Public Disclosure Authorized

Public Disclosure Authorized

WPS6547

Policy Research Working Paper 6547

Collective Action and Community Development

Evidence from Self-Help Groups in Rural India

Raj M. Desai
Shareen Joshi

The World Bank
Development Economics Vice Presidency
Partnerships, Capacity Building Unit
July 2013

Policy Research Working Paper 6547

Abstract

In response to the problems of high coordination costs among the poor, efforts are underway in many countries to organize the poor through "self-help groups" (SHGs)–membership-based organizations that aim to promote social cohesion through a mixture of education, access to finance, and linkages to wider development programs. We randomly selected 32 of 80 villages in one of the poorest districts in rural India in which to establish SHGs for women. Two years of exposure to these programs increased women's participation in group savings programs as well as the non-agricultural labor force. Compared to women in control villages, treated women were also more likely to participate in household decisions and engage in civic activities. We find no evidence however, that participation increased income or had a disproportionate impact by women's socio-economic status. These results are important in light of the recent effort to expand official support to SHGs under the National Rural Livelihood Mission.

This paper is a product of the Partnerships, Capacity Building Unit, Development Economics Vice Presidency. It is part of a larger effort by the World Bank to provide open access to its research and make a contribution to development policy discussions around the world. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org.
The authors may be contacted at desair@georgetown.edu. and sj244@georgetown.edu.

The Policy Research Working Paper Series disseminates the findings of work in progress to encourage the exchange of ideas about development issues. An objective of the series is to get the findings out quickly, even if the presentations are less than fully polished. The papers carry the names of the authors and should be cited accordingly. The findings, interpretations, and conclusions expressed in this paper are entirely those of the authors. They do not necessarily represent the views of the International Bank for Reconstruction and Development/World Bank and its affiliated organizations, or those of the Executive Directors of the World Bank or the governments they represent.

Produced by the Research Support Team

Collective Action and Community Development:

Evidence from Self-Help Groups in Rural India

Raj M. Desai and Shareen Joshi

JEL Classification Codes: D70, I3, I38, J16, Q1

Keywords: collective action; community development; poverty; gender; South Asia

Sector Boards: Poverty Reduction (POV), Gender and Development (GEN)

Raj M. Desai is a professor at the Edmund A. Walsh School of Foreign Service and Department of Government, Georgetown University, Washington, D.C., and a Nonresident Senior Fellow at the Brookings Institution, Washington, D.C. His email address is desair@georgetown.edu. Shareen Joshi (corresponding author) is a professor at the Edmund A. Walsh School of Foreign Service, Georgetown University, Washington, D.C. Her email address is sj244@georgetown.edu. The authors gratefully acknowledge the cooperation of the Self-Employed Women's Association (SEWA). Research for this article was financed by the Wolfensohn Center for Development and the Development and Governance Initiative at the Brookings Institution, and Georgetown University's Engaging India Initiative. Surveys were conducted by Social and Rural Research Institute – IMRB, New Delhi. Previous versions of this paper were delivered at the annual meeting of the American Political Science Association and at seminars at Georgetown University, the World Bank, the Indian Statistical Institute, the National Council for Applied Economic Research, and Jindal University. The authors are grateful to Lael Brainard, Kristin Bright, Marc Busch, Jishnu Das, Sonalde Desai, Quy Toan Do, Antrara Dutta, Garance Genicot, Alain de Janvry, Homi Kharas, Johannes Linn, Ghazala Mansuri, Hari Nagarajan, Reema Nanavaty, Anders Olofsgård, Vijayendra Rao, Elisabeth Sadoulet, Arunav Sen, Amita Shah, J. P. Singh, E. Somanathan, Rohini Somanathan, James Raymond Vreeland, Dominique Van de Walle, and two anonymous reviewers for comments on earlier drafts, as well as to Carolina Fernandez and Joshua Hermias for invaluable research assistance. All errors and omissions are the authors' own.

Collective action by the poor has been shown to strengthen property rights, increase bargaining power in labor markets, improve access to financial markets and increase public investments in poor communities (Bardhan 2005; Narayan et al. 2000; Ostrom and Ahn 2009). In light of this evidence, governments, donors, and non-governmental organizations (NGOs) have sought to expand their support to membership groups, cooperatives, producer associations, and other types of organized platforms for collective action in poor communities. Since 1999, the World Bank has disbursed over $50 billion in loans for community-based and community-driven development projects (Mansuri and Rao 2012).[1]

We examine whether community organizations can lower the barriers to collective action in one of the poorest districts in India. We focus on a group for whom coordination constraints are likely to be particularly binding: rural, tribal women. These women face some of the lowest levels of literacy, labor-force participation, and personal autonomy in the world (King and Mason 2001; Sen 2001; Sen and Dreze 2002).[2] Divisions along the lines of religion, class, caste, and tribe have, as with other groups in the Indian polity, hindered the formation of a unified women's movement (Agnihotri and Mazumdar 1995). Moreover, organizational resources for rural groups remain quite limited (Chhibber 2001). Tribal groups also remain among the most politically marginalized in modern India. As with Scheduled Castes (SC), the Scheduled Tribes (ST) have faced historic disadvantages. But unlike SC groups—which now claim national political parties as well as several high-profile leaders who represent their interests in the wider political system—ST groups have been slower to mobilize or gain political representation (Ambagudia 2011). As a result, ST groups have become increasingly marginalized (Banerjee and Somanathan 2007).

Given these barriers to collective action, we focus on an increasingly common effort to overcome them: the creation of "self-help groups" (SHGs). In India, SHGs are village-based organizations that focus on building the savings and credit, as well as the social empowerment, of their (mostly female) members (Chen et al. 2007). These groups perform three principal functions: (i) they act as an intermediary in transactions with the formal financial sector; (ii), they provide a mechanism for alternative (i.e., non-public) service delivery—such as contracting directly for training in agriculture or other vocational skills, healthcare, childcare, and educational services; and (iii) they serve as a platform for broader engagement by members in local civic affairs. The intervention we investigate was facilitated by the Self-Employed Women's Association (SEWA) in Dungarpur, Rajasthan, where 80 villages were randomly assigned into control and treatment categories.

We examine effects using both village- and individual-level treatment variables, that is, both the effect of residing in a SEWA (treatment) village and the effect of being an SHG member in a SEWA village, in order to identify community outcomes as well as intra-village spillovers from members to non-members. We also attempt to identify heterogeneous impacts with respect to baseline levels of education and landholding. Finally, we attempt to investigate some plausible channels by which SEWAs program benefits are transmitted.

Over a period of two years, women in treatment villages were more likely to participate in group programs, acquire greater "personal autonomy" (including greater control over household decision-making), partake in collective action on issues such as water and sanitation, and engage in community affairs, than their counterparts in control villages. We find no evidence that the program's effects are concentrated among women who were better off at the baseline.

Rather, landless women are more likely to save regularly, and increase their cash income as a result of SEWA's programs, compared to landholders.

Although the precise causal mechanisms behind these effects is difficult to measure due to the bundled nature of SEWA's rural livelihoods programs, we exploit variation in the timing and implementation of specialized modules implemented within the broader intervention to identify some plausible channels through which SEWA may have affected certain specific outcomes. We find that exposure to vocational training services as well as financial training services increased access to labor and credit markets respectively.

Although the evaluation is over a relatively short time horizon, in an exceptionally poor area, these results nevertheless carry important implications for India's large-scale antipoverty efforts. Investment support to rural membership-based organisations is currently being expanded through the National Rural Livelihood Mission (NRLM), which envisions mobilizing all rural, poor households into membership-based groups by 2015 (Planning Commission 2011). In Rajasthan as well as other states, the project is being implemented in collaboration with a variety of NGOs whose strategy of mobilizing the rural poor resembles SEWA's. This bottom-up approach is being pursued under the assumption that it can be effective in overriding other divisions such as religion, caste, tribe, ethnicity and language in rural India and organize women around the goal poverty alleviation.

The remainder of this paper is organized as follows. The next section reviews related evidence of the effects of SHGs and describes the research setting and intervention. The second and third sections examine effects of village-level treatment and individual participation in the program, respectively. We then turn to impact heterogeneity and causal mechanism. The final section concludes.

I. THE EMPIRICAL SETTING

We describe, below, the "self-help" movement in India, as well as an initiative of the Self-Employed Women's Association, which was randomly assigned across villages. We then perform some basic tests of randomization before describing the principal outcomes of interest.

Self-Help Groups in Rural India

A typical Indian SHG consists of 10-20 poor women from similar socio-economic background who meet once a month to pool savings and discuss issues of mutual importance. The pooled fund is then deposited in a group bank account and used to provide credit to women in need. These activities are typically facilitated by NGOs, the government, and in some cases, even the private sector. Facilitators typically oversee the operations of the group and link women to rural credit institutions, state agricultural produce market committees, and district agencies. They often add on other services such as childcare services, extra-curricular programs for school children, and job-training programs. SHGs also have important social functions: they may serve as a platform to address community issues such as the abuse of women, alcohol, the dowry system, educational quality, and inadequate infrastructure.

In 1992, India's National Bank for Agricultural and Rural Development (NABARD) piloted its "bank-SHG linkage program" by facilitating group lending by rural banks and by providing participating rural banks with low-interest financing and refinancing support. Since then, the SHG linkage program has expanded into one of the world's largest micro-finance networks. Women's SHGs, additionally, have been heavily promoted by the Indian government, particularly in the southern states since at least since the 1980s (Basu 2006; Chakrabarti and Ravi

2011; Deshmukh-Ranadive 2004; Galab and Rao 2003; Reddy and Manak 2005). Several large development programs, such as the Integrated Rural Development Program (*Swarnjayanti Gram Swarojgar Yojana*) and most recently, the NRLM, have targeted these groups.

Available evidence on SHGs is also mixed, showing a number of positive effects on credit and default risk on the one hand, but little improvement in income or assets. A study of SHGs in Andhra Pradesh finds improvements in consumption and savings for participants of newly-formed groups (Deininger and Liu 2009). In Orissa SHG-members are better able to coordinate in managing common pool resources(Casini and Vandewalle 2011). Diversity within groups with respect to education, landholdings, and family networks affect group stability and more vulnerable women are most likely to exit from the groups (Baland, Somanathan, and Vandewalle 2008). One of the few randomized-controlled trials finds that regular SHG participants trust and interact with each other more, are more willing to pool risk, and are less likely to default on those loans (Feigenberg, Field, and Pande 2012).

Despite the large scale-up in the number of SHGs in India in recent years, the impact on women and communities remains poorly understood. Efforts to measure impact are typically constrained (with a few notable exceptions) by the non-random placement of programs, the non-random assignment of individuals to groups, and wide variations in the methods employed by the organizations that facilitate the creation of village SHGs. Using random assignment, we examine impacts of SHGs not only on salient economic and financial outcomes, but also on member's empowerment and civic participation. These results are particularly noteworthy in the setting in which it is conducted: one of the poorest districts in India where the barriers to collective action are severe.

SEWA and the Integrated Rural Livelihoods Program

Research was conducted in Dungarpur district of Rajasthan, India, a rural district of 1.1 million located on the tribal belt between Gujarat and Rajasthan. According to the 2011 Census of India, 65 percent of the population belongs to Scheduled Tribes (STs). In 2005 Dungarpur was selected for the national Backward Districts Initiative (*Rashtriya Sam Vikas Yojana*). Of 601 districts, Dungarpur ranks: 524th on adult female literacy, 505th in terms of percentage of the population owning land, 480th on household asset-holdings, and 450th in terms of poverty, i.e., in the bottom quintile on all indices.[3]

Through the Backward Districts Initiative, block grants were provided by the Indian Planning Commission to various state governments that were to use the funds for economic development in India's 100 poorest districts. State governments were to prepare district plans for the use of funds—some Rs. 150 million ($3.3 million) per district per year for three years. For Dungarpur (as with the other Backward Districts in Rajasthan), the district plan emphasized "sector livelihood development," or a multi-component program focused on rural unemployment, creation of SHGs, skills training, credit linkages, and the provision of other rural services. To implement these programs, the state government invited the Self-Employed Women's Association (SEWA), an NGO based in neighboring Gujarat state, to implement its program.

SEWA began its activities in the district in 2007. Founded as an offshoot of the Textile Labor Association in 1972, it now claims a membership of over 1 million women across 10 Indian states. The organization's main mission is to help women achieve economic independence through bundled interventions that address many simultaneous challenges: skill shortages, limited access to credit and insurance, weak market linkages and limited public services. It

typically provides members with a variety of services that include employment training programs, new sources of credit, subsidized access to new technologies, and access to free child-care services (Bhatt 2006; Chen 1991; Datta 2000).

For the Dungarpur district pilot, all registered villages in Dungarpur from the Census of India (2001) were stratified according to: (i) average female literacy; (ii) total village population; and (iii) average household size. From these strata 80 villages were randomly selected, and randomly assigned to the SEWA program (32 villages) or as controls (48 villages).

The rollout was implemented in stages. First, all women in a village were invited to become members of SEWA by paying a nominal fee of Rs. 5 (approximately $0.10).[4] Members participated in a full day of basic training programs that were intended to create a sense of unity and direction, and an understanding of SEWA's objectives. They were then organized into SHGs with an elected leader. All these activities were led by SEWA field organizers: typically local, married women with at least 12 years of education who are highly regarded by the local community. These field workers reported to a SEWA coordinator, who works from the SEWA office in Dungarpur city.

Once SHGs were formed and leaders were elected, participants would meet once a month and set savings targets of Rs. 25-100 ($5-20) per member per session. These were deposited into a savings account at an SHG-linked bank. The group would then lend these funds—for a period and at an interest rate set by the SHG—to members in need of extra cash. Meetings were also used to discuss other issues—details of job training programs, motivational messages, the importance of participating in local government, etc. SHG leaders were trained to run meetings, maintain minutes, manage group accounts, and monitor the group's activities. All meetings were attended by SEWA field workers, who provided women with information about government

schemes/programs and their eligibility for those programs. They also helped with other activities such as recording minutes of the meetings, assisting in necessary activities such as filling out all necessary paperwork at the local bank and/or arbitrating in the event of any dispute between the women. In addition to these activities, SEWA also conducted educational programs, job-training programs and employment/income-generation workshops.[5] All SEWA programs were always open to all female village residents regardless of SHG membership.

None of these services, however, were available to women in control villages. Population density in the Dungarpur area is one of the lowest in India, distances between villages are significant, opportunities for inter-village transport are quite limited and women's mobility is severely limited. Additionally, village residency was a requirement for SHG membership or participation in SEWA programs. We are not aware of the presence of any other NGO in our control villages, but it is important to note that the Indian government began a major poverty-alleviation effort in all the villages in our sample during the period of study: the National Rural Employment Guarantee Act (NREGA), a large public works program started in 2005. NREGA came to this area shortly after we began our intervention, and was popular in both treatment and control areas. There is no indication however, that the programs were selectively targeted in either the treatment or control villages in our study.

Baseline and follow-up surveys were conducted in late (November and December) 2007 and during the same months in 2009. These form a pooled cross-section with treatment and control samples. The sample of treated women includes a total of 1,410 women who resided in the villages where SEWA programs were in place. 748 of these women were interviewed in the 2007 baseline and 662 interviewed in the 2009 follow-up. The sample of control women includes 1,795 women who did not reside in SEWA villages over the two year period, with 855

interviewed in 2007, 940 in 2009. Summary statistics of all variables used in the analysis in this paper, across both treatment and control areas, and both before and after the intervention, are presented in table 1.

Tests of Randomization

Comparisons of pre-program characteristics are presented in columns 1-3 of Table 2. These estimates are constructed from individual-level data. Village-level differences are presented in the Appendix, Table A.1. Estimates in column 3 of Table 2 contain the difference in mean outcomes between treatment and control populations prior to the treatment. Estimates are obtained from weighted regressions with robust standard errors clustered at the village-level. Note that the two sets of villages—both before and after the treatment—show no statistically significant differences with respect to demographic and socio-economic variables (panel A) such as women's literacy level, marital status, labor-force participation caste, and socio-economic characteristics. There is also no evidence that the treatment villages had more SHGs prior to the arrival of SEWA.

There are however, some other pre-intervention differences. Women in SEWA villages were less likely to be in the habit of saving prior to the program, were more likely to participate in the agricultural workforce and thus had higher cash income than their counterparts in control villages. They also had lower levels of participation in family-planning decisions. These estimates, however, disappear when looking at village-level averages, indicating that these initial differences may be driven by a small number of distinctive villages (table A.1). We also present results that control for these, and other, possible factors.

We note, additionally, that these unconditional estimates show that residents in SEWA villages experienced a small drop in cash income relative to residents in control villages following SEWA's intervention. In fact, both SEWA and non-SEWA villages experience drops in income during this period—mainly due to drought conditions and weak monsoons in Rajasthan between 2007 and 2009. As seen below, this effect disappears when fixed effects and additional controls are added.

Outcomes of Interest

The SEWA intervention focused not only micro-savings and finance, but also women's role in household decision-making and civic engagement. Our evaluation has been structured to examine the effect of this integrated program, rather than its specific components. We focus, therefore, on three central objectives of SHG participation: (i) inclusion in financial and labor markets; (ii) autonomy of household decision-making; and (iii) local civic and political engagement.

Savings, Credit, and Labor Force Participation. In the long-run, participation in SHGs could be expected to increase income, assets and labor force participation rates. In the short-run however, we expect the presence of SEWA programs to increase women's participation in group programs that are aimed at increasing saving, access to credit, and employment opportunities. We measure participation as a dummy variable that takes value 1 if a woman reports any participation and 0 otherwise. Women in treated villages are also expected to have greater access to credit from the SHG-linked bank, and we code this outcome 1 if the woman borrowed through the SHG credit mechanism, 0 otherwise. With respect to savings, we code this outcome 1 if the

women reports that she saves money each month, 0 otherwise. We also look at the log of the last savings amount (in the three months prior to the survey).[6]

Since SHGs seek to increase female participation in the labor force, we also define two binary labor-participation indicators—relating to the general workforce, and the non-farm sector. Both are coded 1 if a woman is employed generally (employed as a casual laborer in agriculture), and 0 otherwise. We also include the log of women's cash income, earned over the past three months, setting this value to 1 for those who earn no incomes.

Household Decision-Making. If SHG membership raises a household's current and future income by increasing labor-force participation and returns on savings, we expect the presence of SEWA programs to increase women's decision-making autonomy within their households. Higher wages also increase the opportunity costs of woman's time, lowering the demand for children and raising the likelihood of contraceptive use. We thus examine respondent's involvement in three types of decisions: children's schooling, medical decisions, and family-planning. We define dummy variables that take value 1 if a woman reports that she is able to make independent decisions in these matters and 0 otherwise.

Civic Inclusion and Engagement. We also test the hypothesis that participation in SHGs expands women's knowledge of authority structures in the village and motivates them to redress grievances about public issues. We measure this in three ways. First, we examine women's knowledge of where to report grievances regarding five types of public services: water and sanitation, road conditions, electricity supply, education services, and health services. These variables take value 1 if the woman knows where to report a grievance in the village and 0

otherwise. We also measure whether she has actually approached authorities to report a complaint and demand improvements in delivery, again using a variable coded 1 if the woman reports that she has reported a grievance at least once in the preceding two years, 0 otherwise.

Second, we examine whether women are aware of bribes being collected from villagers by public officials, coded 1 if they personally know someone who has been asked to pay bribes, 0 otherwise. Finally, we also measure women's participation in the main local governmental institutions, the *Gram Sabha* and *Gram Panchayat*.[7] These are measured by two dummies. The first takes value 1 if the respondent knows of the *Gram Sabha* and the *Gram Panchayat* and 0 otherwise. The second takes value 1 if the woman has ever engaged with both institutions (by attending meetings and/or interacting with *Gram Panchayat* members outside of meetings) and 0 otherwise.

II. VILLAGE TREATMENT EFFECTS

We first measure the impact of SEWA programs on all women who *reside* in villages where SEWA programs were implemented. We favor this village-based measure of treatment rather than a direct measure of actual participation for three reasons. First, SEWA's intervention was randomized at the village level and we avoid the problem of estimating the program's impact exclusively on self-selected participants by focusing instead on individual effects based on village residence. Second, low female mobility causes women's networks in rural North India to be highly localized and concentrated in their villages of residence (Dyson and Moore 1983; Jeffrey and Jeffrey 1996). Consequently it makes little sense to operationalize treatment at the individual or household levels, since new information introduced into a single village can diffuse along social networks quite quickly, leading to the rapid spread of information and social

learning (Munshi 2007). Third, SEWA's integrated approach is designed to promote intra-village spillovers and change prevailing attitudes of both men and women of communities.

Program effects can be estimated as follows:

$$Y_{i,v,b,t} = \beta_0 + \beta_1 \text{SEWA}_v + \beta_2 \text{Post-intervention}_t + \beta_3 (\text{SEWA}_v \times \text{Post-intervention}_t)$$
$$+ \beta_4 \mathbf{X}_{i,v} + \mu_b + \varepsilon_{i,v,b,t}$$

where $Y_{i,v,b,t}$ is the outcome of interest for individual *i* in village *v* in block (sub-district) *b* during survey year *t*. *SEWA* takes value 1 if the respondent resided in a village selected for SEWA's program, *Post-intervention* is a dummy variable that takes value 1 if the household was interviewed after the treatment program, **X** is a vector of household and village-level control variables, μ is a block fixed-effect[8], and $\varepsilon_{i,v,b,t}$ is a standard disturbance. β_1 is the pre-program difference, β_2 is the trend, i.e., the changes in the outcome in the absence of the treatment, and β_3 is the intent-to-treat effect. Control variables include the respondent's age, literacy, marital status, household size, husband's age and literacy, scheduled-tribe status, and dummies for home/land ownership, *kutcha* (non-permanent) dwellings, and the presence of a toilet (both being proxies for income and assets that are likely to be unaffected by a two-year intervention). We also include an indicator coded 1 if public-works programs from NREGA were operating within the village during the survey year, on the assumption that presence of public works programs may affect village-level outcomes and may measure the effectiveness of village-level institutions. Finally, given the subjective nature of many of our dependent variables we include responses by women to questions about the quality of roads to their village on the assumption that this should be invariant across village households. The distribution of responses to this questions in equations including village-fixed effects, should therefore closely proxy individual bias. We use a dummy variable that takes value 1 if she reports that the village roads are either

"bad" or "very bad" and 0 otherwise, to correct for individual-specific "systemic" bias. All standard errors are clustered at the village-level.

Unconditional Impact

We first examine unconditional ITT effects by using a specification with no control variables. The simplest estimates of impact—differences in mean values for the key groups—are presented in columns 4-6 of panel (B) of table 2. Estimates in columns 3 and 6 contain the difference in mean outcomes between treatment and control populations before and after the treatment respectively. Estimates in column 7 present the difference in the differences. Note that two years after the program, individuals in SEWA villages differ from their counterparts in the control villages. They are 24 percentage points more likely to participate in group programs and 10 percentage points more likely to save regularly. They are also more likely to take bank loans and save more per month (as measured by log savings values), but these estimates are not statistically significant at the 10 percent level.

There are also differences in employment outcomes: women in villages with SEWA programs report declines in overall employment but increased non-agricultural employment. The declines in overall employment in our study-area are largely driven by the 2009 drought, which reduced the cropped area in this region.[9] We find that SEWA members were less hard-hit since they were 5 percentage points more likely to find non-agricultural employment. This effect is also noteworthy in light of the fact that only 6.8 percent of women participate in the non-agricultural labor force (table 1). Employment opportunities are likely to be influenced by the presence of the National Rural Employment Guarantee Act (NREGA). While the program

appears to have benefitted both areas, we believe it is important to condition on the presence of this program, something we control for below.

The results in table 2 also illustrate that SEWA programs strengthened women's participation in household decision-making. Treated women are 6-8 percent points more likely to have a say in decisions about children's schooling, family medical care, and family planning (table 2). The impact on family-planning decisions is particularly striking considering that only 3 percent of women report any participation in this decision (table 1) and women in SEWA villages had lower levels of participation in this decision at baseline (column 3, table 2).

Women in treatment villages were more likely to know where to report grievances related to the failures of public services: these estimates range from 14 percentage points for water, 3 percentage points for roads and 8 percentage points for electricity, education and health institutions. For the case of water, estimates are significant at the 1 percent level. Treated women were not only more knowledgeable about where to report their grievances, but also more likely to take action and actually report a grievance to the concerned authorities.[10] These estimates are 11 percent points for the case of drinking water, 6 percent points for electricity, education and health services, and 1 percent for roads (table 2). The results are statistically significant for the case of drinking water, electricity, education and health services.

The result on drinking water is particularly striking; across our entire sample in both periods, only 24 percent of women in the entire sample were aware of where to report grievances about drinking water and only 21 percent of women had ever made the effort to report a grievance to the authorities (table 1). Treated women in 2008 were thus about 50 percent more likely to be aware of where to report some grievances such as drinking water and also take action in the case of poor service delivery. This is a critical difference, given that women in rural

Rajasthan are responsible for collecting drinking water and spend considerable amounts of time on this activity.

Women in treatment villages were, finally, modestly more disposed towards local political awareness and participation: they were 5 percent more likely to be aware of bribe-payments to local officials. They were also 4 percent more likely to be aware of the *Gram Sabha* and *Gram Panchayat* and 2 percent more willing to interact with these institutions (table 2). While these estimates of civic-engagement are small, they are nonetheless important considering the short time-frame of this evaluation.

Conditional Effects

Conditional estimates of our specification are presented in table 3. The first four columns contain estimates from a specification that includes block-level fixed effects but excludes all other controls. Columns 5-8 present estimates from the full specification, with controls, but we omit the listing of control variables and present only the coefficients of interest.[11] The results are very close to the unconditional estimates discussed above. Women in villages with SEWA programs were 24 percentage points more likely to participate in group-savings programs, 11 percentage points more likely to be in the habit of saving money, 5-7 percentage points more likely to have a final say in household decisions, 13 percentage points more likely to know where to report a grievance for drinking water and 10 percentage points more likely to actually report this grievance. The program has no effect on women's reporting of other types of grievances (roads, electricity or health/education institutions). These findings on water largely confirm other studies of rural India that have documented the salience of this issue for women (Chattopadhyay and Duflo 2004; Joshi 2011).

It is also interesting to note that women who resided in SEWA villages were 5 percentage points more likely to know if anyone in the village had paid a bribe to either gain access to water for farming or to public officials. Two years of exposure to the program also resulted in a slightly higher (2 percent) village-wide likelihood of interaction with the *Gram Sabha* and *Gram Panchayat*.

An interesting difference between the unconditional estimates and conditional estimates are the coefficients for income employment. Conditional estimates suggest that women in SEWA villages were also more 5 percentage points likely to be involved in non-agricultural employment. The effect is significant at the 10 percent level. This is important considering that the monsoon crop in this season had largely failed due to a drought in the district and agricultural incomes had declined, as is seen by the negative and significant coefficient for "Post Intervention" (table 3, Columns 3 and 7, row for "Log of Cash Income"). Controlling for the presence of NREGA public works strengthened this coefficient, indicating that labor markets during the period of study were being considerably transformed by NREGA. We cannot rule out the possibly that the transformation occurred at a different pace in treatment and control villages.[12] Anecdotal evidence from field-workers as well as local government representatives suggests that the program was highly popular among women from both treatment and control villages and they chose to participate in NREGA public works projects in large numbers. Both self-employment and entrepreneurship, already at very low levels in Dungarpur, fell even further as a result. We return to this issue below.

III. RESULTS: INDIVIDUAL PARTICIPATION

In addition to effects of village-level treatment, we are interested in the effects of individual membership (and non-membership) in an SHG in a SEWA (treatment) village. We examine these treatment effects with the following functional form:

$$Y_{i,v,t} = \gamma_0 + \gamma_1(\text{SEWA member}_i \times \text{Post-intervention}_t) + \gamma_2(\text{SEWA village non-member}_i \times \text{Post-intervention}_t) + \gamma_3\text{Post-intervention}_t + \gamma_4\text{SEWA Village}_v + \gamma_5\mathbf{X}_{i,v,t} + \mu_v + \varepsilon_{i,v,t}$$

where $Y_{i,v,t}$ is the outcome of interest for individual *i* in village *v* during survey phase *t*. *SEWA Member* takes value 1 if an individual participated in SEWA SHG programs (launched after the baseline survey), *SEWA village non-member* × *Post-intervention* takes value 1 if the individual resides in a SEWA village but was not a member of the SHG, **X** is the same vector of individual and household control variables described in the previous section, μ is a village fixed-effect and $e_{i,v,t}$ is a standard disturbance. From this estimation γ_1 is the effect of participation in a SEWA program by SHG members, γ_2 is the spill-over effect, γ_3 is the time effect, and γ_4 is a measure of pre-program differences between SEWA and non-SEWA villages. As this is a pooled cross-section, there were no SEWA villages/members in the baseline survey.[13]

The central challenge in estimating individual impact is that membership within villages is not randomly assigned. As mentioned earlier, SEWA randomly selected villages, and though membership was open to all women, actual participation could not be randomized. Information about the program was disseminated widely but we cannot discount the possibility of intra-village selection bias. To address this selection problem, we pre-process our data with propensity matching methods, then re-run our parametric analyses weighted by the propensity score as a bias-adjustment for matching (Abadie and Imbens 2006). This ensures that SEWA members are

as similar as possible to non-members in terms of relevant covariates (Caliendo and Kopeinig 2008). Our propensity score is estimated with a logit regression of SEWA membership on age, education, marital status, husband's age, husband's education, family size and the number of migrants in the household. We construct the matched sample using one-to-one matching without replacement.[14]

Our selection of variables to conduct matching is guided by existing literature as well as observation of SEWA's strategies in the field (Caliendo and Kopeinig 2008). The inclusion of education and land is motivated by the findings from a variety of studies that have found that educated and wealthier women are better positioned to understand the benefits of participation in community based development programs (Arcand and Fafchamps 2011; Bernard and Spielman 2009).

A test of balance is presented in the Appendix, table A.2. This table presents summary statistics of key variables for the unmatched and matched samples. The standardized bias is reported as a percentage before and after matching. This estimate is the difference of the sample means in the treated and non-treated (full or matched) sub-samples as a percentage of the square root of the average of the sample variances in the treated and non-treated groups (formulae from Rosenbaum and Rubin, 1985). The estimates confirm a significant reduction in bias from the matching procedure: we cannot reject the hypothesis of equality of the characteristics across the treated and non-treated groups.

Estimates of the program's impact, (γ_1, γ_2, and γ_3) are presented in table 4 (we omit estimates of pre-program differences). Unconditional estimates are presented in columns 1-4 and conditional estimates are presented in columns 5-8.Note that for almost every outcome, we

once again find that unconditional and conditional impacts are very similar in magnitude as well as significance.

In the matched sample, more than 55 percent of SEWA members participate in group programs, and more than 20 percent of members report that they save regularly. These estimates are significant at the 1 percent level. There is no effect of SEWA participation however, on the actual amount saved three months prior to the survey.

Here, as in table 3, women report an average income loss during the period under study due to drought-induced agricultural distress in Dungarpur district. However, at least for unconditional affects, we see that SEWA membership (as did SEWA's presence in the village) provided a "cushion" against these shocks, with SEWA members reporting no significant change in income, and with non-members reporting income loss. With control variables added, there is no difference between members and non-members.

As found in the case of the village-level impact estimates, we once again find that participating women were 11 percentage points more likely to be employed outside of agriculture. The effect is significant at the 10 percent level. The estimated improvements in women's bargaining power are also positive and significant at the 1 percent level. Here, we find that SEWA members as well as non-members experienced benefits: members were 8-12 percentage points more likely to participate in family decisions. The coefficients for non-members are smaller (with the exception of family-planning) but statistically significant.

We continue to find that the programs have a strong and significant effect on knowledge of where to express grievances as well as women's willingness to report their grievances. For all our measures of grievances, participants report that they are 10-20 percentage points more likely to know where to report them. The coefficients for actually reporting grievances are lower, but

again, statistically significant and considerably larger than the village-level averages reported earlier. It is striking that we see no spillovers for these indicators of civic engagement. Collective action remained restricted to SEWA members and did not draw in non-members.

We also find evidence that SEWA participation had effects on political participation: estimates from unconditional and conditional regressions confirm that SEWA members were 11 percentage points more likely to know of the local *Gram Panchayat* and *Gram Sabha* and were 5 percentage points more likely to engage with these institutions. We find this a very interesting result and believe that exploring the methods of participation would make an interesting and important area of quantitative as well as qualitative field work.

Finally, we note that SEWA members are also 7 percentage points more likely to be aware of bribing within the village. The result is statistically significant at the 5 percent level. Here too, we again find spillovers: non-members in SEWA villages are also 7 percentage points more likely to be aware of the payment of bribes and the result is significant at the 5 percent level.

Robustness Checks

We perform several robustness checks of unconditional and conditional estimates using a variety of different matching functions as well as matching methods. Table A.3 in the Appendix contains estimates of treatment effects using "coarsened exact matching" (CEM). CEM-based causal estimates have been shown to reduce imbalance, model dependence and estimation error with informative data (Iacus, King, and Porro 2012). Note that we obtain very similar estimates to those that are reported in the paper. In some cases we observe greater impacts than those we report in the main text of the paper.

We also check the sensitivity of our results to hidden bias, i.e. bias induced by unobservable factors that could affect participation in the program itself (an individual's motivation, prior experience with NGOs, etc). We use Rosenbaum's bounding approach (Becker and Caliendo 2007; DiPrete and Gangl 2004; Rosenbaum 2002). Rosenbaum bounds calculate upper- and lower-bounds for the average treatment effect on treated individuals in the presence of unobserved heterogeneity which is assumed to influence participation in the program.[15] Results are reported in the appendix, table A.4 for some key variables.

IV. VALIDITY AND EXTENSIONS

Heterogeneity

Next, we explore whether the program had differential impacts across women of different socio-economic groups. Much recent research illustrates that community-based development projects such as this one may be susceptible to elite capture (Alatas et al. 2013; Bardhan and Mookerjee 2006; Gugerty and Kremer 2008; Mansuri and Rao 2012). In other parts of India, diversity within groups has been shown to have an effect on group performance as well as stability (Baland, Somanathan, and Vandewalle 2011).

To explore this, we interact the main treatment indicators with measures of education and land-ownership. We define two binary indicators—"Illiterate" and "Landless"—that respectively take value 1 if a woman is illiterate and 0 otherwise, and value 1 if a woman's household owns no land and 0 otherwise. Results are presented in table 5 (village-level treatment variable) and table 6 (individual-level treatment variable). In table 4, we note that landless women benefitted more from SEWA programs. They are about 16 percentage points likely to participate in group programs and also save, have modestly higher cash incomes (despite the

drought) but are 16 percent less likely to know where to express grievances for drinking water and 7 percent less likely to actually express a grievance themselves. Our personal interviews of SEWA field workers and SHG members confirm that there is no selective targeting of women, but the lower participation of landless women in voicing grievances is likely to be driven by the higher time-costs and information costs faced by these women in the rural economy. The higher cash incomes of landless women may also confirm their selection into the NREGA program since landless women received priority in receiving its benefits.

In table 5, we find weaker effects of landlessness and illiteracy. In fact, we find that landless SHG members are 13 percentage points less likely to save, presumably because they are borrowing from the group's internal funds. We also find that landless members are more likely to be employed in the three months prior to the survey. We find no evidence however, that landless or illiterate women were either particularly targeted or discriminated in this program. The results suggest that SEWA programs did not disproportionately benefit the educated or socio-economically wealthy women. This result is similar to recent evidence from other contexts (Alatas et al. 2013; Olken 2010).

Mechanisms

Our analysis has so far focused on estimating the total impact of a comprehensive package of efforts. Identifying the specific component of this package that created impact is more difficult (Green, Ha, and Bullock. 2010; Imai 2011). This is largely due to program design: SHGs were rapidly established in all treatment villages, but additional modules were not simultaneously rolled out. Our design therefore provides exogenous variation in the application of the SEWA livelihoods program across villages, but not on potentially intermediary variables

that can affect the outcomes observed. Nevertheless data on the additional modules can be used to examine the extent to which different mechanisms are at work in treatment villages, as well as among SEWA members.

We examine two modules that were core parts of SEWA's broader intervention in Dungarpur under the Backward Districts Initiative, and that were implemented in the first year of the intervention.[16] The two specialized training modules we consider were offered by SEWA to improve women's economic opportunities. First, SEWA ran a series of agricultural workshops covering farming techniques—based on similar workshops used in "training and visit" initiatives that were part of agricultural extension systems in India (Feder, Willett, and Zijp 2001), but targeted towards female farmers[17]—as well as workshops on craft-making (fabric weaving, embroidery, and handloom operation) or on the manufacture of simple products (washing powder and incense sticks) as well as supplemental training on pricing and packaging. Women who participated in these vocational modules were eligible to receive support from SEWA's Producer Cooperative (*Gram Mahila Haat*), which would provide marketing and distribution support to female producer groups.[18] Second, SEWA supported financial awareness and capacity-building efforts that focused on helping women manage household finances, and better understand the use of savings accounts, lending operations of rural banks, and micro-enterprise development through SEWA's own microfinance institution, SEWA Bank. Of the 32 SEWA-treatment villages, the vocational training module was implemented in 19, the financial capacity-building module in 22, while 14 villages received both.[19]

To examine the effects of these specialized programs, for each we construct two new specialized "treatment" variables: (i) a village-based module indicator coded 1 if the module was implemented in the village, or 0 otherwise; and (ii) an individual-based module indicator, coded

1 if the individual participated in the specific module run in the village, 0 otherwise. In the latter care, the room for spillover effects is potentially quite large given that any training or capacity-building modules run by SEWA were always open to all (female) village residents whether or not they were SEWA members. These narrower treatment variables may be used to identify effects of particular SEWA services on specific outcomes. Results from these tests are presented in table 7.

We begin by examining the effect of the vocational-training module on three separate outcomes to which agricultural and vocational training could be directly linked: income (in natural logs), outside employment (whether the respondent worked outside the household in the past three months), and outside non-agricultural employment (whether respondent worked in a non-farm capacity in the past three months). As with previous specifications, in all cases we examine effects at the individual level of living in a village that implemented a SEWA-run vocational training module, as well as of being a participant in the vocational training module. Panel A presents results of the village-level treatment while panel B shows results of individual participation. As with previous results, we weight regressions in the second panel by the propensity score, generated from a matching model using one-to-one matching without replacement.[20]

We do not observe strong effects of vocational training among women who reside in villages where those modules were run, with the exception of non-farm employment. We see no effects, for example, on income earned or outside employment. The incidence of non-farm employment in villages where SEWA would run vocational training modules was 3.1 percentage points lower than in villages where no SEWA training took place prior to program implementation. However, women who live in villages that received vocational training saw

their incomes rise by 7.7 percentage points compared to their counterparts in villages where no SEWA training was implemented.

The effect of individual participation in SEWA's vocational training modules—as opposed to the effect of residing in a village where SEWA's vocational training modules were run—is similar: vocational training participants increased their incidence of non-farm employment by 14.5 percentage points compared to non-participants. In this case, moreover, we see evidence of non-farm employment spillovers in that non-members in villages where SEWA's training programs were run benefited from a 6.6 percentage points increase in non-farm employment.

Turning to financial capacity-building activities, we examine an additional three specific impacts: whether the individual made a deposit into a bank account, whether the individual received a loan through the SHG-bank mechanism, and the total amount saved over the past 6 months. Women who lived in villages where financial capacity-building modules were run were 7.8 percentage points more likely to save regularly and 6.8 percentage points more likely to have taken a loan than women in control villages. Individual women who participated in financial capacity-building modules were 27.6 percentage points more likely to save and 12.9 percentage points more likely to borrow, than average non-participating counterparts. With the exception of saving—non-participants living in villages where SEWA financial modules were implemented were 9.4 percentage points more likely to save—we observe no spillover effects of financial capacity building. Finally, we see no effects of finance activities on actual savings.

Finally, we present a "placebo test" in the Appendix, table A.5, in which we examine the effect of vocational training on financial outcomes, and of financial literacy/capacity-building on employment. Estimates of the village-level treatment (panel A) find that vocational training has

an effect on the regularity of savings among women who reside in the village. This is to be expected, given that the principal inducement to save likely comes from earning a regular wage. Alternatively we also find that financial-literacy training increases non-farm employment among women in these villages, but has no effect on other employment indicators. Note that these effects are without regard to SEWA membership in the village. By contrast, we find no significant placebo effects of individual participation in SEWA modules (panel B), suggesting that confidence in the mechanism test should be greater for individual participation in SEWA's programs than for SEWA's presence in any given village.[21]

Taken together, this preliminary evidence suggests that the information-provision and training functions played by SHGs were among the channels operating in SEWA villages by which SEWA's interventions improved employment outcomes and encourage women to participate in the formal financial system.

V. CONCLUSIONS

Large-scale antipoverty strategies have increasingly incorporated small-scale membership organizations in project design as elements of both "pro-poor" empowerment and as institutional platforms from which local accountability may be demanded. Evidence of the impact of these organizations outside of microfinance activities, however, remains scarce. We explore whether collective action can be promoted in communities through the establishment of self-help groups (SHGs), an archetypal village-based membership organization that has plays a critical role in India's "rural-livelihoods" approach to poverty alleviation. In 2007, the Self-Employed Women's Association (SEWA) piloted an "integrated rural livelihoods" program in Dungarpur district, Rajasthan, where villages were randomly assigned to treatment or control

groups. We find that women who live in villages with SEWA programs or who are members of SEWA's village-level SHGs report greater participation in group programs, increased control over domestic decision-making, greater awareness of where to express grievances about public-services (particularly drinking water), a willingness to take action on grievances in the case of drinking water, and finally, an increase in satisfaction with the state of these services.

We see some evidence that SEWA's intervention benefited women who were landless at the start of the program more than landholding women. Additional work is needed to uncover the precise mechanisms in operation and their longer-term impact, but we also see evidence that information provision, through SEWA's specialized vocational and financial capacity-building modules, helped women with respect to non-farm employment and savings accumulation.

Donors are investing heavily in developing institutional arrangements to enhance the access of poor, rural households to public services and to improve in local governance by giving the poor, women, and other vulnerable groups greater representation in village-level government. In the absence of effective state institutions, NGOs are often seen as policy innovators, as facilitators of critical information regarding public services, and mechanisms for alternative service delivery. Our evaluation suggests that NGOs can play critical roles in linking unorganized and marginalized populations to state-led antipoverty efforts. SEWA's main effect appears to be to facilitate the organization of communities, provide them with information, motivate greater intra-group cooperation, and lower the costs of participating in collective decision-making. It may be that these "indirect," behavioral effects on program participants outweigh the direct effects on income, consumption, and employment, at least in the short run.

REFERENCES

Abadie, Alberto, and Guido W. Imbens (2006). "Large Sample Properties of Matching Estimators for Average Treatment Effects." *Econometrica* 74 (1): 235-67.

Agnihotri, I., and V. Mazumdar (1995). "Changing Terms of Political Discourse: Women's Movement in India, 1970s-1990s." *Economic and Political Weekly*: 1869-78.

Alatas, Vivi*, et al.* (2013). "Does Elite Capture Matter? Local Elites and Targeted Welfare Programs in Indonesia." National Bureau of Economic Research. Typescript.

Ambagudia, J. (2011). "Scheduled Tribes and the Politics of Inclusion in India." *Asian Social Work and Policy Review* 5 (1): 33-43.

Arcand, J.L., and M. Fafchamps (2011). "Matching in Community-Based Organizations." *Journal of Development Economics*.

Baland, Jean-Marie, Rohini Somanathan, and Lore Vandewalle (2008). "Microfinance Lifespans: A Study of Attrition and Exclusion in Self-Help Groups in India." India Policy Forum.

———— (2011). "Socially Disadvantaged Groups and Microfinance in India. ." University of Namur. Typescript.

Banerjee, A., and R. Somanathan (2007). "The Political Economy of Public Goods: Some Evidence from India." *Journal of Development Economics* 82 (2): 287-314.

Bardhan, Pranab K. (2005). *Scarcity, Conflicts, and Cooperation: Essays in the Political and Institutional Economics of Development*. Cambridge, MA: MIT Press.

Bardhan, Pranab, and Dilip Mookerjee (2006). "Pro-Poor Targeting and Accountability of Local Governments in West Bengal." *Journal of Development Economics* 79 (2): 303-27.

Basu, P. (2006). *Improving Access to Finance for India's Rural Poor*: World Bank Publications.

Becker, S., and M. Caliendo (2007). "Mhbounds-Sensitivity Analysis for Average Treatment Effects." *IZA Discussion Paper*.

Berger, M., V. H. Delancey, and A. Mellencamp (1984). "Bridging the Gender Gap in Agricultural Extension."

Bernard, T., and D.J. Spielman (2009). "Reaching the Rural Poor through Rural Producer Organizations? A Study of Agricultural Marketing Cooperatives in Ethiopia." *Food Policy* 34 (1): 60-9.

Bhatt, Ela R. (2006). *We Are Poor but So Many: The Story of Self-Employed Women in India*: Oxford University Press.

Caliendo, M., and S. Kopeinig (2008). "Some Practical Guidance for the Implementation of Propensity Score Matching." *Journal of economic surveys* 22 (1): 31-72.

Casini, Paolo, and Lore Vandewalle (2011). "Public Good Provision in Indian Rural Areas: The Returns to Collective Action by Self-Help Groups." Typescript.

Chakrabarti, R., and S. Ravi (2011). "At the Crossroads: Microfinance in India." *Money & Finance, Forthcoming*.

Chattopadhyay, R., and E. Duflo (2004). "Women as Policy Makers: Evidence from a Randomized Policy Experiment in India." *Econometrica* 72 (5): 1409-43.

Chen, Martha (1991). *Coping with Seasonality and Drought*: Sage Publications.

Chen, Martha*, et al.* (2007). *Membership-Based Organizations of the Poor*: Psychology Press.

Chhibber, P. K. (2001). *Democracy without Associations: Transformation of the Party System and Social Cleavages in India*: Univ of Michigan Pr.

Danida (2002). *Evaluation/Impact Study of Four Training Projects for Farm Women in India*. Copenhagen: Udenrigsministeriet.

Datta, R. (2000). "On Their Own: Development Strategies of the Self-Employed Womens Association (Sewa) in India." *Development* 43 (4): 51-5.

Deininger, K., and Y. Liu (2009). "Longer-Term Economic Impacts of Self-Help Groups in India." *World Bank Policy Research Working Paper No. 4886*.

Deshmukh-Ranadive, J. (2004). "Women's Self-Help Groups in Andhra Pradesh:Participatory Poverty Alleviation in Action." Presented at the.

DiPrete, T.A., and M. Gangl (2004). "Assessing Bias in the Estimation of Causal Effects: Rosenbaum Bounds on Matching Estimators and Instrumental Variables Estimation with Imperfect Instruments." *Sociological Methodology* 34 (1): 271-310.

Dyson, Tim, and Mick Moore (1983). "On Kinship Structure, Female Autonomy, and Demographic Behavior in India." *Population and Development Review* 9 (1): 35--60.

Feder, G., A. Willett, and W. Zijp (2001). "Agricultural Extension: Generic Challenges and the Ingredients for Solutions." *Knowledge Generation & Technical Change* 19: 313-53.

Feigenberg, Benjamin, Erica Field, and Rohini Pande (2012). "The Economic Returns to Social Interaction: Experimental Evidence from Microfinance." Harvard University. Typescript.

Galab, S., and N. Chandrasekhara Rao (2003). "Women's Self-Help Groups, Poverty Alleviation and Empowerment." *Economic and Political Weekly* 38 (12/13): 1274-83.

Green, Donald P., Shang E. Ha, and John G. Bullock. (2010). "Enough Already About “Black Box” Experiments: Studying Mediation Is More Difficult Than Most Scholars Suppose " *The Annals of the American Academy of Political and Social Science* 628 (1): 200-8.

Gugerty, Mary Kay, and Michael Kremer (2008). "Outside Funding and the Dynamics of Participation in Community Associations." *American Journal of Political Science* 52 (3): 585-602.

Iacus, S.M., G. King, and G. Porro (2012). "Causal Inference without Balance Checking: Coarsened Exact Matching." *Political analysis* 20 (1): 1-24.

Imai, Kosuke, Luke Keele, Dustin Tingley, and Teppei Yamamoto (2011). "Unpacking the Black Box of Causality: Learning About Causal Mechanisms from Experimental and Observational Studies." *American Political Science Review* 105 (4): 765-89.

International Institute for Population Sciences (2008). "District Level Household Survey, Third Round." IIPS, Mumbai.

Jeffrey, Patricia, and Roger Jeffrey (1996). *Don't Marry Me to a Plowman!: Women's Everyday Lives in Rural North India*. Boulder, Colorado: Westview Press

Joshi, D. (2011). "Caste, Gender and the Rhetoric of Reform in India's Drinking Water Sector." *Economic & Political Weekly* 46 (18): 57-.

King, Elizabeth M., and Andrew D. Mason (2001). *Engendering Development: Through Gender Equality in Rights, Resources, and Voice*: Washington, DC [etc.]: World Bank [etc.].

Macklin, Michael (1992). "Agricultural Extension in India." Technical Paper 190. Washington, DC: World Bank.

Mansuri, Ghazala, and Vijayendra Rao (2012). "Localizing Development: Does Participation Work? World Bank Policy Research Report." World Bank, Washington DC.

Munshi, Kaivan (2007). " Information Networks in Dynamic Agrarian Economies (Chapter 48)." In *Handbook of Development Economics*, ed. T. Paul Schultz and A. Strauss John: Elsevier.

Narayan, D.*, et al.* (2000). *Voices of the Poor. Can Anyone Hear Us?*: Oxford University Press for the World Bank.

Olken, Benjamin A. (2010). "Direct Democracy and Local Public Goods: Evidence from a Field Experiment in Indonesia." *American Political Science Review* 104 (2): 243-67.

Ostrom, E., and T. K. Ahn (2009). "The Meaning of Social Capital and Its Link to Collective Action." *Handbook of Social Capital. The Troika of Sociology, Political Science and Economics*: 17-35.

Planning Commission, Government of India (2011). "Report of Working Group on National Rural Livelihoods Mission (NRLM)." Government of India, New Delhi.

Raabe, Katharina (2008). "Reforming the Agricultural Extension System in India: What Do We Know About What Works Where and Why?" Discussion Paper 00777. Washington, DC: International Food Policy Institute.

Reddy, C. S., and Sandeep Manak (2005). "Self-Help Groups: A Keystone of Microfinance in India-Women Empowerment and Social Security." *Andhra Pradesh Mahila Abhivruddhi Society (APMAS). India: Hyderabad*.

Rosenbaum, P.R. (2002). *Observational Studies*: Springer.

Sen, A. (2001). "The Many Faces of Gender Inequality." *New Republic*: 35-9.

Sen, A., and J. Dreze (2002). "India: Development and Participation." *Nova Delhi: Oxford University Press*.

NOTES

[1] If loan disbursements for projects with "decentralization" components are included, the total is closer to $80 billion.

[2] Adult female literacy currently stands at 51 percent for women and 76 percent for men (World Development Indicators, 2012). These numbers are generally lower, and the gender-gap larger, in rural areas.

[3] Authors' calculations (International Institute for Population Sciences 2008).

[4] Recruitment of members is carried out by making announcements about SEWA at village *Panchayat* meetings, and/or private meetings with educated and influential members of the village who then spread awareness about SEWA's programs.

[5] As such, SEWA SHGs went beyond the traditional activities of micro-finance groups in three ways. First, SEWA's groups attempted to promote the personal empowerment of individual members, and better cooperation as a group. Second, SEWA did not establish its own micro-finance programs in villages, but rather, used its SHG-based revolving fund to help households establish credit histories. Third, SEWA SHGs also provided additional skills training to members.

[6] Since some values are likely to be 0, we add 1 to all reported savings amounts.

[7] The *Gram Panchayat* is the local governing body of a village or small town in India. The *Gram Sabha* is composed of all men and women in the village who are above 18 years of age. Meetings of the *Gram Sabha* are usually convened twice a year to discuss community issues.

[8] Blocks, or *tehsils* are district subdivisions comprising multiple villages. In our sample, villages belong to one of three blocks. We do not include village fixed-effects because we are measuring impact at the village level.

[9] 2009 was a year of below-average rainfall in western India and southern Rajasthan was particularly hard-hit. The government established the NREGA program to help address the declines in agricultural income in this area.

[10] The estimates of reporting a grievance are lower than estimates of "knowing where" to report a grievance. Note that the first may be unrelated to the second. Women can participate in collective action regarding grievances without exact knowledge of appropriate channels for addressing those grievances, because information can be managed by other members in the group, or actions may be taken through non-official channels (e.g., contacting hand-pump contractors directly, complaining to village councilors about public services, etc., rather than registering complaints with the agency responsible for such matters, namely, the sub-district Public Health and Engineering Departments.

[11] Complete estimates are available from the authors on request.

[12] In both 2007 and 2009, we observe no difference in either the intensity of NREGA programs, or the timing of its rollout, between treatment and control villages, but it is possible that the program was rolled out quicker in group of villages.

[13] Since there were no SEWA members in the 2007 survey, "SEWA member$_i$ × Post-intervention$_t$" could simply be written "SEWA member$_i$." We use the full interaction term to emphasize the treatment effect.

[14] We tried all permutations and combinations of variables in the match equation and performed sensitivity checks for all the results presented in this paper. We found that the size of the matched sample remained within 10 percent of the sample reported here. We also checked the robustness of the results using caliper matching and kernel matching methods, and again found similar sample sizes as well as estimated coefficients. These results are available upon request.

[15] Upper (lower) bounds adjust coefficients downwards for positive (negative) selection, i.e. the possibility that people with the best outcomes selected into (out of) the program, introducing upward bias into the effects of our program.

[16] The NRLM, additionally, envisions grant support for similar modules of SHGs as part of their expansion.

[17] Investments in agricultural-support programs—such as agricultural extension—have typically excluded women and have almost exclusively been targeted at men (Danida 2002;Raabe 2008). During India's green revolution and land reforms, state-led rural development programs were almost exclusively targeted to men, and training offered through the "training and visit" system was primarily aimed at male farmers (Berger, Delancey and Mellencamp 1984;Macklin 1992).

[18] SEWA *Gram Mahila Haat* (SGMH) was established in 1998 to provide marketing and support services to rural producer associations. Among the services offered were a common "branding" of goods (both agricultural and non-agricultural) made by SEWA's groups, which SGMH could then purchase and resell through SGMH-run retail shops.

[19] We ignore the effects of some of the other modules given the low rates of participation: healthcare training, water purification, and childcare services.

[20] As above, our propensity score is estimated with a logit regression of participation in the specific SEWA module on age, education, marital status, husband's age, husband's education, family size and the number of migrants in the household.

[21] We cannot discount, for example, the possibility that the placement of modules across villages was not random nor that the mechanisms that influence the behavior of village residents regardless of SHG membership may encompass more than vocational training or financial capacity-building.

TABLE 1: Summary statistics

	Mean	Std. Dev.	Min.	Max.
SEWA village resident	0.450	0.498	0	1
SEWA member	0.115	0.318	0	1
SEWA training-module village resident	0.152	0.358	0	1
SEWA training-module participant	0.013	0.116	0	1
SEWA finance-module village resident	0.374	0.484	0	1
SEWA finance-module participant	0.028	0.165	0	1
Participates in group savings	0.220	0.414	0	1
In the habit of saving	0.198	0.398	0	1
Credit (past 5 years)	0.095	0.294	0	1
Cash savings (log, 3 months)	0.856	2.228	0	10.31
Cash income (log, 3 months)	0.681	2.236	0	11.24
Employed (past 3 months)	0.783	0.412	0	1
Employed (non-farm past 3 months)	0.063	0.242	0	1
Final say: children's schooling	0.088	0.283	0	1
Final say: medical decisions	0.097	0.296	0	1
Final say: family-planning	0.031	0.173	0	1
Grievance: water	0.245	0.430	0	1
Grievance: roads	0.199	0.400	0	1
Grievance: electricity	0.238	0.426	0	1
Grievance: education/health	0.180	0.385	0	1
Addressed grievance: water	0.212	0.409	0	1
Addressed grievance: roads	0.173	0.378	0	1
Addressed grievance: electricity	0.181	0.385	0	1
Addressed grievance: education/health	0.110	0.314	0	1
Know of *Gram Sabha* and *Gram Panchayat*	0.230	0.421	0	1
Engage with *Gram Sabha* and *Gram Panchayat*	0.014	0.118	0	1
Know anyone in the village who paid a bribe	0.038	0.192	0	1
Age	37.13	10.002	14	80
Literate	0.183	0.387	0	1
Married	0.945	0.228	0	1
Scheduled tribe	0.726	0.446	0	1
Husband age	40.798	9.990	18	77
Husband literate	0.082	0.275	0	1
Own house	0.849	0.358	0	1
Have own farm	0.877	0.329	0	1
Kutcha house	0.685	0.464	0	1
Household has toilet	0.072	0.259	0	1

Source: Authors' analysis based on data from the Self-Employed Women's Association.
Notes: $N = 3,205$

TABLE 2: Pre- and post-program differences

	Pre-intervention (1) – (3)			Post-intervention (4) – (7)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	SEWA village residents	Control village residents	Difference	SEWA village residents	Control village residents	Difference	SEWA village resident × Post-Intervention
(A) Independent variables							
Age	37.39	36.35	1.044 (0.645)	36.69	37.97	-1.077* (0.618)	
Literate	0.184	0.188	-0.004 (0.037)	0.213	0.186	0.057 (0.039)	
Married	0.947	0.952	-0.006 (0.012)	0.923	0.952	-0.024 (0.015)	
Scheduled tribe	0.668	0.730	-0.061 (0.100)	0.725	0.77	-0.057 (0.078)	
Husband age	41.06	40.24	0.824 (0.710)	40.50	40.87	-0.463 (0.613)	
Husband literate	0.086	0.083	0.003 (0.020)	0.095	0.070	0.023 (0.021)	
Own house	0.861	0.835	0.026 (0.027)	0.805	0.884	-0.071** (0.030)	
Have own farm	0.900	0.891	0.009 (0.040)	0.835	0.874	-0.027 (0.051)	
Kutcha house	0.667	0.746	-0.079 (0.071)	0.642	0.676	-0.039 (0.060)	
Household has toilet	0.098	0.081	0.017 (0.036)	0.073	0.045	0.025 (0.028)	
(B) Outcome variables							
Participates in group savings	0.132	0.146	-0.014 (0.030)	0.427	0.199	0.223*** (0.053)	0.237*** (0.028)
In the habit of saving	0.155	0.194	-0.039* (0.023)	0.256	0.188	0.065** (0.030)	0.104*** (0.028)
Credit (past 5 years)	0.090	0.076	-0.013 (0.014)	0.162	0.116	0.015 (0.016)	0.029 (0.020)
Cash savings (log, 3 months)	0.069	0.617	-0.007 (0.935)	1.194	1.037	0.156 (0.221)	0.163 (0.352)
Cash income (log, 3 months)	1.379	0.895	0.483* (0.239)	0.340	0.166	0.173*** (0.01)	-0.310** (0.154)
Employed (past 3 months)	0.798	0.768	0.030 (0.039)	0.784	0.783	-0.000 (0.051)	-0.030 (0.029)
Employed (non-farm, past 3 months)	0.048	0.063	-0.015 (0.017)	0.091	0.053	0.038 (0.028)	0.053** (0.017)

Final say: children's schooling	0.092	0.087	0.006 (0.023)	0.130	0.055	0.067*** (0.019)	0.061** (0.020)
Final say: medical decisions	0.098	0.110	-0.012 (0.021)	0.131	0.061	0.063*** (0.021)	0.075*** (0.021)
Final say: family-planning	0.018	0.055	-0.036** (0.014)	0.044	0.010	0.032** (0.012)	0.068*** (0.012)
Grievance: water	0.183	0.164	0.019 (0.027)	0.421	0.245	0.156*** (0.052)	0.137*** (0.030)
Grievance: roads	0.146	0.130	0.016 (0.026)	0.301	0.234	0.052 (0.051)	0.036 (0.028)
Grievance: electricity	0.136	0.109	0.028 (0.027)	0.435	0.298	0.112* (0.060)	0.084** (0.029)
Grievance: education/health	0.163	0.159	0.004 (0.031)	0.258	0.159	0.082* (0.044)	0.078** (0.027)
Addressed grievance: water	0.160	0.139	0.021 (0.025)	0.349	0.220	0.128** (0.050)	0.107*** (0.029)
Addressed grievance: roads	0.128	0.103	0.025 (0.025)	0.252	0.215	0.037 (0.046)	0.012 (0.027)
Addressed grievance: electricity	0.100	0.083	0.017 (0.021)	0.316	0.236	0.080 (0.048)	0.063* (0.027)
Addressed grievance: education/health	0.086	0.091	-0.006 (0.024)	0.166	0.107	0.059* (0.033)	0.065** (0.022)
Know of *Gram Sabha* and *Gram Panchayat*	0.215	0.218	-0.002 (0.035)	0.268	0.226	0.042 (0.049)	0.045 (0.030)
Engage with *Gram Sabha* and *Gram Panchayat*	0.011	0.019	-0.008 (0.007)	0.018	0.009	0.010 (0.008)	0.018* (0.008)
Know anyone in the village who paid a bribe	0.040	0.055	-0.015 (0.015)	0.049	0.013	0.036** (0.015)	0.051*** (0.014)
N	748	855		662	940		

Source: Authors' analysis based on data from the Self-Employed Women's Association.
Notes: Columns 1, 2, 4, and 5 contain means for given sub-samples; columns 3 and 6 are differences with standard errors (clustered at the village level) in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. $N = 3,205$.

TABLE 3: Village treatment effects, unconditional and conditional estimates

	Unconditional Estimates (1) – (4)				Conditional Estimates (5) – (8)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	SEWA village resident × Post Intervention	SEWA village resident	Post Intervention	R^2	SEWA village resident × Post Intervention	SEWA village resident	Post Intervention	R^2
Participates in group programs	0.238***	-0.007	0.055*	0.080	0.243***	-0.007	0.076**	0.110
	(0.052)	(0.030)	(0.032)		(0.049)	(0.027)	(0.035)	
In the habit of saving	0.105**	-0.041*	-0.001	0.011	0.108**	-0.042*	0.019	0.042
	(0.043)	(0.024)	(0.028)		(0.043)	(0.025)	(0.031)	
Credit	0.029	-0.014	0.011	0.004	0.033	-0.018	0.016	0.024
	(0.038)	(0.022)	(0.017)		(0.037)	(0.021)	(0.019)	
Cash savings (log, 3 months)	0.162	-0.017	0.424***	0.013	0.123	-0.004	0.362**	0.047
	(0.229)	(0.122)	(0.151)		(0.224)	(0.108)	(0.154)	
Cash income (log, 3 months)	-0.315	0.492*	-0.738***	0.051	-0.167	0.365	-0.509***	0.108
	(0.352)	(0.295)	(0.194)		(0.285)	(0.249)	(0.153)	
Employed (past 3 months)	-0.029	0.033	0.015	0.004	-0.002	0.028	0.038	0.267
	(0.056)	(0.040)	(0.025)		(0.040)	(0.027)	(0.026)	
Employed (non-farm past 3 months)	0.053	-0.016	-0.010	0.005	0.051*	-0.022	0.008	0.065
	(0.033)	(0.017)	(0.021)		(0.029)	(0.016)	(0.021)	
Final say: children's schooling	0.061**	0.005	-0.028**	0.009	0.047*	0.004	-0.020	0.163
	(0.026)	(0.022)	(0.014)		(0.024)	(0.018)	(0.015)	
Final say: medical decisions	0.075***	-0.013	-0.047***	0.007	0.066**	-0.018	-0.029	0.137
	(0.028)	(0.021)	(0.017)		(0.027)	(0.017)	(0.018)	
Final say: family-planning	0.068***	-0.037**	-0.045***	0.012	0.063***	-0.034***	-0.050***	0.032
	(0.017)	(0.014)	(0.013)		(0.016)	(0.012)	(0.015)	
Grievance: water	0.137**	0.017	0.087***	0.046	0.129**	0.004	0.109***	0.109
	(0.055)	(0.027)	(0.026)		(0.052)	(0.020)	(0.027)	
Grievance: roads	0.036	0.012	0.111***	0.031	0.040	0.002	0.155***	0.075
	(0.055)	(0.024)	(0.031)		(0.055)	(0.023)	(0.034)	

Grievance: electricity	0.084	0.026	0.198***	0.084	0.089	0.014	0.233***	0.110
	(0.069)	(0.027)	(0.034)		(0.069)	(0.027)	(0.037)	
Grievance: education/health	0.003	0.006	0.078	0.009	-0.008	0.046	0.081	0.051
	(0.031)	(0.030)	(0.053)		(0.029)	(0.031)	(0.052)	
Addressed grievance: water	0.107*	0.019	0.082***	0.037	0.100*	0.009	0.100***	0.083
	(0.055)	(0.025)	(0.023)		(0.052)	(0.022)	(0.025)	
Addressed grievance: roads	0.012	0.023	0.113***	0.028	0.016	0.014	0.153***	0.058
	(0.051)	(0.022)	(0.029)		(0.051)	(0.021)	(0.031)	
Addressed grievance: electricity	0.062	0.018	0.152***	0.061	0.068	0.013	0.183***	0.077
	(0.058)	(0.022)	(0.029)		(0.058)	(0.023)	(0.031)	
Addressed grievance: education/health	-0.006	0.016	0.064	0.009	-0.011	0.045	0.067	0.033
	(0.024)	(0.024)	(0.043)		(0.025)	(0.028)	(0.042)	
Know of *Gram Sabha* and *Panchayat*	0.047	-0.001	0.010	0.013	0.049	-0.011	0.011	0.072
	(0.055)	(0.033)	(0.038)		(0.054)	(0.031)	(0.041)	
Engage with *Gram Sabha* and *Panchayat*	0.018	-0.008	-0.010	0.002	0.018	-0.009	-0.007	0.022
	(0.011)	(0.007)	(0.007)		(0.011)	(0.007)	(0.008)	
Known anyone who has paid a bribe	0.051**	-0.015	-0.041***	0.008	0.051**	-0.017	-0.035**	0.016
	(0.021)	(0.015)	(0.011)		(0.020)	(0.014)	(0.014)	

Source: Authors' analysis based on data from the Self-Employed Women's Association.

Notes: Columns 1 – 4 present estimates for specified coefficients by regressing listed outcomes on village-treatment indicators (residence in a SEWA village) plus a constant and block (sub-district) fixed effects. Columns 5 – 8 are OLS results with the following, additional controls: age (quadratic), literacy, marital status, caste, husband's age, husband's literacy, home ownership, farm ownership, *kutcha* dwelling, flush toilet, NREGA in village, and bias adjustment, with block (sub-district) fixed effects. Robust standard errors (in parentheses) are clustered at the village level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. $N = 3{,}205$.

TABLE 4: Individual participation effects, unconditional and conditional estimates

	Unconditional Estimates (1) – (4)				Conditional Estimates (5) – (8)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	SEWA member × Post-intervention	SEWA village non-member × Post-intervention	Post-intervention	R^2	SEWA member × Post-intervention	SEWA village non-member × Post-intervention	Post-intervention	R^2
Participates in group programs	0.546***	0.025	0.038	0.301	0.549***	0.024	0.041	0.316
	(0.070)	(0.053)	(0.035)		(0.071)	(0.052)	(0.039)	
In the habit of saving	0.199***	0.044	-0.008	0.096	0.208***	0.044	0.005	0.121
	(0.059)	(0.050)	(0.033)		(0.064)	(0.050)	(0.036)	
Credit	0.091	0.001	0.013	0.094	0.101*	-0.003	0.001	0.114
	(0.057)	(0.045)	(0.021)		(0.057)	(0.042)	(0.024)	
Cash savings (log, 3 months)	0.343	-0.187	0.396**	0.092	0.366	-0.263	0.303*	0.122
	(0.258)	(0.278)	(0.166)		(0.281)	(0.280)	(0.169)	
Cash income (log, 3 months)	-0.169	-0.485*	-0.894***	0.137	0.089	-0.224	-0.613***	0.170
	(0.328)	(0.291)	(0.175)		(0.297)	(0.274)	(0.132)	
Employed (past 3 months)	-0.051	-0.075	0.027	0.118	-0.051	-0.024	0.061*	0.286
	(0.059)	(0.069)	(0.029)		(0.052)	(0.046)	(0.031)	
Employed (non-farm past 3 months)	0.070**	0.039	-0.028*	0.132	0.081**	0.039	-0.013	0.173
	(0.030)	(0.029)	(0.015)		(0.031)	(0.029)	(0.016)	
Final say: children's schooling	0.128***	0.070*	-0.037**	0.084	0.119***	0.081**	-0.020	0.252
	(0.042)	(0.039)	(0.018)		(0.040)	(0.036)	(0.019)	
Final say: medical decisions	0.133***	0.078**	-0.060***	0.085	0.128***	0.088**	-0.047**	0.217
	(0.040)	(0.036)	(0.020)		(0.040)	(0.035)	(0.020)	
Final say: family-planning	0.076***	0.096***	-0.050***	0.090	0.074***	0.089***	-0.057***	0.106
	(0.021)	(0.023)	(0.014)		(0.021)	(0.021)	(0.015)	
Grievance: water	0.221***	0.075	0.090***	0.143	0.202***	0.069	0.101***	0.183
	(0.067)	(0.062)	(0.025)		(0.063)	(0.059)	(0.027)	
Grievance: roads	0.101	0.007	0.108***	0.146	0.091	0.015	0.146***	0.175
	(0.076)	(0.062)	(0.032)		(0.072)	(0.063)	(0.035)	

Grievance: electricity	0.123*	0.015	0.210***	0.190	0.128*	0.023	0.232***	0.204
	(0.070)	(0.077)	(0.034)		(0.074)	(0.079)	(0.036)	
Grievance: education/health	0.131**	0.014	0.008	0.121	0.114*	0.012	0.027	0.150
	(0.061)	(0.053)	(0.032)		(0.058)	(0.053)	(0.035)	
Addressed grievance: water	0.151**	0.070	0.084***	0.123	0.142**	0.065	0.094***	0.155
	(0.065)	(0.057)	(0.022)		(0.064)	(0.054)	(0.025)	
Addressed grievance: roads	0.062	-0.000	0.110***	0.135	0.052	0.006	0.143***	0.154
	(0.067)	(0.062)	(0.030)		(0.065)	(0.062)	(0.032)	
Addressed grievance: electricity	0.089	-0.003	0.162***	0.139	0.096	0.005	0.181***	0.149
	(0.066)	(0.065)	(0.031)		(0.068)	(0.065)	(0.033)	
Addressed grievance: education/health	0.107*	0.009	0.018	0.099	0.100*	0.010	0.031	0.115
	(0.054)	(0.044)	(0.024)		(0.050)	(0.043)	(0.030)	
Know of *Gram Sabha* and *Panchayat*	0.115*	0.049	-0.001	0.123	0.112*	0.050	-0.005	0.183
	(0.067)	(0.057)	(0.039)		(0.065)	(0.061)	(0.041)	
Engage with *Gram Sabha* and *Panchayat*	0.051***	0.016	-0.017**	0.057	0.052***	0.019*	-0.014**	0.086
	(0.019)	(0.010)	(0.008)		(0.019)	(0.011)	(0.007)	
Known anyone who has paid a bribe	0.067**	0.062**	-0.052***	0.082	0.061**	0.062*	-0.048**	0.090
	(0.028)	(0.030)	(0.014)		(0.028)	(0.031)	(0.019)	

Source: Authors' analysis based on data from the Self-Employed Women's Association.

Notes: Columns 1 – 4 present estimates for specified coefficients generated by regressing listed outcomes on individual treatment indicators (membership in a SEWA group) plus a constant and village-fixed effects. Columns 5 – 8 are OLS results with the following, additional controls: age (quadratic), literacy, marital status, caste, husband's age, husband's literacy, home ownership, farm ownership, *kutcha* dwelling, flush toilet, NREGA in village, and bias adjustment, with village-fixed effects. All estimations are weighted by a propensity score, generated by one-to-one matching (logit) on SEWA participation without replacement. Robust standard errors (in parentheses) are clustered at the village level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. N = 3,158.

TABLE 5: Heterogeneity of impact, village treatment

	SEWA village resident × Post-intervention × Illiterate	SEWA village resident × Post-intervention × Landless	SEWA village resident × Post-intervention	SEWA village resident × Illiterate	SEWA village resident × Landless	SEWA village resident	Post-intervention	R^2
Participates in group programs	-0.016 (0.095)	0.160** (0.063)	0.230** (0.087)	-0.013 (0.042)	0.005 (0.054)	0.002 (0.047)	0.072** (0.035)	0.114
In the habit of saving	0.026 (0.067)	0.160** (0.062)	0.061 (0.067)	0.003 (0.050)	-0.020 (0.056)	-0.043 (0.054)	0.017 (0.031)	0.045
Credit	-0.040 (0.063)	-0.044 (0.063)	0.073 (0.073)	-0.026 (0.041)	0.024 (0.052)	-0.000 (0.041)	0.015 (0.019)	0.025
Cash savings (log, 3 months)	-0.429 (0.321)	0.407 (0.368)	0.403 (0.358)	0.277 (0.256)	0.104 (0.275)	-0.249 (0.252)	0.351** (0.154)	0.049
Cash income (log, 3 months)	-0.348 (0.333)	0.749* (0.388)	-0.007 (0.426)	0.466* (0.280)	-0.328 (0.382)	0.029 (0.351)	-0.511*** (0.152)	0.111
Employed (past 3 months)	-0.072 (0.071)	-0.046 (0.067)	0.063 (0.067)	-0.019 (0.041)	-0.059 (0.054)	0.053 (0.045)	0.039 (0.026)	0.269
Employed (non-farm past 3 months)	-0.073 (0.060)	0.006 (0.029)	0.108 (0.071)	0.008 (0.032)	-0.005 (0.023)	-0.028 (0.033)	0.007 (0.021)	0.067
Final say: children's schooling	0.055 (0.049)	0.022 (0.046)	-0.001 (0.056)	0.001 (0.041)	-0.047 (0.030)	0.010 (0.043)	-0.018 (0.015)	0.165
Final say: medical decisions	0.032 (0.047)	0.005 (0.045)	0.039 (0.057)	0.001 (0.045)	-0.061* (0.036)	-0.009 (0.044)	-0.027 (0.018)	0.139
Final say: family-planning	-0.004 (0.024)	-0.012 (0.018)	0.068*** (0.023)	-0.016 (0.025)	0.004 (0.015)	-0.022 (0.025)	-0.051*** (0.015)	0.033
Grievance: water	0.101 (0.088)	-0.131 (0.080)	0.068 (0.088)	-0.073 (0.063)	0.141** (0.062)	0.043 (0.058)	0.109*** (0.027)	0.112
Grievance: roads	0.038 (0.073)	0.007 (0.067)	0.008 (0.089)	-0.031 (0.070)	0.034 (0.065)	0.022 (0.069)	0.154*** (0.034)	0.075
Grievance: electricity	0.067 (0.083)	-0.006 (0.053)	0.035 (0.101)	-0.023 (0.045)	0.013 (0.045)	0.031 (0.055)	0.233*** (0.037)	0.111

Grievance: education/health	-0.015	0.084	0.079	0.011	0.061	-0.027	0.043	0.054
	(0.060)	(0.064)	(0.071)	(0.053)	(0.056)	(0.054)	(0.031)	
Addressed grievance: water	0.092	-0.165**	0.053	-0.052	0.134**	0.032	0.100***	0.087
	(0.081)	(0.071)	(0.087)	(0.068)	(0.064)	(0.068)	(0.025)	
Addressed grievance: roads	0.041	-0.004	-0.017	-0.057	0.043	0.054	0.151***	0.059
	(0.058)	(0.066)	(0.070)	(0.068)	(0.065)	(0.066)	(0.031)	
Addressed grievance: electricity	0.071	-0.033	0.017	-0.002	0.012	0.013	0.184***	0.078
	(0.064)	(0.056)	(0.078)	(0.044)	(0.047)	(0.045)	(0.031)	
Addressed grievance: education/health	0.030	0.016	0.041	0.019	0.042	-0.034	0.045	0.034
	(0.070)	(0.058)	(0.071)	(0.056)	(0.048)	(0.055)	(0.028)	
Know of *Gram Sabha* and *Panchayat*	-0.063	0.121	0.080	0.054	-0.005	-0.055	0.009	0.074
	(0.087)	(0.085)	(0.101)	(0.055)	(0.057)	(0.064)	(0.041)	
Engage with *Gram Sabha* and *Panchayat*	-0.037	0.005	0.047*	0.025	0.025	-0.034*	-0.008	0.025
	(0.023)	(0.025)	(0.024)	(0.017)	(0.021)	(0.018)	(0.008)	
Known anyone who has paid a bribe	0.003	0.071*	0.038	-0.006	0.022	-0.016	-0.037**	0.022
	(0.031)	(0.042)	(0.035)	(0.030)	(0.020)	(0.032)	(0.014)	

Source: Authors' analysis based on data from the Self-Employed Women's Association.

Notes: Estimates are for specified coefficients generated by regressing listed outcomes on village-treatment indicators (residence in a SEWA village) along with the following controls: age (quadratic), literacy, marital status, caste, husband's age, husband's literacy, home ownership, farm ownership, *kutcha* dwelling, flush toilet, NREGA in village, and bias adjustment, with village-fixed effects. Robust standard errors (in parentheses) are clustered at the village level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. $N = 3{,}158$.

TABLE 6: Heterogeneity of impact, individual participation

	SEWA member × Illiterate	SEWA member × Landless	SEWA member	Non-member × SEWA village resident × Post-intervention	Post-intervention	Illiterate	Landless	R^2
Participates in group programs	-0.038	-0.100	0.587***	0.025	0.041	-0.088***	-0.019	0.317
	(0.082)	(0.110)	(0.087)	(0.051)	(0.039)	(0.033)	(0.024)	
In the habit of saving	0.062	-0.136**	0.178**	0.045	0.006	-0.116***	-0.002	0.122
	(0.085)	(0.059)	(0.071)	(0.049)	(0.036)	(0.041)	(0.030)	
Credit	-0.098	-0.052	0.176**	-0.003	0.001	-0.006	-0.032	0.117
	(0.063)	(0.094)	(0.076)	(0.042)	(0.024)	(0.023)	(0.026)	
Cash savings (log, 3 months)	-0.254	1.076	0.408	-0.279	0.307*	-0.288	-0.175	0.124
	(0.465)	(0.837)	(0.466)	(0.281)	(0.169)	(0.181)	(0.213)	
Cash income (log, 3 months)	-0.423	0.503	0.308	-0.239	-0.608***	-0.047	0.197	0.170
	(0.325)	(0.607)	(0.429)	(0.275)	(0.132)	(0.195)	(0.199)	
Employed (past 3 months)	-0.055	0.244**	-0.041	-0.026	0.061*	-0.018	-0.543***	0.290
	(0.063)	(0.093)	(0.064)	(0.046)	(0.031)	(0.025)	(0.031)	
Employed (non-farm past 3 months)	-0.042	0.084	0.099*	0.038	-0.012	-0.034	0.106***	0.174
	(0.050)	(0.113)	(0.053)	(0.029)	(0.016)	(0.021)	(0.023)	
Final say: children's schooling	0.145*	-0.042	0.014	0.079**	-0.017	0.013	-0.003	0.253
	(0.075)	(0.079)	(0.075)	(0.036)	(0.019)	(0.026)	(0.018)	
Final say: medical decisions	0.110	-0.051	0.048	0.086**	-0.044**	0.008	-0.003	0.215
	(0.076)	(0.089)	(0.073)	(0.036)	(0.020)	(0.028)	(0.026)	
Final say: family-planning	0.032	0.030	0.046	0.087***	-0.056***	-0.001	0.026**	0.105
	(0.037)	(0.056)	(0.028)	(0.021)	(0.015)	(0.016)	(0.012)	
Grievance: water	0.032	-0.048	0.190**	0.072	0.099***	-0.171***	-0.012	0.182
	(0.086)	(0.080)	(0.084)	(0.059)	(0.028)	(0.036)	(0.040)	
Grievance: roads	0.003	-0.107	0.110	0.020	0.144***	-0.089*	-0.009	0.172
	(0.088)	(0.119)	(0.110)	(0.062)	(0.035)	(0.045)	(0.032)	
Grievance: electricity	-0.001	-0.171	0.150	0.025	0.232***	-0.096**	-0.010	0.205
	(0.110)	(0.154)	(0.116)	(0.079)	(0.036)	(0.040)	(0.029)	

Grievance: education/health	-0.002	-0.059	0.126	0.014	0.026	-0.090**	0.031	0.150
	(0.093)	(0.117)	(0.088)	(0.053)	(0.035)	(0.035)	(0.029)	
Addressed grievance: water	0.090	-0.058	0.089	0.068	0.093***	-0.146***	0.010	0.155
	(0.095)	(0.065)	(0.096)	(0.054)	(0.025)	(0.040)	(0.035)	
Addressed grievance: roads	-0.019	-0.043	0.078	0.010	0.140***	-0.072*	-0.033	0.151
	(0.077)	(0.110)	(0.095)	(0.061)	(0.032)	(0.041)	(0.032)	
Addressed grievance: electricity	0.046	-0.088	0.073	0.006	0.182***	-0.058*	-0.013	0.150
	(0.093)	(0.118)	(0.099)	(0.064)	(0.033)	(0.033)	(0.028)	
Addressed grievance: education/health	0.099	0.015	0.030	0.011	0.031	-0.058*	-0.005	0.117
	(0.086)	(0.115)	(0.065)	(0.042)	(0.030)	(0.034)	(0.021)	
Know of *Gram Sabha* and *Panchayat*	-0.157**	-0.026	0.226***	0.050	-0.006	-0.186***	-0.063**	0.186
	(0.070)	(0.077)	(0.085)	(0.060)	(0.041)	(0.036)	(0.029)	
Engage with *Gram Sabha* and *Panchayat*	-0.060	-0.001	0.095**	0.020*	-0.015**	-0.023*	0.002	0.091
	(0.047)	(0.059)	(0.046)	(0.011)	(0.007)	(0.013)	(0.008)	
Known anyone who has paid a bribe	0.059**	0.006	0.018	0.062*	-0.047**	-0.029	0.031	0.092
	(0.028)	(0.060)	(0.034)	(0.031)	(0.019)	(0.019)	(0.023)	

Source: Authors' analysis based on data from the Self-Employed Women's Association.

Notes: Estimates are for specified coefficients generated by regressing listed outcomes on the individual-treatment indicators (membership in a SEWA group) along with the following controls: age (quadratic), literacy, marital status, caste, husband's age, husband's literacy, home ownership, farm ownership, *kutcha* dwelling, flush toilet, NREGA in village, and bias adjustment, with village-fixed effects. All estimations are weighted by a propensity score, generated by one-to-one matching (logit) on SEWA participation without replacement. Robust standard errors (in parentheses) are clustered at the village level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. $N = 3{,}158$.

TABLE 7: Mechanisms

SEWA modules:	Vocational Training (1) – (3)			Financial-Capacity Building (4) – (6)		
	(1)	(2)	(3)	(4)	(5)	(6)
Outcomes:	Cash income (log)	Employed (3 months)	Employed (non-farm, 3 months)	Regular saving	Credit utilization	Cash savings (log)
(A) Village-level treatment						
SEWA module village resident × Post-intervention	-0.014	0.031	0.077**	0.077*	0.067*	0.248
	(0.356)	(0.043)	(0.032)	(0.032)	(0.040)	(0.234)
SEWA module village resident	0.323	-0.016	-0.031**	-0.018	-0.030	0.074
	(0.285)	(0.032)	(0.015)	(0.024)	(0.019)	(0.108)
Post-intervention	-0.596***	0.029	0.007	0.035	0.004	0.315**
	(0.151)	(0.027)	(0.018)	(0.031)	(0.019)	(0.148)
R^2	0.108	0.267	0.067	0.040	0.026	0.049
(B) Individual-level treatment						
SEWA module participant	0.066	-0.177	0.143*	0.349***	0.126*	0.316
	(0.399)	(0.114)	(0.080)	(0.091)	(0.076)	(0.344)
Nonparticipant × SEWA module village resident × Post-intervention	-0.020	-0.053	0.061	0.090*	0.037	0.195
	(0.337)	(0.054)	(0.039)	(0.048)	(0.043)	(0.238)
Post-intervention	-0.674***	0.098***	-0.004	0.017	0.003	0.260
	(0.163)	(0.033)	(0.026)	(0.040)	(0.025)	(0.167)
R^2	0.195	0.308	0.188	0.112	0.099	0.113

Source: Authors' analysis based on data from the Self-Employed Women's Association.
Notes: 19 treatment villages had vocational training employment programs during the study period, and 22 treatment villages had financial capacity-building programs. Estimates are for listed coefficients generated by regressing specified outcomes on village-treatment (residence in a village that implemented a SEWA training or finance module—panel A) and individual-treatment (participation in the SEWA-run training or finance module) along with the following controls: age (quadratic), literacy, marital status, caste, husband's age, husband's literacy, home ownership, farm ownership, *kutcha* dwelling, flush toilet, NREGA in village, and bias adjustment. Village-treatment estimations include block (sub-district) fixed effects, while Individual-treatment estimations include village-fixed effects. Panel B estimations are weighted by a propensity score, generated by one-to-one matching (logit) on SEWA participation without replacement. Robust standard errors (in parentheses) are clustered at the village level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. $N = 3{,}158$.

TABLE A.1: Pre- and post-program differences, village data

	Pre-Program Differences			Post-Program Differences			SEWA × Post-Intervention
	SEWA Villages	Control villages	Difference	SEWA Villages	Control villages	Difference	
Participates in group savings	0.115	0.171	-0.056	0.416	0.187	0.228***	0.284***
			(0.039)			(0.049)	(0.062)
In the habit of saving	0.148	0.200	-0.053	0.254	0.19	0.064**	0.117**
			(0.034)			(0.030)	(0.053)
Credit (past 5 years)	0.078	0.111	-0.033	0.114	0.101	0.014	0.046
			(0.033)			(0.029)	(0.043)
Cash savings (log, 3 months)	1.396	1.025	0.370	0.315	0.111	0.204	-0.166
			(0.310)			(0.131)	(0.335)
Cash income (log, 3 months)	0.510	0.652	-0.142	1.159	1.074	0.085	0.227
			(0.166)			(0.222)	(0.278)
Employed (past 3 months)	0.773	0.779	-0.005	0.775	0.787	-0.012	-0.007
			(0.048)			(0.048)	(0.068)
Employed (non-farm, past 3 months)	0.042	0.060	-0.017	0.085	0.045	0.040*	0.058*
			(0.019)			(0.023)	(0.030)
Final say: children's schooling	0.080	0.082	-0.002	0.121	0.055	0.066***	0.068**
			(0.021)			(0.017)	(0.028)
Final say: medical decisions	0.084	0.100	-0.016	0.121	0.057	0.064***	0.080**
			(0.022)			(0.020)	(0.030)
Final say: family-planning	0.022	0.056	-0.034*	0.041	0.009	0.033***	0.067**
			(0.020)			(0.009)	(0.022)
Grievance: water	0.171	0.152	0.019	0.391	0.249	0.142**	0.124*
			(0.027)			(0.045)	(0.053)
Grievance: roads	0.119	0.114	0.005	0.284	0.247	0.037	0.031
			(0.026)			(0.051)	(0.057)
Grievance: electricity	0.113	0.102	0.012	0.409	0.294	0.115*	0.103*
			(0.027)			(0.056)	(0.052)
Grievance: education/health	0.163	0.147	0.016	0.236	0.164	0.072	0.056
			(0.032)			(0.042)	(0.053)
Addressed grievance: water	0.149	0.131	0.018	0.335	0.219	0.117**	0.099**
			(0.025)			(0.042)	(0.049)

Addressed grievance: roads	0.105	0.093	0.012 (0.023)	0.246	0.221	0.026 (0.046)	0.014 (0.052)
Addressed grievance: electricity	0.089	0.082	0.007 (0.022)	0.309	0.226	0.083* (0.044)	0.076 (0.050)
Addressed grievance: education/health	0.105	0.0941	0.011 (0.027)	0.16	0.106	0.053 (0.032)	0.042 (0.042)
Know of *Gram Sabha* and *Gram Panchayat*	0.202	0.245	-0.043 (0.049)	0.262	0.212	0.051 (0.052)	0.094 (0.071)
Engage with *Gram Sabha* and *Gram Panchayat*	0.019	0.015	0.004 (0.009)	0.018	0.007	0.011* (0.006)	0.007 (0.011)
Know anyone who has paid a bribe	0.042	0.051	-0.009 (0.634)	0.049	0.013	0.036*** (0.012)	0.045** (0.022)
Age	37.390	36.250	1.140 (0.819)	36.910	37.920	-1.010 (0.704)	-2.149* (1.079)
Literate	0.160	0.180	-0.020 (0.032)	0.206	0.154	0.053 (0.034)	0.072 (0.047)
Married	0.954	0.954	0.000 (0.012)	0.927	0.955	-0.028* (0.014)	-0.028 (0.019)
Scheduled Tribe	0.712	0.775	-0.063 (0.068)	0.726	0.779	-0.053 (0.073)	0.010 (0.099)
Husband age	40.930	39.950	0.978 (0.762)	40.330	40.930	-0.592 (0.698)	-1.571 (1.033)
Husband literate	0.073	0.086	-0.014 (0.021)	0.091	0.071	0.0202 (0.020)	0.034 (0.029)
Own house	0.853	0.849	0.004 (0.029)	0.818	0.886	-0.068 (0.027)	-0.073 (0.040)
Have own farm	0.913	0.909	0.004 (0.031)	0.846	0.871	-0.025 (0.047)	-0.028 (0.056)
Kutcha house	0.705	0.774	-0.069 (0.049)	0.646	0.672	-0.026 (0.057)	0.044 (0.075)
Household has toilet	0.068	0.055	0.013 (0.026)	0.066	0.046	0.019 (0.028)	0.006 (0.038)
Observations	27	52		27	52		

Source: Authors' analysis based on data from the Self-Employed Women's Association.
Notes: Columns 1, 2, 4, and 5 contain means for given sub-samples; columns 3 and 6 are differences with standard errors (clustered at the village level) in parentheses. (ii) * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$; $N = 3{,}205$.

TABLE A.2: Tests of balance for propensity score matching

Variable		Treatment	Control	Bias (%)	Bias reduction (%)	T-stat.	$p > \|T\|$
Age	*Unmatched*	35.403	37.375	-19.4	59.1	-3.55	0.000
	Matched	35.403	36.210	-7.9		-1.08	0.279
Literate	*Unmatched*	0.248	0.177	17.5	46.5	3.31	0.001
	Matched	0.248	0.210	9.4		1.23	0.219
Married	*Unmatched*	0.894	0.951	-21.6	100.0	-4.54	0.000
	Matched	0.894	0.894	0.0		0.00	1.000
Own house	*Unmatched*	0.760	0.864	-26.8	42.4	-5.30	0.000
	Matched	0.760	0.820	-15.5		-2.00	0.046
Husband age	*Unmatched*	39.487	40.982	-15.4	61.1	-2.75	0.006
	Matched	39.487	40.068	-6.0		-0.83	0.407
Husband literate	*Unmatched*	0.101	0.081	7.0	19.1	1.32	0.187
	Matched	0.101	0.084	5.7		0.76	0.446
Household size	*Unmatched*	5.286	5.263	1.1	-194.7	0.20	0.838
	Matched	5.286	5.354	-3.3		-0.45	0.654
Scheduled Tribe	*Unmatched*	0.779	0.718	14.1	28.4	2.46	0.014
	Matched	0.779	0.823	-10.1		-1.48	0.139
Participates in group savings	*Unmatched*	0.662	0.158	119.3	-2.2	23.95	0.000
	Matched	0.662	0.147	121.8		16.67	0.000
In the habit of saving	*Unmatched*	0.335	0.180	36.1	8.8	7.07	0.000
	Matched	0.335	0.193	32.9		4.40	0.000
Credit (past 5 years)	*Unmatched*	0.158	0.089	21.3	-52.8	4.25	0.000
	Matched	0.158	0.052	32.5		4.76	0.000
Cash savings (log, 3 months)	*Unmatched*	1.488	0.778	28.9	-17.7	5.73	0.000
	Matched	1.488	0.653	34.1		4.68	0.000
Cash income (log, 3 months)	*Unmatched*	0.524	0.708	-8.7	39.2	-1.48	0.140
	Matched	0.524	0.636	-5.3		-0.74	0.460
Employed (past 3 months)	*Unmatched*	0.815	0.776	9.6	50.6	1.68	0.093
	Matched	0.815	0.796	4.7		0.65	0.515
Employed (non-farm, past 3 months)	*Unmatched*	0.117	0.057	21.6	-17.0	4.48	0.000
	Matched	0.117	0.046	25.3		3.53	0.000
Final say: children's schooling	*Unmatched*	0.144	0.081	20.3	23.1	4.06	0.000
	Matched	0.144	0.095	15.6		2.05	0.041

Final say: medical decisions	*Unmatched*	0.144	0.091	16.6	38.8	3.25	0.001
	Matched	0.144	0.112	10.2		1.33	0.185
Final say: family-planning	*Unmatched*	0.033	0.031	0.9	-435.7	0.16	0.875
	Matched	0.033	0.025	4.6		0.66	0.507
Grievance: water	*Unmatched*	0.460	0.219	52.7	5.3	10.25	0.000
	Matched	0.460	0.232	49.9		6.71	0.000
Grievance: roads	*Unmatched*	0.357	0.180	40.7	10.6	8.02	0.000
	Matched	0.357	0.199	36.4		4.85	0.000
Grievance: electricity	*Unmatched*	0.477	0.208	59.0	13.8	11.57	0.000
	Matched	0.477	0.245	50.8		6.72	0.000
Grievance: education/health	*Unmatched*	0.302	0.165	32.8	12.7	6.46	0.000
	Matched	0.302	0.183	28.7		3.82	0.000
Addressed grievance: water	*Unmatched*	0.381	0.192	42.8	10.8	8.41	0.000
	Matched	0.381	0.213	38.2		5.09	0.000
Addressed grievance: roads	*Unmatched*	0.302	0.157	35.1	21.4	6.97	0.000
	Matched	0.302	0.188	27.6		3.63	0.000
Addressed grievance: electricity	*Unmatched*	0.371	0.156	50.1	22.5	10.18	0.000
	Matched	0.371	0.204	38.9		5.05	0.000
Addressed grievance: education/health	*Unmatched*	0.207	0.098	30.6	29.9	6.29	0.000
	Matched	0.207	0.131	21.4		2.77	0.006
Know of *Gram Sabha* and *Gram Panchayat*	*Unmatched*	0.308	0.217	20.6	3.6	3.89	0.000
	Matched	0.308	0.221	19.9		2.69	0.007
Engage with *Gram Sabha* and *Gram Panchayat*	*Unmatched*	0.030	0.012	12.4	23.4	2.71	0.007
	Matched	0.030	0.016	9.5		1.23	0.220
Know anyone who has paid a bribe	*Unmatched*	0.052	0.037	7.2	-10.0	1.39	0.165
	Matched	0.052	0.035	7.9		1.08	0.279

Source: Authors' analysis based on data from the Self-Employed Women's Association.
Notes: Nearest-neighbor matching methods are used in the sample of $N = 3,205$ observations. The standardized bias before and after matching is the difference of the sample means in the treated and non-treated (full or matched) sub-samples as a percentage of the square root of the average of the sample variances in the treated and non-treated groups (formulae from Rosenbaum and Rubin, 1985). T-tests of equality of means are based on a regression of the variable on a treatment indicator. Before matching this is an unweighted regression on the whole sample; after matching the regression is weighted using the matching weight and based on the common-support sample.

TABLE A.3: Robustness Checks: CEM Matching

	Nearest neighbor estimates				CEM Estimates			
	SEWA Member	SEWA village non-member × Post-intervention	Post-intervention	R^2	SEWA member	SEWA village non-member × Post-intervention	Post-intervention	R^2
Participates in group savings	0.549***	0.024	0.041	0.316	0.505***	0.016	0.042	0.293
	(0.071)	(0.052)	(0.039)		(0.080)	(0.058)	(0.043)	
In the habit of saving	0.208***	0.044	0.005	0.121	0.202***	0.038	0.025	0.133
	(0.064)	(0.050)	(0.036)		(0.072)	(0.055)	(0.038)	
Credit (past 5 years)	0.101*	-0.003	0.001	0.114	0.119**	0.009	-0.011	0.133
	(0.057)	(0.042)	(0.024)		(0.055)	(0.032)	(0.028)	
Cash savings (log, 3 months)	0.366	-0.263	0.303*	0.122	0.070	-0.443	-0.579***	0.193
	(0.281)	(0.280)	(0.169)		(0.338)	(0.301)	(0.165)	
Cash income (log, 3 months)	0.089	-0.224	-0.613***	0.170	0.403	-0.148	0.464**	0.129
	(0.297)	(0.274)	(0.132)		(0.329)	(0.285)	(0.179)	
Employed (past 3 months)	-0.051	-0.024	0.061*	0.286	-0.046	-0.040	0.049	0.257
	(0.052)	(0.046)	(0.031)		(0.055)	(0.046)	(0.034)	
Employed (non-farm, past 3 months)	0.081**	0.039	-0.013	0.173	0.103***	0.019	-0.012	0.170
	(0.031)	(0.029)	(0.016)		(0.027)	(0.021)	(0.017)	
Final say: children's schooling	0.119***	0.081**	-0.020	0.252	0.069**	0.031	-0.000	0.222
	(0.040)	(0.036)	(0.019)		(0.028)	(0.027)	(0.017)	
Final say: medical decisions	0.128***	0.088**	-0.047**	0.217	0.079**	0.034	-0.023	0.186
	(0.040)	(0.035)	(0.020)		(0.034)	(0.032)	(0.020)	
Final say: family-planning	0.074***	0.089***	-0.057***	0.106	0.067***	0.052***	-0.064***	0.105
	(0.021)	(0.021)	(0.015)		(0.019)	(0.019)	(0.019)	
Grievance: water	0.202***	0.069	0.101***	0.183	0.204***	0.121*	0.077**	0.166
	(0.063)	(0.059)	(0.027)		(0.070)	(0.065)	(0.030)	
Grievance: roads	0.091	0.015	0.146***	0.175	0.082	-0.049	0.159***	0.173
	(0.072)	(0.063)	(0.035)		(0.071)	(0.062)	(0.038)	
Grievance: electricity	0.128*	0.023	0.232***	0.204	0.170**	0.049	0.224***	0.229
	(0.074)	(0.079)	(0.036)		(0.084)	(0.090)	(0.039)	
Grievance: education/health	0.114*	0.012	0.027	0.150	0.093*	0.013	0.020	0.143
	(0.058)	(0.053)	(0.035)		(0.056)	(0.058)	(0.035)	
Addressed grievance: water	0.142**	0.065	0.094***	0.155	0.123**	0.013	0.020	0.143
	(0.064)	(0.054)	(0.025)		(0.056)	(0.058)	(0.035)	
Addressed grievance: roads	0.052	0.006	0.143***	0.154	0.166**	0.102	0.080***	0.152
	(0.065)	(0.062)	(0.032)		(0.069)	(0.063)	(0.030)	

Addressed grievance: electricity	0.096	0.005	0.181***	0.149	0.051	-0.050	0.161***	0.157
	(0.068)	(0.065)	(0.033)		(0.066)	(0.059)	(0.035)	
Addressed grievance: education/health	0.100*	0.010	0.031	0.115	0.142*	0.033	0.187***	0.175
	(0.050)	(0.043)	(0.030)		(0.078)	(0.074)	(0.037)	
Know of *Gram Sabha* and *Gram Panchayat*	0.112*	0.050	-0.005	0.183	0.093	0.028	0.020	0.113
	(0.065)	(0.061)	(0.041)		(0.058)	(0.049)	(0.035)	
Engage with *Gram Sabha* and *Gram Panchayat*	0.052***	0.019*	-0.014**	0.086	0.126**	0.055	-0.032	0.167
	(0.019)	(0.011)	(0.007)		(0.060)	(0.063)	(0.041)	
Know anyone who has paid a bribe	0.061**	0.062*	-0.048**	0.090	0.524***	0.012	-0.011	0.068
	(0.028)	(0.031)	(0.019)		(0.045)	(0.012)	(0.008)	

Source: Authors' analysis based on data from the Self-Employed Women's Association.

Notes: All regressions are performed on a sub-sample constructed using coarsened exact matching, with 6 cut points (see Iacus, King, and Porro 2008). The unconditional effect is the difference between SEWA and non-SEWA averages. Regressions include the full set of control variables described in the text. All regressions include village-level fixed-effects. Standard errors—shown in parentheses—are clustered at the village-level. * denotes significance at 10 percent level, ** significance at 5 percent level; and *** significance at 1 percent level

TABLE A.4: Sensitivity analysis for treatment effects using Rosenbaum bounds

	Γ	*Q*_mh+	*Q*_mh-	*p*_mh+	*p*_mh-
Participates in group savings					
	1	12.823	12.823	0.000	0.000
	1.1	12.252	13.422	0.000	0.000
	1.2	11.729	13.967	0.000	0.000
	1.3	11.252	14.475	0.000	0.000
	1.4	10.816	14.951	0.000	0.000
	1.5	10.413	15.398	0.000	0.000
	1.6	10.040	15.821	0.000	0.000
	1.7	9.692	16.223	0.000	0.000
	1.8	9.366	16.605	0.000	0.000
	1.9	9.060	16.970	0.000	0.000
	2	8.772	17.319	0.000	0.000
In the habit of saving					
	1	3.172	3.172	0.001	0.001
	1.1	2.673	3.679	0.004	0.000
	1.2	2.218	4.142	0.013	0.000
	1.3	1.801	4.571	0.036	0.000
	1.4	1.416	4.970	0.078	0.000
	1.5	1.058	5.345	0.145	0.000
	1.6	0.724	5.697	0.235	0.000
	1.7	0.410	6.030	0.341	0.000
	1.8	0.115	6.346	0.454	0.000
	1.9	-0.029	6.647	0.512	0.000
	2	0.234	6.934	0.407	0.000
Final say: children's schooling					
	1	4.623	4.623	0.000	0.000
	1.1	4.115	5.142	0.000	0.000
	1.2	3.652	5.617	0.000	0.000
	1.3	3.229	6.058	0.001	0.000
	1.4	2.839	6.470	0.002	0.000
	1.5	2.478	6.856	0.007	0.000
	1.6	2.141	7.221	0.016	0.000
	1.7	1.826	7.566	0.034	0.000
	1.8	1.530	7.894	0.063	0.000
	1.9	1.250	8.207	0.106	0.000
	2	0.985	8.506	0.162	0.000
Final say: family planning					
	1	1.921	1.921	0.027	0.027
	1.1	1.762	2.087	0.039	0.018
	1.2	1.619	2.241	0.053	0.013
	1.3	1.489	2.386	0.068	0.009
	1.4	1.372	2.523	0.085	0.006
	1.5	1.264	2.654	0.103	0.004
	1.6	1.165	2.780	0.122	0.003
	1.7	1.072	2.900	0.142	0.002
	1.8	0.986	3.015	0.162	0.001

	1.9	0.905	3.127	0.183	0.001
	2	0.829	3.234	0.204	0.001
Grievance: water					
	1	6.617	6.617	0.000	0.000
	1.1	6.066	7.183	0.000	0.000
	1.2	5.563	7.700	0.000	0.000
	1.3	5.103	8.179	0.000	0.000
	1.4	4.679	8.627	0.000	0.000
	1.5	4.287	9.047	0.000	0.000
	1.6	3.922	9.443	0.000	0.000
	1.7	3.580	9.817	0.000	0.000
	1.8	3.260	10.173	0.001	0.000
	1.9	2.957	10.512	0.002	0.000
	2	2.670	10.836	0.004	0.000
Addressed grievance: water					
	1	5.230	5.230	0.000	0.000
	1.1	4.703	5.770	0.000	0.000
	1.2	4.221	6.264	0.000	0.000
	1.3	3.781	6.722	0.000	0.000
	1.4	3.376	7.150	0.000	0.000
	1.5	3.000	7.551	0.001	0.000
	1.6	2.650	7.930	0.004	0.000
	1.7	2.323	8.288	0.010	0.000
	1.8	2.015	8.628	0.022	0.000
	1.9	1.724	8.952	0.042	0.000
	2	1.448	9.262	0.074	0.000

Source: Authors' analysis based on data from the Self-Employed Women's Association.

Note: N = 3,205. Γ is the log odds of differential assignment due to unobserved factors. Upper- and lower-bounds are Mantel-Haenszel point estimates. Estimates at $\Gamma = 1$ assume no hidden bias and so upper- and lower-bound estimates are identical. At other values of Γ, upper-bound (lower-bound) estimates adjust the test statistics downwards for positive (negative) selection.

TABLE A.5: Placebo Tests for Village-Level Mechanisms

SEWA modules:	Vocational Training (1) – (3)			Financial-Capacity Building (4) – (6)		
	(1)	(2)	(3)	(4)	(5)	(6)
Outcomes:	Regular saving	Credit utilization	Cash savings (log)	Cash income (log)	Employed (3 months)	Employed (non-farm, 3 months)
(A) Village-level treatment						
SEWA module village resident × Post-intervention	0.154***	0.058	0.303	0.057	0.015	0.081***
	(0.045)	(0.036)	(0.248)	(0.322)	(0.043)	(0.030)
SEWA module village resident	-0.019	-0.038**	0.053	0.209	0.005	-0.025
	(0.025)	(0.016)	(0.111)	(0.265)	(0.029)	(0.016)
Post-intervention	0.012	0.011	0.387***	-0.607***	0.031	-0.001
	(0.028)	(0.022)	(0.145)	(0.162)	(0.027)	(0.020)
R^2	0.061	0.264	0.055	0.106	0.266	0.069
(B) Individual-level treatment						
SEWA module participant	0.141	0.237	0.766	-0.087	0.090	-0.018
	(0.089)	(0.223)	(0.664)	(0.076)	(0.045)	(0.303)
Nonparticipant × SEWA module village resident × Post-intervention	0.136**	0.029	0.553	-0.074*	0.044*	-0.045
	(0.063)	(0.052)	(0.340)	(0.042)	(0.023)	(0.290)
Post-intervention	0.003	0.024	0.057	0.081**	-0.012	-0.653***
	(0.048)	(0.030)	(0.213)	(0.031)	(0.015)	(0.122)
R^2	0.143	0.182	0.175	0.221	0.153	0.172

Source: Authors' analysis based on data from the Self-Employed Women's Association.
Notes: 19 treatment villages had vocational training employment programs during the study period, and 22 treatment villages had financial capacity-building programs. Estimates are for listed coefficients generated by regressing specified outcomes on village-treatment (residence in a village that implemented a SEWA training or finance module—panel A) and individual-treatment (participation in the SEWA-run training or finance module) along with the following controls: age (quadratic), literacy, marital status, caste, husband's age, husband's literacy, home ownership, farm ownership, *kutcha* dwelling, flush toilet, NREGA in village, and bias adjustment. Village-treatment estimations include block (sub-district) fixed effects, while Individual-treatment estimations include village-fixed effects. Panel B estimations are weighted by a propensity score, generated by one-to-one matching (logit) on SEWA participation without replacement. Robust standard errors (in parentheses) are clustered at the village level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. $N = 3{,}158$.