Public Goods Provision in South Asia

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Abstract: Access to education and health facilities varies considerably across the countries and regions of South Asia. This paper surveys the theoretical and empirical literature on collective action and public goods provision. The role of group influence, heterogeneity within groups and group size is explored in detail. The paper then discusses the impact of committed leaders on public goods provision, as well as the factors involved in sustaining their impact. These factors can be applied to analyze issues related to the quality of public goods provision as well. I conclude by briefly surveying the growing role of the private sector in providing basic education services in South Asia.

Introduction

Basic health and education remain remarkably scarce in developing countries. In 2007, more than one-third of children in developing countries were not enrolled in school and a quarter of children were not immunized. South Asia lagged behind the developing country average with a combined gross enrolment ratio of 60% and an immunization rate of 65% (UNDP 2007, Tables 1 and 6). While these measures varied across the countries of South Asia—primary school enrolment rates varied from 97% in Sri Lanka to 68% in Pakistan—considerable regional differences existed within the countries of South Asia. In India, nearly every village had access to a school in the state of Kerala, while only 39% of villages in Bihar had the same benefit. In Pakistan, 57% of children in Punjab were enrolled in primary schools in 2005, while the figure for Balochistan was only 34%. Rates of full immunization varied from 76% in Punjab to 48% in Balochistan (Government of Pakistan 2007). In Nepal, access to schools is ten times better in the best districts compared to the worst (see Banerjee, Iyer and Somanathan 2008 for a broader range of within-country comparisons of public goods availability). On the other hand, Sri Lanka presented a case of relative equality in educational attainment: the fraction of people completing secondary school varied across districts in from 35% to 41% (Government of Sri Lanka 2006, Table 14.2b).

We should note that simply providing access to a school or enrolling a child in school is not enough to ensure an educated population. The quality of the services provided through these physical facilities is also quite low in many South Asian countries and regions. A nationally representative survey found that 25% of primary school teachers in India and 16% of those in Bangladesh are likely to be absent on any

given day. Similarly, 40% of health workers in India and 35% of those in Bangladesh are likely to be absent (Chaudhury and others 2006). In Pakistan, a detailed study of schools in Punjab found that teachers in government schools are absent approximately 4 days a month, and that by the end of Class III, just over 50 percent of children had mastered the Mathematics curriculum for Class I (Andrabi and others 2007). The quality of service provision also varies considerably across regions within countries: teacher absence across Indian states varied from 15% in Maharashtra to 42% in Jharkhand (Kremer and others 2005).

What determines the relative success of some regions in obtaining public goods for their residents, while other areas within the same country lag behind? In the rest of the paper, I review theoretical models of physical public goods provision, as well as the empirical evidence for the channels hypothesized in this literature. Most of these focus on the physical provision of health and education facilities. I consider two classes of explanations: "bottom-up" explanations which focus on the ability of local communities to successfully obtain public goods from the state, and "top-down" factors which focus on unilateral policy interventions undertaken by committed leaders. In this sense, I abstract away from the policymaker-provider relationship discussed in detail in the World Development Report (2004), subsuming the provider-type decision under the second class of factors. The analysis in this paper is purely from a positive point of view i.e. describing which factors matter in practice, rather than an attempt to suggest specific types of public service delivery for specific contexts.

I then consider whether similar factors can explain the variations in the quality of public goods, highlighting some recent field experiments aimed at improving health and

education outcomes. In the final section of the paper, I turn to the issue of whether purely private provision of these goods can be the solution to failures of public provision.

Theories of Collective Action

There is considerable demand for education and health services throughout South Asia. The Public Report on Basic Education in India (PROBE Team 1999) surveyed parents in four states of India with the lowest enrolment ratios. Virtually all parents (98%) felt that it was important for a boy to be educated; 89% of parents also felt that it was important for a girl to be educated. A survey of 10,000 voters in 1996 revealed that public amenities were listed as the "main problem faced by people like you" by one-fifth of the respondents, the second biggest concern after poverty (National Election Survey, Center for the Study of Developing Societies). Surveys in Pakistan confirm that parents care deeply about their children's education (Andrabi and others 2007, page 6). Why do some communities manage to articulate these demands well enough to obtain public goods from the state, while others do not succeed in doing so?

The standard model of public goods provision assumes that the provision of the public good depends on the total effort exerted by the all the individuals in a group, but an individual's costs of participating in group activities are privately incurred. This model has been traditionally applied to the analysis of the provision of local schools or health facilities funded by local taxes. In such cases, the benefit is having a local school for the children, and the private cost is the tax paid to obtain it. This model is also appropriate for cases where such infrastructure is financed by the government, but where local communities have to coordinate both to extract resources from the state and make sure these resources are then used to build the relevant infrastructure. The benefit in this case

is again the building of a local school, and the private cost is the cost incurred to take part in community actions such as organizing local meetings, writing to state officials, monitoring the spending of local funds, meeting with the local elected representative and publicizing the activities of state officials.[1] Such local effort appears to be crucial in view of the evidence from several countries that there is at most a weak link between expenditures on public services and the actual level of services received by the local community (World Development Report 2004, pp 35-38).[2] This group effort is needed to overcome political market imperfections such as the lack of information among voters about the performance of politicians, and the lack of credibility of political promises to citizens (Keefer and Khemani 2005 provide an overview of the literature on these political market imperfections).

In this theoretical framework, individuals in a community first decide on the level of effort (or costs) they would be willing to incur towards getting a local school. The probability of obtaining the public good depends on the overall effort mobilized by the community relative to a pre-set threshold (in the local financing model) or relative to the effort mobilized by other communities. Individual effort is costly to undertake, and there are rising marginal costs of individual effort for the agent. Each person in the group makes their choices independent of the others, and therefore there is an incentive to "free-ride" on other people's effort. For instance, if I expect others in my community to bear the fixed cost of setting up a school, I have every incentive to contribute zero effort or cost towards the project.

[1] This framework is based on the theoretical model in Banerjee, Iyer and Somanathan (2008).

[2] I thank an anonymous referee for highlighting this point.

This simple framework generates several testable implications for the impact of community characteristics on the provision of education and health facilities. The main implications involve the role of group influence, heterogeneity within groups and group size.

Group Influence

Communities which are inherently more powerful in demanding public goods are more likely to get them. This difference in political influence usually arises because they have been historically advantaged in terms of income or political connections. Examples of such privileged groups include whites in South Africa during the Apartheid years, high castes in India through most of its history and large landowners in Brazil. A corollary of this implication is that institutional changes which increase the political influence of certain groups should result in members of that group having greater access to public goods.

Heterogeneity within Groups

The theory generates ambiguous predictions, depending on the type of heterogeneity which is present within the group. First, members of a group might have heterogeneous preferences over the type or nature of the public good, depending on their demographic or locational characteristics. In the local school example, one can easily imagine individuals within a community having considerably different preferences over the provision of a primary versus a high school (depending on the age of the individual's child), choice of the language of instruction, whether the school should provide a school bus (which would depend on the location of the individual's residence), whether the

students should have school uniforms, the length of school hours, or other details of the curriculum. The theory implies that groups where preferences over public goods are very heterogeneous will typically have lower individual contributions towards the public goods.

If land and labor markets are well-functioning, rational economic behavior would imply that households would migrate to form more homogeneous communities, where all members share the same tastes over public good provision. This is the insight of a classic paper which implies that citizens have the option to "vote with their feet" to obtain better public goods (Tiebout 1956). Such migration results in better public goods provision through two channels: first, it generates competition across jurisdictions to retain residents and hence better incentives on the part of the local government. Second, free-riding is likely to be mitigated in a completely homogenous community, since each resident has migrated to a community which provides his desired level or type of public good.

In most developing countries, migration rates are typically low, and hence we do not expect the Tiebout mechanism to be a significant channel in obtaining public goods. Migration rates in South Asia are particularly low: the 2001 census in India reveals that 96% of the population lives in the same state as they were born in.[3] Some reasons for the extremely low migration rates can be the differences in regional language and culture across state boundaries, the costs involved in leaving established social networks, the

[3] This contrasts with the figure in developed countries. For instance, 40% of the US population resides in a state which is different from the one in which they were born.

relative paucity of infrastructure such as roads, and dysfunctional land markets which might make it difficult to buy or sell property.

A second type of heterogeneity could be in the benefits the public good confers on residents. For instance, farmers with large plots of land have more to gain from an irrigation canal, families with several children have more to gain from a local public school than single-child families, people with pre-existing medical conditions might benefit more from a local health center. In many cases, the rich will have less to gain from public provision of education and health, since they are the ones who can best access private provision of such services. In theory, having greater inequality of benefits can make people less likely to contribute towards it. However, this effect can be reversed at high levels of inequality: if one person expects to gain almost all the benefits (e.g. if there is only one farmer in the whole area), he will be motivated to bear the whole cost.

Third, a group can be socially heterogeneous in terms of religion, language, caste or ethnicity. This can lead to differences in preferences over public goods (e.g. each person wanting the medium of instruction in the school to be their mother tongue). It can also lead directly to less effective collective action due to increased communication costs across different social categories, a lower degree of trust or a lower degree of altruism towards members of a different social category. Socially homogeneous groups may also be able to monitor their members' contributions towards the public good, and use social sanctions to achieve high contributions. Such channels predict worse outcomes when society is divided into several different social groups. An alternative possibility is that social tensions are maximized when there are two large groups rather than several small

groups, and hence increasing heterogeneity might even help in achieving greater social cohesion.

In sum, the theoretical framework predicts that groups with heterogeneous preferences will have lower contributions towards the public good, while the predictions for the impact of economic and social heterogeneity are more nuanced.

Group Size

There are two possible effects of having a larger group. On the one hand, having a large number of people in the group exacerbates the free-rider problem. However, a large group has the potential to mobilize more effort at a lower cost (since the costs for each individual are convex). The net effect is therefore uncertain, and depends on whether the increase in the free-rider problem outweighs the resource advantage of large groups. If the public good does not deteriorate with a large number of users (i.e. congestion effects are small), then the resource advantage effect is likely to dominate. Examples of such public goods include public health campaigns such as malaria eradication or AIDS awareness. On the other hand, if a large number of users reduces the individual benefits from the public good (e.g. if the same irrigation canal is to be used by a larger number of farmers), then this exacerbates the free-rider effect and hence larger groups are likely to generate lower contributions.

Empirical Evidence on Collective Action and Public Goods

In this section, I survey the empirical evidence on the determinants of collective action postulated by the theoretical framework: the power of certain groups, group heterogeneity and group size.

Group Influence

There is considerable evidence from South Asia that groups with historical political advantages are able to obtain better public goods for themselves. Banerjee and Somanathan (2007) conducted an analysis on the availability of education, health and other infrastructure across all the states of the India, using census data at the level of the parliamentary constituency. They found that areas with a higher population of Brahmins, the elite priestly caste in India's caste system, have better access to primary, middle and secondary schools, to post offices and piped water. These are in fact exactly the goods we would expect the Brahmin caste to value most, given the traditional norms of Brahmins being deeply involved in education and written knowledge, as well as caste pollution norms which prohibit them from sharing water with other lower castes. For infrastructure where we do not expect them to have a special preference, such as electricity connections, health centers or roads, the paper does not find any significant correlation between the presence of Brahmins and the provision of such services. On a more local level, village-level surveys found that households which belong to the same community as the village head are more likely to obtain access to public housing funds, public toilets, water and electricity connections (Besley, Pande and Rao 2005).

Do institutional reforms which change the political advantage of different groups result in corresponding changes in access to public services? For instance, the Constitution of India provides for the reservation of a number of electoral constituencies for members of the Scheduled Castes and the Scheduled Tribes.[4] In these constituencies,

[4] The Scheduled Castes are communities which have historically been at the bottom of the Hindu caste hierarchy, while Scheduled Tribes include communities which have traditionally been outside the Hindu caste system.

only members of the targeted communities are allowed to contest elections, and hence this provision significantly increases the political influence of these communities. It turns out that reserving electoral constituencies for Scheduled Caste candidates results in greater access to primary schools for members of that community; however, such an impact is not observed for Scheduled Tribe communities (Krishnan 2007). Between 1971 and 1991, areas with higher Scheduled Castes populations experienced a rapid expansion in access to various types of infrastructure, while areas with higher Scheduled Tribe populations do not show such increases (Banerjee and Somanathan 2007).

One potential reason for this difference could be that Scheduled Castes have been able to mobilize politically, creating parties such as the Bahujan Samaj Party (BSP) which cater specifically to their interests. Another potential reason could be that Scheduled Tribes tend to live in remote isolated areas where it is costly to provide infrastructure. There is some evidence that such political reservations work well only if the context is conducive. A detailed survey of teacher attendance in the schools of Uttar Pradesh found that having a Scheduled Caste village head in fact reduces teacher attendance (Pandey 2006). This is probably due to the fact that most teachers are not from the SC communities, and hence teacher absence is a type of "non-cooperation" across heterogeneous communities. I explore further evidence on the impact of social heterogeneity below.

Another major political reform in India has been the decentralization of power to village level *panchayats* following the 73rd Amendment to the Constitution in 1992. Reservation for village head positions for Scheduled Castes and Scheduled Tribes were put in place, similar to the reservation policies for state and national electoral

constituencies. The 73rd Amendment also required a certain fraction of the village head positions to be reserved for women; the villages which are reserved under this scheme are chosen at random in each election, providing an excellent natural experiment setting to evaluate the impact of changing the political voice of women.

Increasing the political voice of women does help them to gain access to the goods they most value. A detailed survey of villages in Birbhum district of West Bengal state found that having a woman head increased the provision of goods which women valued, such as drinking water and roads (Chattopadhyay and Duflo 2004). Some of the results again sound a cautionary note regarding the importance of the social context. For instance, female village heads were widely perceived by village residents as less competent, even though they did no worse than men on any objective measure of performance. Results from further studies indicate that such social bias may be decreasing as voters are more exposed to women leaders (Beaman and others 2008).

Heterogeneity within Groups

Several studies find that social or ethnic heterogeneity is associated with lower contributions towards public projects and lower levels of access. The pioneering study in this empirical literature was an analysis of expenditure patterns across cities in the United States, which found that cities which had a racially diverse population spent a lower share of their budget on schooling, roads and garbage collection, and a greater share on health and police (Alesina, Baqir and Easterly 1999). It is in fact not clear whether this reflects different preferences or difficulties of collective action in heterogeneous communities, or perhaps the fact that cities which provide more health and police services attract a more diverse population. A related paper finds some evidence for the Tiebout migration

hypothesis. The United States witnessed a dramatic consolidation of school districts (jurisdictions) over the course of the 20th century: the number of jurisdictions decreased by a factor of 12. However, this decline was much higher in areas where the population became more racially homogeneous, suggesting strong support for the fact that people migrate to form homogeneous communities. Where the population is not homogeneous, people prefer to retain separate communities providing their own preferred type of schools (Alesina, Baqir and Hoxby 2004).

Direct evidence on the role of social heterogeneity on public goods contributions comes from experimental results, where subjects participate in a variety of public goods "games" which simulate real-life situations. Interestingly, subjects in most of these experiments display a much lower level of free-riding than that predicted by economic theory.[5] There is no consensus on the impact of introducing heterogeneity across agents. Heterogeneity in the distribution of benefits across agents raises contribution levels (Cardenas, Stranlund and Willis 2002), while introducing heterogeneity in perceived status of participants tends to decrease contribution levels (Anderson, Mellor and Milyo 2004).

Real-life results are similar to the experimental ones, suggesting that different types of heterogeneity matter in different ways. Asim Khwaja conducted a detailed survey of project maintenance across communities in Baltistan in north-west Pakistan (Khwaja 2006). He found that inequality of benefits has a very non-linear relationship with project maintenance undertaken by the community. In his setting, residents with more assets (land) benefit more from these project maintenance expenditures. At low levels of asset inequality, project maintenance decreases with increasing inequality while

[5] Ledyard (1995) provides a detailed survey of the experimental literature.

at high levels of inequality, further increases in inequality actually lead to better maintenance. This is consistent with the theoretical prediction outlined earlier. A similar non-linear relationship exists in the operation of sugar cooperatives in Maharashtra, with high prices more likely to be maintained when there are either a very small number or a very large number of big farmers (Banerjee and others 2005).

Several papers have documented the long-run impact of historical patterns of inequality and lack of social cohesion. Stanley Engerman and Kenneth Sokoloff conducted a comparative study of New World economies. They found that places where the climate was suited to the cultivation of plantation crops like sugar (e.g. Brazil, Haiti) or places which had extractive industries (e.g. Mexico, Peru) had colonial institutions where a small elite owned most of the productive resources. The elite in these high-inequality areas managed to capture a disproportionate share of political power as well. These countries ended up having much lower investments in public education, as well as a delayed transition to democracy and universal suffrage compared to initially more equal places like the United States and Canada, precisely because such policy moves would threaten the economic and political dominance of the elites (Engerman and Sokoloff 2000, 2005).

In the context of South Asia, we find a similar perpetuation of colonial-era heterogeneity. Abhijit Banerjee and Lakshmi Iyer compared the development paths across the districts of India, according to whether they had a historically unequal distribution of land or not. This variation stems from the fact that the British colonial rulers put in place different land tenure systems in different parts of India: areas in which a small number of landlords were assigned the primary responsibility for land revenue

collection ended up having an economically and politically powerful elite class, compared to non-landlord areas where the taxes were effectively collected directly from the peasant. Even though landlords were formally abolished in the 1950s, the study found that the formerly landlord-controlled areas lag behind the non-landlord areas in the provision of education and health facilities. Their explanation is that the landlord areas have a much greater social and economic distance between the elites and the masses, and hence are not able to effectively coordinate public action for public goods (Banerjee and Iyer 2005). Some evidence of this is provided by the fact that landlord areas tend to have a higher incidence of violent crimes such as murder or armed robbery.

Many studies document a negative effect of social heterogeneity on public goods provision. Parents whose children attended ethnically heterogeneous schools in Kenya contributed less in school fund-raising drives (Miguel and Gugerty 2005). In India, areas which had a higher degree of caste and religious heterogeneity had significantly lower levels of access to schools, transport services, wells, health services and electricity connections (Banerjee, Iyer and Somanathan 2005). In Nepal, social heterogeneity is associated with increased firewood collection (and hence worse maintenance of common forest resources), while economic inequality is positively associated with forest maintenance (Baland and others 2003).

Why does social heterogeneity have a negative effect on collective action? As discussed earlier, social heterogeneity might matter by reducing the degree of altruism or trust among members of the community, by increasing the costs of communication or by reducing the ability of members to enforce social contribution norms. A series of public goods experiments in Uganda explicitly tested these various channels (Habyarimana and

others 2007). They found that the impact of social heterogeneity mainly works through the third channel i.e. members of the same social group are more likely to be able to find each other through their social networks and hence this gives them an edge in monitoring social contributions.

Group Size

There is relatively little empirical evidence on the impact of group sizes on the provision of public goods. Theoretically, the impact is ambiguous, depending on how much free-riding increases with group size. Experimental evidence by Isaac and Walker (1988) suggests that free-riding increases in large groups mainly because the marginal benefits of the group activity go down i.e. because of some congestion effects in the public project. Once this is controlled for, they found that free-riding does not increase significantly with group size.

Larger villages in India were significantly more likely to have access to almost every type of infrastructure in 1971; larger villages were also more likely to increase their access to middle schools, health facilities and phone connections between 1971 and 1991 (Banerjee and Somanathan 2007). Table 1 illustrates the impact of village size by comparing the state of Kerala, which is India's leading state in providing health and education facilities to its residents, with its neighboring states of Andhra Pradesh, Karnataka and Tamil Nadu. In 2001, 98% of Kerala's villages had a primary school, 79% had a middle school and 97% of villages had a medical facility. The corresponding figures for the other three states were 83%, 43% and 55% respectively. However, it turns out that Kerala's villages are much larger than those in the other three states: 85% of villages in Kerala have a population greater than 8000, and there are very few villages

which have less than 2000 people. In contrast, 72% of the villages in the neighboring states have less than 2000 people, and only 2% have populations greater than 8000. When access to education and health facilities is compared by village size categories, we do not see any advantage to Kerala. While this evidence is suggestive, it is certainly not conclusive because we do not know why villages are so much larger in Kerala (is it merely a function of local geography?) or whether village sizes have changed over time in response to the provision of public goods.

The relevance of collective action factors in determining public goods is subject to two main caveats. First, in many countries (including South Asia), the provision of education and health services is the responsibility of the state, and hence the actions of committed leaders can have a direct effect these outcomes, over and above the impact of local community characteristics. Second, the evidence suggests that the impact of community characteristics (village size, caste and religious heterogeneity, the presence of disadvantaged communities) is growing less over time (Banerjee and Somanathan 2007). In particular, a considerable convergence took place across Indian regions in terms of public goods provision between 1971 and 1991; Banerjee and Somanathan attribute it to specific policies of the Indian government to equalize access. Can "top-down" interventions specific leaders make a difference?

The Role of the State: Ideology, History and Sustainability

When asked how Kerala had succeeded in ensuring widespread literacy, the state's Minister of Education cited several reasons beyond local collective action: "A long tradition of public action, strong support for Leftist political movements, benevolent

rulers such as the royal family of Travancore and strong social reform movements against practices such as untouchability."[6]

This comment highlights three key factors. The first is the role of committed leaders. As early as 1817, the Regent Gauri Parvathi Bai of Travancore state declared, "The state should defray the entire cost of the education of its people in order that there might be no backwardness in the spread of enlightenment among them, that by diffusion of education they might become better subjects and public servants and that the reputation of the state might be enhanced thereby." This remarkable announcement was followed by the setting up of schools in each district of Travancore state over the next few decades, as well as state commitments to health care. The Travancore Administrative Report records 809 students in the Maharaja's High School of whom 800 had received vaccinations (State of Travancore, 1901). The students came from both the priestly Brahman caste and the lower castes and from a wide range of occupational groups, suggesting that the state was also active in removing barriers to social cohesion. In contrast, the British colonial state set up the first English school in British Malabar (northern region of modern Kerala state) only in 1848.

Travancore was not the only place with a committed ruler. Sayajirao III, the ruler of Baroda (in present-day Gujarat state) from 1875-1939, declared that education was "absolutely necessary for the realization of my ambitions and wishes for the future of my people." The state ordered that schools be provided in all villages which could produce 16 children willing to attend; Sayajirao was also the first to introduce compulsory education in certain areas in 1892. It took the British more than twenty years to introduce a similar law in the neighboring Central Provinces. It is important to note that the rulers

[6] Author's interview with M.A.Baby, Minister of Education and Culture, September 2006.

mentioned here were hereditary kings with little direct pressure from their subjects for the provision of such facilities. This effect is also not limited to the specific rulers mentioned here: in general, areas of India which were ruled by native rulers have better access to schools and health centers, compared to areas which had been ruled by British administrators (Iyer 2007).

Second, the presence of committed actors can play a role in spurring policy competition. In addition to keeping social reform on the political agenda, it is possible that the strong presence of Communist parties in Kerala forced competing parties to provide similar commitment to public services.

The history of education in Sri Lanka is illustrative in this regard.[7] Before the colonial period, education had traditionally been provided by Buddhist monks. The arrival of the Portuguese and then the Dutch resulted in the setting up of several missionary schools in Sri Lanka during the 16th, 17th and 18th centuries. During the period of direct British colonial rule (1796-1931), a few government schools were also set up by the colonial government. However, in the mid 19th century, Buddhist, Hindu and Muslim communities started their own religious schools in order to provide their children an alternative to the Christian schools. This increase in the number of schools resulted in a 42% literacy rate for men as early as 1901. By comparison, the literacy rate for men in the state of Travancore, the highest in India, was only 21% at that time. Thus, competing (religious) ideologies appear to have advanced the cause of access to education. A cross-country analysis finds a similar result: competition among missionaries resulted in higher education outcomes across former colonies in Africa, irrespective of the religious denomination of the missionaries themselves (Gallego and Woodberry 2006).

[7] This is based on Sri Lanka Ministry of Education (2004).

After the end of direct British colonial rule and the institution of universal suffrage in 1931, Sri Lanka adopted some major education initiatives in 1942. These were heavily influenced by the views of C.W.W. Kannangara, the first Minister of Education. These included free education from kindergarten through university, instruction in the mother-tongue of the student, the setting up of 53 high-quality Central schools for secondary education throughout the country, the institution of a scholarship program and the setting up of the University of Ceylon. It should be noted that Kannangara faced considerable opposition from the elites before these measures were passed. These measures have contributed to a literacy rate of over 90% in Sri Lanka, with 40% of the population completing secondary school in 2001.

Third, we know very little about what determines the long-term sustainability of the original initiative. Did education continue to get prominence in Kerala because of a series of committed rulers in the states of Travancore and Cochin, or because of the role played by social reform movements in Kerala, which were specifically aimed at increasing the access of lower castes to public facilities (Ramachandran 1997)? Why is Gujarat not among the leading states of India in public goods provision, despite the presence of an extremely committed ruler in the past? What factors prompted the Sri Lankan state to continue its long-term commitment to education after the colonial period and the 1942 reforms?

One potential channel is that a higher initial level of literacy might change the effectiveness of local collective action, either by lowering the costs of demanding public goods, or by increasing social cohesion. In this context, it is interesting to note that literacy rates across Indian districts in 1961 are significant predictors of access to a range

of public goods in 1991 (Banerjee and Iyer 2008). On the other hand, an initial provision of de-worming drugs in Kenya proved to be extremely hard to sustain over the longer term. This suggests that we need specific measures to galvanize local collective action; simply providing a public good is not enough to sustain it (Kremer and Miguel 2007).

Can governments undertake measures to increase social cohesion and hence make collective action more effective? Some indications are provided by comparing the contrasting experiences of Kenya and Tanzania: local ethnic heterogeneity is negatively correlated with the quality of schools in the Busia region of Kenya, but the two are positively correlated in the nearby Meatu region of Tanzania (Miguel 2004). One plausible reason for this is that after independence, the Kenyan leadership played up tribal loyalties for political reasons and little effort was put into building a Kenyan identity; in contrast, the Tanzanian leadership put a lot of emphasis on creating a single Tanzanian identity.

The importance of such feedback mechanisms between initial "top-down" initiatives and later "bottom-up" processes is yet to be explored in much detail, in both the theoretical and the empirical literature.

Quality of Public Services

The theoretical framework described earlier can be applied to analyze the factors affecting the quality of public goods provision as well. As long as there is some private cost incurred by the user in verifying or enforcing the quality of service (e.g. going to the health center to check whether the nurse is present, filing a complaint with the school authorities if the teacher is not doing a good job), the same insights would apply. The implications of that framework would be that people who have political advantages

would enjoy a higher quality of public goods provision, while the impact of group size and group heterogeneity is ambiguous.

The empirical evidence has highlighted many of the same factors as being important determinants of public goods quality. For instance, schools located in areas of India which were under the landlord-based land tenure system are much more likely to have higher rates of teacher absenteeism (Pandey 2006). The importance of "bottom-up" factors is highlighted by the observation that teacher absence is lower in schools where the Parent Teacher Association (PTA) has met in the past three months (Kremer and others 2005). It is important to note that this is not driven solely by links between the teacher and the local community: teachers who are from the local community are not less likely to be absent, and the mere existence of a PTA does not help to reduce absence. This clearly suggests a role for the kind of community action modeled earlier.

Given the failures of community action to ensure service delivery in many cases, what means can be used to rectify the situation? Duflo and Hanna (2005) report the results of an experiment where teachers in a randomly chosen subset of schools in Rajasthan were offered a bonus if they proved their presence in school by photographing themselves with their students. This scheme reduced teacher absence in those schools by half—a huge improvement. Increased teacher presence also resulted in improved student learning outcomes. However, it should be noted that this approach does not focus on improving local collective action. In this sense, it is a "top-down" method of intervention. Olken (2007) found a similar result in Indonesia, where increasing centralized auditing dramatically improved the quality of roads built by local village committees.

The latter study is unusual, because it also included an explicit comparison of top-down auditing with more bottom-up community monitoring. The study found that making it easier for citizens to monitor local road-building had very little impact on the quality of roads. A similar result was found in a study in Rajasthan (Banerjee, Deaton and Duflo 2004). Members of the local community were given strong incentives to monitor the presence of nurses at the local health center. They did keep track of whether the nurse was present or not, but in the absence of any effective sanctioning mechanism, there was no impact on service provider absence.[8] An innovative experiment in Andhra Pradesh (India) aimed directly at improving teacher accountability: public school teachers were given bonuses if their students improved their test scores. This initiative significantly improved student learning outcomes, mainly by inducing greater teaching effort on the part of the teacher (Muralidharan and Sundararaman 2006).

Is Private Provision the Solution?

In recent years, many countries of South Asia have witnessed a dramatic rise in the number of private schools in rural areas. In Pakistan, the number of private schools increased from 32,000 to 47,000 between 2000 and 2005; in 2005, one in three primary school students was enrolled in a private school (Andrabi and others 2007). In India, 28% of the rural population had access to a private school in 2003 and 15% of all students were estimated to be studying in private schools (Kremer and Muralidharan 2006). In Bangladesh, an NGO is one of the biggest suppliers of primary schooling in Bangladesh: BRAC's Non-Formal Primary Education Program (which covers the same competencies as the government schools) had grown from 22 one-room schools in 1985 to 49,000 schools in 2004, accounting for about 11% of the primary school children in Bangladesh.

[8] Banerjee and Duflo (2005) survey a number of other studies aimed at reducing service provider absence.

By contrast, in Sri Lanka where the public school system is working well, only 4% of all students are enrolled in private or religious schools (Sri Lanka Ministry of Education 2007).

Private schools perform better than public schools on many dimensions. Teacher absence is considerably less, and student learning outcomes are significantly better (Andrabi and others 2007, Kremer and Muralidharan 2006). Can the entry of such non-state actors into the education sector be the answer to the substantial failings in the public education system documented earlier, as well as the difficulties in improving local collective action?

There are three reasons why the state still needs to be a major force in the provision of health and education on a large scale. First, private schools do not provide universal service: they are more likely to be located in larger villages (India) or in richer villages and richer settlements within villages (Pakistan). In both countries, they are much more likely to exist when teacher absence in the public school system is high. Second, they are more expensive than public schools. In Pakistan, the average annual cost of a private primary school was 3563 rupees, more than seven times the public school cost of 479 rupees. The cost of schooling is a significant deterrent of enrolment: 25% of boys and 22% of girls cite the cost of schooling as their reason for not going to school; 18% of boys and 15% of girls cite the cost as their reason for dropping out of primary school (Government of Pakistan 2007, Tables 2.20, 2.23, 2.24). Both the location and the cost of private schools limit the access of the poorest households to such facilities.

Third, it appears that an initial investment by the state is essential for private schools to be viable. The main advantage of private schools is that they are able to hire

local teachers for much lower wages than those paid to government school teachers (who typically enjoy civil service protection). Where do they find these teachers with at least minimal levels of education? Research from Pakistan suggests that these teachers are the result of prior investments by the state in expanding access to public education in rural areas (Andrabi, Das and Khwaja 2007). This is consistent with the timing of the recent rise in private schools. Over time, it may be possible for the private school system to generate its own teachers and thus become self-sustainable. But for now, it appears that a minimal level of public schooling is essential to set up private schools!

Conclusions

This paper has documented the shortfalls in the delivery of health and education services across South Asia. One of the key features of this data is that there are large gaps in service delivery even within specific countries. I then surveyed two classes of explanations for such under-provision. The first broad class focuses on the factors which might make local demand insufficient or ineffective in ensuring such facilities. These are the factors which make collective action more or less difficult and include the influence of certain politically advantaged groups, group heterogeneity and group size. We saw that in many cases, the theoretical framework yielded ambiguous predictions. The empirical evidence on the whole suggests that (i) political influence of the group matters significantly in obtaining their preferred goods (ii) groups which are socially heterogeneous are less effective in obtaining public goods, while there are varying results for groups which are economically heterogeneous (iii) larger groups are likely to be more effective in obtaining desired public goods.

The second class of explanations focused on factors which might affect the supply of public goods, irrespective of demand conditions. Several experiences suggest that committed leaders can make a big difference in providing public goods, that competition among motivated agents can be a significant force, and that "top-down" interventions may not be self-sustaining. We know relatively little about how to effectively promote collective action, or about other channels to make an initial intervention sustainable. These remain fruitful avenues for theoretical, and especially, empirical work.

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Table 1a: Village Size Categories

Village population	Kerala	Andhra Pradesh, Karnataka, Tamil Nadu
Less than 500	0.4	29.2
500-1000	0.0	19.8
1000-2000	0.7	23.5
2000-4000	3.5	17.8
4000-6000	4.8	5.6
6000-8000	5.0	2.1
Greater than 8000	85.6	2.0
Total	100.0	100.0

Table 1b: Public goods availability by village size

	Kerala			Andhra Pradesh, Karnataka, Tamil Nadu		
	Fraction of villages having			Fraction of villages having		
Village population categories	Primary school	Middle school	Medical facility	Primary school	Middle school	Medical facility
All villages	**0.98**	**0.92**	**0.97**	**0.83**	**0.43**	**0.54**
Less than 500	0.33	0.00	0.33	0.53	0.08	0.25
500-1000	-	-	-	0.91	0.33	0.38
1000-2000	0.80	0.30	0.60	0.97	0.52	0.60
2000-4000	0.88	0.44	0.63	0.99	0.74	0.83
4000-6000	0.95	0.72	0.89	1.00	0.88	0.94
6000-8000	0.96	0.69	0.91	1.00	0.94	0.97
Greater than 8000	1.00	0.97	0.99	1.00	0.97	0.99

Source: Author's calculations from Census of India 2001.