The Impact of Reservation in the Panchayati Raj: Evidence from a Nationwide Randomized Experiment

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1 Introduction

The 73rd Amendment paved the way for a fundamental change in the way public goods are delivered in rural areas in India. Through the structure of the Panchayati Raj, local councils directly elected by the people are responsible for making decisions on an array of public good decisions. Twice a year, the councils must also convene village meetings (Gram Sabhas), where the villagers must approve their plan and their budget. Eventually, the Gram Panchayats are supposed to be given control over an even broader array of social services, including basic education and primary health care. The hope is that decentralization, by bringing decision-making closer to the people, may improve both the quality of social services delivery in India, which is in many ways disastrous (e.g., Probe Team (1999)), and its adequacy to meet people's needs.

However, in a country with a heterogenous population, a danger is that decentralization will make it more difficult to protect the interests of weaker segments of the population, notably women, the Scheduled Castes (SC), and the Scheduled Tribes (ST), and, in particular, to ensure that they get their fair share of public goods. To alleviate this concern, the 73rd Amendment required that a fraction of seats at all levels be reserved to women, SCs and STs. While reservations for SCs and STs are in place in other elected bodies (national and state legislative assemblies), the 73rd Amendment is the first one in India that mandated women's reservation, and this made it a landmark piece of legislation as well as, to some extent, a test case.[1] It also makes an objective

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[1] There are reservations for women in many other countries, however. Quotas for women in assemblies or on parties' candidate lists are in force in the legislation of over 30 countries (World Bank (2001)), and in the internal

and rigorous analysis of its effects particularly important.

A necessary condition for the efficacy of the reservation policy is that the elected representatives have independent power and autonomy, over and above not only the direct control of the villagers (exerted through voting or through the Gram Sabhas), but also above the control of the bureaucracy, the parties' hierarchies, and the local elites. Thus, by asking whether or not reservations make a difference for political outcomes we can start answering two important questions on the Panchayati Raj. First, do the Panchayat leaders matter at all? Second, do they make decisions that better reflect the needs of their own groups?

This paper summarizes some of the findings from our research project on local decentralization (Chattopadhyay and Duflo (2003a), Chattopadhyay and Duflo (2003b)).[2] We answer these questions using two data sets we collected in two districts, Birbhum, in West Bengal, and Udaipur, in Rajasthan. In both places, we conducted detailed village surveys, from which we learned both the types and the locations of the public goods provided on the ground since the last election. We also collected data on Gram Sabhas and complaints to the GP (by men and women), and we therefore know, in each place, what women and men seem to care most about.

A key feature of the reservation policy is that the seats to be reserved were randomly allocated, which ensures that the only difference between reserved and unreserved villages is that some of them were picked to be reserved, while some were not. With a large enough sample, this means that if we find any difference between the types of goods that are provided in GPs that are reserved for women Pradhans and in those that are not, this must reflect the impact of the policy. We first show that women invest more in goods that are relevant to the needs of local women: water and roads in West Bengal; water in Rajasthan. They invest less in goods that are less relevant to the needs of women: non-formal education centers in West Bengal; roads in Rajasthan. In Birbhum, where we have data on investments in hamlets populated by SCs, STs and the general population within each village, we also show that SC Pradhans invest a larger share of public goods in SC hamlets than do non-SC Pradhans.

This research thus shows that some of the fears expressed regarding decentralization are not founded: Local leaders seem to have some effective control over decisions, even when they are women or SCs. Moreover, it indicates that the oft-heard anecdotal evidence regarding women being entirely controlled by their husbands when in office should not be given too much weight. Correcting the imbalances in political agency leads to a correction of imbalance in other spheres as well (Sen (1999)). Reservations of electoral seats may therefore be an effective tool to safeguard the interest of the weaker groups.

rules of at least one party in 12 countries of the European Union (Norris (2001)).

[2] More details can be found in these papers.

2 Institutions

2.1 The Panchayat System

The Panchayat is a system of village-level (Gram Panchayat), block-level (Panchayat Samiti), and district-level (Zilla Parishad) councils, members of which are elected by the people, and are responsible for the administration of local public goods. Each Gram Panchayat (GP) encompasses 10,000 people in several villages (between 5 and 15). The GPs do not have jurisdiction over urban areas, which are administered by separate municipalities. Voters elect a council, which then elects among its members a Pradhan (chief) and an Upa-Pradhan (vice-chief).[3] Candidates are generally nominated by political parties, but have to be residents of the villages they represent. The council makes decisions by majority voting (the Pradhan does not have veto power). The Pradhan, however, is the only member of the council with a full-time appointment.

The Panchayat system has existed formally in most of the major states of India since the early 1950s. However, in most states, the system was not an effective body of governance until the early 1990s. Elections were not held, and the Panchayats did not assume any active role (Ghatak and Ghatak (1999)). In 1992, the 73rd Amendment to the Constitution of India established the framework of a three-tiered Panchayat system with regular elections throughout India. It gave the GP primary responsibility for implementing development programs, as well as in identifying the needs of the villages under its jurisdiction. Between 1993 and 2003, all major States but two (Bihar and Punjab) had at least two elections. The major responsibilities of the GP are to administer local infrastructure (public buildings, water, roads) and identify targeted welfare recipients. The main source of financing is still the state, but most of the money that was previously earmarked for specific uses is now allocated through four broad schemes: The Jawhar Rozgar Yojana (JRY) for infrastructure (irrigation, drinking water, roads, repairs of community buildings, etc.); a small additional drinking water scheme; funds for welfare programs (widow's, old age, and maternity pensions, etc.); and a grant for GP functioning.[4] The GP has, in principle, complete flexibility in allocating these funds. At this point, the GP has no direct control over the appointments of government-paid teachers or health workers, but in some states (Tamil Nadu and West Bengal, for example) there are Panchayat-run informal schools.

The Panchayat is required to organize two meetings per year, called "Gram Samsad". These are meetings of villagers and village heads in which all voters may participate. The GP council submits the proposed budget to the Gram Samsad and reports on their activities in the previous six months. The GP leader also must set up regular office hours where villagers can lodge complaints or requests.

In West Bengal, the Left Front (communist) government gained power in 1977 on a platform of

[3] In Rajasthan, the chief is called a Sarpanch. In this paper, we will use the terminology Pradhan for both states.

[4] According to the balance sheets we could collect in 40 GPs in West Bengal, the JRY accounts for 30% of total GP income, the drinking water scheme, 5%, the welfare programs, 15%, the grant for GP functioning, 33%, and the GP's own revenue for 8%. GPs can also apply for some special schemes–a housing scheme for SC/STs, for example.

agrarian and political reform. The major political reform was to give life to a three-tiered Panchayat electoral system. The first election took place in 1978 and elections have taken place at five-year intervals ever since. Thus, the system put into place by the 73rd Amendment all over India was already well established in West Bengal. Following the Amendment, the GP was given additional responsibilities in West Bengal. In particular, they were entrusted to establish and administer informal education centers (called SSK), an alternative form of education for children who do not attend school (a instructor who is not required to have any formal qualification teaches children three hours a day in a temporary building or outdoors).

In Rajasthan, unlike West Bengal, there was no regularly elected Panchayat system in charge of distribution of state funds until 1995. The first election was held in 1995, followed by a second election in 2000. Since 1995, elections and Gram Samsads have been held regularly, and are well attended. The setting is thus very different, with a much shorter history of democratic government. As in West Bengal, the Panchayat can spend money on local infrastructure, but unlike in West Bengal, they are not allowed to run their own schools.

2.2 Reservation for Women, Scheduled Castes and Scheduled Tribes

In 1992, the 73rd Amendment provided that one-third of the seats in all Panchayat councils, as well as one third of the Pradhan positions, must be reserved for women. Seats and Pradhan positions were also reserved for the two disadvantaged minorities in India, Scheduled Castes and Scheduled Tribes, in the form of mandated representation proportional to each minority's population share in each district. Reservations for women have been implemented in all major states except Bihar and Uttar Pradesh (which has only reserved 25% of the seats to women).

In West Bengal, the Panchayat Constitution Rule was modified in 1993 so as to reserve one-third of the councilor positions in each GP to women, and a share equal to their population for SCs and STs; in a third of the villages in each GP, only women could be candidates for the position of councilor for the area. The proportion of women elected to Panchayat councils increased to 36% after the 1993 election. The experience was considered a disappointment, however, because very few women (only 196 out of 3,324 GPs) advanced to the position of Pradhan, which is the only one that yields effective power (Kanango (1998)). To conform to the 73rd Amendment, the Panchayat Constitution Rule of West Bengal was again modified in April of 1998 (Government of West Bengal (1998)) to introduce reservation of Pradhan positions for women and SC/STs. In Rajasthan, the random rotation system was implemented in 1995 and in 2000 at both levels (council members and Pradhans).

In both states, a specific set of rules ensures the random selection of GPs where the office of Pradhan was to be reserved. All GPs in a district are ranked in consecutive order according to their serial legislative number (an administrative number pre-dating this reform). GPs that have less than 5% SCs (or STs) are excluded from the list of possible SC (or ST) reservation. A table of random numbers (in the electoral law) is then used to determine the seats that are to be reserved for

SCs and STs, according to the numbers that need to be reserved in these particular districts. They are then ranked in three separate lists, according to whether or not the seats had been reserved for a SC, for a ST, or are unreserved. Using these lists, every third GP starting with the first on the list is reserved for a woman Pradhan in the first election.[5]

From discussions with government officials at the Panchayat Directorate who devised the system and district officials who implemented it in individual districts, it appears that these instructions were successfully implemented. More importantly, in the district we study in West Bengal, we could verify that the policy was strictly implemented. After sorting the GPs into those reserved for SC/ST and those not reserved, we could reconstruct the entire list of GPs reserved for women by sorting all GPs by their serial number (allocated several years before the law was passed), and selecting every third GP starting from the first in each list. This verifies that the allocation of GPs to the reserved list was indeed random, as intended.[6]

Table 1, panel A shows the number of female Pradhans in reserved and unreserved GPs in the two districts we study. In both districts, all Pradhans in GPs reserved for a woman are female. In West Bengal, only 6.5% of the Pradhans are female in unreserved GPs. In Rajasthan, only one woman was elected on an unreserved seat, despite the fact that this was the second cycle. Women elected once due to the reservation system were not re-elected.[7] Panel B shows the number of SC Pradhans in Birbhum, in reserved and unreserved areas. Again, the policy dramatically increased the fraction of SC Pradhans in reserved areas. In this paper, we will focus on reservation for SC, rather than ST, because all GPs in Birbhum have more than 5% SC, so that no GP is excluded from being reserved. However, many GPs have less than 5% ST, so that the number of GPs in our study would be too small.[8]

3 Data Collection

We collected data in two locations: Birbhum in West Bengal and Udaipur in Rajasthan. In the summer of 2000, we conducted a survey of all GPs in the district of Birbhum, West Bengal. Birbhum is located in the western part of West Bengal, about 125 miles from the state capital, Calcutta. At the time of the 1991 census, it had a population of 2.56 million. Agriculture is the main economic activity, and rice is the main crop cultivated. The male and female literacy rates were 50% and 37%, respectively. The district is known to have a relatively well-functioning Panchayat system.

There are 166 GPs in Birbhum, of which five were reserved for pre-testing, leaving 161 GPs in our study. Table 2 shows the means of the most relevant village variables collected by the 1991 census of India in GPs reserved for women and GP that are not reserved, and their differences. As

[5] For the next election, every third GP starting with the second on the list was reserved for a woman, etc. The Panchayat Constitution Rule has actual tables indicating the ranks of the GPs to be reserved in each election.

[6] We could not obtain the necessary information to perform the same exercise in Rajasthan. However, there too, the system appears to have been correctly implemented.

[7] The one woman elected on an unreserved seat was not previously elected on a reserved seat.

[8] In future work, we will address this question in Rajasthan.

expected, given the random selection of GPs, there are no important differences between reserved and unreserved GPs.[9] Note that very few villages (3% among the unreserved GPs) have tap water, the most common sources of drinking water being hand-pumps and tube wells. Most villages are accessible only by a dirt road. Ninety-one percent of villages have a primary school, but very few have any other type of school. Irrigation is important; 43% of the cultivated land is irrigated, with at least some land being irrigated in all villages. Very few villages (8%) have any public health facilities.

We collected the data in two stages. First, we conducted an interview with the GP Pradhan. We asked each one a set of questions about his or her family background, education, previous political experience, and political ambitions, as well as a set of questions about the activities of the GP since his or her election in May 1998 (with support from written records). We then completed a survey of three villages in the GP: Two villages randomly selected in each GP, as well as the village in which the GP Pradhan resides. During the village interview, we drew a resource map of the village with a group of 10 to 20 villagers. The map featured all the available infrastructure in the village, and we asked whether each of the available equipment items had been built or repaired since May, 1998. Previous experience of one of the authors, as well as experimentation during the pre-testing period, suggested that this method yields extremely accurate information about the village. We then conducted an additional interview with the most active participants of the mapping exercise, in which we asked in more detail about investments in various public goods. We also collected the minutes of village meetings, and asked whether women and men of the village had expressed complaints or requests to the GP in the previous six months. For all outcomes for which it was possible, we collected the same information at the GP-level and at the village-level. The village-level information is likely to be more reliable, because it is not provided by the Pradhan, and because it was easy for villagers to recall investments made in their village in the previous two years. However, the information given by the GP head refers to investment in the entire GP, and is thus free from sampling error. Therefore, when an outcome is available at both levels, we perform the analysis separately for both and compare the results.

Between August and December of 2002, we collected the same village-level data (there was no Pradhan interview) in 100 hamlets in Udaipur, Rajasthan, chosen randomly in a subset of villages covered by a local NGO, Seva Mandir.[10] The reference period for asking about investment was also two years, 2000-2002. In Rajasthan, there was no regularly elected Panchayat system until 1995. Table 2 displays the characteristics of villages reserved for women and unreserved in our

[9] The standard errors are omitted from the table for clarity, but none of the differences are significant at the 95% confidence level.

[10] Rajasthani villages are much more spread out than West Bengali villages (a Rajasthani village covers an area on average 10 times bigger than a West Bengali village) and are much less densely populated. They are made of a series of independent "hamlets", which are not administrative entities but function as independent villages. Our sampling unit is the hamlet: We first sampled 100 villages (with probability of selection weighted by village size) and then one hamlet per village (again, the probability of selection was weighted by village size).

sample.[11] Udaipur is a much poorer district than Birbhum. It is located in an extremely arid area with little irrigation and has male and female literacy rates of 27.5% and 5.5% respectively. Because the villages are bigger, they are more likely to have a middle school, a health facility and a road connection, compared to villages in West Bengal. As in Rajasthan, we see no difference between the characteristics of reserved and unreserved villages before the reservation policy was implemented.

4 Findings

In the absence of reservation, if we found that different public goods investments are undertaken in GPs that elect women and SCs, compared to GPs that do not, it would be very difficult to interpret these results, since the few places that elect women or SCs are presumably very different from places that do not elect women. For example, places that are dominated by SCs may elect a SC Pradhan and also invest more in the SC hamlet, but this would not imply that if we constrain random places to elect a SC Pradhans, the Pradhan will have any power to implement the policy he chooses. By contrast, in this case, because the reserved seats were randomly assigned, we can now compare the outcome in GPs where the position of Pradhan is reserved for a woman or a SC to those where it is not reserved, and be confident that any difference reflects only the impact of the reservation policy.

4.1 Reservation for Women

4.1.1 Effects on the Political Participation of Women

Table 3 displays the effect of having a woman Pradhan on the political participation of women. Columns (1) and (2) display the average participation rates in reserved and unreserved GPs, respectively. Column (3) displays the difference. Differences that are significant at the 95% confidence interval, using standard significance tests, are in bold. In West Bengal, the percentage of women among participants in the Gram Samsad is significantly higher when the Pradhan is a woman (increasing from 6.9% to 9.9%). Since reservation does not affect the percentage of eligible voters attending the Gram Samsad, this corresponds to a net increase in the participation of women, and a decline in the participation of men. This is consistent with the idea that political communication is influenced by the fact that citizens and leaders are of the same sex. Women in villages with reserved Pradhans are twice as likely to have addressed a request or a complaint to the GP Pradhan in the previous six months, and this difference is significant.[12] The fact that the Pradhan is a woman therefore significantly increases the involvement of women in the affairs of the GP in West Bengal.

[11] For Udaipur, we could not obtain the data necessary to match villages to Panchayat in the entire district.

[12] In the subsample of villages in which we conducted follow-up surveys, we also asked whether men had brought up any issue in the previous six months. In all cases but one (a reserved GP), they had.

In Rajasthan, the fact that the Pradhan is a woman has no effect on women's participation at the Gram Samsad or the occurrence of women's complaints. Note that women participate more in the Gram Samsad in Rajasthan, most probably because the process is very recent, and the GP leaders are trained to mobilize women in public meetings.[13]

4.1.2 Requests of Men and Women

Table 4 shows the fraction of formal requests by type of good made by villagers to the Panchayat in the six months prior to the survey.[14]

In West Bengal, drinking water and roads were by far the issues most frequently raised by women. The next most important issue was welfare programs, followed by housing and electricity. In Rajasthan, drinking water, welfare programs, and roads were the issues most frequently raised by women. The issues most frequently raised by men in West Bengal were roads, irrigation, drinking water, and education. With the exception of irrigation, men have the same priorities in Rajasthan. Note that these patterns of preferences are expected, in view of the activities of both men and women in these areas. Women are in charge of collecting drinking water, and they are the primary recipients of welfare programs (maternity pension, widow's pension, and old age pension for the destitute, who tend to be women). In West Bengal, they are the main source of labor employed on the roads. In Rajasthan, both men and women work on roads, and the employment motive is therefore common to both. However, men travel very frequently out of the villages in search of work, while women do not travel long distances; accordingly, men have a stronger need for good roads.

4.1.3 Effects of the Policy on Public Goods Provision

Table 5 presents the effects of the Pradhan's gender on all public goods investments made by the GP since the last election in West Bengal and Rajasthan. The first column presents the average number of investments (repair or new construction) in each category in reserved GPs, and the second presents the same number in unreserved GPs. The third column presents the difference between the two. In all cases, the number below the coefficient is the standard error of the estimate. Differences in bold are significantly different from 0 at the 95% level of confidence, using standard significance tests.

In both West Bengal and Rajasthan, the gender of the Pradhan affects the provision of public goods. In both places, there are significantly more investments in drinking water in GPs reserved for women. This is what we expected, since in both places, women complain more often than men

[13] Interestingly, women's participation is significantly higher when the position of council member *of the village* is reserved for a woman (results not reported to conserve space). This difference is probably due to the very long distance between villages in Rajasthan.

[14] We recorded the exact complaint or request, for example, the need to repair a specific well. We classified them *ex post* into these categories. In West Bengal, we had initially not asked about issues raised by men: A random subset of 48 villages was subsequently resurveyed later.

about water. In West Bengal, GPs are less likely to have set up informal schools (in the village, this is significant only at the 10% level) in GPs reserved for women. Interestingly, the effect of reservation on the quality of roads is opposite in Rajasthan and in West Bengal; in West Bengal, roads are significantly better in GPs reserved for women, but in Rajasthan, it is the opposite. This result is important since it corroborates expectations based on the complaint data for men and women. The only unexpected result is that we do not find a significant effect of reservation for women on irrigation in West Bengal. In West Bengal, we run the same regression for GP-level investments (instead of village-level). The results, presented in panel B, are entirely consistent, and the effect on informal schooling is significant at the 5% level in the GP-level regression.

These results suggest that the reservation policy has important effects on policy decisions at the local level. These effects are consistent with the policy priorities expressed by women.

4.1.4 Robustness

Some doubt the effectiveness of the reservation policy, citing anecdotal evidence that women Pradhans are observed to be subservient to their husbands or other powerful men. As Table 6 shows, 17% of the spouses of the women leaders have previously been elected to the Panchayat. Forty-three percent of the female leaders acknowledge being helped by their spouse. The interviewers are more likely to find the women hesitant, they are more likely to acknowledge that they did not know how the GP functioned before being elected and that they do not intend to run again.

However, despite all this, what remains is that women do different things than men. This remains true even for women who say they are helped by their husband or for women whose husbands were previously elected in the Panchayat.[15] We also have good reasons to think that the effects of the policy are indeed due to the gender of the Pradhan, rather than other aspects of the reservation policy. In Chattopadhyay and Duflo (2003a), we show that the difference between men and women remain identical when we restrict the comparison to other men who were elected recently, men who will not be able to re-elected, or SC/ST Pradhans.

The impression that women are not effective leaders thus seems to stem largely from the social perceptions of women that the policy precisely tries to address. What these results show is that, despite the handicaps they may face in terms of education and prior experience, and the preconception of weak leadership, women have a real impact on policy decisions. Using data collected by the Public Action Center, matched with data on reservation, Topalova (2003) finds illuminating results: Not only does she find that the quality of water provided is better in GPs that are reserved for women, and that women are somewhat less likely to demand bribes, but she also finds that villagers are *less* likely to be satisfied about the quality of the water when GPs are reserved for women, despite receiving objectively better service. This suggests that women tend to be considered as worse policymakers even in cases where they are objectively better. This may explain the skepticism about the impact of the policy in the face of the evidence.

[15] Results available from the authors on request.

4.2 Reservation for Scheduled Castes

These results focus on West Bengal, where we have conducted the village survey for the entire village, and not only for one hamlet per village. Because there are at least 5% of SCs in these villages, they also focus on reservation for SCs.

4.2.1 Effect on the Type of Public Goods

The first question we can ask is whether SC Pradhans, like women Pradhans, choose to invest in different types of public goods than non-SC Pradhans. In Table 7, we reproduce in column (1) the difference between GPs reserved to women and unreserved GPs shown in Table 5. In column (2), we show the same difference, but for GPs reserved for SCs. In contrast to the previous results, no difference is significant. We can see that, unlike women, SC Pradhans do not radically change the types of investment they undertake.

4.2.2 Effect on the Location of Public Goods

We might expect a larger impact, however, on the *location* of these investments. Specifically, do SC Pradhans invest more in SC hamlets? The SC population may not need a different set of public goods than the non-SC population, but they may want these goods to be located in their hamlet, rather than in the other hamlets in the village. The reservation to a SC Pradhan may ensure that this happens. When we collected the data in the PRA, we made sure to indicate the location of each public good: Is it in the SC hamlet, the ST hamlet (if any), the general hamlet, or in common areas?

To verify that villages were indeed comparable before the reservation was put in place, Table 8 displays information about the location of public goods in these villages *before 1998*, when the reservation policy was first introduced. For each good, we construct the share of public goods that are located in the SC area, normalized by the share of the population that lives in the area. Therefore, an index smaller than 1 suggests that the SC hamlet has fewer goods than one would expect on the basis of the SC share in the population of the village, and an index higher than 1 suggests that the SC hamlet has more goods than one would expect on the basis of the SC share in the population of the village. In column (1), we display the normalized share in GPs that were not reserved for SCs between 1998 and 2003. In column (2), we display the normalized share in GPs that were reserved for SCs between 1998 and 2003. Because the reservation was randomly assigned, we do not expect any significant difference in the investment shares between GPs that are reserved for SCs and GPs that are not reserved for SCs. Three important facts emerge from this table. SCs get a somewhat smaller share of public goods than non-SC on average (the index for the average is 0.93), but the index is not significantly different from 1, and the extent of under-investment in SC hamlets depends on the types of goods. It seems that in SC hamlets there tends to be more public provision of goods for which there are private substitutes (drinking water wells, sanitation equipment) and less public provision for goods for which there are fewer private substitutes (schools,

adult education). Second, there are much less privately provided equivalents of public goods in SC hamlets (we have information for water and irrigation equipment). Third, the indices are very similar in reserved and unreserved GPs, which is reassuring. Before 1998, SC hamlets were not treated differently in GPs that were reserved for SCs from 1998 to 2003.

Table 9 displays the normalized investment shares in SC and non-SC GPs, their differences, and their ratio. Overall, across all goods, and controlling for the difference in population share, the SC hamlet received 14% more investments in goods in GPs reserved for SCs, relative to GPs that were not reserved for SCs. Note that we have excluded the Pradhan's village from this sample, which shows that the observed differences are not due to the direct effect of the Pradhan putting more goods next to his own home. Instead, this seems to reflect a general tendency to favor the SC population when the Pradhan position is reserved for SCs. This result is consistent with the results in Pande (2003), who finds that there are more transfers targeted to SCs in states where there are more reservations for SCs in parliament, and of Besley and Rao (2003), who find that SC households are more likely to receive public transfers if the Pradhan is SC.

When we look at different goods separately (Table 9), we see that the increase in the share of public goods going to the SC hamlet in GPs reserved for SCs seems to reflect the existing imbalance across goods: Except for informal schools, where the share is smaller in GPs reserved for SCs, the share of goods going to the SC hamlet increases for all goods, and it increases more for goods where the share is already higher in non-reserved hamlets (sanitation, for example). It appears that when the SCs gain more power, they do not feel the need to radically change the types of goods that they are getting, but rather to get a little more of everything.

5 Conclusion

This paper has shown that reservation for SCs and women in the Panchayati Raj makes a difference: Both women and SCs invest more in what women and SCs seem to want (water for women, goods in SC hamlets for SCs). This underscores the power of the elected Panchayat leaders and, by implication, the importance of the 73rd Amendment. In this regard, it is particularly important that the results are comparable in Rajasthan, where the 73rd Amendment was the first attempt to revive the Panchayat structure, and in West Bengal, where it had been active since the late 1970s.

These results also suggest that, given the difficulty of targeting public transfers to specific groups in an otherwise decentralized system, reservation may be a tool to ensure not only adequate representation but also adequate delivery of local public goods to disadvantaged groups. They fly in the face of skepticism founded on anecdotes or prejudice that women or SCs are not capable of being independent leaders. These results show that, whatever the process underlying the effects may be, women and SC leaders make a difference on the ground. Correcting imbalance in political agency does result in correcting inequities in other spheres as well (Sen (1999)).

In this light, recent developments that try to tag other objectives onto the reservation policy are troubling. Six states (Haryana, Rajasthan, Andhra Pradesh, Orissa and Madhya Pradesh, and

Himachal Pradesh) now have laws mandating a two-child norm for members of the Panchayat. As we can see in Table 6, women and men Pradhans have the same number of children on average (around 2.5 in West Bengal). Since women do not necessarily control their fertility choices, and are unlikely to find it worthwhile to fight their family in order to be eligible for the Panchayat, this policy is likely to discourage women, or members of the SCs and STs, from being candidates, even when there is reservation, thus encouraging the situations that critics of the reservation policy describe, where "puppet candidates" will take the place of real candidates. De facto, it will thus reduce women's agency and, if anything, may result in an increase in fertility, rather than the opposite.[16]

This would be an unfortunate outcome, given the evidence that Panchayat leaders make a difference and that bringing women and SCs into politics may help in improving their welfare. Reduced fertility may be achieved by increasing women's bargaining power in the family, and an effective democracy with adequate women's representation may be more effective at achieving it than regulation that takes away from women and SCs what the 73rd Amendment guarantees them.

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Table 1

	Reserved For women	Unreserved For women
	(1)	(2)
A. WOMEN'S RESERVATION AND MEN'S REPRESENTATION		
West Bengal		
Total number	54	107
Proportion of female Pradhans	100%	6.5%
Rajasthan		
Total number	40	60
Proportion of female Pradhans	100%	1.7%
B. SC RESERVATION AND SC REPRESENTATION		
	Reserved for SC	Non reserved for SC
West Bengal		
Total number	55	106
% SC	100	7.5

Table 2

	West Bengal			Rajasthan		
Dependent variables	Mean, reserved GP	Mean, unreserved GP	Difference	Mean, reserved GP	Mean, unreserved GP	Difference
	(1)	(2)	(3)	(4)	(5)	(6)
Total population	974	1022	-49	1249	1564	-315
Female literacy rate	0.35	0.34	0.01	0.05	0.05	0.00
Male literacy rate	0.57	0.58	-0.01	0.28	0.26	0.03
% cultivated land that is irrigated	0.45	0.43	0.02	0.05	0.07	-0.02
Dirt road	0.92	0.91	0.01	0.40	0.52	-0.11
Metal road	0.18	0.15	0.03	0.31	0.34	-0.04
Bus stop or train station	0.31	0.26	0.05	0.40	0.43	-0.03
Number of public health facilities	0.06	0.08	-0.02	0.29	0.19	0.10
Tube well is available	0.05	0.07	-0.02	0.02	0.03	-0.01
Handpump is available	0.84	0.88	-0.04	0.90	0.97	-0.06
Wells	0.44	0.47	-0.02	0.93	0.91	0.01
Tap water	0.05	0.03	0.01	0.12	0.09	0.03
Number of primary schools	0.95	0.91	0.04	0.93	1.16	-0.23
Number of middle schools	0.05	0.05	0.00	0.43	0.33	0.10
Number of high schools	0.09	0.10	-0.01	0.14	0.07	0.07

Notes:

1. There are 2,120 observations in the West Bengal regressions, and 100 in the Rajasthan regressions.

Table 3

Dependent variables	Mean, reserved GP	Mean, unreserved GP	Difference
	(1)	(2)	(3)
WEST BENGAL			
Fraction of women among participants in the Gram Samsad (in percentage)	9.80	6.88	**2.92**
Have women filed a complaint to the GP in the previous 6 months?	0.20	0.11	**0.09**
Have men filed a complaint to the GP in the previous 6 months?	0.94	1.00	**0.06**
Observations	54	107	
RAJASTHAN			
Fraction of women among participants in the Gram Samsad (in percentage)	20.41	24.49	-0.04
Have women filed a complaint to the GP in the previous 6 months?	0.64	0.62	0.02
Have men filed a complaint to the GP previous 6 months?	0.95	0.88	0.073
Observations	40	60	

Table 4

	Women	Men	Women	Men
	All		All	
	(1)	(2)	(3)	(4)
ALL PROGRAMS				
Public works	0.84	0.85	0.62	0.87
Welfare programs	0.10	0.04	0.19	0.03
Child care	0.01	0.01	0.07	0.01
Health	0.04	0.02	0.07	0.04
Credit or employment	0.01	0.09	0.05	0.04
BREAKDOWN OF PUBLIC WORKS ISSUES				
Drinking water	0.31	0.17	0.54	0.43
Road improvement	0.31	0.25	0.13	0.23
Housing	0.11	0.05	0.03	0.04
Electricity	0.08	0.10	0.03	0.02
Irrigation and ponds	0.04	0.20	0.02	0.04
Education	0.06	0.12	0.05	0.13
Adult education	0.00	0.01	0.00	0.00
Other	0.10	0.09	0.20	0.12

Notes:
1. Each cell lists the number of times an issue was mentioned, divided by the total number of issues in each panel
2. The data for men in West Bengal comes from a subsample of 48 villages.

Table 5

Dependent variables	West Bengal Mean, reserved GP	West Bengal Mean, unreserved GP	West Bengal Difference	Rajasthan Mean, reserved GP	Rajasthan Mean, unreserved GP	Rajasthan Difference
	(1)	(2)	(3)	(4)	(5)	(6)
A. VILLAGE LEVEL						
Number of drinking water facilities	23.83	14.74	**9.09**	7.31	4.69	**2.62**
newly built or repaired	(5.00)	(1.44)	**(4.02)**	(.93)	(.44)	**(.95)**
Condition of roads (1 if in good	0.41	0.23	**0.18**	0.90	0.98	**-0.08**
condition)	(.05)	(.03)	**(.06)**	(.05)	(.02)	**(.04)**
Number of Panchayat-run	0.06	0.12	-0.06			
education centers	(.02)	(.03)	(.04)			
Number of irrigation facilities	3.01	3.39	-0.38	0.88	0.90	-0.02
newly built or repaired	(.79)	(.8)	(1.26)	(.05)	(.04)	(.06)
Other public goods (ponds, biogas, sanitation,	1.66	1.34	0.32	0.19	0.14	0.05
community buildings)	(.49)	(.23)	(.48)	(.07)	(.06)	(.09)
B. GP LEVEL						
1 if a new tubewell was built	1.00	0.93	**0.07**			
		(.02)	**(.03)**			
1 if a metal road was built or repaired	0.67	0.48	**0.19**			
	(.06)	(.05)	**(.08)**			
1 if there is an informal education	0.67	0.82	**-0.16**			
center in the GP	(.06)	(.04)	**(.07)**			
1 if at least one irrigation pump was built	0.17	0.09	0.07			
	(.05)	(.03)	(.05)			

Notes:

1. Standard errors in parentheses.
2. In West Bengal, there are 322 observations in the village-level regressions, and 161 in the GP level regressions. There are 100 observations in the Rajasthan regressions.
3. Standard errors are corrected for clustering at the GP level in the village-level regressions for the West Bengal regressions, using the Moulton (1986) formula.

Table 6

	West Bengal		
Dependent variables	Mean, reserved GP (1)	Mean, unreserved GP (2)	Difference (3)
A. PRADHAN'S BACKGROUND			
Age	31.87	39.72	**-7.85**
Years of Education	7.13	9.92	**-2.79**
Literacy	0.80	0.98	-0.19
Married	0.89	0.87	0.02
Number of children	2.45	2.50	-0.05
Below poverty line	0.46	0.28	**0.18**
Number of household assets	1.72	2.36	**-0.64**
Population of Pradhan's own village	1554	2108	**-554**
Hesitates when answering the questions (interviewer's impression)	0.75	0.41	**0.34**
B. PRADHAN'S POLITICAL ASPIRATIONS AND EXPERIENCE			
Was elected to the GP council before 1998	0.11	0.43	**-0.32**
Was elected Pradhan before 1998	0.00	0.12	**-0.12**
Took part in Panchayat activities prior to being elected	0.28	0.78	**-0.50**
Knew how GP functioned	0.00	0.35	**-0.35**
Did not receive any formal training	0.06	0.00	**0.06**
Spouse ever elected to the Panchayat	0.17	0.02	**0.15**
Spouse helps	0.43	0.13	**0.30**
Will not run again	0.33	0.21	**0.13**
C. PRADHAN'S POLITICAL PARTY			
Left Front	0.69	0.69	-0.01
Right (Trinamul or BJP)	0.19	0.18	0.01
Observations	54	107	

Table 7

Dependent variable	Difference Reserved-Unreserved	
	Women	SC
	(1)	(2)
A. VILLAGE LEVEL		
Number of drinking water facilities newly built or repaired	**9.09**	4.83
	(4.02)	(4.66)
Number of irrigation facilities newly built or repaired	-0.36	0.85
	(1.27)	(1.38)
Condition of roads (1 if in good condition)	**0.18**	-0.09
	(.06)	(.06)
Number of informal education centers	-0.06	-0.02
	(.04)	(.05)
B. GP LEVEL		
1 if a new tubewell was built	**0.06**	0.03
	(.03)	(.04)
1 if at least one irrigation pump was built	0.08	-0.09
	(.05)	(.06)
1 if a metal road was built or repaired	**0.18**	-0.11
	(.08)	(.08)
1 if there is an informal education center in the GP	**-0.15**	-0.10
	(.07)	(.07)

Table 8

	Share of goods available before 1998 in SC hamlets (normalized by SC share)		
	SC unreserved	SC reserved	Difference
	(1)	(2)	(3)
Private Drinking Water	0.399	0.460	0.061
Public Drinking Water	1.219	1.327	0.109
Private Irrigation	0.478	0.213	-0.265
Public Irrigation	0.959	0.589	-0.370
Sanitation	2.072	2.284	0.213
Informal Education	1.067	0.470	-0.597
Adult Education	0.804	1.588	**0.784**
Formal Education	0.755	0.733	-0.022
Average all goods	0.809	0.820	0.011
Average all private goods	0.413	0.372	-0.040
Average all public goods	0.927	0.953	0.026

Table 9

	Normalized share			
	Not reserved for SC	Reserved for SC	Difference	Ratio
	(1)	(2)	(3)	(4)
Public goods built and repaired				
Public Drinking Water	1.049	1.540	**0.491**	1.468
Public Irrigation	0.521	0.731	0.210	1.403
Sanitation	2.561	4.880	**2.319**	1.905
Informal Education	1.061	0.818	-0.243	0.771
Adult Education	0.697	1.048	0.350	1.502
Formal Education	0.727	0.983	0.256	1.352
Overall Difference (across all goods)			**0.14**	