(^6\), but also the difference between provision levels in notified and non-notified slums is statistically significant (at the 10% level). Hence this lends evidence to the claim that when the slum is not visible to most city residents, tenure security matters for households to gain access to public resources. Lastly, amongst slums that are notified, we find that those who are also in the core have a better chance of receiving public goods (the difference is significant at the 1% level).

\(^5\) The public goods we look at in this study are water, drainage systems and paved streets.

\(^6\) The difference is statistically significant.
In order to test whether these results hold after controlling for household specific characteristics we run the following logistic regression model.

\[ Y_{is} = \alpha + \beta_1 N_s + \beta_2 C_s + \beta_3 N_s \ast C_s + \xi_{is} \] (1)

\[ Y_{is} = \alpha + \beta_1 N_s + \beta_2 C_s + \beta_3 N_s \ast C_s + \xi_{is} + \beta_4 G_{is} + \beta_5 L_{is} + \beta_6 W_{is} + \beta_7 L_{and_{is}} + \xi_{is} \] (2)

\[ Y_{is} = \alpha + \beta_1 N_s + \beta_2 C_s + \beta_3 N_s \ast C_s + \xi_{is} + \beta_4 G_{is} + \beta_5 L_{is} + \beta_6 W_{is} + \beta_7 L_{and_{is}} + \beta_8 L_{iv_{is}} + \beta_9 V_{B_{is}} + \beta_{10} V_{G_{is}} + \beta_{11} V_{O_{is}} + \beta_{12} A_{is} + \xi_{is} \] (3)

\( Y_{iv} \) is a binary variable taking the value of 1 if household \( i \) in slum \( s \) has public goods provided to it, 0 otherwise. \( N_s \) takes the value of 1 if the household resides in a slum that is notified in the state registry (i.e. it is recognised by the state as a legitimate settlement). For households situated in the core of the city \( C_s \) is 1, and it is 0 for household residing in the periphery. Equation 1 also includes an interaction term, \( N_s \ast C_s \), which captures the effect of belonging to a notified slum situated in the centre of the city.
Equation 2 goes on to control for household specific characteristics to see if belonging to a particular type of slum continues to have a significant impact on the households’ chances of receiving public provision. Starting with household employment, $G_{is}$ takes the value of 1 if any member of the household is employed in a government organisation. This variable is included on the assumption that households which have a government job have higher bargaining power because a) they have job security and b) they enjoy greater access to government officials. Therefore we would expect these households enjoy higher levels of public provision. Conversely, we stipulate that households who work as wage labourers should have lower bargaining power. This is assessed through the variable $Lab_{is}$. Moreover, we argue that households who are economically better off should have higher bargaining power as they would be self-sufficient for their basic needs. $W_{is}$ measures the effect of log wages on the households’ chances of receiving public provision. Lastly, equation 2 captures the effect property rights have on the households’ chances of receiving public goods. $Land_{is}$ takes the value of 1 if the household owns the land they live on.

Equation 3 starts by looking at the effect of squatter rights. $Liv_{is}$ takes the value of 1 if the household recently moved to the slum and therefore does not have squatter rights and 0 otherwise. The equation also controls for the households’ political behaviour. $VB_{is}$ takes the value of 1 if the household votes in a voting bloc\(^7\). A voting bloc is a group of households that vote together under the leadership of a local influential. While decision making within the bloc varies based on relative bargaining power, all members of the bloc do vote for the same

\(^7\) In order to determine whether a household is part of a vote bloc we used the same set of questions used by Shami (2012a, 2012b). This involved asking the household if they voted collectively. If they responded yes then we went on to ask who the head of the bloc was, why that person was considered the head, why they chose to join the bloc and whether they would face any costs if they didn’t listen to the bloc leader.
candidate. Since decisions in these blocs are made collectively, politicians wanting to secure votes need to contract with the leader of the bloc and not individual voters. Interestingly, even though the main function of these vote blocs is to make political decisions, Shami (2012a) documents how they are actually a social network that performs wider social functions. Depending on relative bargaining powers she finds that these networks can range from being highly exploitative to being a platform through which those within the network can gain access to public goods. Therefore, whether a household receives public goods or not would depend on their relative bargaining power vis-à-vis the leader of the bloc (See Shami 2010, 2012b for an overview of vote bloc politics). We stipulate that households who join these blocs in urban slums are those who tend to have weak bargaining power and are in need of protection of some kind and therefore will lack the ability to negotiate public provision on their own. Therefore, in this analysis a vote bloc is considered a negative social network as it reduces the household’s chances of receiving public goods. Accordingly, amongst households voting independently, we expect that households which support the party that takes over government should receive higher levels of provision when compared to supporters of the opposition. \( VG_{is} \) and \( VO_{is} \) test for this with the former being 1 if the household voted for the party that forms the government and the latter being 1 if it voted for the opposition. Lastly, \( AI_{is} \) tests whether having access to a local patron increases the households’ chances of receiving public goods.

Column 1 in Table 1 starts by running equation 1, which only looks at the effect of belonging to the different types of slums. We find that living in the centre of the city has a statistically significant impact on the households’ chances of receiving public goods. Households living

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8 Shami (2012b) illustrates that when peasants have relatively high bargaining power, these networks assist in public goods provision, not only through state resources but also by being an additional resource peasants can rely on when engaging in collective action.
in a non-notified slum in the centre of the city appear to have an 11% higher probability of receiving public goods. The full effect of the interaction term is also found to be statistically significant at the 1% level. Those living in notified slum in the centre of the city are found to have a 20% high chance of receiving public goods when compared to households situated in non-notified slums in the periphery of the city (see Model 1 in Table 1.a.). Lastly, from model 1 in table 1.a. we find that amongst the slums in the core, those living in notified settlements are 10% more likely, significant at the 10% level, to receive public goods when compared to those in non-notified slums.

Columns 2 to 7 add household level controls to see if the effect of location and being notified continues to hold, and who within the slums are benefiting from higher levels of provision. Columns 2 and 3 start by running a slightly modified version of the equation 2. In Column 2 we only include a control for belonging to a notified slum. As can be seen the variable is not significant⁹. What is found to be significant is households’ property rights. In line with hypothesis 2, the table indicates that households which own the land they live on 10% more likely to receive public goods when compared to those that lack ownership. In Column 3 we look at the effect of location, along with other household specific characteristics. Living in the centre is found to be statistically significant, lending support for hypothesis 1.a. that government spending is more focused towards settlements in the centre of the city than those found in the outskirts. Moreover, as before households’ ownership has a statistically

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⁹ When we split the analysis between the different public goods we find that being in a notified slum has a statistically significant impact on the households’ chances of receiving drains and paved streets but not for the provision of water.
significant impact on provision levels. Interestingly, households’ economic variables are found to have an insignificant impact on its chances of receiving public goods\textsuperscript{10}.

Column 4 controls for both location and slum recognition. As in Columns 1 to 3 we can see that location matters for public goods provision. The full effect of the interaction term is statistically significant at the 1\(^\text{st}\) level. Those in notified slums in the centre of town are found to be 22\% more likely to enjoy public provision (see Model 2 in Table 1.a). Furthermore, after controlling for household specific characteristics we find that amongst settlements situated in the centre of the city, being notified has no significant effect on the households’ chances of receiving public goods. Thus it appears that state recognition of the settlement does not matter for provision when the slum is in a visible area. Lastly, as before households’ ownership continues to have a significant impact on provision levels.

\textsuperscript{10} This could be due to the effect being averaged out in the aggregate data. When we split the data by the different types of slums we find that in slums situated in the periphery households that have a member employed in a government job are more likely to receive public provision. This result is significant at the 5\% level.
Table 1: Does the household have public goods provided to it?

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
<th>(7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household is living in a notified slum</td>
<td>-0.006</td>
<td>0.030</td>
<td>0.005</td>
<td>0.012</td>
<td>0.001</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.064)</td>
<td>(0.041)</td>
<td>(0.065)</td>
<td>(0.043)</td>
<td>(0.068)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Household is living in a slum situated</td>
<td>0.106*</td>
<td>0.182***</td>
<td>0.155**</td>
<td>0.181***</td>
<td>0.160**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>in the centre of the city</td>
<td>(0.058)</td>
<td>(0.043)</td>
<td>(0.063)</td>
<td>(0.044)</td>
<td>(0.063)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Household is living in a notified slum</td>
<td>0.102</td>
<td></td>
<td>0.058</td>
<td></td>
<td>0.047</td>
<td></td>
<td></td>
</tr>
<tr>
<td>in the centre of the city</td>
<td>(0.085)</td>
<td></td>
<td>(0.088)</td>
<td></td>
<td>(0.090)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Household has a member employed in</td>
<td>0.004</td>
<td>0.040</td>
<td>0.041</td>
<td>0.007</td>
<td>0.039</td>
<td>0.039</td>
<td></td>
</tr>
<tr>
<td>a government job</td>
<td>(0.071)</td>
<td>(0.072)</td>
<td>(0.073)</td>
<td>(0.073)</td>
<td>(0.073)</td>
<td>(0.074)</td>
<td></td>
</tr>
<tr>
<td>Household has a member working as</td>
<td>-0.006</td>
<td>0.033</td>
<td>0.036</td>
<td>-0.003</td>
<td>0.036</td>
<td>0.039</td>
<td></td>
</tr>
<tr>
<td>a wage labourer</td>
<td>(0.066)</td>
<td>(0.069)</td>
<td>(0.070)</td>
<td>(0.067)</td>
<td>(0.069)</td>
<td>(0.070)</td>
<td></td>
</tr>
<tr>
<td>Household’s monthly wage</td>
<td>0.000</td>
<td>-0.000</td>
<td>-0.000</td>
<td>0.000</td>
<td>-0.000</td>
<td>-0.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.001)</td>
<td></td>
</tr>
<tr>
<td>Household owns the land it lives on</td>
<td>0.098**</td>
<td>0.124***</td>
<td>0.112**</td>
<td>0.095**</td>
<td>0.123***</td>
<td>0.115**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.042)</td>
<td>(0.042)</td>
<td>(0.044)</td>
<td>(0.043)</td>
<td>(0.043)</td>
<td>(0.045)</td>
<td></td>
</tr>
<tr>
<td>Household recently moved to the</td>
<td></td>
<td></td>
<td></td>
<td>-0.004</td>
<td>0.004</td>
<td>0.007</td>
<td></td>
</tr>
<tr>
<td>slum</td>
<td>(0.014)</td>
<td>(0.014)</td>
<td>(0.014)</td>
<td>(0.014)</td>
<td>(0.015)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Household voted in a vote block</td>
<td>-0.100*</td>
<td>-0.110*</td>
<td>-0.106*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.059)</td>
<td>(0.058)</td>
<td>(0.059)</td>
<td>(0.058)</td>
<td>(0.058)</td>
<td>(0.058)</td>
<td></td>
</tr>
<tr>
<td>Household voted for the party in</td>
<td>0.110**</td>
<td>0.090*</td>
<td>0.087*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>government</td>
<td>(0.050)</td>
<td>(0.051)</td>
<td>(0.051)</td>
<td>(0.051)</td>
<td>(0.051)</td>
<td>(0.051)</td>
<td></td>
</tr>
<tr>
<td>Household voted for the opposition</td>
<td>0.009</td>
<td>-0.032</td>
<td>-0.036</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.057)</td>
<td>(0.058)</td>
<td>(0.058)</td>
<td>(0.058)</td>
<td>(0.058)</td>
<td>(0.058)</td>
<td></td>
</tr>
<tr>
<td>Household has access to the local</td>
<td>0.039</td>
<td>0.023</td>
<td>0.023</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>influential</td>
<td>(0.042)</td>
<td>(0.042)</td>
<td>(0.042)</td>
<td>(0.042)</td>
<td>(0.042)</td>
<td>(0.042)</td>
<td></td>
</tr>
</tbody>
</table>

Observations 592 592 592 592 592 592 592

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1
Table 1.a: Partial effects of location and being notified

<table>
<thead>
<tr>
<th>Model 1 (Corresponding to Column 1)</th>
<th>Public Goods</th>
<th>Notified Slums</th>
<th>Non-notified Slums</th>
<th>Effect of being notified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slums situated in the centre</td>
<td>0.202***</td>
<td>0.106*</td>
<td>0.096*</td>
<td></td>
</tr>
<tr>
<td>Slums situated in the periphery</td>
<td>-0.006</td>
<td>0</td>
<td>-0.006</td>
<td></td>
</tr>
<tr>
<td>Differential effect of being notified</td>
<td></td>
<td></td>
<td>0.102</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model 2 (Corresponding to Column 4)</th>
<th>Public Goods</th>
<th>Notified Slums</th>
<th>Non-notified Slums</th>
<th>Effect of being notified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slums situated in the centre</td>
<td>0.218***</td>
<td>0.155**</td>
<td>0.063</td>
<td></td>
</tr>
<tr>
<td>Slums situated in the periphery</td>
<td>0.005</td>
<td>0</td>
<td>0.005</td>
<td></td>
</tr>
<tr>
<td>Differential effect of being notified</td>
<td></td>
<td></td>
<td>0.058</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model 3 (Corresponding to Column 7)</th>
<th>Public Goods</th>
<th>Notified Slums</th>
<th>Non-notified Slums</th>
<th>Effect of being notified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slums situated in the centre</td>
<td>0.208***</td>
<td>0.16**</td>
<td>0.048</td>
<td></td>
</tr>
<tr>
<td>Slums situated in the periphery</td>
<td>0.001</td>
<td>0</td>
<td>0.001</td>
<td></td>
</tr>
<tr>
<td>Differential effect of being notified</td>
<td></td>
<td></td>
<td>0.047</td>
<td></td>
</tr>
</tbody>
</table>

*** p<0.01, ** p<0.05, * p<0.1

Columns 5 to 7 include controls for households’ political behaviour. Once again Columns 5 and 6 start by running a slightly modified version of equation 3. Column 5 controls for the slum being notified along with other household level variables. Living in a notified slum is not found to have a significant impact. Household property rights continue to remain significant, even after the inclusion of additional controls. Interestingly, squatter rights, as measured by duration of stay in the settlement, are not found to have a significant impact on households’ chances of receiving public goods\(^{11}\). Turning to the impact of households’ political decisions on provision levels we find that those that vote in a voting bloc are 10%\(^{11}\). This could, once again, be due to the effect of this variable being averaged out in the aggregate data. When we split the data by the different types of slums we find that in the non-notified slums households who have lived in the settlement longer are more likely to receive public goods. This result is significant at the 5% level.

\(^{11}\) This could, once again, be due to the effect of this variable being averaged out in the aggregate data.
less likely to receive public goods (significant at the 10% level) when compared to households who vote independently. This lends support to the argument that vote blocs comprise of households who are in a weaker bargaining position and therefore are less likely to receive public goods. Furthermore, looking at households that vote independently, those who support the party that came into power are significantly more likely to receive public provision. This result implies that political parties are directly targeting their supporters. These effects remain significant when we control for location in Column 6 and add the interaction term in Column 7. The full effect of the interaction term too remains significant, at the 1% level, after the inclusion of additional controls. Those living in notified slums in the centre of the city are 21% more likely to receive public goods (see Model 3 in Table 1.a.). Lastly, as in Column 4 amongst the slums situated in the centre, being notified does not have a significant impact on the level of public investment in the settlement.

The results presented in this section lend support to hypothesis 1.a. suggesting that visibility matters for public goods provision. At the same time, a comparison of Models 1, 2 and 3 shows that the addition of variables capturing the political leanings of the households and their socio-economic status leads to the effect of notification status becoming statistically insignificant. Thus, it seems that slum notification status may be related to the political and economic standing of the residents of slums, a connection that we aim to explore further in later papers.
4. Conclusion

Our findings show that the type of slum a household resides in matters for its chances of receiving public goods: those who live in the centre of the city are more likely to receive public provision when compared to households residing in the outskirts of the city. This finding lends support to hypothesis 1a i.e. visibility increases the chances of public investment in slums.

Moreover, the results also provide support for hypothesis 2: despite the addition of multiple controls, households’ land ownership continues to have a significant impact on provision levels. Hence the evidence seems consistent with the argument that households which have property rights tend to have higher bargaining power and therefore are able to negotiate for higher levels of provision in exchange for their support of a political candidate.

Lastly, our results also highlight some interesting outcomes with regards to households’ political behaviour. Those who vote as part of a vote block, we find, are less likely to receive public provision. As mentioned earlier this could be due to these households having relatively weak bargaining power. Since decisions in these blocs are made collectively politicians wanting to secure votes need to contract with the leader of the bloc and not individual voters. Therefore, political contracting may involve bloc leaders receiving public resources for their own private benefit, rather than it being spent on individual households. Furthermore, we find that who the household votes for matters for provision outcomes. Households which supported the party in power are found to enjoy higher levels of public investment. Thus it seems politicians are directly rewarding their supporters. These results illustrate that public
goods provision depended not only on the type of slum a household resides in and the property rights it enjoys, but also on the political decisions it makes.

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Contact us
International Growth Centre,
London School of Economic and Political Science,
Houghton Street,
London WC2A 2AE