Increased female participation in an economy is associated with higher growth and productivity. However, gender gaps in labor markets persist in many developing countries, particularly so in India. The reasons for this are varied: lack of education and skills, social norms which discourage working women, and lack of opportunities outside the farm sector. Thus, increasing the participation of women in the labor force is of significant policy concern for India.

In this context, SEWA’s program in rural Gujarat to train women in repairing mechanical faults in handpumps is relevant for understanding the impact of skilled employment opportunities on women with low skills and education. Since 1998, the NGO, one of India’s largest, has trained 250 women to repair handpumps in the Sabarkantha district of Gujarat state in India. This policy brief outlines some of the positive impacts of participating in the training program such as increased female autonomy in household decisions and increased expenditure on female-favored goods.
household needs. This time could be potentially spent on other activities or even pursuing potential employment opportunities outside of the farm or the household.

The findings of this study fill in some important information gaps in the literature surrounding women’s employment and the policies facilitating it. It is also one of the few studies on this subject to focus on women with low human capital and from low-income families. The study covers impacts on a wide range of socio-economic indicators such as intra-household spending patterns and spending decision-making.

THE GWSSB AND SEWA ‘BAREFOOT MECHANICS’ PROGRAM

As part of its ‘Women, Water and Work’ program SEWA has been participating in the GWSSB bids for handpump repair since 1998. SEWA bids for these contracts through a trust, specifically created for this purpose, called the ‘Khedut Mandal’ (Farmers’ Association). GWSSB invites tenders from contractors and awards annual contracts to the most competitive bid, that is, the lowest price. In the Sabarkantha district, which is the district for this study, contracts are awarded for each sub-district and GWSSB pays a ‘fixed amount per handpump’ (regardless of the number of break-downs) to the successful contractor. As of 2013, SEWA had a contract to repair 516 handpumps in the sub-district Bayad at Rupees 420 (approximately USD 7) per handpump. To make the program economically attractive to the participants, SEWA has to limit the team size of women who get a repair job to typically 12-15 women. GWSSB provides the spare parts and tools but the cost of training and transport is borne by SEWA.

STUDY DESIGN

A survey of 225 SEWA members and their husband or adult sons was conducted in two sub-districts in Sabarkantha (Bayad and Dhansura), Gujarat between November and December 2013. Of these, 115 women had participated in the barefoot mechanics training program and the other 110 women were SEWA members that had never participated. Among the 115 participants, 15 women were ‘trained and currently working’ as handpump repairwomen during the time of the survey, 63 were ‘trained and used to work’ as repairwomen, and 37 were ‘trained but had never worked’ on an actual repair job. Out of the 225 women, 140 reside in Bayad and 85 in Dhansura. The average age of the women in the sample was 44 years and the average education was 2 years of formal schooling, highlighting the low human capital that these women possess.

We use the exogenous variation in the roll-out of the barefoot mechanics training program in Bayad and Dhansura to estimate our desired socio-economic effects. Specifically, we use the triple interaction between a given year (Year), whether a training session was held in that year (E), and whether the respondent was a SEWA member at the time a training session was held (M) to determine the treatment status. For example, for a woman living in Bayad and who has been a SEWA member since 1998, her exposure to the program or treatment status is Year × E × M = 1 (because training sessions have been conducted in Bayad since 1998). For a woman living in Dhansura and who has been a SEWA member since 2002, her exposure to the program is Year × E × M = 0 (because no training sessions have been conducted in Dhansura after 2001).
Summary of Findings

The findings reveal that participating in the barefoot mechanics training program has many positive externalities. The program has a positive autonomy effect, which is manifested through an increase in women's participation in household spending decisions. Participating in the barefoot mechanics training program increases the probability of being engaged in household spending decisions by 43%. Further, the probability that husbands or adult sons discuss household spending with the woman respondent is 39% greater for women who participated in the barefoot mechanics training program.

We also find that women participating in the barefoot mechanics program spend more on female-favored goods, specifically jewelry. They are several hundred times more likely to spend on jewelry as compared to non-participants. Other positive effects, though not statistically significant, are that women who participate in the barefoot mechanics program spend more on daughter's education and household medical expenses. Specifically, women who participated in the program were nearly 5 times more likely to spend on daughter's education and nearly 75% more likely to spend on household medical expenses.

Policy Implications

A significant policy problem in India is the inclusion of women in the labor force. There is adequate evidence to show that there is a positive correlation between closing gender gaps and economic development and higher productivity. Empowering women can be smart economics. This study provides some valuable baseline information to policy-makers to understand how skilled-employment opportunities for women can be channeled to produce better household outcomes, reduce gender gaps and improve the overall well being of women in society.

- **Reduce gender gaps in employment:** SEWA has been running the barefoot mechanics program for many years successfully in Gujarat. This unique program demonstrates that casual employment opportunities can be created for women with extremely low human capital and minimal or non-existent formal education, both in India and in other developing countries. Such programs will encourage large sections of the female population to join the labor market and be employed in some form of non-farm activity.

- **Increased saving potential and asset building:** Policymakers can tap into the increased saving potential that is exhibited by the women in this program (in the form of jewelry) to draw implications for financial inclusion. Developing countries have a large portion of their population outside the realm of any formal mechanism of financing, be it the banking system or micro-finance. For SEWA, this might also offer the opportunity to tie up their alternative employment programs with their flagship financial programs.

- **Influence household spending:** A greater control by women over household spending decisions would translate into greater benefits for children and the household in general. In this case, greater spending on education of girls and household health. Yet there are a host of other spending possibilities that policy-makers can influence through the increased bargaining power of women: additional spending on paying for piped water for instance can help in minimizing water-related diseases, and immunizations for children can avert unnecessary health related outlays.
The Institute of Water Policy is a research center associated with the Lee Kuan Yew School of Public Policy at the National University of Singapore. Our mission is to enhance understanding of the social and economic dimensions of policies and programs implemented to improve water management.

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