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Governance and public service delivery in India



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Abstract

Citizens in low income democracies depend, to a large extent, on the state for the provision of basic services either due to absence of a market for these services or poverty. This paper synthesizes the findings of the International Growth Centre (IGC) supported research on governance and public service delivery in India. Existing research suggests that the quality of public services affects economic growth via its impact on poverty alleviation, human capital formation and corruption. There is near consensus, however, that India has had limited success in reducing poverty and enhancing human capital inspite of myriad programs that provide free or heavily subsidised essential services to its citizens. The paper identifies incentives, transparency and state capacity as the key challenges to reducing the governance deficit in India. IGC supported research emphasizes building state capacity to implement and monitor public programs, rewarding performance of civil servants and providing information to stakeholders as key policies that can be implemented, and scaled up, to both improve the quality of public service delivery and spur economic growth.

Keywords: governance, public services, incentives, transparency, capacity, India

JEL classification: H11, H41, H53, O43

1. Introduction

Citizens in low income democracies depend, to a large extent, on the state for the provision of basic services, viz. education, health and infrastructure, either due to absence of a market for these services or poverty. Thus the role of the state – exemplified by its elected representatives and public officials – takes centre stage in the governance and delivery of public services.

There are several pathways through which governance and the quality of public services can impact a country's economic growth. The overarching objective of public provision of free or subsidized services in low income countries is to deliver social protection to the poor and vulnerable and to alleviate poverty. The quality of governance, thus, has direct implications for economic growth. To elaborate, poverty typically manifests itself in low food intake, low nourishment and low productivity of the poor. In the absence of a social security program in most developing countries, public provision of low-cost food can help the poor escape the vicious circle of undernourishment, underemployment and poverty (Dasgupta and Ray 1986). Thus, the effective delivery of public programs is likely to have a direct impact on growth via poverty reduction. Second, often the aim of public service provision is to reduce inequitable distribution of resources and correct historical inequities, such as caste based discrimination and gender inequities. Targeted delivery of public services, thus, have the potential to reduce economic inequalities which have been rising in rapidly growing economies, such as China and India, over the last few decades (Deaton and Dreze 2002, Datt et al. 2016). In particular, inequalities have grown as market forces were unleashed following economic liberalization in these countries. Research suggests that high levels of inequality may have adverse implications for labor productivity (Cohn et al. 2011). This in turn may have adverse consequences for sustaining economic growth (Berg, Ostry, and Zettelmeyer

2012; Berg and Ostry 2011). Public services, therefore, play a critical role in stemming the rising inequalities in emerging economies.

The second, and apparent path through which public services impact growth is via improvements in human capital. It is undisputed that human capital has a causal impact on economic growth. *“Growth of human capital is both a condition and a consequence of economic growth. Human capital activities involve not merely the transmission and embodiment in people of available knowledge, but also the production of new knowledge which is the source of innovation and of technical change which propels all factors of production. This latter function of human capital generates worldwide economic growth regardless of its initial geographic locus (Mincer 1984).”* While developing countries have made considerable progress in closing the gap with developed countries in terms of school participation, recent research has highlighted the poor cognitive skills of students in public schools. Not surprisingly, therefore, new research on educational attainment suggests that improving public school quality is imperative for developing countries to improve their long run economic performance (Hanushek 2014). The second critical ingredient of human capital is health. Bloom et al. (2004) augment an aggregate production function with health to find that an additional year in a population's life expectancy contributes to a 4 percent increase in aggregate output of a country. Thus, while growth models have typically interpreted human capital in terms of education alone, research suggests that a populations' health can contribute to economic growth collectively and independent of the effect of education.

Finally, often governance deficit arises due to high levels of corruption in the delivery of public services in low income economies. Corruption in the delivery of public programs, in form of leakages, theft and graft, can have significant implications for growth. Establishing a causal relationship between corruption and growth in a macroeconomic framework is challenging due to the endogenous nature of corruption. Nevertheless, Mauro (1995) shows

that even after correcting for possible endogeneity bias in cross-country data, a one-standard-deviation improvement in the corruption index (lower corruption) is associated with an increase in a country's investment rate by about 3 percent of GDP. The negative relationship between corruption and economic growth holds up in contexts where bureaucratic red tape is high, suggesting that even in countries with high levels of regulations, corruption does not have a beneficial effect by "greasing the wheels of the bureaucracy."

More robust and credible micro evidence also suggests that there can be significant efficiency costs of graft. Olken and Pande (2012) outline two pathways through which corruption impacts growth. First, public theft raises the fiscal burden on the government by inflating costs of government programs (price effect). Second, the behaviour of public officials to hide the graft and leakages (distortionary action effect) can reduce public program efficiency. Besides affecting static efficiency corruption has negative dynamic implications - on investment and growth. Transparency International's and other perception based measures of corruption show a strong negative correlation between per capita income and corruption – richer countries typically tend to be less corrupt. As Bardhan (1997) points out "*when public resources meant for productivity enhancing infrastructure are diverted for private consumption, growth is affected adversely*". This can lower incentives for investments by domestic and foreign firms (e.g. if infrastructure or human capital is poor as a result of the poor delivery of public services) and also lower entrepreneurship in the economy.

In the following sections we first discuss the state of governance and public service provision in India. Section 3, then, lists the key issues for research. Section 4 discusses the findings of International Growth Centre (IGC) and other prominent research papers on this issue. The implications of these research findings for policy are mentioned in Section 5.

2. Governance and public service delivery in India

In India, the government has been omnipresent in the lives of its citizens, envisaged by the architects of the nation following its independence from British colonialism in 1947. With the aim of alleviating endemic poverty, free or heavily subsidised provision of basic and essential services has been the hallmark of public policy. However, there is broad consensus that the state has failed to effectively deliver public services to its citizens, particularly the poor. This is reflected starkly in the dismal performance of the country on almost all dimensions of human development (Dreze and Sen 2013).

Given the high levels of poverty and absence of a social security program, subsidised public provision of food grains through a public distribution system (PDS) has accounted for the largest share of public subsidies.¹ However, leakages from the PDS are large and grains are often siphoned off to the open market (Khera 2011, Dreze and Khera 2015). The ineffectiveness of the PDS in providing food security to the most vulnerable is exemplified by research which shows that long term exposure to a sudden increase in the price of rice supplied by the public distribution system in the state of Andhra Pradesh had no effect on weight-for-age of children (Tarozzi 2005)! Per capita consumption of the poorest households, therefore, continue to be amongst the lowest in the world and by some estimates, nutritional intakes (particularly calories) have been declining for all income groups since the 1980s (Deaton and Dreze 2009). The second largest social protection program which provides the right to employment (National Rural Employment Guarantee Act, NREGA) has similarly been beset with concerns about poor targeting and misappropriation (Niehaus and Sukhtankar 2013; Afridi and Iversen 2014). Not surprisingly, almost 270 million people (nearly 22 percent of the population) lived below the poverty line in 2011 (World Bank, in PPP terms). Decades of social protection programs notwithstanding, not only does India have the largest

¹ India's food subsidy has two-fold objective— provide income support for farmers and social protection through food subsidies for the poor. Both are maintained through a complex web of procurement, storage and distribution throughout the nation (Ramaswami 2012).

number of poor in the world, income inequality has actually risen in the country over the last few decades (Deaton and Dreze 2002; Datt, Murgai and Ravallion 2016).

Expenditure on the public provision of education by the state accounted for approximately 3% of the GDP in 2015-16 (Economic Survey of India 2015-16). Participation or enrolment in educational institutions has been steadily expanding in India since independence but acceptable levels of educational attainment by students have remained elusive. Educational interventions in India have been directed mostly towards increasing investments in public education by building schools, improving existing school infrastructure and training teachers. For instance, although primary school enrolment has increased from 79 percent in 2001 to 90 percent in 2007 due to public interventions such as the Sarv Shiksha Abhiyan², the quality of public education remains poor as reflected by high drop-out rates and low levels of learning. The drop-out rate for children progressing from grade 1 to 5 was as high as 25 percent in 2005-06 in India (Ministry of Human Resource Development Report 2005-06). Findings from a nation-wide survey of rural primary schools show that about half of students enrolled in grade 5 cannot read texts meant for second-graders (ASER 2014, Pratham 2009). Poor learning outcomes are accompanied by high teacher absenteeism, high pupil to teacher ratios and poor school infrastructure. Not surprisingly, private schools have mushroomed, reflected in a decline in enrolment in government schools in rural areas by almost 10 percentage points in 2014 (ASER 2014).

As in the case of education, the primary responsibility for providing health, drinking water and sanitation facilities in the country rests with the state governments, and the local bodies in the urban areas. Annual budgetary allocations for health, including water and sanitation, have increased but remained stagnant as a proportion of GDP at less than 1.5% of

² World Development Indicators for 2011
(<http://data.worldbank.org/indicator/SE.PRM.NENR>)

GDP (Economic Survey of India 2015-16). This is possibly reflected in low quality or, at worse, absent public health services. Recent research suggests that in rural areas, private health care providers, though less qualified, are more cost-effective (Das et al. 2016). Not surprisingly, India continues to exhibit high levels of infant and maternal mortality and has more than 30% of the world's underweight children (UNICEF 2006). Poor sanitation is a major public health concern (Spear, Ghosh and Cumming 2013) – over half the population defecates in the open, both due to lack of public toilets (since the poor often cannot afford private toilets), scarcity of piped water, and perhaps cultural norms which condone open defecation. Spears et al. (2013) find that a 10 percent increase in open defecation was associated with a 0.7 percentage point increase in both stunting and severe stunting of children. Not only is access and quality of public health services abysmal, in 2012 the poor had lower access to basic infrastructure, such as electricity (61% as opposed to 85% of non-poor), tap water (6% as opposed to 33% of non-poor) and around 30 percent of the country's population (about 300 million people) lacked access to all-weather roads.³

These low levels of human capital and inadequate access to basic infrastructure highlight the failure of governance in India in delivering public services. This failure becomes more ominous when viewed in the context of the rising share of young and working age groups in the population. India's working age population is now 63.4 percent (Census 2011) of its total population and expected to rise to 69 percent in 2040 (United Nations Population Division 2014). The demographic dividend is an opportunity to give impetus to the economic growth of India and an advantage over other developing economies such as China whose population has begun to age (United Nations Population Division 2014).⁴ This

³ <http://www.worldbank.org/en/news/infographic/2016/05/27/india-s-poverty-profile>

⁴ Aiyar and Mody (2011) predict a large and significant impact of the rise in the working age ratio on India's economic growth, adding up to 2 percentage points per annum to the country's per capita GDP growth over the next two decades.

optimism, of course, assumes that the additions to the working age population will have the necessary skills to be productive. But Aiyer and Mody (2011) find that a third of the surge in the proportion of young is expected to come from the poorest and least educated states of India, viz. Uttar Pradesh and Bihar. The existing low levels of human capital, thus, present a challenge to the country's capacity to take advantage of the changing age structure of its population.

Research has highlighted some key factors for the poor governance and inadequate public service provision in low income countries, in general, and in India, in particular. Corruption has often been cited as the primary cause of governance deficit. It is fairly well established that corruption is costly, both in terms of efficiency and equity in the provision of public services in developing countries (Olken and Pande 2012). Transparency International's Corruption Perception Index indicates that the public sector in India has been consistently perceived to be more corrupt than other developing countries with comparable growth rates such as Brazil, China and South Africa, in the last decade. Politicians and service providers (e.g. bureaucrats) often indulge in theft of public funds due to lack of accountability mechanisms and monitoring.

While the absence of monitoring mechanisms makes graft and bribery difficult to identify, the legal system is too slow and cumbersome while the electoral system can be either manipulated or is not sufficiently competitive to ensure that the corrupt are punished. In the Indian context, ethnic polarization due to caste affiliations has been considered one of the main impediments to holding politicians electorally accountable for poor performance. To elaborate, ethnic polarization can lower investments in local public goods due to divergence of preferences of ethnic groups (Alesina, Baqir and Easterly 1999) and also lead to clientelistic behavior by politicians to garner votes (Bardhan and Mookherjee 2000). In a cross-country study in Africa, Easterly and Levine (1997) show that ethnic diversity is

negatively correlated with public provision of roads, electricity and education. Banerjee and Somanathan (2007) find that higher ethnic fragmentation in terms of caste and religious divisions in India negatively affects access to public goods. Decentralization and affirmative action policies that reserve political seats for historically disadvantaged groups (e.g. scheduled castes, scheduled tribes and women) may have improved access of these groups to public services (Pande 2003; Banerjee and Somanathan 2007) but have not led to significant improvements in average public service delivery (see section 4).

While the literature on governance has primarily focussed on politicians, there is emerging evidence on the poor management practices of unelected public officials – bureaucrats, education and health service providers – in developing countries. Research suggests that civil servants often pursue their narrow self-interests which are not aligned with social interests (Buchanan 1978), viz. rent-seeking. Further, public officials in India receive a fixed salary and are not paid for performance, leading to low effort. This suggests that the preferences of the elected representatives and the service providers may not be aligned with those of the poor and vulnerable due to lack of incentives (Muralidharan and Sundararaman 2011; Duflo, Hanna and Ryan 2012). In addition, the public officials enjoy limited autonomy and their postings, transfers and promotions are often linked to whether they satisfy the interests of their political masters (Mani and Iyer 2012; Rasul and Rogger 2016). Bribes, for delivering due services, are rampant and exacerbated due to red tape, citizens' poor knowledge of own entitlements and procedural norms.

Public officials (both elected and civil servants), however, may not be entirely to blame for the lack of good governance in India. The users of public services or the electorate are often not well-informed or unable to correctly evaluate the returns to investment in human capital and therefore, the value of public services. This, in turn, increases their vulnerability to being manipulated by politicians and bureaucrats in poor democracies, e.g. through

clientelistic transfers, demands for bribes, vote-buying and intimidation. Thus, while decentralization in India has been subject to concerns of capture by local elites, there have been new initiatives, particularly by civil society, to mobilize, educate and have a better informed citizenry. Recent research has highlighted the role of bottom-up mechanisms for improving the accountability of local officials through community monitoring (Bjorkman and Svensson 2009), demand for transparency and information on the utilization of public funds by local governments, viz. through the Right to Information Act initiative in India.

3. Key Issues for Research

The above discussions highlight some key issues for research on governance and public service delivery in India. The central question is what social, political and economic institutions need to be built to improve governance and the delivery of public services in India? The rationale behind any measure to reduce governance deficit would be asymmetric information, exemplified by the standard principal-agent problem - if the principal, i.e. the stakeholders (i.e. citizens) are unable to assess the quality of services being provided by the agent (i.e. the public officials) then outcomes may be poor because the agent's interests are not aligned with those of the stakeholder's.

Thus the first order question of interest is what *incentive* mechanisms can be designed to align the preferences of public officials with those of citizens who use public services, particularly the poor? Research suggests that agents are motivated both by financial and non-financial incentives (e.g. location, autonomy, ethnic affiliations). If the salaries of frontline deliverers of public services are based on their own performance can public services improve significantly? Perhaps the key lies in effectively devising measures of output of public officials rather than inputs. For instance, linking public school teachers' salaries to students' learning outcomes could improve educational attainment but there have been concerns about

teachers ‘teaching to the test’ which improves short-term learning outcomes but has no impact on long term performance of students (Glewwe, Ilias and Kremer 2010). Of relevance here is the question whether non-monetary incentives of public officials can be leveraged to improve efficiency. Theoretical work suggests that agents involved in pro-social tasks might value non-monetary incentives if they are motivated by externalities generated by these tasks (Benabou and Tirole 2006; Besley and Ghatak 2005). More simply, for instance, can rewarding a public official with a transfer to a preferred location, following good performance, be equally or more effective than a financial incentive? In contrast to civil servants, politicians are interested in retaining power and getting re-elected. Re-election incentives can be affected by electoral rules, e.g. term limits (Ferraz and Finan 2011), and also by the perceptions of the electorate.

In the above context then, what measures should be adopted to increase the *transparency* in governance and implementation of public programs that would allow the citizens to correctly evaluate the performance of the public officials and potentially improve accountability? This links closely with measures to improve both political and civil servants’ accountability – since a better informed electorate can induce a politician to improve public service delivery, independently and by ensuring that the civil servant performs. To that extent, how can communities be mobilized from the grass roots to effectively put pressure on their elected representatives to deliver. Would such pressure be sufficient in the face of weak legal institutions?

Finally, the *capacity of the state* to implement public program effectively, monitor public officials and stem leakages from public funds is limited in many ways in low income countries. What measures can be adopted to increase the capacity of the state? Public services and programs typically wind their way to the final beneficiary through a complex web of government rules and regulations that are managed by myriad intermediaries at various stages

of service provision. One possible path for improving state capacity is to create a direct interface between the central or state government by reducing or eliminating the many intermediaries involved in public service delivery. However, this can be envisaged more easily when we think in the context of social protection programs which involve subsidies, e.g. the PDS. Most services, viz. public education and health, cannot be simply eliminated by making direct cash transfers into the accounts of potential beneficiaries and then allowing the markets to provide those services, when economic inequalities are high and access to markets is limited. In such instances capacity building through training of frontline service providers, providing incentives for better performance and accountability may be critical for improved governance and delivery of public services.

4. Evidence from existing IGC funded and other prominent papers

In this section, we classify current IGC – India Central research into three areas in accordance with the key issues highlighted above – incentives, information and state capacity.

Incentives of public officials

IGC research projects provide compelling evidence that incentives of politicians are often misaligned with those of the electorate – carrying implications for delivery of public services. Politicians are interested in holding on to power that their position entails. Their focus, therefore, lies in satisfying the electorate – either the swing voter or their base - in order to retain power. This, in turn, results in clientelistic behaviour and potentially capture of public goods resources. Bardhan and Mookherjee (2012), in IGC sponsored research, provide a theory of political clientelism and elite capture, and their consequences for allocation of public services and government accountability in service delivery. They test their theory using data from household surveys in rural West Bengal. Case studies indicate that the Left

Front, which has dominated the political landscape of rural Bengal since the late 1970s, forged clientelistic relations with select low caste groups, favoring them in the distribution of benefits in exchange for their political support. Political support for the Left Front was related significantly to the receipt only of recurring program benefits by voters, not one-time benefits (such as land titles or housing) which are usually more significant sources of citizen welfare.

Another case in point is the rise in the criminal background of elected representatives in India - Aidt et al. (2011) point out that the share of criminally accused politicians has been going up as Indian party politics becomes more competitive - when a seat is highly contested and swing, criminal politicians have a comparative advantage in winning elections through intimidation of voters and vote buying. This narrow self-interest of elected representatives can have adverse consequences for economic growth. Using data on the criminal background of candidates running for state assembly elections and a constituency-level measure of economic activity proxied by intensity of night lights, Prakash et al. (2015), in an IGC supported project, employ a regression discontinuity design to control for unobserved heterogeneity across constituencies and find a 24-percentage points lower economic activity arising from the election of a criminally accused politician. These effects are driven by serious, financial and multiple criminal charges and are concentrated in less developed and more corrupt Indian states. Similar findings emerge when they look at the provision rural roads through India's public road construction program. In a related paper, which highlights vote buying to win elections, Golden and Min (2012) (IGC project) show that electricity theft in Uttar Pradesh was substantial and varied with the electoral cycle of the state during 2000-09 - in years when elections to the State Assembly were held, electricity theft was significantly greater. Their interpretation of these results is that power theft exhibits characteristics consistent with the politicians doling out favors to local elites to win elections - incumbent legislative members of the state assembly are more likely to be re-elected as

power theft in their locality increases. However, they do not find evidence of links with criminality.

Having established convincingly that politicians are likely to indulge in corrupt, even criminal, behaviour to stay in power or win election, what policy changes can align the incentives of public officials with those of the citizens? IGC papers investigate the effects of some of the most fundamental constitutional changes in India that intended to improve governance outcomes. The 73rd amendment of the constitution, enacted in 1992, decentralized the administration of rural areas to a three-tier Panchayat system to ensure grass-roots participation and give voice to the local communities. Theoretically, central government provision of public services could lead to greater corruption and misuse of funds, as the service recipients in a local district cannot monitor the bureaucrat or politician in the capital city (Bardhan and Mukherjee 2000). Decentralization can ensure better matching of local preferences with public funds. Sekhri (2011), in an IGC study, examines the theoretical argument in favour of decentralization by investigating the trade-off between short term growth and long term conservation incentives of elected legislators from regional and national political parties for groundwater provision. Regional legislators have a stronger incentive to promote regional growth, which can lead to a rapid decline of resource stocks. On the other hand, regional parties are limited to contesting elections from the region, and hence have stronger incentives to conserve resources for future periods. These two effects can offset each other. Using nationally representative data on groundwater from India, and reforms in the electricity sector which introduced private competition in the generation, and distribution of electricity she finds that regional regimes lead to groundwater conservation post reforms. This suggests that regional regimes can better conserve natural resources because they internalize inter-temporal externalities. This can potentially have a beneficial effect on the long-term provision of public services which utilize local resources.

In general, however, both theory and evidence suggests that the effects of decentralization are contextual - depending on economic (e.g. inequality), social (e.g. education), demographic (e.g. ethnic divisions) and political factors (viz. citizen participation) at the local level (Mansuri and Rao 2013). Social polarization, as discussed above, could be one of the reasons for the failure of local governments in improving the access of public services for marginalized communities. A rich set of research papers have studied the impact of affirmative action policies in locally elected governments on governance, as a possible solution to elite capture. Economic theory indicates that political identity is relevant for policy outcomes (Besley and Coate 1997). Empirically, however, the evidence, on the direction of any effect, is mixed. While some studies suggest that political reservations improved access of public services for some marginalised groups and reflect their preferences better (Chattopadhyay and Duflo 2004; Pande 2003; Banerjee and Somanathan 2007), in an IGC sponsored study, Bardhan and Mookherjee (2012) do not find improvements in public service delivery with political reservations of Gram Panchayat pradhan positions for minority groups (for women and scheduled caste (SC) candidates) in West Bengal. Instead elite capture and the culture of doling out recurring benefits to voters is pervasive (Bardhan and Mukherjee 2012). Specifically, reservations for women had an adverse effect, while SC reservations had a positive effect. Reserving village council headships for women resulted in a decrease in clientelism (and perhaps also capture) owing to the political inexperience of women elected to these posts. In contrast, the SC reservations resulted in increased clientelism and reduced scope for elite capture.

Afridi, Iversen and Sharan (2016), in another IGC study, highlight concerns regarding the lack of capacity of leaders elected on reserved seats. They exploit randomly assigned political quotas for women to identify the impact of women's political leadership on corruption and on the governance of one of India's largest poverty alleviation program to

date, the NREGA. Using survey data, Afridi et al. (2016) find more program inefficiencies and leakages in village councils reserved for women heads: political and administrative inexperience make such councils more vulnerable to bureaucratic capture. This is at odds with claims of unconditional gains from women assuming political office. Using a panel of official audit reports they explore (a) whether newly elected women leaders in reserved seats initially perform worse; (b) whether they partly catch up, fully catch up or eventually outperform (male) leaders in unreserved seats and (c) the time it takes for such catch up to occur. The authors find that women leaders in reserved seats initially underperform but rapidly learn and quickly and fully catch up with male politicians in unreserved seats. Over the duration of their elected tenure, however, they find no evidence of over-take. These findings suggest short term 'costs' of affirmative action policies but also that once initial disadvantages recede, women leaders are neither more nor less effective local politicians than men.

Another set of related IGC papers investigate whether the religious identity of state legislators in India influences development outcomes. Bhalotra et al. (2013) use quasi-random variation in legislator identity generated by close elections between Muslim and non-Muslim candidates to find that increasing the political representation of Muslims improves health and education outcomes in the district from which the legislator is elected. They find no evidence of religious favoritism: Muslim children do not benefit more from Muslim political representation than children from other religious groups. In another paper, Bhalotra et al. (2012) investigate the impact of Muslim political representation on religious conflict in India during 1980-2007 using the same identification strategy. Their preliminary results suggest that raising the share of Muslim politicians in state assemblies results in a sizeable decline in the incidence of Hindu-Muslim riots, consistent with evidence that Muslims are more often the victims of such incidents and consistent with parochial politics.

All of the above IGC studies suggest that the identity and incentives of politicians can play a significant role in policy outcomes. Institutional changes which influence politicians' incentives can affect the quality of delivery of public services in rural India either positively or adversely. More importantly, these studies nuance the previous literature's claims of unqualified benefits from political affirmative action in India.

In studies that focus on the challenges faced by rapid urbanisation and congestion in the demand for services by the urban poor, Banerjee, Pande and Walton (2012) conduct an IGC study to obtain 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. Slum-dwellers report significant discontent about some aspects of slum life, most notably access to water and sanitation but, interestingly, not 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. Gaikwad and Nellis (2016), in their IGC project, build on these findings to conduct two audit experiments to test whether urban politicians discriminate against internal migrants vis-à-vis long-term residents (“natives”) in providing essential constituency services. Fictitious migrants are 23% less likely to receive a call back from a councilor in response to a mailed letter request for assistance compared to an otherwise similar native. What mechanisms explain this effect? In a second experiment using SMS, they show that migrants signalling that they are registered to vote in municipal ward elections receive call backs at much higher rates than migrants signalling they are unregistered. Even more strikingly, signalling that migrants are registered to vote closes the migrant native call back gap documented in the first experiment. This indicates that politicians' beliefs about migrants' generally low participation

in city elections leads them to ignore requests by migrants for help, because they foresee no electoral returns to providing assistance.

As discussed in the previous section, performance related pay for public officials can impact their incentives significantly. In their IGC sponsored study Berg et al. (2016) analyse theoretically as well as empirically the effect of incentive pay when agents have pro-social objectives, but also preferences over dealing with one social group relative to another. In a randomised field experiment undertaken across 151 villages in South India, local agents were hired to spread information about a public health insurance program. In the absence of incentive pay, social distance impedes the flow of information. Incentive pay increases overall agent effort and appears to cancel out the negative effects of social distance. This study suggests that performance pay to public officials can have a positive impact on the delivery of public services.

Information provision to and mobilization of stakeholders

The previous section highlighted findings which suggest that the incentives of politicians may not be aligned with those of the electorate and therefore result in poor governance outcomes. Poor public service delivery could also be due to lack of information about the quality of public service, returns to using public services and entitlements of citizens. Hence, there are multiple dimensions on which citizens' demand for services can be enhanced. First, the poor often have little idea about the returns to better health and education, so they may not value these services adequately. In an IGC study, Berry and Coffman (2012) investigate how poor households in rural and urban Rajasthan form beliefs about the value of additional years of schooling. Previous studies have documented that poor populations in developing nations hold downwardly biased beliefs of the returns to schooling and that providing correct beliefs about average wages for adults with high levels of schooling can significantly and

substantially increase schooling attainment (Jensen 2010). In their sample of approximately 400 households Berry and Coffman (2012) find quite accurate beliefs of the relation between schooling attainment and wages (conditional on finding work) but an underestimation of the probability of working, for every level of education. In addition, the gap between beliefs and actual employment increases with the level of education.

Second, voters may not be able to evaluate the quality of services they are receiving because of lack of information and an inability to assess it due to low levels of adult schooling. In work related to the education market Afridi, Barooah and Somanathan (2017) highlight how bridging information gaps on learning outcomes can affect educational attainment in rural India, in a context where the learning levels of children in public schools is low and falling, as discussed previously. In a randomised control trial, they offered report cards on student performance in standardised, curriculum based tests. They find significant improvement in test scores of private school students - normalized test scores improved by 0.31 standard deviations when both parents and schools were provided information on relative school quality but there was no effect of the intervention when information on absolute school quality alone was provided to both sides of the market. A closer examination of the results suggests that the provision of relative ranking of schools in the report cards to parents, and not so much schools, lead to improved learning outcomes. However, there was no impact of the intervention on public school test scores, suggesting that either households of public school students or public schools or both are resource constrained. In addition, public schools may not have any incentive to respond to household or market pressures. Nevertheless, both public and private school parents exercised school choice as a result of information provision, suggesting that improved ability to assess the quality of public services can unleash market forces that can raise learning outcomes in the long-run. This finding both complements and contrasts Banerjee et al. (2010) who highlight the inefficacy of participatory democracy when information on the

absolute status of education is provided to villagers.

Another strand of the literature has studied whether communities can be mobilized to implement and monitor public service delivery. Gangadharan et al. (2014) (in IGC funded project) assess the Bihar Rural Livelihoods Project (or “JEEViKA”), a community driven poverty reduction program with the key aim of improving the social and economic empowerment of the rural poor, with a particular focus on women. The program aims to create sustainable livelihoods through self-managed community institutions, greater access to social protection and greater community voice. However, civil society failure can occur when a subgroup of the community is able to mobilise to further their self-interest, to the detriment of the rest of the community. If participating in JEEViKA self-help groups leads to greater mistrust between men and women, then long-term economic and social relationships may be destroyed, with adverse consequences for social welfare. Conversely, increase in trust may be important for ensuring that women continue to participate in the program. In addition, greater trust might have important economic and social spillovers that significantly boost social welfare. To investigate these dynamics, they examine the differences in behaviour of male and female leaders in JEEViKA and non-JEEViKA villages using an artefactual field experiment. They find that female leaders are more deceptive in JEEViKA villages as compared to non-JEEViKA villages. This suggests that programs that empower certain groups can in some cases lead to increases in anti-social behaviour of these groups.

Information provision may be more effective in improving governance outcomes if forums are created whereby the users of public services can convey their concerns and expectations to the public officials. In an IGC sponsored study Dasgupta (2016) shows that democratically mobilized communities might be able to put more pressure on their elected representatives and ensure better delivery of services. Drawing on fieldwork in rural India, this paper develops a formal theory of how “democratically mobilized” villages,

characterized by extensive civic engagement in the activities of the village council, place greater pressure on local leaders, and the higher-level politicians to which they are connected, to deliver services. The key prediction is that effective service provision requires *both* top-down connections to the ruling party at the administrative level and bottom-up democratic mobilization at the community level. The theory is supported with an original survey of 2,250 households across 90 villages nested within a close elections natural experiment in the Indian state of Rajasthan.

Monitoring and state capacity

Can state capacity be enhanced to make governance more effective? State capacity is often limited and unable to monitor the delivery of services. This can especially be a challenge when governance is decentralized. Even in instances where institutions have been created to improve monitoring there is poor credibility of the monitoring mechanisms, legal sanctions in the event of public being found guilty of malfeasance are non-binding, the judicial process for punishing the guilty is slow, unresponsive (Afridi and Iversen 2014) and often prohibitively costly for citizens. Administrative reforms aimed at evaluating performance and punishing theft are virtually non-existent and have been resisted by public officials' time and again.

Furthermore, limited state capacity can have significant implications for economic growth. Patnaik (2014) finds that weak institutional environments in poor countries lead to low tax compliance, especially for firms where owners have high-powered incentives and managerial control. Using evidence for publicly-traded manufacturing firms in India, the paper shows that when there is continued involvement of the founding family, firms pay about 3.5% less excise tax than other firms. In addition, the elasticity of response of family firms in terms of excise tax payments is 0.2% less when the tax rate increases compared to

non-family firms. This suggests that public resource constraints prevent perfect enforcement of tax liabilities. The family firms tend to be smaller and less productive, indicating that the lower effective tax rates may help them continue to enter the market and produce, instead of being driven out by competition. This diverts resources away from larger, more productive firms and reduces aggregate output and productivity.

Research projects commissioned by the IGC have, therefore, analysed the effectiveness of various initiatives to improve state capacity and thereby governance in India. Nagavarapu and Sekhri (2013) study how informal monitoring and enforcement can increase the efficacy of public service delivery of the Targeted Public Distribution System of India. They find that Scheduled Castes (SC) have a higher take-up of government subsidized food when facing SC delivery agents. They suggest that this effect works through increased informal monitoring and enforcement when the delivery agent is corrupt. The paper estimates that the gain in welfare of SC households from lowering monitoring and enforcement costs – equivalent to moving from a non-SC shopkeeper to a SC shopkeeper – are significant, equalling approximately one-fifth of the average subsidy amount. In contrast, expanding the program can perversely lower welfare for SCs and non-SCs due to increased incentives for black-marketing.

Amongst formal enforcement mechanisms, one of the potentially more effective ways of increasing the capacity of the state to monitor the quality of public services could be reducing the role of intermediaries in the process of delivery. Towards this, technology can be leveraged to ensure direct delivery of benefits to citizens. Anderson et al. (2013) report some preliminary findings of a baseline survey in an IGC project that attempts to measure the impact of India's Unique Identification program that uses biometrics to ensure that program benefits or wage payments from public works projects funded under NREGA are not misappropriated. The goal of this research project is to investigate the potential of biometric-

based identification coupled with electronic money transfers in improving governance. In a related IGC study Barnwal (2015) evaluates the effect of direct transfer of fuel subsidies through cash transfers into beneficiary accounts on leakage of subsidies. In India a large universal program provides USD 8 billion in fuel subsidies for domestic cooking. The subsidy given to households, combined with taxes on commercial users, gives rise to a black market, where fictitious “ghost” beneficiaries are used to divert the subsidy from the domestic to the commercial sector. Introduced in 2013, Direct Benefit Transfer for LPG (DBTL) policy transfers subsidy directly to the bank accounts of verified beneficiaries in order to improve the state’s capacity to purge ghost beneficiaries. Analysing unique data that combine the administrative records from 23 million fuel purchase transactions and distributor-level fuel sales, with a novel survey data set on black market prices, the study highlights four main findings: (1) directly transferring subsidies to households reduces fuel purchases in the domestic fuel sector by 11% to 14%, suggesting a reduction in subsidy diversion; (2) after the policy is terminated, fuel purchases in the domestic sector revert to a similar level that existed before the policy was introduced; (3) a positive supply shock induced by the policy termination reduces black market prices between 13% to 19%, and; (4) in response to the lower prices, commercial firms reduce their fuel purchases in the formal sector and re-enter the black market for fuel. In sum, this paper illustrates that investment in enforcement capacity can significantly strengthen the state’s ability to target program beneficiaries. These IGC studies complement new research that indicates direct interface between government and beneficiary through technological innovations may improve governance by reducing pilferage of public funds (Muralidharan et al. 2016, Lewis-Faupel et al. 2016). These initiatives, however, also raise concerns about marginalization of disadvantaged communities that are unable to use this technology due to limited physical

infrastructure (Dreze 2016).

5. Summary and policy relevance

Research, unequivocally, establishes that the identity and preferences of elected representatives can impact governance and the delivery of public services. Administrative reforms through constitutional amendments to better reflect the preferences and needs of the electorate, such as decentralization of political power and affirmative action policies have produced mixed results. There is consensus in the literature that decentralization has not reduced elite capture or clientelistic distribution of public resources. There is some evidence, however, that suggests that decentralized governance may be better for long term growth through greater conservation of local resources. Affirmative action policies may have been successful in ensuring that the preferences of marginalized communities are reflected in public policies, but the IGC papers highlight concerns about the effectiveness of political affirmative action in improving governance outcomes due to limited capacity and possible capture of power from political leaders elected in reserved constituencies from disadvantaged communities. Early research indicates that enhancing state capacity to monitor the delivery of public services by leveraging technology has been effective in reducing corruption and leakages from public programs. This potentially improves the fiscal health of the planner's budget, making more resources available for public services.

Evidence suggests that public officials' incentives can be aligned with those of the electorate through monetary (e.g. pay for performance) and non-monetary rewards for good performance of frontline public service providers, such as teachers and health care personnel but with some qualifications. The design of the incentive mechanism can potentially lead to perverse outcomes, viz. teaching to the test in the case of evaluation of teacher performance on the basis of students' scores on standardized tests. Moreover, there is virtually no research

on what incentives can improve the efficiency and reduce rent-seeking by career bureaucrats. As far as the impact of incentives of politicians are concerned, research is limited. IGC work suggests that signalling that the electorate is better informed can improve the responsiveness of elected representatives.

IGC research also underlines the paucity of information of stakeholders, either on the returns to human capital or the quality of public services. Papers funded by the IGC suggest that the market can be leveraged to improve human capital outcomes, in contexts where multiple service providers are available (public and private). Inducing competition between public service providers could be one possibility to improve service delivery. In addition, more democratically mobilized communities might be able to put greater pressure on their elected representatives and ensure better delivery of services. However, both top-down political influence and bottom up pressure may be essential to improve public services.

In summary, the collective evidence from IGC supported research translates into specific policy measures that can be adopted, at scale, to improve governance and delivery of basic services to citizens:

1. *Strengthen capacity of local governments:* Local public officials and elected representatives are often confronted with multiple tasks related to myriad public programs that they have to implement in their communities. The manpower and skills required can be daunting, particularly during the early stages of a program's implementation. IGC research on elected local governments, suggests that capacity building through regular training of public officials could help in ensuring effective and transparent implementation of public programs, particularly in reserved constituencies, e.g. women political leaders.
2. *Reward performance of service providers:* Teachers and public health officials are paid

fixed salaries, so are bureaucrats at the top of the government hierarchy, irrespective of their effectiveness. Research suggests that service providers can be incentivized to perform by linking their effort to measurable outputs. In addition, non-monetary incentives, e.g. transfers to preferred locations, can be dangled as a potentially cheap and effective reward for good performance.

The challenge, of course, lies in devising objective and measurable performance indicators.

3. *Provide information to stakeholders*: Improving stakeholders' awareness of entitlements and providing information on the quality of services can potentially be a cost-effective method of improving service delivery. While most research on information provision has been bundled with induced community dialogue and mobilisation, IGC research suggests that simply providing information (and allowing it to flow organically) can either allow the service provider to assess the preferences of the citizens or enable the consumer to decipher the quality of services. Both mechanisms can improve outcomes that utilise those public services.

4. *Leverage technology to improve accountability*: Technological improvements can be used to monitor and improve accountability in service delivery. Recent advances in using biometric identification, electronic transfers of benefits to stakeholder's accounts may have led to significant reduction in program leakages and provided a direct interface between the state and the potential beneficiary.

Further research, however, is required on measures to raise the effort of frontline providers of public services – teachers, public health officials and administrators – whose services cannot be mechanized, and especially when technological innovations have limited

impact on improving accountability in the provision of services which enhance human capital.

While evidence on the effectiveness of some of these policy measures is more robust than others, most require scaling up and longer run evaluation in order to provide vigorous support for overhauling the existing public service delivery mechanisms in India.

References

Afridi, Farzana and Vegard Iversen. 2014. "Social Audits and MGNREGA Delivery: Lessons from Andhra Pradesh." *India Policy Forum*.

Afridi, Farzana, Vegard Iversen and M.R. Sharan. 2016. "Women Political Leaders, Corruption and Learning: Evidence from a Large Public Program in India." *Economic Development and Cultural Change*, forthcoming.

Afridi, Farzana, Bidisha Barooah and Rohini Somanathan. 2017. "Improving Learning Outcomes Through Information: Experimental Evidence from Indian Villages." IGC working paper.

Aiyer, Shekhar and Ashok Mody. 2011. 'The Demographic Dividend: Evidence from the Indian States.' International Monetary Fund, working paper WP/11/38.

Alesina, Alberto, Reza Baqir and William Easterly. 1999. "Public Goods and Ethnic Divisions," *The Quarterly Journal of Economics*, 114 (4): 1243-1284.

Anderson, Siwan, Ashok Kotwal, Ashwini Kulkarni, Bharat Ramaswami. 2013. "Observations on the Scope of Corruption in NREGA Projects." IGC working paper.

Banerjee, Abhijit and Somanathan, Rohini, 2007. "The political economy of public goods: Some evidence from India," *Journal of Development Economics*, Elsevier, vol. 82(2), pages 287-314.

Banerjee, Abhijit, Rukmini Banerji, Esther Duflo, Rachel Glennerster, Stuti Khemani. 2010. "Pitfalls of Participatory Programs: Evidence from a Randomized Evaluation in Education in India." *American Economic Journal: Economic Policy*, Vol. 2 (1).

Banerjee, Abhijit, Rohini Pande, Michael Walton. 2012. "Delhi's Slum-Dwellers; Deprivation, Preferences and Political Engagement among the Urban Poor." IGC working paper.

- Bardhan, Pranab and Dilip Mookherjee, 2000. "Capture and Governance at Local and National Levels," *American Economic Review*, May 2000, 135-139.
- Bardhan, Pranab. 1997. "Corruption and Development: A Review of Issues." *Journal of Economic Literature*, Vol. 35 (3), pp. 1320-1346.
- Bardhan, Pranab and Dilip Mookherjee. 2012. "Political clientelism and capture: Theory and Evidence from West Bengal, India." IGC working paper.
- Barnwal, Prabhat. 2015. "Curbing Leakage in Public Programs with Direct Benefit Transfers: Evidence from India's Fuel Subsidies and Black Markets." IGC working paper.
- Bénabou, Roland and Jean Tirole. 2006. "Incentives and Prosocial Behavior." *American Economic Review*, 96(5): 1652-1678
- Berg, A. and Ostry J.D. 2011. "Inequality and Unsustainable Growth: Two Sides of the Same Coin?" IMF Staff Discussion Note 11/08.
- Berg, A., Ostry, J.D. and Zettelmeyer J. 2012. "What Makes Growth Sustained?" *Journal of Development Economics*, 98(2): 149–166.
- Berg, Erlend, Maitreesh Ghatak, R Manjula, D Rajasekhar and Sanchari Roy. 2016. "Motivating Knowledge Agents: Can Incentive Pay Overcome Social Distance?" IGC working paper.
- Berry, Jim and Lucas Coffman. 2012. "Belief Formation in the Returns to Schooling." IGC working paper.
- Besley, Timothy and Maitreesh Ghatak. 2005. "Competition and Incentives with Motivated Agents." *American Economic Review*, Vol. 95, no. 3: 616-636.
- Bhalotra, Sonia, Lakshmi Iyer and Irma Clots-Figueras. 2012. "Politician Identity and Religious Conflict in India." IGC working paper.
- Bhalotra, Sonia, Guilhem Cassan, Lakshmi Iyer and Irma Clots-Figueras. 2013. "Religion, Politician Identity and Development Outcomes: Evidence from India." IGC working paper.
- Bjorkman, Martina and Martin Svensson. 2009. "Power to the People: Evidence from a Randomized Field Experiment of Community-Based Monitoring in Uganda", *Quarterly Journal of Economics*, 2009, 124:2.
- Bloom, David E., David Canning and Jaypee Sevilla. 2004. "The Effect of Health on Economic Growth: A Production Function Approach." *World Development* 32: 1–13.
- Buchanan, James M. 1978. "Markets, States, and the Extent of Morals," *The American Economic Review*, Papers and Proceedings, 68 (2), pp. 364-368
- Chattopadhyay, Raghendra and Esther Duflo. 2004. "Women as Policy Makers: Evidence from a Randomized Policy Experiment." *Econometrica* 72 (5): 1409- 1444.

- Cohn A., Fehr E., Herrmann B., and Schneider F. 2011. 'Social Comparison in the Workplace: Evidence from a Field Experiment,' IZA working paper 5550.
- Das, Jishnu, Alaka Holla, Aakash Mohpal and Karthik Muralidharan. 2016. Quality and Accountability in Healthcare Delivery: Audit-Study Evidence from Primary Care in India." *American Economic Review*, Vol. 106 (12), 3765-3799.
- Dasgupta, Aditya. 2016. "Exit and Voice in a Clientelist System." IGC working paper.
- Dasgupta, Partha and Debraj Ray. 1986. "Inequality as a Determinant of Malnutrition and Unemployment: Theory," *The Economic Journal* Vol. 96, No. 384, pp. 1011-1034.
- Datt, Gaurav and Ravallion, Martin and Murgai, Rinku. 2016. "Growth, Urbanization, and Poverty Reduction in India," World Bank Policy Research Working Paper No. 7568.
- Deaton, Angus and Jean Dreze. 2002. "Poverty and Inequality in India a Re-Examination." *Economic and Political Weekly* September 7, 2002
- Deaton, Angus and Jean Dreze. 2009. "Food and Nutrition in India: Facts and Interpretations." *Economic and Political Weekly*, February 14, 2009 vol XLIV No 7
- Dreze, Jean. 2016. "Aadhaar and government benefits: Risk of increasing exclusion?" Ideas for India.
- Dreze, Jean and Reetika and Khera. 2015. "Understanding Leakages in the Public Distribution System," *Economic and Political Weekly*, Vol. 50, February.
- Dreze, Jean and Amartya Sen. 2013. *An Uncertain Glory: India and its Contradictions*. Princeton University Press.
- Duflo, Esther, Rema Hanna and Stephen Ryan. 2012. "Incentives Work: Getting Teachers to Come to School." *American Economic Review*, June 2012.
- Easterly, William and Levine, Ross, 1997. "Africa's Growth Tragedy: Policies and Ethnic Divisions." *Quarterly Journal of Economics*, Vol. 112, Issue 4, November 1997.
- Ferraz, C. and F. Finan. 2011. "Electoral Accountability and Corruption: Evidence from the audits of local governments," *American Economic Review*, 101, 1274-1311.
- Gangadharan, Lata, Tarun Jain, Pushkar Maitra, Joseph Vecchi. 2014. "The behavioral response to women's empowerment programs: Experimental evidence from JEEViKA in Bihar." IGC working paper.
- Gaikwad, Nikhar and Gareth Nellis. 2016. "Do Politicians Discriminate Against Internal Migrants? Evidence from Nationwide Field Experiments in India." IGC working paper.
- Glewwe, N. Ilias, M. Kremer. 2010. "Teacher incentives," *American Economic Journal: Applied Economics*, 2 (3), pp. 205-227
- Golden, Miriam, Brian Min. 2012. "Theft and Loss of Electricity in an Indian State." IGC working paper.

- Government of India. 2005-06. Ministry of Human Resource Development Report.
- Hanushek, Eric, 2014. "Health and Economic Growth" in Aghion and Durlauf, eds., *The Handbook of Economic Growth* Volume 2B.
- International Food Policy Research Institute. 2015. Global Hunger Index Report. Washington DC.
- Iyer, Lakshmi and Anandi Mani. 2012. "Traveling Agents: Political Change and Bureaucratic Turnover in India." *Review of Economics and Statistics* 94(3): 723-739.
- Jensen, Robert. 2010. "The (Perceived) Returns to Education and the Demand for Schooling," *Quarterly Journal of Economics*, 125(2), p. 515-548.
- Khera, Reetika. 2011. "Trends in Diversion of Grain from the Public Distribution System," *Economic and Political Weekly*, Vol 46, No. 26. Special Article, 21 May, 2011.
- Kremer, Michael and Karthik Muralidharan. 2008. "Public and Private Schools in Rural India" in *School Choice International*, edited by Paul Peterson and Rajashri Chakrabarti, MIT Press.
- Lewis-Faupel, Sean, Yusuf Neggers, Ben Olken and Rohini Pande. 2016. "Can Electronic Procurement Improve Infrastructure Provision? Evidence from Public Works in India and Indonesia." *American Economic Journal: Economic Policy* Vol 8 (3): pp 258-283
- Mansuri, Ghazala and Vijayendra Rao. 2013. "Localizing Development: Does Participation Work?" World Bank Policy Research Report, Washington DC.
- Mauro, Paolo. 1995. "Corruption and Growth." *Quarterly Journal of Economics* 110 (3): 681-712.
- Mincer, Jacob. 1984. "Human Capital and Economic Growth," *Economics of Education Review*, Vo. 3 (3).
- Muralidharan, Karthik and Venkatesh Sundararaman. 2011. "Teacher Performance Pay: Experimental Evidence from India." *Journal of Political Economy*, Vol. 119, No. 1, pp. 39-77
- Muralidharan, Karthik, Paul Niehaus and Sandip Sukhtankar. 2016. "Building State Capacity: Evidence from Biometric Smartcards in India." *American Economic Review*, Vol. 106, No 10, pp. 2895-2929
- Nagavarapu Sriniketh and Sheetal Sekhri. 2013. "Informal Monitoring Mechanisms in Public Service Delivery: Evidence from the Public Distribution System in India." IGC working paper.
- Niehaus, Paul and Sandip Sukhtankar. 2013. "Corruption Dynamics: The Golden Goose Effect." *American Economic Journal: Economic Policy*, Vol 5, No. 4, pp 230-69.
- Olken, Benjamin and Rohini Pande, 2012. "Corruption in Developing Countries," *Annual Review of Economics*, Annual Reviews, vol. 4(1), pages 479-509, 07

Pande, Rohini. 2003. "Can Mandated Political Representation Provide Disadvantaged Minorities Policy Influence? Theory and Evidence from India," *American Economic Review*, Vol. 93 (4): pp. 1132-1151.

Patnaik, Megha. 2014. "Tax, Lies and Redtape." IGC working paper.

Prakash, Nishith, Marc Rockmore, Yogesh Uppal. 2015. "Do Criminally Accused Politicians Affect Economic Outcomes? Evidence from India." IGC working paper.

Pratham. 2014. 'Annual Survey of Education Report'

Ramaswami, Bharat. 2012. Public Distribution System pp. 567-571 in *The New Oxford Companion to Economics in India*, edited by K. Basu and A. Maertens, Oxford University Press, New Delhi, 2012.

Rasul, Imran and Daniel Rogger. 2017. "Management of Bureaucrats and Public Service Delivery: Evidence from the Nigerian Civil Service, forthcoming, *Economic Journal*.

Registrar General of India. 2011. Census of India

Sekhri Sheetal. 2011. "Federalism versus Regional Control: Implications for Groundwater Resource in India." IGC working paper.

Tarozzi, Alessandro, 2005. The Indian Public Distribution System as Provider of Food Security: Evidence from Child Nutrition in Andhra Pradesh. *European Economic Review*, Vol. 49, No. 5, pp. 1305-1330.

United Nations Population Division.

<http://www.un.org/en/development/desa/population/publications/development/population-development-database-2014.shtml>

World Bank. 2009. World Bank Report on Malnutrition in India. Washington DC.

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