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Do Schooling Policies Contribute to Schooling Inequality? School Location Policies in Rural India

By *Anjini Kochar*

India has long been characterized by significant disparities in schooling levels along caste lines; individuals belonging to “scheduled castes or tribes” (SC/ST), who occupy the lowest rung in the caste hierarchy, have lower schooling levels than upper castes. Despite decades of government policies aimed at narrowing this gap, these schooling inequalities persist. Available data suggest that, if anything, the gap has been increasing, particularly in rural areas (Kochar 2004).

Could caste-based schooling inequalities be, in part, a consequence of government policies intended to ensure access to schools for all rural households? Believing that low enrollments by the

poor reflected limited school availability, the government of India made the provision of schools within walking distance from each rural household a priority. In implementing this policy, however, scant attention was paid to other critical schooling issues, particularly those related to school quality. Specifically, the Government failed to recognize that decisions regarding the placement of schools determine more than just access to schools; they combine with the residential structure of an economy to define the school community and, ultimately, impact schooling attainment.

For example, if residential centers are geographically

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About The Author

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dispersed and relatively small, then the priority placed on access may imply a corresponding inability to efficiently choose school size. And, if the economy is characterized by a relatively high level of residential segregation, decisions regarding the location of schools will determine whether residential segregation implies a correspondingly high degree of schooling segregation. Under such conditions, policies to improve school quality cannot be discussed independently of school location policies.

In recent research based both on household and habitation-level data collected by the government of India and on fieldwork in the southern state of Andhra Pradesh, conducted in collaboration with the Byrraju Foundation, I explore how governmental school location policies shape the relationship between community characteristics and schooling inputs and affect schooling attainment. In this policy brief, I describe key demographic features of residential structures in rural India and document

their correlation with critical schooling inputs known to affect schooling attainment.

Residential Structures in Rural India

While the village is often used as the relevant unit of analysis in economic research on India, rural India does not, in fact, reside in villages – it resides in sub-divisions of a village, known as habitations or hamlets. Habitations are generally organized along caste lines, so that the rural economy is characterized by a considerable degree of caste-based segregation with scheduled caste households frequently residing in separate, smaller sub-habitations of the village.

For the country as a whole, 2002 data reveal that India's 586,986 villages are divided into more than double the number of habitations, with an average of 2.1 habitations per village.¹ Of this total, 38 percent are scheduled caste and tribe habitations, in which most of the nation's SC/ST population resides. In the north Indian state of Uttar Pradesh, for example, the total population residing in

SC/ST habitations (approximately 30 million) amounted to 89 percent of the estimated population of scheduled castes and tribes in the state, suggestive of a very high degree of residential segregation by caste. In 2002, the average population size of a habitation was only 643, with 44 percent of all habitations having a population size below 300.

The Relationship Between Habitation Characteristics and School Inputs

The stated policy objective of providing a school within easy walking distance of each household, in conjunction with the geographic distance across habitations, requires the government to use the habitation as the basis for school mapping exercises. This, in turn, has at least two implications for schools: It implies that school size is not optimally chosen but reflects the population size of the habitation, and it implies that the system of residential segregation within a village gets translated into a system of schooling segregation.

¹ These data, and other data cited in this note, are from the 7th All India Education Survey conducted by the government of India.

While a de facto system of schooling segregation exists in all economies characterized by residential segregation along ethnic lines and a system of locally provided schools, the relatively small size of schools is a feature unique to India and other developing economies characterized by small residential structures. The small average size of habitations implies that school size is also typically small. In 2002, the average government primary school

in rural India had only 114 students.² Even in relatively populous states, such as the northern state of Uttar Pradesh, the average school has only 138 students, with 37 percent of rural schools having a total enrollment of fewer than 100 students.

That school size is not optimally determined is evident from its tremendous variation within a district, but also within a village. This is strikingly revealed in Figure 1, which shows, for one village in Uttar

Pradesh, the size distribution of the eight schools located in the village. School size in this village ranges from fewer than 100 students to nearly 400.

School size matters because the high fixed costs associated with infrastructure such as playgrounds, computer laboratories, and libraries imply that these costs can rarely be justified for schools with small student populations. We therefore observe that variation in school size is accompanied by a corresponding variation in the availability of schooling infrastructure. However, perhaps the most detrimental consequence of small school size is the number of teachers available to the school. Because teachers are assigned on the basis of a targeted teacher pupil ratio of 1:40, schools with a student population below 200 generally have fewer than five teachers, the minimum required to ensure one teacher per grade. Indeed, in 2002, 64 percent of schools in rural India had two or fewer teachers. Consequently, “multi-grade” teaching, in a single classroom, is common.

Many schools in developed countries favor a multi-grade

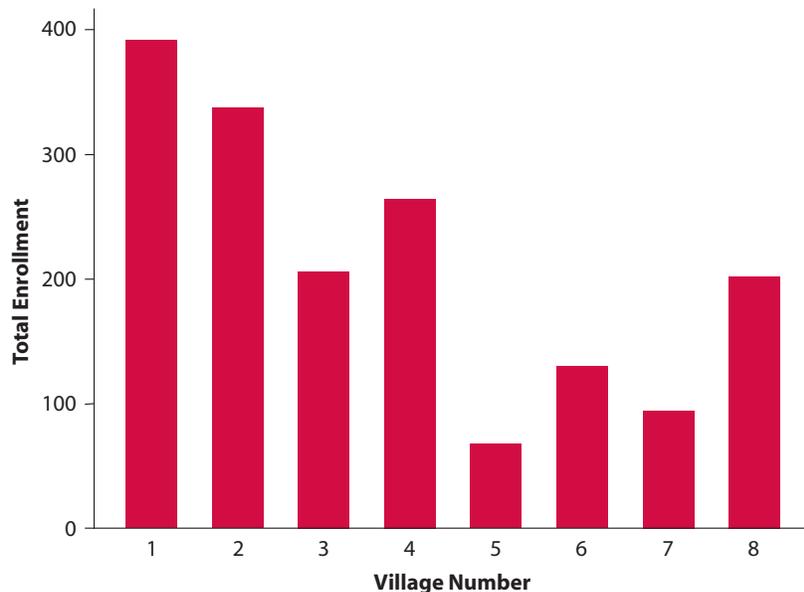


Figure 1

Distribution of schools by size in one village of District Ballia, Uttar Pradesh

² This is the average across all schools run by the government, by local bodies, as well as those funded by the government but managed privately (“private aided” schools).

environment, particularly in lower grades. However, when multi-grade teaching is resorted to as a consequence of low total enrollments, the decision on which grades to combine is made on the basis of grade-level enrollments, resulting in combinations that are not optimally selected from the viewpoint of schooling achievement. In the sample of schools in Andhra Pradesh, surveyed as part of our field study, it is not uncommon to see first grade students jointly taught with students in the third, fourth and fifth grades.

Even in such a context, the consequences of multi-grade teaching would depend on the curriculum. If teaching in primary schools followed a flexible, experimental and group-based approach, multi-grade teaching, even when it joins together students from non-adjointing grades, may be beneficial. Indian government schools, however, follow a textbook, curriculum-based approach, with a clear and distinct curriculum for each grade. Consequently, teaching in a multi-grade environment implies a substantial reduction in the time the teacher devotes to any one grade. In a classroom

where first and fifth grade students are combined, the teacher essentially devotes half the time to the first grade students and the other half to the fifth grade students. Not surprisingly, our research finds learning, as measured by test scores in achievement tests, is substantially lower in multi-grade classrooms.

Explaining Caste-based Schooling Inequalities

Because school location policies imply that school quality is importantly affected by socio-economic and demographic characteristics of a habitation, differences in these characteristics across SC/ST and upper caste habitations imply a corresponding difference in the quality of schools attended by children of different castes. These differences in school quality explain a significant component of schooling inequalities across castes.

For example, SC/ST habitations are, on average, significantly smaller than upper caste habitations. In 2002, the average size of an SC/ST habitation was only 425 compared with 758 for an upper caste habitation. As many as 55 percent of SC/ST habitations

have a total population below 300. Correspondingly, schools located in these habitations have far fewer teachers than those in upper caste habitations and are therefore far more likely to be characterized by multi-grade teaching. In our survey of Andhra Pradesh schools, for example, we found that schools in SC/ST habitations had, on average, a total of 2.6 teachers responsible for teaching grades one through five. In contrast, schools in upper caste habitations had an average of five teachers, making it possible to assign a teacher for each grade. This difference in the number of teachers in a school reflected differences in the size of SC/ST and upper caste habitations. Total enrollment in the average SC/ST school was only 83 students, compared with 154 in the average upper caste school.

Mirroring the residential segregation of households along caste lines, our survey data also reveal the extensive de facto segregation that characterizes schools in rural India. In schools located in SC/ST habitations, as much as 68 percent of the student body belonged to these

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castes. In contrast, in schools located in other habitations, only 17 percent of the student body came from scheduled castes or tribes.

Our research further shows that the consequences of segregation along caste lines vary by caste. For upper caste households, who attend schools primarily surrounded by children of upper castes, schooling segregation significantly improves the likelihood of enrollment, supporting research finding that an individual's schooling attainment is positively affected by the average socio-economic status of one's peers or the school's student body. Correspondingly, the fact that scheduled caste students attend schools populated primarily by children from scheduled castes reduces their probability of enrollment and hence their schooling attainment.

Implications for Policy

Taken together, the research evidence confirms that school location policies forge a relationship between socio-economic characteristics of habitations and schooling outcomes. Habitation size determines school size, which influences attributes such as

teacher strength and in turn significantly affects schooling attainment. Moreover, the policy of providing each habitation with a school has resulted in a system of de facto segregation that reduces the schooling attainment of members of scheduled castes, while benefiting children from upper castes.

Because the quality of schools is affected by the very policies intended to improve schooling access, improvements in quality will be difficult to effect unless the government is willing to reconsider its school location policies. Improvements in the infrastructure available in SC/ST schools and a reduction in multi-grade teaching are economically feasible only if school size can be increased. This, in turn, is not possible unless the government adopts a system that supports larger schools, serving the village population as a whole and covering all the habitations that comprise a village.

Many fear that the increased distance to school that such a policy change would entail will reduce schooling enrollments, particularly of children from scheduled castes and tribes for whom the opportunity costs of schooling are the highest.

However, distance to schools is only one determinant of schooling enrollment. Studies find that perhaps the most important determinant is household income and that cash transfers to households conditional on children maintaining a stipulated level of attendance in schools, as implemented by the government of Mexico, are an effective tool for increasing school enrollments (Schultz 2004). This suggests that the current trade-off between access and quality that characterizes the government of India's schooling policies can be minimized by consolidating the schools in a village and using the resulting savings to finance a system of cash transfers to scheduled caste and tribe households, conditional on their child's schooling attainment.

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