

Women line up to vote in local elections, Srinagar, India.

A policy experiment in India suggests that placing female leaders in positions of power can dramatically change public attitudes

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N her opening address to the United Nations Fourth World Conference on Women in 1995, Aung San Suu Kyi said: "There is an outmoded Burmese proverb still recited by men who wish to deny that women too can play a part in bringing necessary change and progress to their society: 'The dawn rises only when the rooster crows.' But Burmese people today are well aware of the scientific reasons behind the rising of dawn and the falling of dusk. And the intelligent rooster surely realizes that it is because dawn comes that it crows and not the other way round."

The Conference resulted in the 1995 Beijing Platform for Action, compelling governments to enact legislation to include women at all levels of power and decision making, including parliaments.

A policy experiment in India did just that, dramatically increasing the political representation of women at the local government level through quotas. We examined this trial and concluded that once women are in charge, they can significantly change public attitudes and dispel the belief that the dawn doesn't rise unless the rooster crows.

Gender gap

Although the World Economic Forum's 2012 Global Gender Gap Report showed greater equality between the sexes in human capital investments and economic opportunities, female underrepresentation persists in political leadership positions and in the highest-paid jobs. UN Women (2011) reported that in 2011, only 19 percent of parliamentarians worldwide were women, and a woman headed the government in only 19 countries. The numbers are even lower in big business: on the Fortune 500 2012 list, women held 4.2 percent of chief executive officer (CEO) positions. (See Chart 1.)

Both supply- and demand-side explanations have been offered. Preexisting social norms and gender stereotypes serve to bias bosses and voters against appointing women as leaders (Huddy and Terkildsen, 1993; Eagly and Karau, 2002). Lack of exposure to female leaders, in turn, perpetuates biased perceptions of women's effectiveness in leadership roles. Women themselves might not believe in their ability to lead, since they rarely see other women succeed in such positions. They may also leave high-power career tracks to have children (Bertrand, Goldin, and Katz, 2010).



Quota system

Today more than a hundred countries have chosen to respond to gender disparities in the political arena by instituting quotas for women, and a nascent movement in Norway has spread to other European countries, instituting quotas for women on corporate boards. Both initiatives have met with controversy. While debate over board membership is mainly about whether quotas will reduce efficiency, debate in the political arena focuses on concerns that quotas for women may actually crowd out other disadvantaged groups and that women's policy preferences, which may differ from those of men, may lead them to change the status quo, undermining the privileges of some groups.

Those who promote quotas see them as having societal benefits that justify some short-run distortions. They hope female leaders will bring about long-term changes in women's status in society by changing perceptions of their capabilities. The first women who become leaders may also shape parents' and children's beliefs about what women can achieve, helping to close the gender gap in other areas of life. Yet we still know very little about how effective quotas are. Can a public policy that forcibly changes the gender balance in leadership really influence voters' belief systems? Can it lead to an acceptance of women as leaders? And can it improve girls' confidence and increase their aspirations to study, have a career, and become a leader?

Policy experiment

In an unprecedented effort to increase women's political voice, India amended its constitution in 1993 to reserve for women one-third of the seats at every level of local government. The quota dramatically raised the number of women among local leaders, from fewer than 5 percent in 1992 to close to 40 percent in 2005. The way the quota was implemented allowed our research team to conduct a very clean

evaluation of the system's effectiveness. We focused on West Bengal; there, as in most Indian states, one-third of village councils were randomly selected in every election to reserve the position of chief councilor, or *pradhan*, for a woman.

The fact that villages were selected randomly ensured that any difference observed across the reserved and unreserved councils after implementation could be confidently interpreted as the causal effect of having a female leader. Moreover, there were concurrent reservations for historically disadvantaged caste and ethnic groups. This meant that between the

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system's implementation in 1998 and our data collection in 2007, a village council could have been reserved for a female leader once (in 1998 or 2003), twice (in both 1998 *and* 2003), or never. This gave us the opportunity to study the impact of different lengths of exposure to a female leader.

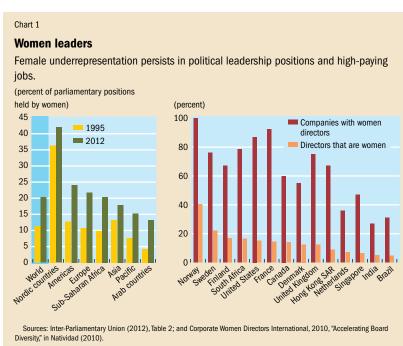
We surveyed households in 495 randomly selected villages in Birbhum, a largely rural and poor district about 200 kilometers from Kolkata. We interviewed separately one male adult, one female adult, and all adolescents (ages 11 to 15) in each of the roughly 7,000 sample households. We asked respondents detailed questions about their educational attainment and how they use their time. We also asked them to evaluate their pradhans and a set of hypothetical leaders. Parents had the chance to discuss the aspirations they held for their children, while adolescents reported their hopes for themselves. Along with the sur-

vey, we collected data on who was elected in May 2008 as pradhan in six districts in West Bengal and on those elected as village council members in our study district of Birbhum.

Changing perceptions

Our first finding was that female leaders dramatically changed voters' perceptions of the effectiveness of women in leadership roles; however, this change happened only after repeated exposure.

In a paper published with our coauthors in *The Quarterly Journal of Economics* (Beaman and others, 2009), we demonstrate that mandated exposure to female leaders helped voters understand that women can be competent leaders. To tease out voters' attitudes toward female leaders in general, we asked villagers to listen to a recorded speech delivered by a village councilor during a village meeting. Half of the respondents heard a female voice deliver the speech



and the other half heard a male voice. We then asked the respondents to rate the pradhan based on the speech. We also read each respondent a vignette about a hypothetical leader making decisions about future investments and, again, varied randomly the gender of the leader depicted in the story.

There was a sizable gap in how voters perceived the effectiveness of a leader, based simply on the leader's gender. In villages that had never had a woman pradhan, the hypothetical female leaders were rated as significantly less effective than the males (see Chart 2). However, among male voters who had observed at least one female leader as a result of the quota system, this gap disappeared—in fact, if anything, these male villagers rated the hypothetical female leader *higher* than the identical male leader.

Survey data showed that voters' perception of their own leader followed a similar path. The first time villagers experienced a woman leader, they were more critical of her than of her male colleagues. This likely reflects the inherent prejudice against women in leadership roles, because along all objective measures, female leaders performed as well as men, if not better. By the time villagers were exposed to a woman pradhan for the second time, they rated her on par with her male counterparts.

However, while voters' beliefs about efficacy were malleable, their preferences for male leaders were not. Applying a widely used tool in the social psychology literature, we conducted a series of computer-based Implicit Association Tests. We measured the extent of gender-related stereotypes for occupation, as well as the preference for leaders of different genders. Similarly to the results from the speech and vignette experiments, exposure to female leaders significantly reduced male villagers' gender stereotypes, as captured in the strength of their association of leadership activities with men. However, there was no effect on respondents' preference for their leader's gender. Men exhibited both implicit and explicit preferences for male leaders, and their distaste for female leaders did not lessen as a result of being exposed to women pradhans. Even

Chart 2 **Changing minds** Indian voters perceive women leaders as less effective, but this bias diminishes with exposure to female leaders. (rating of a pradhan on a scale of 1 to 10; after randomly hearing a female or male voice deliver a speech) 5.85 Female voice 5.80 Male voice 5.75 5.70 5.65 5.60 5.55 Source: Authors' calculations and Beaman and others (2009). Note: "Never reserved" refers to villages that have never been reserved for a female pradhan. "Ever reserved" refers to villages that were reserved for a female pradhan in the 1998 and/or the 2003 local government elections

a rooster who understands the science of dawn and dusk may still want to be the only one who crows.

Despite the lack of change in deep-seated social norms, women faced significantly better prospects in elections open to both genders as a result of the quotas. Women were much more likely to compete in 2008 village council elections in places where the pradhan position had been, but was no longer, reserved for women. Almost twice as many women ran for and won these positions where the pradhan seat had been reserved for women in the previous two elections, relative to councils that had never reserved seats. The share of female pradhans was 11 percent in councils where the pradhan position had never been reserved and 18.5 percent in councils that were continuously reserved for a woman pradhan between 1998 and 2007. These electoral results suggest that, even though deep preferences and social norms may be difficult to change, mandated exposure to female leaders helped voters understand that women can be competent leaders, and they then voted based on this changed perception rather than on preference.

Raising aspirations

Our third and perhaps most important finding was that female leaders raised the aspirations parents have for their girls and the aspirations teenage girls have for themselves.

We used survey questions to measure aspirations in four areas: desired educational attainment, desired age of marriage, preferred occupation at the age of 25, and desire to one day be elected pradhan. Our findings, published in Science (Beaman and others, 2012), show that in areas that were never exposed to a female leader, there was a large gap between what parents wanted for their boys and for their girls. For example, these parents were almost 50 percent less likely to state that they would like their girl to graduate or study beyond high school relative to their boy. However, in villages that had a female leader for two election cycles, the gender gap in aspirations decreased perceptibly (see Chart 3). Parental aspirations for boys did not change, so the entire decline in the gap is driven by greater hopes for girls. Similarly, the aspirations of adolescents themselves were affected by the presence of a female leader for a second cycle. In villages where positions for female leaders were not reserved, boys were more ambitious than girls, although the gender gap was less pronounced than among the parents. Repeated exposure to female leaders shrank this gap by raising the aspirations of girls. In villages that were reserved in both 1998 and 2003, adolescent girls were more likely to want a career and delay marriage.

This rise in aspirations for girls was accompanied by real-world improvements in educational attainment and time use. Boys began with a slight advantage relative to girls in terms of probability of attending school, ability to read, and grade completed; however, this gap was *entirely erased* in areas with female leaders for two electoral cycles. Girls also spent less time on household chores. In never-reserved villages, girls spent almost 80 minutes more than boys on domestic chores, whereas in villages reserved twice, the difference between girls and boys was one hour.

There are two possible channels through which female leaders can change the aspirations of girls: by undertaking policies that make it easier for women to succeed, or simply by providing a role model of a successful woman. It is very likely that these two effects coexist, and empirically it is almost impossible to distinguish between them. In the particular case of India, we find reasonable evidence to suggest that female pradhans did not have sufficient power to greatly influence the educational and career prospects of women in their villages. Therefore, the most important channel through which female leaders affected parents' and girls' aspirations is likely the role model effect.

Lessons learned

India's experience demonstrates that putting women in leadership positions can catalyze change. Although the first generation of women leaders may encounter significant prejudice, their presence causes voters to realize that women have the ability to lead effectively, thus paving the way for others to go farther. Also, female leaders' impact reaches beyond their ability to alter the situation through direct policy actions, into the realm of aspirations, which may lead

Chart 3 **Dreaming bigger** Exposure to female leaders boosts parents' and girls' aspirations and girls' achievements, reducing the difference between boys and girls. (difference between aspirations/educational attainment of boys and girls, standard deviation) Parents' aspirations 0.8 0.6 0.4 0.2 0 Reserved once Reserved twice Never reserved Teenagers' aspirations 1.0 0.5 0 Never reserved Reserved once Reserved twice Teenagers' educational outcomes 0.16 0.08 -0.08 -0.16 Reserved twice Never reserved Reserved once Note: "Never reserved" refers to villages that have never been reserved for a female pradhan.

Note: "Never reserved" refers to villages that have never been reserved for a female pradhan. "Reserved once" refers to villages that were reserved for a female pradhan either in the 1998 or the 2003 local government elections. "Reserved twice" refers to villages that were reserved for a female pradhan in both the 1998 and 2003 local government elections. to enduring change. Female leaders can serve as role models for future generations, shaping parents' and children's beliefs about what women can achieve. This role model effect can help close gender gaps in other realms because, as we've seen, higher aspirations translate into greater actual investments in girls by their parents and themselves.

Changing societal norms is not, however, a case of quickly showing that the rooster's crow doesn't raise the sun, and banishing a false belief forever. It took 10 years of mandated reservations for women to bring about the changes we saw. After one electoral cycle, some of these changes were non-existent or barely perceptible. Policy that is not kept in place may lose its grip on a population, giving way to old biases. Our findings suggest that achieving gender equality in leadership—and, possibly, the workforce—will require sustained policy actions that favor women over a long time.

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This article is based on research the authors conducted in collaboration with Lori Beaman, Raghab Chattopadhyay, and Esther Duflo (Beaman and others, 2009) and with Lori Beaman and Esther Duflo (Beaman and others, 2012).

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